

Under AFOSR Contract AF 49(638)-728 on "Hypnosis as a Control Technique," Orne will measure autonomic responses in conjunction with research on personnel control techniques for either offensive or defensive purposes; it is too early for any results to be available. Preliminary data from Fort Gordon suggests that hypnosis assists suggestible subjects to "forget" selected incidents.

Thus, there is some reason to believe that a person could be trained to introduce misleading physiological responses on the polygraph. An examiner might be able to counteract this influence by observing response indicators in which such a person may or not have been trained. Clearly, we need to know more about the possibility of such training and how to counteract it. This is equally true of drugs and hypnosis although it appears that it will be more difficult to detect the effects of training than the effects of drugs and hypnosis.

#### 9. RUSSIAN CAPABILITY IN LIE DETECTION

The use of lie detection equipment for security screening naturally raises the question as to whether an enemy agent could take such an examination and not be detected. If such an event occurred within the United States, its consequences could perhaps be counteracted because the polygraph provides only one source of information which could be compared with that from other sources. In screening foreign nationals, however, it is often impossible to collect any background information, in which case the polygraph provides the only data on which a judgment of attempted deception, with all its implications, can be made.

\* \* \* In connection with the trial of U-2 pilot Francis Gary Powers, L. N. Smirnov, Deputy Chairman of the Soviet Supreme Court, was quoted as saying that "such methods as using lie detectors and brainwashing techniques are loathsome to our legal ideals."<sup>15</sup> Smirnov's comment would be more credible without the remark on brainwashing.

Russian capability in technological areas closely related to lie detection is formidable and completely up to date because of their long continued interest in and research on human psychophysiological processes.

Starting with Pavlov, the Russians have studied extensively a large variety of physiological responses of the intact human organism in many different situations involving the effects of learning, drugs, surgical manipulation, and the like. Over a period of 50 years, the method of conditioning has been extended to such processes as human learning, education, social adjustment and abnormal behavior. This method of psychological research was fostered in the Soviet Union because it permitted objective and mechanistic descriptions of behavior while avoiding subjective and phenomenological explanations. This led to the development of a sophisticated technology concerning measurement of physiological processes, the autonomic nervous system and the central nervous system. The Russians have also accomplished important work on the quality and quantity of physiological response when the organism responds to new, as distinct from old, information; this is called the orienting reflex and will be discussed below.

In 1923, A. R. Luria, of the Institute of Defectology, Academy of Pedagogical Sciences, Moscow, employed muscle tremors as indicators of emotional response to judge the guilt of criminal suspects. Though his work is regarded as significant, muscle tremors have not been used subsequently in lie detection work. Luria shifted his interest from criminal interrogation to other areas many years ago. His recent interest centers on the role of speech in the regulation of normal and abnormal behavior.

E. N. Sokolov (1960), of the Academy of Pedagogical Sciences, Moscow, has extended the work of Pavlov in an area called the "orienting reflex," which he reported to an American audience in 1960. The orienting reflex is an unspecific response, common to animals and men, which occurs in the presence of any unusual stimulus, such as an increase, decrease, or qualitative change in a stimulus; it can occur on the stimulation of any sense organ. It can be observed and recorded simultaneously by such response mechanisms as the EEG in the occipital or motor region of the brain, the GSR, muscle tension, eye movement, respiration, and the like. The magnitude of these responses diminishes upon repeated presentation of the stimulus, essentially disappearing after 10 to 15 presentations.

<sup>15</sup> D. G. Brennan (1961), p. 356.