RLJ Ratio Legis Journal
ISSN 2830-4624
published by
Master of Law, Faculty of Law
Universitas Islam Sultan Agung
Volume 4 No. 4, December 2025

The Position of Polygraph (Lie Detector) Examination Results in the Criminal Evidence System

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Abstract. *The topic of this research is "The Position of Polygraph (Lie Detector) Examination Results in the Criminal Evidence System (Case Study of Supreme Court Decision Number 813 K/pPID/2023)". This research analyzes two problem formulations, namely First, what is the position and validity of polygraph (Lie Detector) examination results in the criminal evidence system. Second, How are the judge's considerations in assessing the position of Polygraph (Lie Detector) examination results in Supreme Court Decision Number 813 K/PID/2023. The research method used is normative juridical. The results of the study show that explicitly the polygraph does not yet have legal legitimacy recognized in Article 184 paragraph (1) of the Criminal Procedure Code, so it cannot be used as a stand-alone evidence tool. However, scientifically the polygraph has relevance as a tool to test the honesty of statements and support the proof of material truth. In Supreme Court Decision Number 813 K/PID/2023, the judge classified polygraph examination results as a scientific evidentiary tool that can be considered through the category of expert testimony or documentary evidence as referred to in Article 184 of the Criminal Procedure Code. Although polygraph results do not have the power of proof in themselves, the judge still uses them as supporting material in forming a conviction of the defendant's guilt. However, the legal approach in this decision remains legalistic and formalistic, as it does not fully accommodate the scientific value and objectivity of the polygraph as a modern means of proof. Therefore, a renewal of the evidentiary paradigm is needed that allows judges to interpret scientific evidence more openly, without ignoring the principles of fair trial and material truth in the Indonesian criminal justice system.*

Keywords: *Criminal; Evidence; Judge; Polygraph; System.*

1. Introduction

As time goes by, crime has also grown rapidly. What was once a conventional crime can now be used as a means of committing a crime. According to Paul Moedikno, crime is a violation of legal norms, interpreted as a detrimental, annoying act that should not be tolerated. Dissatisfaction with conditions and circumstances leads to an increase in the quality and quantity of crime. If crime increases, various methods and motives will be used to facilitate crime.[1]

As crime continues to evolve, so too does the need for advanced methods to uncover crimes, one of which is the use of a polygraph (lie detector). The polygraph, or lie detector, was first used around the 1920s by John Larson, a police officer in Berkeley, California, United States.[2] As time went by, the use of polygraphs (lie detectors) spread to Indonesia.

The use of Polygraph (lie detector) examination results in Indonesia can be found in several judges' decisions, including:

a. Supreme Court Decision No. 813 K/PID/2023 in the name of Ferdy Sambo;

b. Decision of the DKI Jakarta High Court No. 242/Pid/2014/PT.DKI in the name of Ziman;

c. Denpasar High Court Decision No. 13/Pid/2016/PT.Dps in the name of Agustay Handa May;

d. Denpasar High Court Decision No. 12/Pid/2016/PT.Dps on behalf of Margriet Christina Megawe;

e. Supreme Court Decision No. 115 PK/Pid.Sus/2017, in the name of Neil Bantleman alias Mr.B, and Neil Bantleman.

In Indonesia, the use of polygraphs (lie detectors) is regulated in Regulation of the Chief of the Indonesian National Police Number 10 of 2009 concerning Procedures and Requirements for Requests for Criminalistic Technical Examination of Crime Scenes and Criminalistic Laboratory Examination of Evidence to the Indonesian National Police Forensic Laboratory. This provision, specifically Article 12, recognizes polygraphs as one type of evidence that can be examined in a forensic laboratory. The regulation also contains provisions regarding the formal and

[1]Moeliono, Paul Moedikno, quoted from Kurniawan, Moch Haikhal. (2008). The Use of the Facial Sketch Method in Finding Criminal Perpetrators, Surakarta: Faculty of Law, Muhammadiyah University of Surakarta. p. 1.
[2]Kitaef, Jack. Forensic Psychology, (2011). College Park: University of Maryland. Translated into Indonesian by Soetjipto, Helly Prajitno and Soetjipto, Sri Mulyantini. Forensic Psychology. (2017) Yogyakarta: Pustaka Pelajar. p. 439.

technical requirements for conducting examinations of witnesses and suspects.[3] However, the implementation of polygraphs in the examination process has drawn opposition from various groups, generally due to doubts about their accuracy. In this regard, Adrianus Meliala stated that polygraphs are inherently learnable, allowing individuals who are trained or understand how the device works to relatively easily "pass" the test without showing any indication of deception.[4]

Reza Indragiri believes that a person can be detected as lying if their heartbeat changes, simply because of their temperament, even if what they say is honest.[5]Natalia Widiasih Raharjanti stated that a polygraph (lie detector) is essentially only capable of recording physiological changes in the body, such as heart rate, blood pressure, respiration, and electrodermal responses. However, a polygraph cannot distinguish whether these physiological changes are caused by lying or by other factors not directly related to lying. These factors can include certain psychological and physiological conditions, such as anxiety, fear, confusion, hypoglycemia (low blood sugar), psychotic disorders, depression, and the influence of alcohol or narcotics.[6]

Furthermore, the examination of a suspect or witness using a polygraph (a lie detector) relies heavily on the suspect's responses to direct questions. In the case of Ziman alias Oten, for example, a polygraph examiner named Nurkolis asked ten questions that had to be answered with "yes" or "no," including one: "Have you ever inserted your genitals into victim A's vagina?" During the examination, a polygraph device connected via cables and attached to Ziman's body recorded his physiological responses, such as his breathing rhythm, heart rate, blood pressure, and skin conductance. The data was then visualized in graphic form on a monitor screen for analysis to determine whether the responses indicated honesty or deception.[7]

The use of a polygraph (lie detector) can conflict with the principle of a fair trial, which is part of the human rights of every individual undergoing a trial.[8]For example, in relation to the principle of the presumption of innocence, the use of a

[3]Article 12 of the Regulation of the Chief of the Republic of Indonesia National Police Number 10 of 2009 concerning Procedures and Requirements for Requests for Criminalistic Technical Examination of Crime Scenes and Criminalistic Laboratory Examination of Evidence
[4]Jakarta Legal Aid Institute. Appeal Memorandum on behalf of Defendant Ziman alias Oten. August 15, 2014. p. 16
[5]ilbid, p.18
[6]Decision of the Central Jakarta District Court, criminal, No. 777/Pid.B/2016/PN.JKT.PST. Jessica Kumala alias Jessica Kumala Wongso alias Jess. October 27, 2016. pp. 136-137
[7]Decision of the East Jakarta District Court, No. 299/Pid/Sus/2014/PN.Jkt.Tim, Ziman Alias Oten, July 23, 2014, pp. 17-18
[8]Wignjosoebroto, Soetandyo. Introduction to The Right to a Fair Trial: The Jurisprudence of the European Court of Human Rights, the UN Human Rights Committee, and the Inter-American Court of Human Rights, by Uli Parulian Sihombing. (2008). Jakarta: The Indonesian Legal Resource Center (ILRC). pp. v-viii

polygraph (lie detector) that is only able to detect changes in physical reactions or answers to questions from the examiner, can result in the right of every person to be considered and treated innocent no longer being respected. In addition, examination using a polygraph (lie detector) also impacts the right of every person to provide information freely to investigators or judges, because the examination only relies on the body's response and answers given by the suspect. Although the polygraph (lie detector) does have an important role in revealing criminal acts, it is very necessary to discuss the validity of the results of the polygraph (lie detector) examination in the context of the principle of fair trial.

