



UDO UNDEUTSCH*
University of Cologne
(GERMANY)

The actual use of investigative physiopsychological examinations in Germany¹

Wilhelm Wundt originated systematic experimental psychological research and in 1878 established the first Psychological Laboratory at the University of Leipzig. It was there that he and his colleagues initiated highly industrious research activities and within a short period of time they produced a host of publications.

Two traditional academic professions closely observed the research findings of the new scientific discipline: psychiatrists, seeking to learn more about the functioning of the normal human mind and legal scholars, looking for psychological methods and techniques to identify the perpetrators of crimes under investigation.

* udoundeutsch@netcologne.de

¹ Paper presented on the European Expert Meeting on Polygraph Testing, March 29-31, 2006, Maastricht, The Netherlands.

At the turn of the 19th century, the Austrian legal scholar Hans Gross taught criminal law at the German University in Prague. He was especially interested in the most recent findings of the new discipline of physiological psychology. From time to time, he presented selections from psychological literature to his students. On one such occasion, he told them about Wilhelm Wundt's experiments with the Word Association Test. One of his students, Max Wertheimer, became interested in the Word Association Test technique and envisaged that it had the potential to be a suitable tool to identify perpetrators of crimes under investigation. Fascinated by the success of his preliminary experiments with the Word Association Test, Wertheimer decided to change disciplines – from jurisprudence to psychology – and wrote his dissertation in Würzburg under Marbe on this topic (Wertheimer, 1906).

At the same time, the German-Swiss psychiatrist Eugen Bleuler demonstrated interest in the Word Association Test, with his main concern being the question as to whether the associations of mentally ill persons differ in any way from the associations of mentally healthy persons. At that time, Carl Gustav Jung served as his senior assistant staff physician. Bleuler, as head of the prestigious psychiatric hospital Burghölzli (near Zurich), entrusted Jung with the research on this subject and in 1902 Jung performed six experimental studies on the Word Association Test that were published in journals from 1904 to 1910. Later, these works were published in English as volume 2 of Jung's Collected Papers. Jung also developed the idea that this test could possibly be used for criminal investigations and he tested its applicability in two criminal cases. In both cases, the outcome of the Word Association Test was correct (Jung, 1973).

Wertheimer and Jung simultaneously and independently developed the idea that the Word Association Test's validity could be increased by the simultaneous recording of involuntary peripheral physiological reactions. This was another consequence of the impressive research that had been performed in Wilhelm Wundt's laboratory at the end of the 19th century.

After the early years of the 20th century, only occasional research was performed on the use of peripheral physiological reactions in the investigation of crimes. Occasionally, an anecdotal article was published in a minor journal and the interest of police scientists and the legal community was very low. Eventually, this kind of investigative tool fell by the wayside.

The story continues in the United States. How did scientists and police officers learn of an approach that had its origins in Germany and in the German-speaking part of Switzerland?

William James, professor of psychology at Harvard, was an admirer of the German psychologist Hugo Münsterberg, who was Wundt's student from 1882–1885. William James was so profoundly impressed with Münsterberg that he arranged to have him visit Harvard for three years (1892–1895), hoping that the appointment could be made permanent. Once in the United States, Münsterberg's energetic mind moved at once from experimental to still newer psychologies. He broke ground in psychotherapeutics, forensic psychology, and industrial psychology. Edwin Boring praises him with the words: "In a sense he 'founded' applied psychology" (p. 428).

In 1908, Münsterberg published his book *On the Witness Stand*, in which he summarised German research in the field of forensic psychology, especially with regard to eye witness testimony and psychological methods of identifying perpetrators. This book made German research findings known to the interested American public. Münsterberg advocated greater forensic attention to the techniques of experimental psychology.

Among his students was William Marston, J. D., PhD, who developed a technique for use in actual criminal cases. Marston was an avid publicist and he either coined the misleading term "lie detector" himself or else adopted the expression from one of the journalists to whom he described the wonders of his technique.

