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A History Note: A Peep at the “Peak of Tension (POT)” Test & other “Recognition Tests”

Страницы истории: Взгляд на тест «пика напряжения» (Peak of Tension)
и другие тесты распознавания

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Recognition Test

“Polygraph techniques can be divided into two major categories, knowledge-based tests, also called recognition tests, and deception based tests. The recognition test family of PDD techniques includes; peak of tension tests (known & searching/probing), acquaintance (stimulation) tests and concealed information (Guilty Knowledge Test) tests. They attempt to determine if the examinee has knowledge only available to persons directly involved in an incident of concern.” [1]

I. Early use

Although it is unclear who was the first to utilize the Recognition Test Leonarde Keeler was the first to report and describe it lengthy. On his writing he does not define the test

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as a “Peak of Tension” test but rather use difference descriptive terms such as: Card Test, Map Test, Number Test, Name Test, Age Test, and Type of Crime Test [2]. On a 1930 paper he details a 1925 laboratory Card Experiment he conducted in Stanford University with Dr. Walter Miles and a Map Locations experiment [3].

But Keeler has not confined himself to laboratory experiments only and he employed the recognition tests in many high profile criminal investigations. One of the earliest one took place in 1929 described in Keeler’s biography [4]:

“Keeler used the map test ... It was used by him in Seattle, Washington in 1929 when Karl de Castro Mayer was under suspicion in the disappearance of James Eugene Bassett, a naval officer ordered to duty in the Pacific. No longer needing a car with his new assignment Bassett advertised his automobile for sale. Subsequently Bassett disappeared; however, his car was discovered in Mayer’s possession. Mayer pleaded innocent and gave a plausible excuse for possession of the car. He offered to submit to a truth serum test to prove his innocence. Under the drug, he admitted nothing and then offered to take a polygraph test. Mayer was a hardened criminal but when he saw his reactions on the polygraph, lost his composure and refused to answer any questions. Keeler continued to question him and even though Mayer made no verbal replies, his reactions to Keeler’s questions concerning areas on the map, helped first to place the disposal of the body in Washington, then narrow it down to a section of the county. Later the body was located in the area where Mayer’s reactions indicated it would be found.”

Ezra Carlsen (2010) added more information concerning this test [5]:

“...For eight hours a day, five days straight, Mayer had been strapped to ... the polygraph while its operator, Leonarde Keeler, questioned Mayer about the location of the body. Mayer had refused to answer certain questions and had attacked the instrument. He was restrained, the machine was repaired, and the interrogation continued until, finally, the suspect offered his confession.

“I know what that machine is,” Mayer reportedly told the prosecutor. “I know it’s recording the truth. I can’t beat it. Let’s not kid each other. You know and everybody else knows that I killed Bassett. What will you do for me if I come clean?”

According to the machine, Mayer showed great anxiety when asked if he had shot Bassett; if he’d buried the body; if he’d hidden it near the “Little White House.” For days, Keeler carried out his “fishing expedition,” pointing to places on a map, asking if the body was at each spot, and interpreting Mayer’s reactions on the polygraph chart. Keeler had narrowed it down to two cemeteries in the Bothell area outside Seattle when Mayer finally confessed.”

II. POT in Court

On the early evening of May 22, 1934 the Emery and Mash Pharmacy in Baraboo, Wisconsin was robbed. The four robbery suspects who fled the scene of crime in a Ford T model car were chased by the local police as well as the neighboring Sheriff's office. Upon being stopped by Sheriff Roche the suspects stepped out of the car and one of them shot and killed the sheriff and immediately the suspects drove away from the scene. The suspects were captured later that evening. Due to the fact that the witnesses to the shooting were unable to identify the suspects who shoot the sheriff all four were charged with the attempted murder of the sheriff.

In February 1935 two of the suspects were tried in the Lake County Circuit Court under Judge Clayton F. Van Pelt. Due to the fact that the prosecution was uncertain who drove the car and who actually shot the sheriff Judge Van Pelt, upon stipulation, appointed Leonarde Keeler to polygraph them in order to establish their involvement in the incident [6].

