Some reports (e.g., Luria, Summers, Kubis) make a claim for high accuracy but offer no quantitative data. Kubis (1950) finds "no errors of diagnosis . . . (but the) 'no decision' category was rather large," i.e., 10 percent.

The report of Inbau and Reid (1953, p. 111) deserves a special comment. They determine accuracy as 95.6 percent by adding all instances in which examiners made judgments of guilt (31.1 percent) or of innocence (64.5 percent). In the remaining 4.4 percent of cases, the examiner could not make a conclusive judgment. They report no indeterminable cases. They report proved error in 0.0007 percent of the cases but this is an arithmetic mistake; using their own data (3 errors in 4,280 cases), this value should be 0.07 percent. Also, according to their data, there were confessions in 486 out of 1,334 reports of guilt; thus, verification of guilt was possible in 36.4 percent of the cases. In 323 out of 2,759 reports of innocence, another's confession confirmed the judgment; thus, verification of innocence was possible in 11.7 percent of the cases. Finally, note Kubis' (1950) report that in order to achieve zero errors of diagnosis, he had to accept 10 percent in the "no decision" category. This contrasts with Inbau's 4.4 percent.

However, the outstanding difficulty in interpreting the data in table 3 lies in the fact that, due to the circumstances of criminal work, the examiner often has independent knowledge; that is, not collected by means of the polygraph, which suggests whether or not the suspect is guilty. Therefore, his judgment of guilt (or innocence) is based to some unknown extent on a combination of polygraph responses *and* other information, and not on the polygraph investigation alone. It is never clear whether the judgment said to be made from the polygraph record was made before or after a confession was received. This makes it most difficult to assess the true accuracy of the polygraph when it would alone provide the information from which a judgment must be drawn.

(2) Experimental investigations

The advantage of laboratory studies of lie detection is that more complete control of the means of (and the reason for) collecting data is generally possible and, therefore, such data can be subjected to rigorous statistical analysis. The basic disadvantage of laboratory studies is that they may not be relevant to lie detection if they do not evoke "real" emotional responses of fear and anxiety similar to those present in real life, polygraph examinations. The latter contention is often made by lie detection experts, on the ground that less emotion can be aroused in the laboratory and that therefore the polygraph would show a lesser ability to detect deception under such circumstances. For example, Trovillo (1953) says:

"Simulated emotion in psychology classes, or the lecture platform, in drama, and in experimental laboratories has done more to clutter up and confuse honest polygraph reporting than all the quackery of 50 years" (p. 747).

"Much of the academic experimental validation of polygraphic technique is completely barren of significance. No matter how accurate and reliable the instruments used, if the controls used do not guarantee that *fear* is being measured, then all conclusions are not only irrelevant but hazardous. Future progress depends on use of experimental subjects experiencing drastic stress: the criminal suspect, not the laboratory liar; the mental patient, not the academic spoofer" (p. 762).

"The professor who buries his nose in textbooks and bores his students with myopic dronings over verbal autopsies will never be interested in conducting vital research in lie detection" (p. 762).

The results of laboratory studies, as shown in table 4, do not justify any antipathy toward experimentation on the polygraph. These studies show that polygraph judgments about deception in the laboratory are correct in about 70 to 100 percent of the cases; the median value in the table is about 92 percent. This is the range of values reported in "real life" investigations. Some recent studies, such as those of Lykken (1959, 1960), Kubis (1962), Marcuse (1946), and Baeson (1948) are well controlled and show that the polygraph can be used to detect deception (of the type which can be arranged to permit experimentation) by objective criteria in 90 percent or more of the cases. It is significant that accuracy increases when the examiner is prepared to report that some polygraph records are inconclusive, i.e., do not permit him to make a determination. Surprisingly in these studies few proved errors are reported. There may be a minority of people (perhaps 10 percent) on whom the polygraph may not work. If judgments of deception are required for such people, other means than the polygraph must be employed. Experimental data do not provide a blanket argument against the polygraph though they do remind us that the polygraph cannot deal with all cases.