The purpose of this study will analyze the validity, the author will conduct a procedural test related to the results of the Polygraph (lie detector) examination based on the principle of fair trial, in addition the author will analyze the judge's assessment regarding the validity of the results of the Polygraph (lie detector) examination in his considerations in criminal cases in Indonesia. Previous research has discussed the Polygraph (lie detector) but the results of the study categorized the Polygraph (lie detector) as a means of documentary evidence or expert testimony, whereas if reviewed more deeply, the results of the Polygraph (lie detector) examination actually come from the analysis of the Polygraph (lie detector) examiner which is stated in the form of a report, so the author considers it necessary to conduct further review whether the Polygraph (lie detector) examination of the suspect has been carried out with the correct procedure and meets the standards.

2. Research Methods

The research used in this article is normative juridical research. Normative juridical research is legal research conducted by examining library materials or secondary data as the basis for research, through a search of regulations and literature related to the research problem.[9]In this normative legal research, the data sources used are primary legal materials, secondary legal materials, and tertiary legal materials. The primary legal materials used in this research include legislation and regulations related to the research, secondary legal materials include books, articles from previous research, and relevant legal theories, and tertiary legal materials include the Indonesian Dictionary (KBBI), English Dictionary, Legal Dictionary, Encyclopedia, and teaching materials (handouts).

[9]Soekanto, Soerjono & Mamudji, Sri. Normative Legal Research (A Brief Review). (2005). Jakarta: Rajawali Pers. pp. 13-14.

3. Results and Discussion

3.1. The Position and Validity of Polygraph Examination Results in the Criminal Evidence System

In the Indonesian criminal procedure system, valid evidence is regulated in a limited manner in Article 184 paragraph (1) of the Criminal Procedure Code, which includes: a) witness statements; b) expert statements; c) letters; d) instructions; and e) statements from the accused. Due to its limited nature, evidence other than that mentioned in this article does not have legally binding evidentiary force.[10]Therefore, polygraph examination results cannot be categorized as valid evidence under the Criminal Procedure Code. In judicial practice, polygraph results are more often considered informative investigative aids (auxiliary evidence) rather than formal evidence in the trial process.[11]

Theoretically, criminal evidence in Indonesia adheres to the negative wettelijk bewijs theorie system, as stated in Article 183 of the Criminal Procedure Code, which states that a judge may not sentence a person unless, with at least two valid pieces of evidence, the judge is convinced that a crime actually occurred. This means that proof in Indonesian criminal law is based on a combination of legally valid evidence and the judge's conviction.

The results of a polygraph examination, because they are not included in valid evidence according to Article 184 of the Criminal Procedure Code, cannot stand alone as a basis for forming a judge's conviction.[12] However, these results can be taken into consideration if they are considered relevant to other evidence, for example as supporting testimony from witnesses or defendants, or as an indication that logically strengthens the judge's belief.[13] In this context, polygraph results only have indirect evidential value.

This opinion is in line with the view of M. Yahya Harahap who stated that evidence that is not explicitly mentioned in the Criminal Procedure Code "does not have formal evidentiary power, but can be used as consideration to help judges in assessing material truth."[14]Andi Hamzah also emphasized that evidence that is not

[10]Arief, Barda Nawawi. Theory and Philosophy of Evidence in Criminal Procedure Law, (2019). Bandung: PT Citra Aditya Bakti. p. 47.
[11]Mulyadi, Lilik. Criminal Procedure Law: Theory and Practice in the Courts, (2020). Jakarta: Djambatan. p. 256.
[12]Harahap, M. Yahya. Discussion of Problems and Implementation of the Criminal Procedure Code: Court Hearing Examination, Appeal, Cassation, and Judicial Review. (2021). Jakarta: Sinar Grafika. p. 221.
[13]Ibid
[14]Ibid, p. 223

included in Article 184 paragraph (1) of the Criminal Procedure Code "cannot stand alone, but may be considered as additional data in discovering the truth."[15]

Furthermore, polygraph results do not yet have a positive legal basis governing their use in criminal justice processes. Unlike visum et repertum, DNA testing, or fingerprinting, which have legal legitimacy and recognized scientific standards, polygraphs are not yet regulated normatively either in the Criminal Procedure Code (KUHAP) or in its implementing regulations. This places polygraphs in a normative gray area: they are empirically recognized in investigations but lack formal legitimacy in court.[16]

Article 183 of the Criminal Procedure Code, which requires two valid pieces of evidence and a conviction by the judge, demonstrates that all evidence must have a strong normative basis to contribute to the judge's conviction. In this context, a polygraph cannot replace conventional evidence, as its results do not meet the requirements of "accountable scientific evidence" as defined by the principle of scientific evidence.[17]

Thus, the position of polygraph results in Indonesian positive law is non-evidentiary auxiliary material, it is not a valid evidence under the law, but can be a secondary consideration in the framework of forming a judge's conviction. The use of polygraph results as an auxiliary evidence must still consider the principles of criminal procedural law, especially the principle of fair trial, the principle of presumption of innocence, and the principle of protection of human rights in the criminal justice process.

As a consequence of its informal nature, any use of polygraph results in court must be done with great care and should not be the sole basis for determining the guilt or innocence of a defendant.[18] In this context, the principle of prudence becomes very important to prevent violations of the defendant's rights and the principle of procedural justice.

The assessment of the validity of polygraph examination results depends not only on the positive legal aspects, but also on the scientific and epistemological dimensions of the instrument. In the context of criminal procedure law, evidence is considered scientifically valid if it meets the principles of validity, reliability, objectivity, and scientific verification.[19] Therefore, before evidence can be

[15]Hamzah, Andi. Indonesian Criminal Procedure Law. (2020). Jakarta: Sinar Grafika. p. 189.
[16]Pangaribuan, Luhut MP Criminal Evidence Law: A Human Rights Perspective. (2022). Jakarta: Prenadamedia. p. 143.
[17]Barkatullah, Abdul Hakim. "Scientific Evidence in Indonesian Criminal Procedure Law". (2021) Journal of Law and Policy Studies 6, no. 2. p. 75.
[18]Ibid, p. 77.
[19]Ibid, p. 74.

accepted and considered in the proof process, it must undergo adequate methodological and ethical legitimacy tests.

*Polygraph*It works by measuring the body's physiological reactions such as heart rate, blood pressure, and skin conductivity which are assumed to correlate with emotional responses when someone lies.[20] However, this basic assumption has long been debated among scientists. Empirical research shows that no physiological indicator can consistently and universally distinguish lies from the truth.[21]In other words, the relationship between physiological responses and lying is probabilistic, not causal.

In modern scientific evidence standards, as applied in the Anglo-Saxon legal system through the Daubert Standard, new scientific evidence is acceptable if: (1) it can be tested (testability), (2) it has been through peer review, (3) it has a known error rate, (4) it is widely accepted in the scientific community, and (5) the method used can be independently verified.[22]Although these standards originate from the United States legal system, the principles have been conceptually adopted in many European legal systems, including the Netherlands, to assess scientific evidence presented in court.[23]

If these standards are applied to the polygraph, it appears that this tool does not meet all scientific criteria. According to a 2022 study by Forensic Science International Reports, polygraph accuracy under controlled conditions averages only 65–70%, with a potential error of 30–35% depending on the operator and the subject's condition.[24]This figure is far below the reliability standards required for forensic evidence, such as DNA ≥99.9% or fingerprints ≥98%.[25] Therefore, from a scientific validity perspective, the results of polygraph examinations are still considered to have too high a level of error to be used as a basis for evidence in criminal cases.