This term of course was a misnomer, as Martin Orne, born and raised in Germany and later – in order to save his life – emigrated to the United States, pointed out (1975):

Not only are the physiological changes as such unrelated to lying, but it is not even the act of lying *per se* which brings them about. This observation can readily be documented in laboratory experiments (p. 95).

The development of the instrument as well as the question technique rested for several decades in the hands of practitioners.

After World War II, Germany was divided into four occupied zones. The Military Police of the US armed forces had "special agents" working as polygraph examiners. A few of them were German refugees and thus German-speaking. In time, some German defence attorneys established contact with US military defence attorneys. During their conversations, German defence attorneys discovered that the military Criminal Investigation Department, as well as the military defence attorneys, asked suspects who denied charges brought against them to submit themselves to a polygraph test. In this manner the suspects had a chance to prove their innocence; many times the result was that the charges were dismissed. In some

homicide cases, German defence attorneys advised their clients who pleaded not guilty to submit to a polygraph examination in order to disprove the charges brought against them. None of the German lower courts admitted polygraph evidence. At least one German defence attorney appealed a lower court decision and took the case to the German Federal High Court.

In 1954, this Court ruled (BGHSt 5, 332) that basic principles of German constitutional law and criminal procedure prohibit the use of polygraph examinations because they encroach upon the freedom of the defendant to make decisions and act according to his own will. This freedom of the accused is based on the principles of constitutional law and criminal procedure, as well as upon the concept of an individual's self-accountable moral personality. Infringements upon the freedom of personal will are prohibited regardless of the accused person's consent to their violation. It was this right of the accused to decide whether and how to answer every question that the Supreme Court held to be irreconcilable with the application of a polygraph examination. The reasoning behind this decision held that during a polygraph test, a guilty party may voluntarily answer questions.

At the same time, however, his involuntary reactions when attached to the polygraph instrument would reveal the fact of his guilt and this information is actually obtained against his will. This insight into the accused's soul violates his freedom of decision and action. Accordingly, polygraph examinations must be prohibited in criminal proceedings, as each individual has the right to retain an important and inviolate psychic sphere, which is necessary for the maintenance and development of personality.

How did this decision come about? The first Senate of the Federal High Court of Germany had to decide upon the admissibility of an investigative procedure totally unknown to the justices. They had no idea about the details of the administration of a physiopsychological test designed to discover whether a suspect was in any way involved in the crime under investigation or adjudication. The justices felt that they needed information about this technique and its administration. Unfortunately, the Senate justices did not know who in Germany would be able to provide them with the information they needed. Therefore, they decided to ask the US Crime Laboratory for Europe, at that time stationed in Wiesbaden, whether they would delegate a German-speaking special agent to testify before the senate in order to inform the justices about the instrument and the administration of the entire examination. Naturally, the special agent was not and in fact could hardly be familiar with German law; he only knew the American criminal justice system, which is an adversarial system with lay jurors in which it is important for the parties "to impress the jury". Having this in mind, the special agent tried to impress the justices of the Senate. Therefore, he decided to demonstrate the effectiveness of the technique by conducting a silent answer test. He selected a subject from the audience and di-

rected him to write a number from 2 to 6 inclusively on a piece of paper after the examiner averted his gaze. Next, the subject folded the paper and placed it into his pocket. The examiner then stated that he would ask about each of the five numbers several times, each time in a different sequence. The subject's task was to listen to the questions, but to keep silent. Despite these measures, the examiner was able to discover which number the subject had written on the piece of paper. In this manner, the special agent demonstrated to the justices that it was a rather easy task for him to find the number he had written on the piece of paper by inspecting the recorded involuntary reactions of the subject, even though the subject concealed the number he had written. The special agent believed that this demonstration would impress the justices. Instead, the five justices were startled by this demonstration because, in their minds, the special agent proved that this technique made it possible to access knowledge that the subject did not want to reveal. Thus, their lesson from this demonstration was that it was possible to obtain information from an individual against his will.

