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## A FURTHER INTERPRETATION OF INNOCENT BLOOD-PRESSURE RISES IN POLYGRAPH TESTING

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In a recent article appearing in this journal,<sup>1</sup> it was pointed out that lie detector examiners should be very wary before deciding that blood-pressure rises on relevant (crime) questions automatically indicate deception. This is particularly true if there were no significant changes in the subject's respiration on these questions.

Listed in this earlier article were four criteria which could be applied to determine if blood-pressure rises were actually indicative of innocence, rather than guilt. These criteria are:

1. When the subject responds to the control test question (#6) with a greater blood-pressure rise than he did to the two main relevant questions (almost always questions #3 and #5), this is strongly indicative of truth-telling.<sup>2</sup>

2. If there is no or very little appreciable difference between the blood-pressure responses on the relevant questions and the control question, this is suggestive of truthfulness.

3. When the blood-pressure rises on the relevant questions equal or exceed those of the control question (#6), a similar or larger rise on the guilt-complex or fictitious-crime question (#8) is indicative of telling the truth.<sup>3</sup>

4. If the person's respiration on the relevant questions was normal and on the control question was significantly distorted to indicate deception, this is strongly suggestive of truthfulness to the relevant questions, regardless of the height or duration of the relevant blood-pressure responses.

<sup>1</sup> ARTHUR, R. O., "Blood Pressure Rises On Relevant Questions in Lie Detection—Sometimes An Indication of Innocence Not Guilt," *THE JOURNAL OF CRIMINAL LAW, CRIMINOLOGY, AND POLICE SCIENCE*, 46 (1): 112, (May-June 1955).

<sup>2</sup> The control question (#6) is a question whose answer is assumed to be a lie. For example, a person who denies ever stealing anything is asked—"Did you ever steal anything in your entire life?" If a person does not respond to this question but does respond to the relevant (crime) questions (#3 and #5), he is almost always reported as lying to the relevant question. If he responds to the control question and not to the relevant questions, he is considered truthful when answering the relevant questions. This technique has been thoroughly explained and illustrated in two recent works. (HARMAN, G. W. AND REID, J. E., "Selection and Phrasing of Lie-Detector Test Control Questions," *THE JOURNAL OF CRIMINAL LAW, CRIMINOLOGY, AND POLICE SCIENCE*, 46 (4): 578 (Nov.-Dec. 1955), F. E. INBAU AND J. E. REID, *LIE DETECTION AND CRIMINAL INTERROGATION*, 3rd. ed., The Williams & Wilkins Co., Baltimore, pp. 16-23 and 34-48, (1953).

<sup>3</sup> For an explanation of the guilt-complex question, see INBAU AND REID, pp. 14, 44-47; *opus cited* note 2.

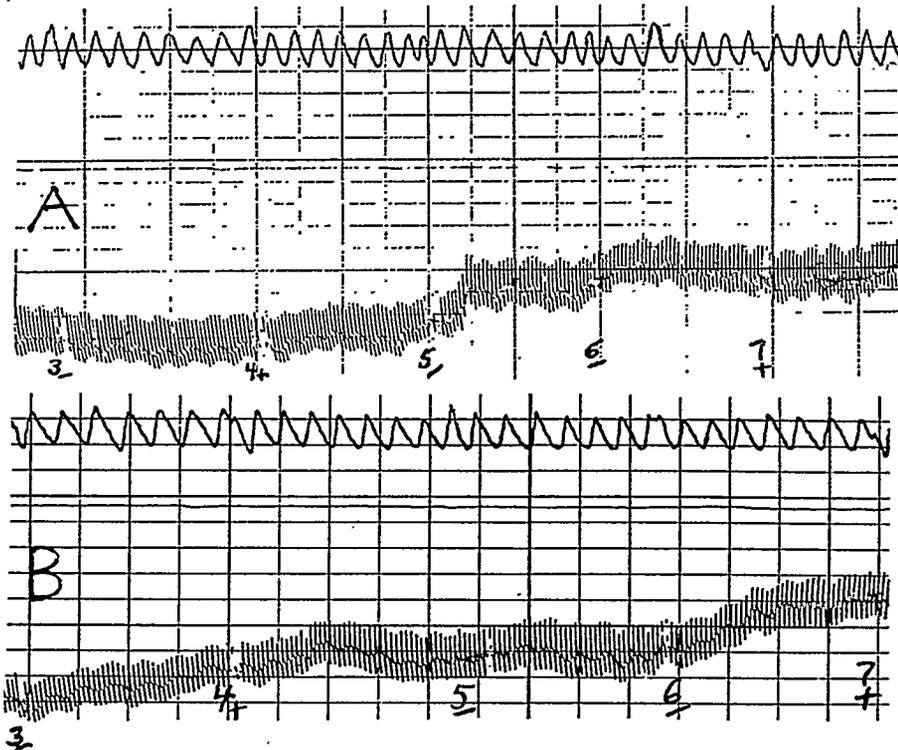


Figure 1

This case involved some \$8,000 missing from a business firm's vault. Questions 4 and 7 are irrelevant, 6 is the control question, 3 concerns having guilty knowledge, and at 5 the subject was asked if he had stolen the missing money.

On the first test, A, observe the very large blood-pressure rise at 5, with a smaller rise at 6. The subject was then given a card test. On his second relevant test, B, he now reacted strongest to 6.

The diagnosis of this subject's innocence by the examiner was proven correct by the next person tested—he confessed to the examiner and returned the money.