Besides reliability issues, the external validity of the polygraph is also questionable because it is influenced by many non-scientific variables, such as the psychological state, health, or even the personality of the person being examined. Recent research by Vrij and Granhag confirms that "physiological arousal cannot be equated with deception, as various emotional states may trigger similar bodily

[20]T. Lykken, David. A Tremor in the Blood: Uses and Abuses of the Lie Detector. (2019). New York : Plenum Press, p. 15.
[21]Raskin, DC, and Honts, CR The Polygraph in 21st Century Forensic Practice.. (2022) Forensic Science International Reports 8, p. 113-120.
[22]US Supreme Court. Daubert v. Merrell Dow Pharmaceuticals. (1993). Inc., 509 US 579.
[23]JF Nijboer. The Admissibility of Scientific Evidence in Dutch Criminal Procedure. (2020) Netherlands Journal of Legal Philosophy 50, no. 3, p. 198–210.
[24]Raskin and Honts, Op.Cit, p. 118.
[25]Ibid. p. 119.

responses."[26] Thus, polygraph results often reflect a person's level of anxiety, not the objective truth of their statements.

From the perspective of the law of evidence, the main requirement for scientific evidence is that it can be methodologically accounted for.[27]This principle aligns with the principles of due process of law and fair trial, which require that judges should not rely on methods that cannot be objectively tested to determine guilt. Using polygraph results that do not meet scientific standards has the potential to violate the defendant's right to a fair and impartial trial.

In Indonesia's system of evidence, which adheres to the negative theory of law (negatief wettelijk bewijs theorie), judges can only render decisions based on valid evidence supported by rational belief. Therefore, the use of polygraph results, the validity of which is still being debated, contradicts this principle, as it can influence the judge's conviction without a valid and scientific basis for proof.

However, some argue that polygraph results can still serve as corroborative evidence as long as they are used carefully and not used as the primary basis of proof. This approach is recognized in several European jurisdictions, where polygraph results can be considered to test the consistency of a suspect's statement, provided that (1) the test is conducted voluntarily, (2) the method used is standardized, and (3) the results are verified by an independent expert.[28] Similar principles can be applied analogously in Indonesia, as long as their use does not violate the provisions of Articles 183–184 of the Criminal Procedure Code and the rights of the accused as guaranteed in Article 28D paragraph (1) of the 1945 Constitution and Article 14 of the International Covenant on Civil and Political Rights (ICCPR).

Normatively, the validity of polygraph results in the context of criminal evidence in Indonesia can be said to not meet the qualifications of scientific evidence that can be legally accounted for, because it does not have an explicit legal basis, low reliability, and high potential for bias.[29]Therefore, the use of polygraph results in criminal justice practice must be treated with extra caution, limiting its role only as an assessment aid and not as a decisive means of proof.

Thus, from a criminal procedure perspective, polygraph results lack formal validity as evidence, and from a scientific perspective, they have not yet reached the level of substantial validity to be considered valid scientific evidence. This conclusion reinforces the argument that polygraph results are limited to supporting

[26]Vrij, Aldert, and Granhag, Par-Anders. Eliciting Cues to Deception and Truth: What Matters Are the Questions Asked. (2021) Current Directions in Psychological Science 30, no. 2, p. 122.
[27]Arief, Barda Nawawi. Theory and Philosophy in Criminal Procedure Law, Op. Cit, p. 61
[28] Nijboer, “The Admissibility of Scientific Evidence in Dutch Criminal Procedure,” p. 205
[29]Luhut MP Pangaribuan, Op.Cit, p. 146.

indications in the process of forming a judge's conviction, not as valid evidence in their own right.[30]

Overall, the research findings indicate that the status and validity of polygraph examination results in the Indonesian criminal evidence system are indicative, not determinative. This means that polygraph results can serve as supporting evidence in assessing a judge's conviction, but cannot be used as the sole basis for proof. The Indonesian legal system needs to undergo conceptual and normative modernization of scientific evidence to align with the principles of fair trial and developments in global evidence law. An approach like that of the Netherlands can serve as an effective benchmark for formulating a more rational, fair, and truth-based evidentiary mechanism.

In Indonesian criminal justice practice, the use of polygraphs as an evidentiary tool raises serious issues with the principles of fair trial, particularly regarding the presumption of innocence and the right not to be forced to provide self-incriminating testimony (privilege against self-incrimination). Polygraphs, although voluntary, can create psychological pressure that makes subjects feel obligated to take the test to demonstrate honesty.[31]This condition has the potential to violate the defendant's constitutional rights as guaranteed in Article 168 of the Criminal Procedure Code, which states that witnesses or defendants have the right to refuse to answer questions that could incriminate them.

Conceptually, a fair trial is also closely related to the principle of equality of arms, namely equality of position between the prosecution and the defense before the court.[32] If one party (for example the public prosecutor) uses polygraph results to strengthen the charges, while the defendant does not have the ability or resources to scientifically refute the validity of the results, then the equality becomes unequal.[33]In this context, the use of the polygraph can lead to a form of procedural injustice because it gives a disproportionate advantage to one party.

This view is in line with the opinion of Luhut MP Pangaribuan who emphasized that a fair trial cannot be separated from the principle of "epistemological justice", namely the court's obligation to only use methods of evidence that can be scientifically and ethically justified.[34]If evidence such as polygraph results lacks a strong scientific basis, its use will undermine the quality of substantive justice. In

[30]Ibid, p. 147.
[31]David T. Lykken. A Tremor in the Blood: Uses and Abuses of the Lie Detector. (2019). New York: Plenum Press. matter. 203.
[32]Jeremy McBride. Fair Trial: Rights and Remedies. (2021) European Human Rights Law Review 4. p. 312.
[33]Ibid, p. 314.
[34] Pangaribuan, Luhut MP Criminal Evidence Law: A Human Rights Perspective. (2022) Jakarta: Prenadamedia. p. 177.

this case, judges must adhere to the principle of judicial prudence in assessing scientific evidence not explicitly regulated by law.

Furthermore, the application of the fair trial principle in the context of scientific evidence has developed in various European countries, including the Netherlands. In the Dutch legal system, judges have broad discretion in assessing the probative value (bewijskracht) of evidence, but are still limited by the principle of fairness and justice.[35] This means that although polygraph results may be submitted for consideration, their use must be in accordance with the principle of procedural fairness and must not replace the primary evidence that is valid according to the Dutch Criminal Procedure Code. Thus, the principle of fair trial in the Netherlands serves as an ethical and legal safeguard against the use of scientifically unproven evidentiary technology.

This Dutch legal approach is in line with the idea of the rule of law due process, where every instrument of evidence must be tested not only in terms of formal legality, but also in terms of its scientific reliability.[36] In the HR case of June 21, 2019, the Dutch Supreme Court emphasized that the use of non-standardized scientific evidence violates the principle of eerlijke procesvoering (fair and just trial), because it can mislead the judge's judgment and harm the defendant's position.[37]This case strengthens the position that polygraph-based evidence does not meet the principles of fair trial if it is not supported by adequate methodological verification.

From a human rights perspective, the principle of fair trial not only regulates formal justice, but also demands that the results of the examination are not based on unreliable instruments. The European Court of Human Rights (ECHR) in the case of Schenk v. Switzerland (1988) emphasized that evidence obtained in a manner inconsistent with the principle of procedural fairness can lead to a violation of Article 6 of the European Convention on Human Rights (ECHR).[38] By the same analogy, polygraph results that do not meet scientific and ethical standards of examination can be considered contrary to the right to a fair trial as guaranteed in international human rights instruments which are also part of Indonesian national law through the ratification of the ICCPR.