As a consequence of this misunderstanding, the members of the senate concluded that they had to prohibit the use of this technique in criminal proceedings in order to protect the freedom of the defendant to make independent decisions and to act according to his own free will (BGHSt, 1999, 44, p. 308).

After this decision was handed down, the discussion about the admissibility of results obtained by the administration of this technique ceased. The courts rejected all motions of the defence to admit the results of polygraph examinations.

Matters began to change in 1979, when a law professor (J. Schwabe) published critical comments about the Supreme Court decision of 1954. The Supreme Court's main argument was that the administration of the comparison question test violates human dignity and respect for human rights. This law professor raised the question whether it was not an even stronger violation of the dignity of the individual and of human rights to place an innocent person in jail than the administration of a physical and psychological examination that the defendant himself desperately wanted to undergo in order to prove his innocence (Schwabe, 1979).

Of course, there is only one answer to this question. This article encouraged legal scholars to come forward with objections to the Supreme Court decision. Prior to that, I published a couple of articles in legal journals in which I attacked the Supreme Court decision, pointing out the Supreme Court's misunderstanding of the rationale and the administration of the test under consideration (Undeutsch, 1975, 1979, 1983 a & b).

As a result, some judges and courts dared to admit the results of polygraph examinations into evidence. Of course, these decisions were appealed by prosecutors. In

this manner, these cases came back to the Supreme Court, which decided to issue a new policy decision in 1998 (BGHSt, 1999, 44, p. 308). The Supreme Court ordered a hearing and called four scientists to submit expert testimony on the validity of physiopsychological examinations, especially of the comparison question test. The hearing was scheduled for two days. On the first day, the experts presented their opinions.

The first opinion was that of a professor of physiology. He pointed out that while he did not have detailed knowledge about the method under discussion, he appealed to his common sense: if the technique had an acceptable level of validity, it should be used. He compared it to acupuncture and explained to the Supreme Court: No one knows, why this practice works, but since it works it is used and should be used.

Next it was my turn and the presiding justice gave me half an hour to render my opinion. I pleaded in favour of the admissibility of this technique, at least for those who maintain their innocence and desperately want to prove it (Undeutsch & Klein, 1999).

The next expert was Max Steller, a professor of Forensic Psychology at the Free University of Berlin. Steller wrote in his *Habilitationsschrift* (1987) (a treatise submitted for recognition as a lecturer in psychology at German universities):

As to the methodological aspect we can state, that ... the psychological assessment of the veracity of witness statements is by far not as thoroughly scientifically scrutinised as psychophysiological methods (p. 166).

Then, in court (1999) he testified to the effect that comparison question tests have a very low validity, especially when applied to probable sex offenders. This testimony had very heavy impact on the court, because in court proceedings regarding child sexual abuse, we are frequently presented with a situation in which no physical or circumstantial evidence, nor testimony of a non-involved adult witnesses exist. This means that for innocent persons, the chances of disproving an allegation is extremely low. They therefore resort to a physiopsychological examination.

The last expert was K. Fiedler, a clinical psychologist, who in his introductory remarks stressed the fact that he never had testified in court and that he had no interest in forensic psychology at all. In his testimony he pointed out that the theoretical basis of the comparison question test was extremely weak. As to the validity of this diagnostic tool, he claimed that the results of those examinations were more often wrong than they were correct. In the afternoon of the day of the hearing he presented to the court and his expert colleagues a table with figures about accuracy

rates on both guilty and innocent subjects. This was a real surprise because his written testimony (1999) did not contain anything of the kind.

