Bibliographic Review

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This chapter reviews different physiological processes in the human body that happen in response of certain stimuli. It talks about how such responses can mean certain things and be measured to conclude information, how valid this method is, and the possible improvements to it in the future. It also mentions different external factors that can affect polygraph testing results and taint its accuracy.


In the first part, Evaluation of Present Practices, the chapter talks about the limitations of accuracy and success in polygraph testing due to the difference between polygraph results and jury verdicts and confessions. It is also mentioned how the approach of the examiner can influence the results, thus making it more of a subjective rather than objective process. A proposed solution to this is to rely on experimental comparisons.

In the Response Variables and Instrumentation section, the chapter talks about each instrument and device that makes up the polygraph, each responsible for a physiological variable. Those include breathing, blood pressure, pulse rate, galvanic skin response, as well as variables tested only in the laboratory (volume pulse, pressure pulse, muscular tension, ocular movement) and some other proposed variables that could be measured in future experiments (velocity of pulse wave, gastrointestinal reactions, the electroencephalogram). Each one of these is explained in detail along with the analysis method followed to measure its
significance. In the Interrogation Procedure section, it is explained how certain conditions during a polygraph session can affect the results, and those conditions include adaptation effects, indoctrination of the subject (where some subjects are better skilled at hiding lies and controlling their bodies during deception), and the relationship between the operator and the subject.

As for the Data Interpretation and Operator's Decision section, it is explained how the operator interprets the measurements obtained from testing and what problems and limitations that might be faced in the process, and how to overcome them. Finally, in the Psychological Principles of Lie Detection section, the psychological dimension of polygraph testing is explored, and it is mentioned that the lack of knowledge in psychological principles is a factor that greatly limits the effectiveness of the lie detection process. The chapter concludes by stating that due to those numerous factors affecting polygraph test outcomes, it is very hard for it to be a reliable technique in lie detection, and further study and development is required to improve this process.