Therefore, in the context of the Indonesian criminal justice system, the use of polygraph results must be tested based on the principles of scientific validity and procedural fairness. Judges are required to critically assess whether the tool meets

[35]JF Nijboer. Bewijsrechtelijke Waardering in het Nederlandse Strafproces. (2020). Nederlands Juristenblad 96, no. 4, p. 213.
[36]Jan de Keijser and Peter J. van Koppen. Expert Evidence and Judicial Reasoning in the Netherlands. (2020). Psychology, Crime & Law 26, no. 9, p. 857.
[37]Hoge Raad (Supreme Court of the Netherlands), HR 21 June 2019, ECLI:NL:HR:2019:989.
[38] *European Court of Human Rights*, Schenk v. Switzerland (Application no. 10862/84), Judgment of 12 July 1988.

the fair trial principles mandated by the 1945 Constitution, the Criminal Procedure Code, and international standards.[39] If the polygraph results do not meet these standards, the judge is obliged to set aside its use to avoid miscarriage of justice.

Thus, it can be concluded that the use of polygraphs in criminal evidence collection does not fully align with the principles of a fair trial. Scientific uncertainty, the potential for psychological pressure on the accused, and the absence of an explicit legal basis make polygraph results only suitable for use as an evidentiary tool, not as valid evidence. The principles of a fair trial require judges to always prioritize legal certainty and the protection of the accused's rights over the mere efficiency of the evidentiary process.[40]

Therefore, to gain a more comprehensive understanding of the position of scientific evidence in criminal justice, a comparative study of other legal systems with similar traditions and normative structures is necessary. In this context, the Dutch legal system is relevant because it has influenced the construction of Indonesian criminal procedure law since the formulation of the Criminal Procedure Code. A comparison between the criminal evidence systems in Indonesia and the Netherlands is important for understanding how countries with similar civil law traditions regulate the acceptance and assessment of scientific evidence, including polygraph (lie detector) examination results. The Netherlands was chosen as a comparison country because its procedural legal system, the Wetboek van Strafvordering (Sv), is one of the reference models in the formation of the Indonesian Criminal Procedure Code.[41] Thus, this comparative study can provide a critical perspective on the position of polygraph results within the framework of a modern evidentiary system based on the principle of fair trial.

In contrast to Indonesia, which adheres to the negative theory according to law (negatief wettelijk bewijs theorie), the Dutch criminal procedural law system adheres to the principle of vrije bewijsleer or free evaluation of evidence, namely the judge's freedom in assessing evidence.[42] However, this freedom is not absolute, because it is still limited by the principles of redelijkheid en billijkheid (fairness and justice) and the principle of eerlijke procesvoering (honest and fair trial).[43]This means that judges in the Netherlands have wider discretion to assess and accept evidence, including scientific evidence that has not been explicitly regulated, as long as it does not conflict with the principles of procedural justice.

[39] Pangaribuan, Criminal Evidence Law, p. 181.
[40]Barkatullah, Op. Cit, p. 82.
[41]Harahap, M. Yahya. Discussion of Problems and Application of the Criminal Procedure Code. (2021). Jakarta: Sinar Grafika, p. 27.
[42]JF Nijboer. Bewijsrechtelijke Waardering in het Nederlandse Strafproces. (2020) Nederlands Juristenblad 96, no. 4, p. 214.
[43]Ibid, p. 217.

In practice, scientific evidence in the Netherlands is often referred to as deskundigenbewijs (expert testimony) which is regulated in Articles 343 to 344 of the Criminal Procedure Code.[44] This provision provides a strong legal basis for judges to use the opinions or scientific research findings of a forensic expert, psychologist, or criminologist as evidence. However, polygraph results are not considered commonly accepted evidence because they are not considered to have sufficient scientific reliability.[45]

Research conducted by Jan de Keijser and Peter J. van Koppen shows that Dutch courts are very cautious about the use of psychophysiological technology-based evidence such as the polygraph.[46]The Dutch Supreme Court (Hoge Raad) in its HR decision of June 21, 2019, expressly stated that the use of scientific tools that are not standardized and cannot be objectively verified may violate the principle of fair trial as stipulated in Article 6 of the European Convention on Human Rights (ECHR).[47] Thus, even though the Dutch legal system provides flexible space for judges, polygraph results are still placed in a non-determinative position, namely only as an aid to assess the credibility of witnesses or defendants.

Thus, although the Dutch legal system allows judges flexibility, polygraph results remain non-determinative, serving only as a tool to assess the credibility of witnesses or defendants. This approach reflects institutional caution in assessing psychophysiological scientific evidence, which has become known as the principle of judicial restraint in Dutch judicial practice. Within the framework of the Dutch evidentiary system, there is a principle of judicial restraint, or the caution judges exercise in using scientific evidence that contains elements of subjective interpretation.[48] This principle stems from the view that science is dynamic and cannot be used as an absolute basis for determining criminal guilt without clear legal confirmation. As J.F. Nijboer stated, "science can inform the court, but it cannot dictate the verdict."[49]

Based on this principle, judges in the Netherlands will only consider polygraph results if they meet three conditions: (1) they are carried out by an expert recognized by the court, (2) the method used can be tested independently, and (3) the results are not used as the sole basis for determining the defendant's guilt.[50]These three criteria are a concrete application of the principle of fair trial in

[44]Wetboek van Strafvordering (Sv) Netherlands, art. 343–344.
[45]Jan de Keijser and Peter J. van Koppen. Expert Evidence and Judicial Reasoning in the Netherlands. (2020) Psychology, Crime & Law 26, no. 9, p. 857.
[46]Ibid, p. 858.
[47]Hoge Raad (Supreme Court of the Netherlands), HR 21 June 2019, ECLI:NL:HR:2019:989.
[48]JF Nijboer. The Admissibility of Scientific Evidence in Dutch Criminal Procedure. 2020. Netherlands Journal of Legal Philosophy 50, no. 3, p. 202.
[49]Ibid. p. 207.
[50]De Keijser and van Koppen, “Expert Evidence,” p. 860.

scientific evidence, which is also guaranteed by Article 14 of the ICCPR and Article 6 of the ECHR.

On the other hand, if the polygraph results are submitted without fulfilling these requirements, the judge has the authority to reject or ignore the evidence based on Article 359 Sv, which gives the judge the power to declare the evidence "irrelevant or inadmissible".[51]This approach shows that the Dutch system places the integrity of the judicial process above the efficiency of evidence, in contrast to some other countries such as the United States, which in certain cases still allows the limited use of polygraphs in court.[52]

When compared with Indonesia, there are several fundamental differences in terms of acceptance and assessment of polygraph results:

Aspect	Dutch	Indonesia
Theory of Proof	*Vrije bewijsleer*(the judge's freedom in assessing evidence).	Negative theory according to law.
Legal basis	It is explicitly regulated in Articles 343–344 Sv as deskundigenbewijs.	Not explicitly regulated in the Criminal Procedure Code.
Polygraph Position	Not accepted as primary evidence, only a psychological aid.	Not valid as evidence, only for consideration.
Limiting Principles	*Redelijkheid en billijkheid*, Fair trial, judicial restraint.	*Due process of law*, the principle of legality, and the principle of judicial prudence.
The Role of Judges	Actively assess the scientific validity and proportionality of the use of evidence.	Limited to valid evidence (Article 184 of the Criminal Procedure Code), polygraph results are only indicative.

