

# False memories and subsequent false testimonies

## REVIEW

In this review paper, an introduction to the concept of false memories is given and subsequently compared with the current state of affairs in the research on modern juridical deception. This covers the most widely-used techniques in the area of lie-detection: The Comparison Question Technique and the Guilty Knowledge Test. It then attempts to connect any cross-compatibility to the area of false testimonies and to give an explanation as to why and how this is the case. It is concluded that, in spite of a considerable amount of research, the knowledge that has been acquired over the course of decades is not yet sufficient to be adequately applied in the field, and that accurate detection of false testimonies through techniques resembling above-mentioned may be decades away.

**Keywords:** Guilty Knowledge Test, Comparison Question Technique, psycho-physiological lie detection, false memories, false testimonies

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## THE WORLD OF FALSE MEMORIES

False memories have been the subject of a wide variety of research in the past few decades. It has become clear that the events which we experience every day are not stored in the form of a concrete icon in a museum that heralds our collective memories. Instead, it appears that there is a substantial difference between reconstructing and reproducing memories. For the purpose of clarification, reconstructive memory refers to the active process of filling in missing elements whilst remembering, there where reproductive memory refers to an accurate

production of material from memory. The former results in errors more frequently. This subtle yet crucial difference can make or break a person's conviction when tried in court, with all sorts of implications resulting. To quote Loftus (1997): "If we cannot believe our own memories, how can we know whether the memories of a victim or a witness are accurate?". Questions to be posed around these conundrums may be "How can we distinguish between false and true memories?", "Can we even analyze the difference with accuracy when our methodology is also based on said memory?", or "Are possible remedies against false confessions plausible for use in court by means of a formula or technique?". Studies show that even trained memorizers (i.e. undergraduates) can unjustifiably recall critical lures that were not actually presented but only relevant to associated words, mere seconds after memorizing a list of words. A possibly more relevant part, as demonstrated in research on the influence of "remembering" versus "knowing", that merely associating words with a more general term can cause people to actually remember a word that was not shown at all. In fact, when asked, those same people recall the word being memorized. They did not simply say that they remember it, but have an active recollection of when they saw it (Roediger, & McDermott, 1995).

There are numerous cases, especially in American history, in which suspects are wrongfully sentenced to prison due to twisted or even plain false testimonies by witnesses. These false testimonies are rarely on purpose, but reflect that deficiencies in our retrieval of memory can lead to dire consequences, and in some cases even death. A factor that may well be very influential for false memories is the distinction between reproductive and reconstructive memory. However, in the above-mentioned study, it is demonstrated that false recollections of words can have the same frequency of occurrence as the memory of words that actually did show up around the middle of a wordlist during a memorization test. This underlines the fact that the "accurate production of material" as seen in reproductive memory can be mistaken for material that is in fact constructed. Keeping a close eye on the advancements made in this study, it is argued that there may one day be a successful bridge, closing the gap between contrived laboratory experiments and practice in the field, specifically the justice system. However, more research is deemed necessary for any speculation to come within grasp. This leads us to our research question: "Can the detection of false memories be transferred and accurately used to combat false testimonies and the masking of guilty knowledge in the justice system?"

## THE DETECTION OF JURIDICAL DECEPTION AS WE KNOW IT

In an applied juridical context, there are several interrogation techniques that rely on either a polygraph or other means of psycho-physiological detection (Saxe, Dougherty, & Cross, 1985). The first one is the Control / Comparison Question (Polygraph) Technique, or CQT. It is the most widely used technique involving a polygraph in the field of criminal investigations, yet it is tainted by criticism. In short, it is a technique applied in several distinct stages. Interpreting the explanation given by Elaan (2003): "First, the examiner becomes familiar with the details of the investigated crime by receiving written reports and by speaking with

the interrogator who is familiar with the case and ordered they polygraph test”, the first stage’s purpose is to acquire relevant background information, but at the same time begins to raise questions regarding it’s own validity, as it is chiefly governed by a distinct subjective nature. Elaan (2003) follows: “Then, the examiner invites the subject into the examination room and starts an extensive pre-test interview in which the examinee is given the opportunity to present his or her (own) version of the case”. Again, the objectivity, the purpose of the test, is far to be seen. However, this touch of subjectivity allows the examiner to formulate the questions that will be used in the test itself. Next, a consent form is signed, and the actual examination begins. The subject is attached to a polygraph and 3 distinct types of questions are presented; relevant questions, control questions, and irrelevant questions. The general feature that is measured using the CQT is the pattern of physiological response. Innocent subjects should be wearier of control questions, which are often broad and can be difficult to respond to truthfully, there where guilty subjects should be wearier of the relevant questions of which they know they must lie to. Over the years, the biggest criticism uttered on this test is one of weighing. As for a hypothetical guilty subject, the polygraph test is but one of an entire array of investigative techniques used to assess his or her guilt, and a subjective assessment of the importance of a polygraph test can gravely influence the physiological response to relevant questions (Ben-Shakar & Furedy, 1990).

The second one is the Guilty Knowledge Test, or GKT. It is a test relying on a psycho-physiological method to identify subjects carrying concealed information regarding a crime. On a basic level, the test consists out of multiple choice questions, some of which are directly related to the crime in question. To quote MacLaren (2001): “The test allows the examiner to detect concealed knowledge by observing the occurrence of involuntary physiological responses that are temporally related to the presentation of correct answers”. The GKT is deemed to be a very valid method to distinguish guilty from innocent subjects (Ben-Shakar & Furedy, 1990). However, part of the studies that focus on the validity of GKT were conducted by researchers having a generally bad disposition on the ‘competing’ CQT (Lykken, 1960). Another issue regarding the validity of the studies on GKT is the lack of field research backing up GKT (Elaad, Ginton, & Jungman, 1992). The former study however attempted to conduct something close to field research by sampling examinees on the basis of polygraph records (acquired through the Israel Police Scientific Interrogation Unit) that belonged either to verified deceptive examinees, or innocent examinees. Even though this cannot be considered field research, it does give a more-or-less solid ground for verifying the effectiveness of the GKT. The study showed that by making use of the GKT, examiners could place examinees in pre-determined categories (e.g. Guilty Knowledge Indicated, or No Guilty Knowledge Indicated) with significant accuracy. However, it was also noted that several factors should be taken into consideration when interpreting the results of the GKT, namely the time passed between the crime and the test, the examinee’s interest in the content of the questions, the active acquisition of the relevant information, and the interference of the relevant information. The latter two reflect the influence that false memories can have on results. This is an important piece of the puzzle, as it may open the gateway that allows us to connect the fields of lie-detection and false testimonies, or in broader terms, to connect contrived application to field application.

## CROSS-COMPATIBILITY, AND THE CURRENT CONCLUSION

The purpose of the vast explanation of techniques described above is to sketch the state of which research regarding false testimonies is currently in. Even though these techniques are but a part of some juridical processes, they reflect the underlying issues at hand. Most false memory and false testimony research is done in a contrived setting, and their external validity leaves much to be desired. Furthermore, individual differences seem to play a rather big role. This can be induced from the great differences in success-rates between studies themselves.

This leads us to the current conclusion. At this time, there is a considerable amount of research going on in not only the area of false memories and false testimonies, but also in that of lie-detection itself. However, for the time being, more research should be conducted in order to make any claims towards identifying false testimonies in court. As the research that has already been done spans a period of decades, it is an unfortunate estimate that the true application will take more decades. As the detection of guilty knowledge and general lies are coming more and more within grasp, the detection of 'not-guilty' guilty knowledge has barely been unveiled.

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