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## Logical Identity of Conclusions from Polygraph Testing Performed in Control Questions Test (CQT) and Guilty Knowledge Test (GKT) Techniques

Peak of Tension (POT) tests have been known and used in polygraph examinations since 1930s (Keeler 1934, Lee 1953, Reid, Inbau 1966). In the 1950s proposals were made to found the entire polygraph examinations on such tests (Burack 1955), at the same time resigning from control question tests (Lykken 1959, 1960, 1974).

One of the arguments justifying such a proposal were the encouraging results of experimental tests, in which the experimenters using the technique acquired nearly 100% of correct decisions (Lykken 1959, Davidson 1968). Promotion of the techniques based solely on POT tests, referred to as the Guilty Knowledge

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Test (GKT), was strong criticism of the control questions techniques (Lykken 1974, Lykken 1975, Lykken 1981).

Other examiners using the technique did not, however, acquire such a high rate of correct decisions (Ben Shakhar et al. 1970). The contemporary investigations of practical usefulness of GKT technique (Podlesny 2003) proved that it can be used only in a few per cent of cases, where the polygraph examination in the control questions technique was used (from 2.1% to 6.7%, depending on the assumed number of tests necessary to acquire a decisive result: whether two tests were sufficient, or as many as six were needed, as Lykken advised). This is in line with the Polish experience. In the 1970s and 1980s in Poland, Reid's control questions technique was in general use. It is estimated that in approximately 80% of cases, control questions tests were complemented with POT tests. Yet in no examination more than two POT tests were successfully applied (Widacki, 2011). It was so as the examinee – even if he or she did not perpetrate the crime – had learnt most details of the crime that he was to be asked about by the time of testing. He or she knew these details from the media, from the investigation process he participated in, talks with the police, etc., which efficiently encumbered construction of POT tests.

This is also corroborated by the fact that when in the latter half of the 1990s the Polish police assumed the principle that only GKT tests can be performed in investigation, the number of tests performed in criminal cases was reduced, even though after the 2003 amendment, the criminal code *expressis verbis* allowed use of the polygraph for investigation purposes.

Today we also know that in turn, the perpetrator of the crime – due to the emotional state at the moment of committing the crime (frequently, the post-traumatic stress) – remembers many details concerning the look of the victim, details in the victim's surrounding, etc. (Christiansen 2007), which he or she is later asked about in POT tests.

Despite all these unquestionable imperfections of the technique based on the Guilty Knowledge Test (also known as CIT – Concealed Information Test), it is favoured in some countries, including Poland, due to the fact that it is allegedly easier to align with the requirements of the European criminal procedure. Especially important here is the claim that using this technique, the expert does not enter the role of the court, which allegedly takes place in the case of examinations based on control questions techniques. Such views have recently been popular in Poland (Kulicki 1978, Kulicki 1994, Owoc 1995, Kulicki 1998,

Kasprzak, Młodziejowski, Brzęk 2006, Gruza 2008), and also in other countries, including Germany (Weigend 2000), Japan (Nakayama 2002).

The claim that a polygraph examination performed in the GKT (CIT) technique is easier to reconcile with the rules of criminal procedure than examinations performed in the control questions technique is based on a misunderstanding.

The opponents of control questions usually claim that the conclusion of expert testimony from examinations conducted in the GKT (CIT) technique says only that the examinee reacted with a complex of psychophysiological reactions, or that he did not react to the questions concerning details of the crime. Thus, these conclusions do not include the statement whether the examinee lied or was deceptive. This final conclusion may be inferred independently by the court.

On the other hand, in the examinations performed in the control questions technique, the examinee is asked straightforward questions about perpetration ("Was it you who killed?"), and the asking of such questions belongs to the court and not to the expert. Moreover, providing in the expert testimony information that the patient is lying (or deceptive) while answering certain questions determines about the guilt, and the conclusions concerning guilt or innocence belongs to the court and not to the expert.

First of all, it is not true that the expert may not ask about the perpetration of the crime. During the investigation, this is frequently done by expert-witness psychologists and psychiatrists, moreover, experts in other fields also frequently perform evaluation of credibility of the defendant's explanations, assessing whether his or her version of the course of the event can be reconciled with their findings or not. Therefore, expert witnesses quite frequently indirectly express their opinion on the credibility of the defendant's testimony.

When the content of the conclusions from examinations is concerned, in court cases it should have the following form: "reacting to the critical questions in the tests, the examinee reacted in a manner characteristic for people who answer such questions in a deceptive manner, that is lie or withhold the fact of possessing information about crime". (Widacki 1982, Konieczny 2009)

Assuming that the diagnostic value of a polygraph examination is around 85%, such a statement from the expert should be interpreted in the following man-

ner: “the examinee belongs to the group, where out of 100 people, 85 lie and 15 – without lying – for reasons unknown react like those who do”.

The court must assess this in the context of other evidence, and also in the context of the circumstances in which the examination was conducted (whether the examination occurred at the early stage of the investigation, when the diagnostic value as a rule is higher, or in one of the later stages when it is usually lower; whether the expert is highly experienced or on the contrary – he or she is only a beginner, etc.).

A paradox. If the diagnostic value of a polygraph examination were 100%, such an examination would indeed be difficult to reconcile with the European principles of a criminal procedure, as the opinion of the expert would have substituted the court’s prerogatives, and leave no margin for the court to evaluate the evidence.

In that case it would be the expert and not the court who would actually adjudicate about the guilt. Yet it is not so.

If the question is analysed from the logical aspect, there is no difference between the opinion from examinations made in control questions technique and the opinion from an examination performed in the GKT (CIT) technique. They both are subject to evaluation and interpretation of the court to the same extent.

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