This comparison shows that the Netherlands is more normatively open to the use of new scientific evidence, but also more stringent in its methodological and ethical aspects. Meanwhile, Indonesia is more rigid in its formal legal aspects, but

[51]Wetboek van Strafvordering, art. 359.
[52]Raskin, DC, and Honts, CR The Polygraph in 21st Century Forensic Practice. (2022) Forensic Science International Reports 8, p. 117.

lacks a comprehensive scientific evaluation mechanism for new forensic evidence such as polygraphs.[53]

In the context of a fair trial, the Dutch system emphasizes that all scientific evidence must pass a proportionality and relevance test, while the Indonesian system still relies on a legalistic approach.[54] As a result, polygraph results in Indonesia tend to be rejected because they have no explicit legal basis, even though they can serve as indicative evidence supporting a judge's conviction.

Thus, the implications for reforming criminal procedural law in the Netherlands provide important lessons for reforming Indonesian criminal procedural law, particularly in the face of developments in scientific evidence technology. More explicit regulations are needed regarding the admissibility of non-conventional scientific evidence, including scientific verification procedures and the ethics of its use in court.[55] This is in line with the spirit of the Draft Criminal Procedure Code (RKUHAP) which begins to recognize the role of scientific evidence as a form of modernization of the evidentiary system.[56]

Furthermore, Dutch practice demonstrates that the use of scientific evidence such as polygraphs can be accommodated within the framework of procedural law, as long as it adheres to the principles of fair trial and the rights of the accused. Judicial prudence, along with a proportionality and relevance approach, must be the basis for assessing scientific evidence to prevent its misuse in the criminal justice process. A similar approach is evident in the Singaporean legal system, which prioritizes legal certainty and procedural integrity over the ambition to implement evidentiary technology. Despite its technological capabilities, Singapore has chosen to limit the legal value of polygraph results to maintain the integrity of due process and prevent potential violations of fair trial principles.

In the Southeast Asian context, Singapore occupies a relatively stable position in regulating the use of scientific evidence, including polygraphs, in the criminal justice system. The use of polygraphs in this country is strictly permitted only during the investigative stage under the authority of the Singapore Police Force (SPF), and is not recognized as evidence that can be presented in court. Thus, polygraphs function only as an investigative aid, not as admissible evidence as defined in criminal procedure law. This approach demonstrates strong regulatory clarity, where the boundaries between investigator and judicial authority are strictly maintained to protect the rights of suspects from the potential misuse of scientific tools that do not yet have definitive legal validity.

[53]Luhut MP Pangaribuan, Criminal Evidence Law: A Human Rights Perspective, Op. Cit, p. 189.
[54]JF Nijboer, Op. Cit, p. 218.
[55]Abdul Hakim Baraktullah, Op. Cit, p. 83.
[56]Draft Criminal Procedure Code (RKUHAP) 2023, Chapter X on Evidence, Article 195.

Singapore's legal system, rooted in the common law tradition, places the principle of due process and the principle of objective proof as the primary requirements for evidence to be admissible in court.[57]Singaporean courts consistently reject polygraph results because they are considered unable to be independently verified, do not meet cross-examination requirements, and have the potential to mislead judges in assessing the defendant's credibility. As Edmond Pereira, a prominent Singaporean legal practitioner, stated, "While the polygraph test may assist the police in investigations, its results are never conclusive and cannot substitute for judicial scrutiny."[58]

Singapore's policy is not a form of conservatism toward scientific progress, but rather a manifestation of the principle of judicial restraint, which maintains a balance between legal certainty and technological advancement. Thus, despite having more advanced scientific and technological facilities than Indonesia, Singapore consciously chooses not to use unstandardized scientific evidence as a basis for criminal convictions. This stance emphasizes that scientific validity does not automatically imply legal validity without the support of clear legal norms.

From the comparison between the Netherlands and Singapore, it can be concluded that clear regulations and the principle of judicial prudence are two key elements in determining the validity of the use of scientific evidence such as polygraphs in court. Both countries demonstrate that the integrity of criminal justice cannot be compromised for the sake of evidentiary efficiency. For Indonesia, an important lesson to be learned is the need for an explicit normative framework and measurable professional standards if scientific evidence is to be integrated into the criminal evidence system. Without such clarity, the use of polygraphs will only create legal uncertainty and potential violations of the principle of fair trial as guaranteed in Article 28D paragraph (1) of the 1945 Constitution of the Republic of Indonesia and Article 14 paragraph (2) of the ICCPR.

For Indonesia, this comparison provides an important reflection that the use of polygraphs without a clear legal basis has the potential to create uncertainty in the practice of criminal evidence. The Criminal Procedure Code (KUHAP), as the national criminal procedure law, has not explicitly accommodated this type of scientific evidence. Therefore, its application in the judicial process can only be seen as an investigative tool or supporting expert testimony, not as valid and stand-alone evidence. Therefore, the integration of scientific evidence such as polygraphs into the criminal evidence system in Indonesia must be preceded by the establishment of regulations that guarantee scientific validity, the independence of examiners, and the protection of the rights of the accused in

[57]The Straits Times. Polygraph Tests Common in Police Investigations but Not Evidence in Court. The Straits Times, 22 June 2023.
[58]Edmond Pereira, Interview on Use of Polygraph in Singapore Criminal Process, quoted in Channel News Asia, 25 May 2023

accordance with the principles of fair trial stipulated in the constitution and international human rights instruments.

Thus, these three countries demonstrate two important points: first, polygraph results are not recognized as valid evidence in both countries, but they can be used as evidence. Second, the Dutch system provides a more robust methodological framework for controlling the use of scientific evidence to ensure it does not violate the principle of procedural fairness. Indonesia could adopt a similar approach by strengthening the scientific reliability testing mechanism within its evidentiary system.

However, in practice, the results of polygraph examinations are often used by investigators or public prosecutors as material for administrative or analytical considerations, especially in the investigation stage to test the consistency of the suspect's statement.[59] This use is not in the capacity of legal evidence, but rather as an investigative tool.[60] From a normative perspective, the polygraph can also be limited to the category of expert testimony, as the results of such examinations are typically interpreted by a psychophysiologist or criminologist with scientific competence. However, its position still lacks independent evidentiary force, as polygraph examination results are only interpretive and probabilistic, not conclusive.[61]

Thus, legally, polygraph results can be considered as supporting information in the evidentiary process, but cannot be used as the sole or primary basis for proving criminal guilt. This aligns with the principle of in dubio pro reo, which states that if there is doubt about the defendant's guilt, the decision must be in favor of the defendant.[62]

Overall, the research findings indicate that the status and validity of polygraph examination results in the Indonesian criminal evidence system are indicative, not determinative. This means that polygraph results can serve as supporting evidence in assessing a judge's conviction, but cannot be used as the sole basis for proof. The Indonesian legal system needs to modernize conceptually and normatively scientific evidence to align with fair trial principles and developments in global evidentiary law. An approach like that of the Netherlands can serve as an effective benchmark for formulating a more rational, fair, and scientifically proven evidentiary mechanism.

[59]Luhut MP, Op. Cit, p. 189.
[60]Ibid, p. 190.
[61]M. Yahya Harahap. Discussion of the Criminal Procedure Code. , (2021). Jakarta: Sinar Grafika. p. 253,
[62]Sudjana, Djudju. Principles of Proof in Criminal Procedure Law. (2020). Bandung: Refika Aditama, p. 76.