Later, I discovered that he used figures from the Patrick and Iacono field validity study (1991). The authors evaluated comparison question polygraph tests performed by examiners of the Royal Canadian Mounted Police. The original examiners recorded and scored the subjects' reactions. Later, independent examiners – who were also police examiners – did likewise. The independent police examiners had an exceptionally low hit rate. The fourth expert witness simply cited the hit rates of the independent examiners and based thereon, concluded that comparison question tests produce more false outcomes than correct ones. What he did not tell the court was that the:

- original examiners were 94% correct in their decisions regarding guilty subjects and 100% correct on innocent subjects (1996),
- independent evaluators in all other high quality field studies had very high accuracy rates (Honts, Raskin & Kircher, 2007),
- sample of polygraph examinations suffers from criterion contamination since it included three completely different categories of examinees: suspects, alleged victims, and other witnesses (Honts, 1996).
- The figures used by the fourth expert witness are completely irrelevant for the courts because the court-appointed expert usually is the one who examines the witness or the accused and the one who issues a written report prior to the trial, either to the prosecuting attorney or to the court.
- Patrick and Iacono study has been replicated by Charles Honts, also using material from the polygraph section of the Royal Canadian Mounted Police. In Honts' new study, the original examiners were correct with regard to innocence in 100% of the cases and on the guilty persons in 94% of the cases. The independent examiners were correct on guilty persons in 100% of the cases, and on innocent suspects in 83%. Importantly, however, they were incorrect in 0% of the cases; the remaining 17% were inconclusive (Honts, 1996).

The fourth expert did not reveal any of this to the court – presumably because he did not know better. While there is no reason to assume that he was dishonest to the court, the fact remains that he based his conclusions on the poorest of all high quality field validity studies. Honts, Raskin & Kircher (2007) write:

Given the general performance of independent evaluators across these high quality field studies, it appears that the performance of the blind evaluators in Patrick and Iacono could be viewed as an outlying data point (p. 803).

14 THE ACTUAL USE OF INVESTIGATIVE PHYSIOPSYCHOLOGICAL EXAMINATIONS...

In 1998, the First Senate of the German Federal High Court handed down a policy decision stating that:

1. All the judicial reasons given in the first decision in 1954 were untenable.
2. The comparison question test had no evidentiary value whatsoever; therefore, it was inadmissible in criminal proceedings.

This has been the state of affairs in Germany since 1998.

Nevertheless, during the investigative phase of criminal proceedings, state attorneys refer their unresolved cases to physiopsychological experts in order to reduce the number of possible suspects or to find out whether the prime suspect is the perpetrator.

More frequently, defence attorneys refer their clients professing innocence to experts in order to undergo a forensic psychophysiological examination. This is simply to know if the client is guilty or innocent, which is important information needed to prepare a proper defence strategy for the case at hand.

If the outcome of the examination is that the client was truthful when denying the charges, we render a written report to the defence attorney, who then forwards the report to the court.

If in custody and visitation cases the suspicion of child sexual abuse is brought, the accused fathers ask for a physiopsychological examination in order to prove their innocence. Family courts are more inclined than criminal courts to accept polygraph evidence because they are more anxious to protect children from giving oral testimony in court.

On occasion, the police ask us to conduct a polygraph examination on suspects.

In conclusion, I dare to predict that the German Federal High Court's latest decision in this matter will not survive as long as the first one did (45 years). The second decision rests on the assumption that physiopsychological examinations have no evidentiary value whatsoever. This assumption is that faced with relevant research findings that strongly contradict the court decision (see the most recent survey by Honts, Raskin, Kircher, 2007), there is a high probability that before long the German Federal High Court will have to decide once again on the admissibility of polygraph examinations.