However, occasionally none of these criteria are applicable. This situation has been found to arise only when, in the first test, there are large blood-pressure rises occurring on the relevant question, with small or no blood-pressure rises on the control and/or guilt-complex questions, and with no distortions appearing anywhere in the breathing. (Figures 1A and 2A)

At first glance this would indicate that the subject is lying, particularly since the first test is generally considered the most important from an interpretational standpoint. But the cautious examiner, realizing that some innocent persons respond with blood-pressure rises similar to those of the guilty, is faced with a real problem in interpreting these rises.

When these blood-pressure rises do occur and none of the four criteria can be applied, a card test should then always be administered as the second test.<sup>4</sup> The

<sup>4</sup> Other reasons for giving the card test as the second test have previously been discussed by INBAU AND REID pp. 48-53 and 79, *opus cited* note 2.

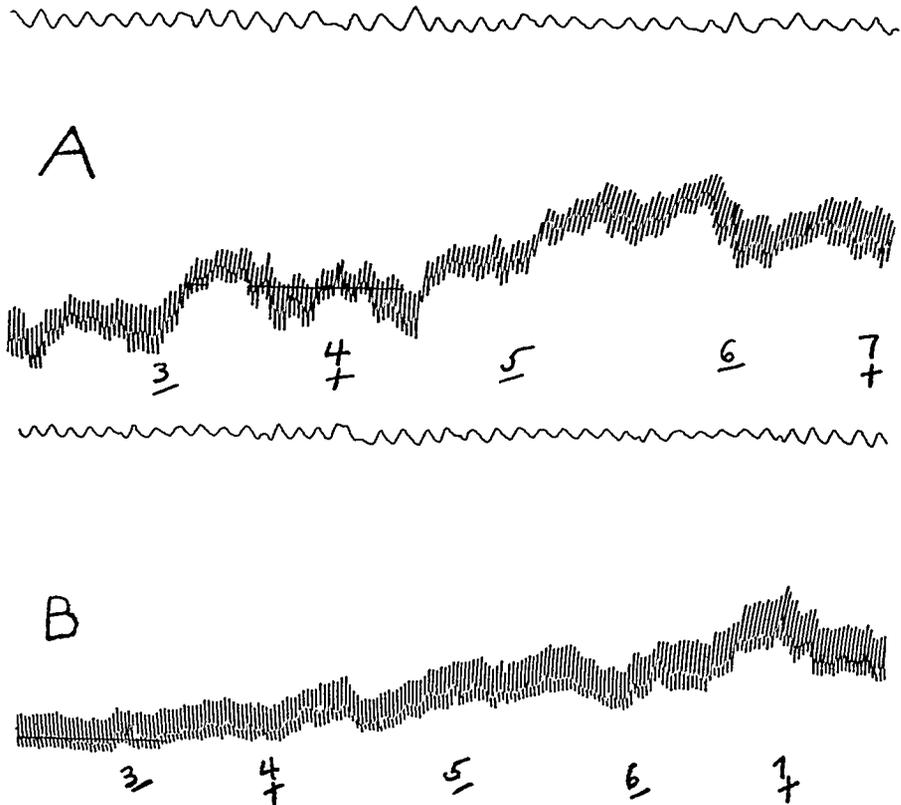


Figure 2

This salesman was suspected of stealing money from the firm's safe. Questions 4 and 7 are irrelevant, 6 is the control question, 3 concerns having guilty knowledge, and at 5 the subject was asked if he had stolen the missing sums of money.

A is the first relevant test. Notice the large blood-pressure rises on 3 and 5, the two relevant questions. Following a card test, the relevant questions were repeated (test B). His greatest blood-pressure reaction was now at 6, the control question.

The interpretation of this subject's innocence was verified as correct when the next day another employee confessed the thefts to the examiner.

card test consists of the examiner presenting to the subject seven different playing cards, face down, and having him select one of them, look at it, replace it, and then shuffle the cards. The chosen card is not shown or told to the examiner. The test questions consist of asking seven times, "Did you pick number \_\_\_\_\_?", and in the blank each time is inserted one of the seven different numbers. Before the test the subject is instructed to reply "No" to each question, even to the question concerning the card he did select.

After the test, the examiner studies the various recordings and decides which card the subject did pick. The examiner then tells this number to the subject, who verifies that the examiner is correct.

No specific stimulation is given before the third test, which is an exact repeat of

test one. It is on this third test that the doubts the examiner had on the first test are virtually always resolved.

If the person is lying, it has been found that the blood-pressure rises again occur on the relevant questions in this third test, usually along with breathing distortions which were absent on the first test.<sup>5</sup> Also, in this third test there is little or no significant reaction in either the blood-pressure or the breathing to the control or guilt-complex questions.

However, if the subject is innocent, the blood-pressure rises on the relevant questions will almost invariably be much less pronounced than those occurring on the control and/or the guilt-complex questions.<sup>6</sup> (Figures 1B and 2B)

Using this technique, the examiner does not base his opinion as to the person's truthfulness on the first test. Rather, he regards it as simply an indication of the person's apprehensiveness. It is the second relevant test, which follows the card test, that is used as the basis of the interpretation.

<sup>5</sup> The reason for the sudden appearance of breathing distortion in the third test is believed to be due to the subject's increased awareness of the polygraph's efficacy in detecting his guilt, which efficacy was proven to him by the card test.

<sup>6</sup> The reason for this is probably due to the innocent person undergoing the same transition in respect for the polygraph as the liars (See footnote 5). However, in this case the innocent subject now almost always responds strongest to the control question (#6), the only question to which he is lying.