3.2. Judge's considerations regarding the results of the polygraph examination (Case Study: Supreme Court Decision Number 813 K/PID/2023)

In the Indonesian criminal justice system, the judge's role as both judex facti and judex juris is central to determining the validity of submitted evidence. Supreme Court Decision No. 813 K/PID/2023 is relevant to examine because it includes the use of polygraph (lie detector) examination results as a consideration in the evidentiary process. Although polygraph results are not explicitly recognized in Article 184 of the Criminal Procedure Code, their use in investigative and judicial practice is becoming increasingly common with technological advances and the need for scientific evidence.

In the case of Ferdy Sambo, in order for the results of the polygraph examination to be accepted in the judicial process, the report of the examination results must first be converted into a valid form of written evidence. This conversion is carried out through ratification by an authorized official who takes an oath of office, or by strengthening it through an oath, so that the document gains validity as evidence that can be presented in court. Furthermore, in the process of providing evidence in court, the results of the polygraph examination are presented by an expert who has been sworn in, so that his statement can be qualified as expert testimony evidence as stipulated in Article 184 paragraph (1) letter c of the Criminal Procedure Code. Thus, the results of the polygraph examination gain legitimacy as part of a series of valid evidence.

The panel of judges, both at the district court (first instance), the appellate court, and the cassation court, explicitly considered the results of the polygraph examination in assessing the evidence and concluding the defendant's guilt. This demonstrates that, although it cannot stand alone as decisive evidence, the polygraph results can play a supporting role in shaping the judge's conviction through legal instruments that have been adjusted to the evidentiary provisions of the Criminal Procedure Code.

As for the Expert Statement, the Witness which was then considered by the Panel of Judges regarding the results of the Polygraph examination in Ferdy Sambo's verdict, is as follows:

1) Criminal Law Expert Prof. Elwi Danil explains as follows:

a. That Related to the polygraph, the Expert thinks this is an aspect that still needs to be debated further whether the polygraph results are evidence or a means of proof, some say that the polygraph is evidence, some say it is evidence but even so, the process of discovery or the process of obtaining the results of the polygraph test certainly has rules that must be referred to, there are standard procedures that must be referred to as the legal advisor mentioned earlier that there is a Police Chief Regulation that regulates how people are examined, if the results are obtained by means that are contrary to the legal rules that regulate them then of

course the results cannot be accepted as evidence because something obtained by improper means, by means that are against the law cannot be positioned as evidence for the case, the Expert remembers a theory that has been ongoing since 1928 if I'm not mistaken in criminal cases in America, the theory is the theory of the fruit poison of tree, namely the fruit of a poisonous tree, so if the tree is poisonous then anything produced from the poisonous tree will certainly be poisonous too so if we relate this to the process of finding evidence if if the way to obtain the evidence is something that is not right then the evidence becomes something that is not right.

b. That if it is concluded as something that is not true because the way it was obtained is contrary to the rules, then if it is positioned as evidence, of course it cannot be accepted as valid evidence and must be set aside.

2) Polygraph expert Aji Febrianto Arrosyid explained as follows:

The expert presented in this case is an individual with specialized expertise in polygraph examinations. Polygraph examinations are a psychophysiological testing method that uses a device to detect a person's bodily reactions to determine whether the person is providing truthful information. This method is used in investigative practice to help assess the veracity of a subject's or suspect's testimony.

Polygraph examinations are conducted upon request from investigators. Once the request is received, experts coordinate with the investigators to understand the legal issues to be examined through the examination. The examination is conducted in three stages: pretest, test, and posttest. In the pretest, the examiner explains the mechanism of the polygraph and explores the examinee's health and social background, including establishing a common understanding of the events to be examined. The second stage is the testing process, which involves attaching sensors to the examinee's body to measure respiration, cardiovascular activity, and electrodermal reactions. The third stage is a graphical analysis of the examination results by a team of experts to draw conclusions regarding the presence or absence of deception.

According to experts, the method used has an accuracy rate of over 93%, as supported by journals from professional associations in the United States. The remaining 7% depends largely on the examiner's competence. The more experienced and skilled the examiner, the higher the accuracy of the results. The main parameters analyzed in this examination include heart rate, sweating rate, and chest and abdominal breathing. The analysis is conducted by comparing responses to case-related questions and control questions, using a scoring or graphic assessment method.

The examinee's psychological state is a factor that influences the results. Experts explain that fear or nervousness can produce certain graphic patterns, but the

method used is able to distinguish natural reactions from manipulative ones. Based on expert experience, so far, no honest person has ever been detected in a lie. Furthermore, the literature recognizes the term countermeasure, which refers to an attempt to manipulate the examinee. However, empirical records dating back to the 1960s indicate that only a small number of individuals have successfully escaped detection by this device, demonstrating the high validity of the polygraph method.

Polygraph examination results are divided into three categories: deception indicated, no deception indicated, and no opinion. These results are obtained from graphic analysis and scoring of bodily reactions when answering questions. In this case, the examinations were conducted on five individuals, including the Defendant, who all showed certain scores as the final examination results.

The examination of the Defendant was conducted before the case file was transferred to the investigation stage. During the pre-test stage, the expert stated that the Defendant was in good health and cooperative. In fact, the Defendant was categorized as an intelligent individual, which actually facilitated the examination process because he was able to understand instructions and answer questions well. This also influenced the quality of the examination results. From a criminal procedural law perspective, expert testimony is one of the valid pieces of evidence as regulated in Article 186 of the Criminal Procedure Code. Although the results of the polygraph are not stand-alone evidence, they can be relevant supporting evidence, especially to strengthen the conviction of the investigator or judge in the evidentiary process. The high validity of the examination results and their scientific nature provide added value in the construction of evidence, as long as they are used carefully and supported by other evidence. That the 5 Examined/Defendants showed the following scores:

a. That for the Defendant the total value is minus 8;

b. That for Witness Putri Candrawathi minus 25;

c. That for the Strong Witness Ma'Ruf, we carried out two examinations, the first was plus 9 and the second was minus 13;

d. That for Witness Ricky Rizal Wibowo, we did it twice, the first +11, the second +19;

e. That for Witness Richard Eliezer Pudihang Lumiu +13;

In his statement, the expert explained that polygraph examination results are assessed using a scoring system. A positive (plus) score indicates that the subject is not suspected of lying, while a negative (minus) score indicates that the subject is suspected of lying. This scoring system is crucial in deducing the subject's

tendency to be candid based on their physiological reactions to the questions asked.

Based on the examination results, the Defendant received a negative score, indicating that he was indicated to have provided dishonest testimony during the polygraph examination. Similarly, Witness Putri Candrawathi's examination results also showed a negative score, so the expert interpreted it as an indication of lying. These two results illustrate that based on physiological analysis using the polygraph method, there was a body response consistent with an indication of lying. These results, although they cannot stand alone as decisive evidence, have evidentiary value as expert testimony that strengthens or weakens the legal positions of the parties. In the context of the theory of evidence, these results can be an aid for the judge in forming a conviction based on a combination with other valid evidence according to criminal procedure law. Furthermore, if the Strong Witness Ma'Ruf is identified as honest and lying, we will conduct two examinations with different issues/questions, namely:

a. That for the Strong Witness Ma'Ruf, the relevant question is: Did you catch the Witness Putri Candrawathi having intercourse with the victim Nofriansyah Yosua Hutabarat (deceased): The honest answer is, "Didn't catch it";

b. For the Strong Witness Ma'Ruf, who was examined for the second time on September 9, the question was: Did you see the Defendant shoot the victim Nofriansyah Yosua Hutabarat (deceased)? The answer is "no", and that is the result of lying;

c. That for Witness Ricky Rizal Wibowo the questions were the same as for Strong Witness Ma'Ruf and the results of both were honest. The first question was related to Witness Ricky Rizal Wibowo, Did someone tell you to take Witness Richard Eliezer Pudihang Lumiu's firearm, the answer was no. Then for the second examination was Did you see the Defendant shoot Witness Richard Eliezer Pudihang Lumiu "no", the answer was honest;

d. That for Witness Richard Eliezer Pudihang Lumiu, with the question of whether you gave false testimony, that you shot the body of the victim Nofriansyah Yosua Hutabarat (deceased)? Witness Richard Eliezer Pudihang Lumiu answered no, the answer of Witness Richard Eliezer Pudihang Lumiu, whether or not this, is honest. Indeed, Witness Richard Eliezer Pudihang Lumiu shot the victim Nofriansyah Yosua Hutabarat (deceased);

