



It can be gathered from the foregoing that the more segments of inner behaviour that can be recorded the better is our chance of detecting emotion. One rather well-known "lie detector" records pulse rate, finger tremors, glandular reflexes, word stimulus and response and breathing rhythms. These are all photographed on a $2\frac{1}{4}$ -inch bromide paper, developed, fixed and dried while the subject is still attached to the machine. Who wouldn't confess in the face of that!

The machine that we have experimented with at the University of Western Ontario records photographically, or reveals visibly to a group of observers, only one of the above factors, namely, the change in resistance of the palm of the hand. Let us see how it can be worked in an experimental setting. We ask a subject, placed in the electrical circuit, to select a colour from a list: orange, blue, green, red, yellow, mauve. He writes his chosen word and shows this to several observers. This last point is important. The experimenter who, of course, does not know the choice, then asks him one after another, "Was it green?" "Was it blue?" and so on. To all questions the subject replies "No." Obviously, one is a lie known to the subject and the other observers. The

machine usually shows a more marked disturbance for the reply to the correct choice. The fact that the machine is not always accurate is not disturbing when one considers the trivial nature of the artificial lie that had to be created. Sometimes we can alter the procedure by test-

ing an accomplice; that is, in the example given we should ask subject B which one of the colours subject A chose. This is usually less reliable than with the true participant which may be significant for legal applications.

The accompanying chart shows typical records. The subject for both was a bank manager. In the first case he was told that his teller has stolen a sum of money; it was \$10, \$15 or \$20. He selected one and wrote it down in a secret place. He was then asked "Was it \$20?" The experimenter pressed a button as he commenced his question. This is shown as a dot. The answer "No" brings forth a movement of the light beam. "Was it \$5?" (two dots). And so on. In this case it was obviously \$10. The second record is that of the same subject who has selected one number out of 71, 72, 73, 74, 75. The conclusion that it was 74 turned out to be correct. We frequently get a deflection for the *first* question. We, therefore, repeat this later. The cross lines represent seconds operated by a time clock. It is observed that the lag i.e. the "period" of the galvanometer is about three seconds.

So much for the mechanics. The questions that usually remain are really more important. Can one beat the lie detector? Will such evidence be accepted