Prof. Fred Inbau in his 1935 article "Detection of Deception Technique Admitted as Evidence" [7] reported about Keeler's tests of the suspects and it seems that Inbau was the first one to coin the term "Peak of Tension" when he described Keeler's "Name Test" applied on the two suspects polygraph tests:

The Polygrams marked "B" and "C" contain the responses given during what might be termed "name tests," when an attempt was made to ascertain which of ten suspects, including the defendants, drove the automobile and which one shot the sheriff. For the purpose of such an examination, a list containing the names of these individuals, all known to each defendant and some of whom were also alleged to be implicated in the crime, was exhibited to the subjects and at points numbered from one to ten those names were mentioned in the question "Did - drive the automobile?" or "Did - shoot the sheriff?" ... By referring to the explanations appearing under each plate (set of questions), the reader will observe that in Loniello's name test "B" (pertaining to the driving of the automobile) the greatest change or deviation from his "normal" occurs at (8), where he reaches his "peak of tension" in blood pressure-due doubtless to the anticipation of being asked the question to which he expected to lie-and at which point there occurs a distinct and definite change in his respiratory curve."

III. Earlier use

The idea of the recognition test as a mean to identify the perpetrator was recommend by Prof. Hugo Munsterberg many years before Keeler. Munsterberg was a German professor in Freiburg University – Psychology Lab who was invited in 1892 to lecture in Harvard University. He settled in the USA and led the Harvard Experimental Psychology laboratory. He was one of the pioneers in applied and forensic psychology, extending his research and theories to industrial/organizational (I/O), legal, medical, clinical, educational and business settings. He was the president of the American Psychological Association (1898), the American Philosophical Association (1908), the Washington Academy, and the American Academy of Arts and Sciences. Münsterberg developed instruments indicating deception: heat of skin, heart rate of the heartbeat and speed of speech [8]. One of his assistance in the laboratory was Willian Marston. In 1908, Münsterberg published his book “*On the Witness Stand*”, where he discusses the many different psychological factors that can change a trial’s outcome and pointed the way for rational and scientific means for probing the facts claimed by human witnesses by the application of experimental psychology to the administration of law. One of his suggestions is to use a recognition test type questioning:

“The real use of the experimental emotion-method is therefore so far probably confined to those cases in which it is to be found out whether a suspected person knows anything about a certain place or man or thing. Thus if a new name, for instance, is brought in, the method is reliable; the innocent, who never heard the name before, will not be more excited if he hears that one among a dozen others; the criminal, who knows the name as that of a witness of the crime, will show the emotional symptoms.” [9]

IV. Ancient Use

But the idea of the recognition test goes back to ancient days. If the Bible can be considered as a kind of a history book than the story of **AI** that is told in the book of Joshua (chapter 7) describes the earliest use of the recognition type test. Ai was Canaanite city that Joshua the leader of the Israelites tried to conquer but failed to do so in his first attempt. After the failure Joshua is being told by God that the reason for the failure is because one of the Israelites have looted gold, silver, jewelries that belonged to the treasury of God. God instruct Joshua to identify the looter by using the following mean c:

“In the morning, present yourselves tribe by tribe. The tribe the LORD chooses shall come forward clan by clan; the clan the LORD chooses shall come forward

family by family; and the family the LORD chooses shall come forward man by man."

Joshua followed God's instructions and:

Early the next morning Joshua had Israel come forward by tribes, and Judah was chosen. The clans of Judah came forward, and the Zerahites were chosen. He had the clan of the Zerahites come forward by families, and Zimri was chosen. Joshua had his family come forward man by man, and Achan son of Karmi, the son of Zimri, the son of Zerah, of the tribe of Judah, was chosen."

Apparently the test was accurate because the suspect confessed and returned the goods.

V. Epilogue

As written in the book of Ecclesiastes attributed to be written by King Solomon:

"What has been will be again, what has been done will be done again; there is nothing new under the sun." [11]

References

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[8] https://en.wikipedia.org/wiki/Hugo_Münsterberg

[9] Munsterberg, H., (1908), *On the Witness Stand*, Doubleday, NY, 132-3

[10] <https://www.biblestudytools.com/joshua/7.html>

[11] <https://www.biblegateway.com/passage/?search=Ecclesiastes+1&version=NIV>

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What is HIPOT Testing (Dielectric Strength Test): Hipot Test is short name of high potential (high voltage) Test and It also known as Dielectric Withstand Test. A hipot test checks for "good isolation." Hipot test makes surety of no current will flow from one point to another point. Hipot test is the opposite of \hat{I} The hipot tester current trip level should be set high enough to avoid nuisance failure related to leakage current and, at the same time, low enough not to overlook a true breakdown in insulation.

Test Voltage for HIPOT Test: The majority of safety standards allow the use of either ac or dc voltage for a hipot test. When using ac test voltage, the insulation in question is being stressed most when the voltage is at its peak, i.e., either at the positive or negative peak of the sine wave.