The expert who conducted the polygraph examination stated that the conclusions drawn from the examination of the Defendant were based on the investigator's request. The expert himself has been certified in polygraph examinations since 2011 and received further training in 2013 from the Malaysian Polygraph Academy. In carrying out the examination, the investigator provides specific issues or questions to be used in the examination, and the expert simply conducts the

examination according to those directions without clarifying the substance of the questions.

The expert emphasized that polygraph examinations should ideally require the consent of the person being examined. The examination requires full cooperation because the process is interactive and sensitive to physiological responses. In this case, witness Putri Candrawathi expressed her willingness to be examined and signed a consent form. Although the witness objected to describing the chronology of events on the 7th, the examination proceeded based on the initial consent granted.

The initial stage of the examination, the pretest, serves to build rapport or a relationship of trust between the examiner and the examinee. During this stage, the examiner explains the mechanisms and tools used, and gathers information about the patient's medical and social history and the events to be examined. However, if the examinee is reluctant to disclose certain parts of the chronology, this is considered their right and cannot be forced. The examination may continue as long as there is no explicit refusal.

The expert's statement stated that there is an initial test (numbers) to determine whether someone is fit for examination. If the results graph indicates unfit, the examination will not continue. The examinee can also refuse midway through the process, and if that happens, the examination will be stopped. During the examination of Putri Candrawathi, the examinee remained cooperative, although there were emotional moments such as crying, which the expert said were not given special attention. The expert also explained that they do not have the authority to propose questions, match questions between examinees, or clarify statements. They are only tasked with carrying out the examination according to the investigator's instructions, making this process highly dependent on what the investigator provides as examination material.

The issues examined against Witness Putri Candrawathi were related to the alleged affair, but did not include questions regarding the sexual assault on the 7th. The expert acknowledged that the structure of the questions originated from them, but was based on issues provided by the investigator. In this aspect, criticism arose from the Defendant, who regretted that the examination by the Forensic Laboratory Center was carried out only based on issues submitted by the investigator without considering the direct relevance to the main case of suspicion, namely premeditated murder (Article 340 of the Criminal Code). The Defendant stated that in the future, such examinations should be based on legal facts, conducted independently, and not be tendentious towards the Defendant's family.

Experts explain that psychological responses such as nervousness can be detected through graphs within each question. If someone is nervous, the graph will show a specific pattern across all questions, not just the relevant one. This is used as a

psychophysiological indicator. In graph analysis, experts use specific methods such as reading "gloking" or "acne" patterns that occur on the respiratory graph as the examinee answers key questions.

From the perspective of evidentiary theory, this expert testimony is considered valid evidence under Article 186 of the Criminal Procedure Code. However, this testimony cannot stand alone as a decisive basis for proof, especially if the process is conducted based on issues not directly relevant to the elements of the crime being examined. Complete reliance on investigators in formulating questions and limited clarification by experts indicate the potential for bias in the examination process.

Therefore, in practice, polygraph examination results should be critically examined, not only from a technical scientific perspective, but also in terms of the relevance of the examination material to the elements of the crime being charged. Such expert testimony should be treated as an auxiliary tool of proof, not primary evidence.

After hearing the reading of the criminal charges submitted by the Public Prosecutor, which are in essence as follows:

a. Declaring that the Defendant FERDY SAMBO, SH, SIK, MH, has been legally and convincingly proven guilty of committing the crime of premeditated murder jointly in violation of Article 340 of the Criminal Code in conjunction with Article 55 paragraph (1) ke-1 of the Criminal Code, and stating that he has been legally and convincingly proven to have committed the crime without rights or against the law by carrying out actions that result in the electronic system being disrupted so that it does not work jointly as it should in violation of Article 49 in conjunction with Article 33 of Law No. 19 of 2016 concerning amendments to Law No. 11 of 2008 concerning Electronic Information and Transactions in conjunction with Article 55 paragraph (1) ke-1 of the Criminal Code, as in the First Primary Charge and the Second Primary Charge;

b. Sentencing the Defendant to life imprisonment;

The judge's considerations indicate that the results of a polygraph examination conducted by a polygraph examiner can be categorized as written evidence or as expert testimony by investigators, public prosecutors, and the panel of judges. Based on the provisions of the Criminal Procedure Code, both letters and expert testimony are valid types of evidence. Therefore, according to Yahya Harahap, dualism in categorizing polygraph examination results need not be an issue, because both have independent and non-binding evidentiary force. Thus, the judge has the freedom to determine whether the results of the polygraph examination will be considered as written evidence, expert testimony, or even not considered in the decision. Will However, upon closer examination, polygraph examination results, whether in the form of written evidence or expert testimony,

actually originate from the polygraph examiner's analysis of the suspect, and the results of that analysis are presented in a report. Therefore, before categorizing polygraph examination results as written evidence or expert testimony, it is important to first examine whether the polygraph examination of the suspect was conducted according to the correct procedures and standards. Unlike New Mexico, Indonesia does not yet have regulations regarding polygraph examinations.

However, if Indonesia intends to recognize polygraph examination results as scientific evidence in court, as has been done in the state of New Mexico, then regardless of how the scientific evidence is categorized—whether as documentary evidence, expert testimony, or clues—clear standards are needed for the implementation of polygraph examinations, particularly regarding the qualifications of the examiner. Referring to Rule 11-707 of the New Mexico Rules of Evidence, a polygraph examiner must have at least five years of experience in administering or interpreting polygraph tests, or have equivalent academic training. In addition, the examiner is also required to complete at least 20 hours of continuing education in the field of polygraph examinations within 12 months before conducting or interpreting the examination.

Several experts have also put forward qualification standards for a polygraph examiner. According to Judy Hails, a polygraph examiner must undergo six months of training because the examiner's expertise and skills are key to its validity as scientific evidence.

Meanwhile, Thomas J. Gardner and Terry M. Anderson stated that a person can only be called a polygraph expert and can provide testimony in court, if: (1) trained in science or technology, (2) has knowledge, training, and experience in testing a substance, (3) if a scientist conducts a suitable test on a substance, or (4) provides testimony in court based on his expertise, knowledge, and experience. The polygraph examination of Ferdy Sambo was carried out by investigators from the police, namely Aji Febrianto Arrosyid. When providing testimony as an expert in the Ferdy Sambo case at the South Jakarta District Court, Aji stated that he was certified in 2011 and in 2013 carried out polygraph examiner training in Malaysia and the Expert certification was issued by the Malaysian Polygram Academy.

The Criminal Procedure Code (KUHAP) does not explicitly stipulate specific qualifications for experts appearing in court. However, as long as the individual is deemed to have expertise in a specific field and their testimony is based on professional knowledge in that area, their testimony, including as a polygraph expert, can be deemed valid and have evidentiary value by the panel of judges.

