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Police Science Technical Notes and Abstracts

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POLICE SCIENCE TECHNICAL NOTES AND ABSTRACTS

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Lie-Detector Experimental Demonstrations—The following experimental test for demonstrating the Lie-Detector to social and educational groups has been used by the writer with considerable success and effectiveness.

Three subjects are selected at random from a group of volunteers and asked to participate in a simulated larceny of a ring. The subjects are informed that in an adjoining room, supervised by a trusted confidant of the group, there is a desk containing three drawers, and that in each one of the three drawers there is a small colored box, and in one of these boxes, (e.g., in this instance the white box) a ring is concealed. The subjects are instructed to enter the adjoining room one by one, select a box, examine it and conceal it on his person during the test.

Two specific types of well known tests may be illustrated in this demonstration: (1) The "Peak of Tension" test, and (2) The general question test, more commonly known as the relevant-irrelevant question test.

The following "Peak of Tension" test questions, which refer to the black, blue, and white boxes actually concealed in the desk, are read to the subjects before the test, and each subject is instructed that during the test he should answer "no" to each question, including the question pertaining to the box he actually selected. For the purposes of the test it is best not to inform the subjects or the group of the actual color of the boxes which are concealed in the desk. Further, the subjects should be separated from each other from the time each makes his selection, and no information concerning the color of the boxes should be interchanged among the subjects.

The following questions (illustrating this "peak of tension" experimental test) are then asked of each subject, and as per the requested instructions previously mentioned, the subject answers in the negative to each question including the question pertaining to the actual box selected by the subject:

1. Did you take a yellow box from the desk drawer? Ans.: No.
2. Did you take an orange box from the desk drawer? Ans.: No.
3. Did you take a black box from the desk drawer? Ans.: No.
4. Did you take a white box from the desk drawer? Ans.: No.
5. Did you take a blue box from the desk drawer? Ans.: No.
6. Did you take a green box from the desk drawer? Ans.: No.
7. Did you take a red box from the desk drawer? Ans.: No.

To further verify the findings of the "Peak of Tension" test and to illustrate the general question test (otherwise known as the relevant-irrelevant question test) the following questions are read to the subject before and during the test. The subject is instructed to answer "no" to all questions pertaining to the boxes and the taking of the ring and to answer with the truth by "yes" or "no" to the irrelevant questions (those questions not pertaining to the boxes or the taking of the ring).

1. Were you born in the United States? Ans.: Yes.
2. Do you live in Chicago? Ans.: Yes.

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3. Did you take a black box from the desk drawer? Ans.: No.
4. Did you ever go to school? Ans.: Yes.
5. Did you take a ring from a box in the desk drawer? Ans.: No.
6. Did you take a blue box from the desk drawer? Ans.: No.
7. Did you ever smoke? Ans.: Yes.
8. Did you take a white box from the desk drawer? Ans.: No.

This general question test may be completed after eight questions; however, if the examiner is doubtful about a response to one or two questions of the pertinent questions, he may, before completing the test, repeat these specific questions to which there is a doubt, as questions nine and ten. (Submitted by John E. Reid of John E. Reid and Associates, Chicago.)

The Chromium Trioxide Test for Cocaine Hydrochloride—A. J. Henry and R. Mansour report in *The Analyst*, 72:253 (June 1947), that temperature influences the outcome of the chromium trioxide test for cocaine hydrochloride. It is their experience that in order to secure a positive test with dilute solutions of cocaine hydrochloride and a minimum of reagent, the temperature should not exceed 20° C.

Sources of Error in Ballistic Evidence—The experiences of C. J. Van Amburgh gained in twenty years of legal ballistics are related by him in the *Boston University Law Review*, 26:205-48 (April, 1946). Particular attention is given to those things which have caused false interpretations of firearms evidence. No attempt can be made here to abstract the article, however, the attention of firearms technicians may be profitably directed to it for the experiences and facts described.

Tabulation of X-Ray Diffraction Data for Chemical Analysis—By setting diffraction data into a punch card system F. W. Matthews and A. O. McIntosh have developed a speedy way of determining the constituents in an analyzed sample. These cards indicate whether the material is organic or inorganic, the d spacing of the three strongest lines, and in some cases the melting point of the compound. The final sort is done manually. The original report appears in the *Canadian Chemical Process Industries*, 31:63-4, 67-8, 71 (1947).

Document Examiners Meet—The annual meeting of the American Society of Questioned Document Examiners, which included representatives from all sections of the country, was held in Los Angeles August 13-19. In addition to the presentation of papers by the members of the Society, two of the guests participated in the program. Judge Charles W. Fricke of the Superior Court of Los Angeles County gave an excellent and instructive address on "The Art of Testifying," and Robert S. Casey, Research Director of the W. A. Shaeffer Pen Company ably discussed the subject of "Writing Inks". Of particular importance was the action taken by the Society in appointing a committee to investigate methods of stimulating and developing research on processes for the improvement of the examination of questioned documents. O. H.