References

- Boring, E. G. (1957), *History of Experimental Psychology*, Second edition, Englewood Cliffs, New Jersey, Prentice-hall, Inc.
- Bundesgerichtshof (ed.) (1954), *Entscheidungen des Bundesgerichtshofs in Strafsachen*, Decisions of the German Federal High Court in criminal matters, 5, 337.
- Bundesgerichtshof (ed.) (1999), *Entscheidungen des Bundesgerichtshofs in Strafsachen*, Decisions of the German Federal High Court in criminal matters, 44, 308.
- Fiedler, K. (1999), *Gutachten zur wissenschaftlichen Grundlage der Lügendetektion mithilfe sogenannter Polygraphentests*, Praxis der Rechtspsychologie, 9, Sonderheft BGH-Gutachten, Psychophysiologische Aussagebeurteilung, 5–44.
- Honts, C. R. (1996), *Criterion Development and Validity of the Control Question Test in Field Application*, The Journal of General Psychology, 123, 309–324.
- Honts, C. R., Raskin, D. C. & Kircher, J. C. (2007), *Polygraph Tests. Scientific Status. The Case for Polygraph Tests*, in: D. L. Faigman, D. H. Kaye, M. J. Saks, J. Sanders & E. K. Cheng (eds.), *Modern Scientific Evidence. The Law and Science of Expert Testimony*, 2006–2007 edition, Vol. 4, § 14: 20–§ 40: 44, pp. 786–831.
- Jung, C. G. (1973), *Experimental Researches*, H. Read, M. Fordham, G. Adler, & W. McGuire (eds.), *The Collected Works of C. G. Jung*, Vol. 2.
- Münsterberg, H. (1908), *On the Witness Stand: Essays on Psychology and Crime*, Garden City, N.Y., Doubleday & Page.
- Orne, M. (1975), *Implications of Laboratory Research for the Detection of Deception*, in: N. Ansley (ed.), *Legal Admissibility of the Polygraph*, Springfield, Charles Thomas.
- Patrick, C. J. & Iacono, W. G. (1991), *Validity of the Control Question Polygraph Test*, Journal of Applied Psychology, 76, 229–238.
- Raskin, C. D. & Honts, C. R. (2002), *The Comparison Question Test*, in: M. Kleiner (ed.), *Handbook of Polygraph Testing*, San Diego, Academic Press, 1–48.

Schwabe, J. (1979), *Rechtsprobleme des "Lügendetektors"*, Neue Juristische Wochenschrift, 576–582.

Steller, M. & Dahle, K.-P. (1999), *Wissenschaftliches Gutachten: Grundlagen, Methoden und Anwendungsprobleme psychologischer Aussage- bzw. Täterschaftsbeurteilung*, Praxis der Rechtspsychologie, 9. Jg., Sonderheft Psychophysiologische Aussagebeurteilung, 127–204.

Steller, M. (1987), *Psychophysiologische Aussagebeurteilung*, Göttingen, Verlag für Psychologie.

Undeutsch, U. (1975), *Die Verwertbarkeit unwillkürlicher Ausdruckserscheinungen bei der Aussagenwürdigung*, Zeitschrift für die gesamte Strafrechtswissenschaft, 87, 650–662.

Undeutsch, U. (1979), *Die Leistungsfähigkeit der heutigen Methoden der psychophysiologischen Täterschaftsermittlung*, Monatsschrift für Kriminologie und Strafrechtsreform, 62. Jg., 228–241.

Undeutsch, U. (1983 a), *Vernehmung und non-verbale Information*, in: Kube, E., Storzer, H. U., & Brugger, S. (Hrsgg.), *Wissenschaftliche Kriminalistik*, BKA-Forschungsreihe, Bd. 16, Teilband I, Wiesbaden, BKA, 389–418.

Undeutsch, U. (1983 b), *Die psychophysiologische Täterschaftsermittlung*, in: Lösel, F. (Hrsg.), *Kriminalpsychologie*, Weinheim und Basel, Beltz, 191–206.

Undeutsch, U. (1997), *Psychophysiologische Täterschaftsdiagnostik – Bedarf und Akzeptanz, insbesondere bei Verdacht des sexuellen Missbrauchs*, in: L. Greuel, T. Fabian, & M. Stadler, (Hrsgg.), *Psychologie der Zeugenaussage*, Weinheim, Beltz, 304–308.

Undeutsch, U. & Klein, G. (1999), *Wissenschaftliches Gutachten zum Beweiswert physiopsychologischer Untersuchungen*, in: *BGH-Gutachten, Physiopsychologische Aussagebeurteilung*, Praxis der Rechtspsychologie, 9. Jg., Sonderheft Psychophysiologische Aussagebeurteilung, 45–126.