In addition to the issue of polygraph examiner qualifications, Aji Febrianto emphasized the importance of observing standards for polygraph examination implementation, particularly regarding the condition of the examination room and the personnel present. These factors significantly influence the validity of the

examination results. Ideally, the examination should be conducted in a dedicated, quiet room isolated from outside noise. Furthermore, the presence of police officers in the room during the examination is prohibited to avoid psychological pressure on the subject that could influence the test results.

Judges should not simply interpret the law textually, but also contextually and evolutionary. Polygraphs, when supported by expert testimony and accurate scientific procedures, can be categorized as expert testimony evidence under Article 186 of the Criminal Procedure Code. Thus, judges have a normative basis to consider them in assessing material truth without violating the principle of the legality of evidence.

Furthermore, the principle of a fair trial demands a balance between legal certainty, procedural justice, and material truth. If judges focus solely on the formal legality of evidence without considering its scientific value and rationality, criminal justice will lose its function as a means of discovering substantive truth. Conversely, openness to scientific evidence, including polygraphs, will strengthen judicial legitimacy and increase public trust in the legal system.

To see how this principle is applied in practice, it is necessary to examine concretely how panels of judges at each level of the court assessed the validity and validity of polygraph examination results in a case of national concern, namely the Ferdy Sambo case. This case provides an empirical illustration of how courts attempt to balance the formal provisions of criminal procedure law with scientific considerations in the presentation of evidence.

In the first instance trial process, namely at the South Jakarta District Court, the panel of judges in Decision Number 796/Pid.B/2022/PN Jkt.Sel sentenced the defendant Ferdy Sambo to death. In its considerations, the panel of judges referred to the results of the polygraph examination conducted by the National Police Forensic Laboratory Center (Puslabfor), which indicated that the defendant was indicated to have given dishonest information (deception indicated). However, the first instance judge did not use these results as stand-alone evidence, but rather as supporting evidence to strengthen the judge's belief in other valid evidence according to Article 184 paragraph (1) of the Criminal Procedure Code.

Furthermore, on appeal through the Jakarta High Court Decision Number 68/PID/2023/PT DKI, the panel of judges upheld all considerations and rulings of the district court. The High Court was of the opinion that there was no error in the application of procedural law or the assessment of evidence by the first instance judex factie. Therefore, the results of the polygraph examination that had previously been considered were still considered as complementary expert testimony, not primary evidence. In the appeal considerations, the panel of judges also emphasized that the validity of the polygraph as an auxiliary tool does not

change the limited criminal evidentiary system as stipulated in Article 184 of the Criminal Procedure Code.

When the case was submitted to the cassation level, the Supreme Court, through Decision Number 813 K/PID/2023, rejected the cassation appeal of defendant Ferdy Sambo and upheld the decision of the DKI Jakarta High Court. In its legal considerations, the panel of supreme court justices stated that the judex facti did not commit any errors in assessing the evidence or in applying the law. Thus, the judex juris (Supreme Court) fully took over and upheld the legal considerations of the judex facti at both the first and appellate levels, including regarding the status of the polygraph examination results as an auxiliary means of evidence.

The Supreme Court emphasized that the results of a polygraph examination cannot be categorized as independent evidence, because the Criminal Procedure Code (KUHAP) only recognizes five types of evidence as limited to Article 184 paragraph (1) of the Criminal Procedure Code, namely witness statements, expert statements, letters, clues, and statements from the defendant. In this case, the polygraph report can only obtain evidentiary value if it is converted into expert testimony as regulated in Article 186 of the Criminal Procedure Code. This view is in line with the principle of negative wettelijk bewijsstelsel, where judges cannot base their decisions solely on evidence that is not explicitly regulated in the Law.

Furthermore, the Supreme Court considered that the results of the polygraph examination could still be used as supporting evidence as long as they did not conflict with the principles of fair trial and the defendant's right to defend himself. However, the Court refused to give conclusive evidentiary value to the results, considering that the polygraph method does not yet have definite scientific and legal legitimacy in Indonesian criminal procedure law. Therefore, the polygraph results in this case were not used as the primary basis for concluding the defendant's guilt, but only as additional considerations to strengthen other evidence, such as witness testimony, forensic experts, and physical evidence presented in court.

The Supreme Court's decision Number 813 K/PID/2023 reads as follows:

“Rejecting the cassation request from the cassation applicant/Defendant Ferdy Sambo, SH, SIK, MH; Upholding the decision of the DKI Jakarta High Court Number 68/PID/2023/PT DKI which upholds the decision of the South Jakarta District Court Number 796/Pid.B/2022/PN Jkt.Sel; Determining that the Defendant Ferdy Sambo, SH, SIK, MH, remains in detention; Charging the court costs to the Cassation Applicant in the amount of Rp2,500.00 (two thousand five hundred rupiah).”

Thus, the legal position of the polygraph examination results in this case is increasingly clear: neither the judex facti nor the judex juris considers the polygraph as stand-alone legal evidence, but rather as part of a series of evidentiary tools that support the judge's conviction. This consideration

demonstrates consistency between the three levels of justice, while also confirming that the application of the polygraph in the criminal justice process in Indonesia remains within the realm of non-formal scientific evidence (auxiliary scientific evidence).

In terms of legal principles, the Supreme Court's approach in this case reflects the application of the principle of fair trial balanced with the principle of legal certainty. The Court strives to ensure that the application of scientific evidence does not result in a violation of the defendant's rights, as guaranteed in Article 28D paragraph (1) of the 1945 Constitution of the Republic of Indonesia and Article 14 paragraph (2) of the International Covenant on Civil and Political Rights (ICCPR). However, the absence of an explicit legal basis for the use of polygraphs remains a fundamental problem in Indonesia's criminal evidence system, which ultimately requires legislative reform to provide normative certainty regarding the use of scientific evidence in the future.

4. Conclusion

The regulation of polygraph machines as evidence in criminal trial trials is guided by Article 184 of the Criminal Code by adopting a negative evidence system as indicative evidence and is supported by Law Number 19 of 2016 amending Law Number 11 of 2008 concerning Electronic Information and Transactions. One of the evidence in this case is indicative evidence that uses a polygraph machine because it can be used as electronic information or documents, where the expansion process using the polygraph machine is based on Order Number Pol: Sprin/295/II/1993 concerning Validation of the Indonesian National Police Organization, namely concerning the Indonesian National Police Forensic Laboratory. The use of lie detectors is carried out in cases that fall into the criteria of difficult cases as explained in Article 18 paragraph (3) of Perkap Number 14 of 2012 concerning Investigation Management. Based on the analysis of Supreme Court Decision Number 813 K/PID/2023, it can be concluded that the results of a polygraph (lie detector) examination have the status of a scientific evidentiary tool that can be qualified through written evidence or expert testimony as regulated in Article 184 paragraph (1) letter c of the Criminal Procedure Code. Although not explicitly recognized in statutory regulations, the existence of the polygraph has gained legal legitimacy through judicial practices that prioritize the search for material truth. In the Ferdy Sambo case, the panel of judges considered the polygraph results as supporting evidence in forming a conviction, while still assessing its validity based on expertise and scientific examination procedures. However, the judges' considerations still show a legalistic and textual approach, not fully accommodating scientific values and the principle of fair trial which demands a balance between legal certainty, procedural justice, and scientific rationality. Therefore, a more progressive and contextual evidentiary approach is needed in the future, so that the use of scientific evidence such as the polygraph

can contribute optimally to upholding substantive justice in the Indonesian criminal justice system.

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