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## MEDICINE AND LIE-DETECTION

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Historically considered, present day lie detection procedures owe a great debt to medicine, both to the physicians who have advanced the scientific character of the work and to the more objective and instrumental techniques which were borrowed from medicine by criminal investigators. One of the earliest recorded instances of what may be termed scientific lie detection concerns the "investigative" work of the Greek physician Erasistratus (300-250 B.C.) who was summoned by Nicator to cure his son of an unknown ailment. To the physician the cause was apparent and the diagnosis simple: guilty knowledge and fear of discovery were the infecting agents. This was readily detected by means of a rather common medical index, namely, the rate and characteristics of the pulse. As a physician Erasistratus had an excellent opportunity of engaging the patient in an apparently innocent and sociable conversation while conducting an obviously routine medical examination.

The general principles of this examining procedure have been assimilated by our modern techniques. However, more rigid and more objective controls have been introduced in the interviewing of suspects and in the identification of deception symptoms. The questioning procedure has become

standardized in so far as it can be without destroying the individualizing features of each specific case, while indications of pulse rate, blood pressure (and other signs) have been "mechanized" through refined recording instruments. But even these advances reflect the medical tradition. One of the outstanding men in the field, Dr. Larson, physiologist and psychiatrist, was the first to use an instrumental technique for recording continuous changes in blood pressure during his lie detection investigations. His instrument also indicated respiratory changes simultaneously with the variations in blood pressure and pulse rate on the same record. Although he had begun his lie-detection work before he had finished his medical training, Larson's most important publication, *Lying and Its Detection*, was written after he had become a physician. His training in physiology, medicine and psychiatry have been of inestimable value in his continuing researches in the detection of deception.

Brief mention may be made of two other techniques which have been developed by medical men, namely, the free association test of Jung and the "Truth-Serum" test (Scopolamin) of House. Though these have attracted widespread attention and popular ap-

peal they have never had the practical use or success achieved by Dr. Larson's instrument in actual criminal situations.

A recent and highly significant contribution has come from the Psychological Laboratories of Fordham University. It has been a two-fold contribution: a new instrument and a controlled questioning procedure, both the work of the late Rev. Walter G. Summers, S.J., Ph.D., organizer and head of the Department of Psychology at the Graduate School. He had developed a critically sensitive amplifying system which indicates and records the minute changes in the electrical resistance of the skin (psychogalvanic response). This instrument, together with the technique devised for criminal interrogation, has proved extremely accurate in detecting deception, and has been the only instrument the records of which have been accepted as scientific evidence in court over the objection of the district attorney. Though Father Summers was not a physician, it may be interesting to note that he had been Regent and Professor of Physiology in the Georgetown Medical School.

But medicine contributed more than instruments and research men to this challenging but difficult art of lie detection; the physician's emphasis on the clinical approach, and his appreciation of the many difficulties inherent in individual diagnoses have helped create the spirit of caution characterizing the work of careful investigators

This attitude has been a deterrent to hasty judgment; it has also prevented many diagnoses that have not considered the mental and physical condition of the suspect at the time of the examination. Shock, pathological heart conditions or abnormal mental states preclude reliable indications of guilt or innocence in suspects. A preliminary examination by a physician would seem called for in such instances where the clinical (medical or psychological) training of the operator is inadequate. This procedure seems all the more indicated in such communities where only a physician can testify in court as to the mental condition of the suspect before or subsequent to any examinations he may undergo. If the mental or physical condition of the patient is atypical, any lie detection test may be invalidated to the extent that it depends upon criteria of deception derived from normal healthy individuals. Too often have lie detection experts qualified only because they had a machine, the limitations of which they never appreciated; and too few of these experts were grounded in the necessary sciences of physiology and psychology; while too many never hesitated to usurp the functions of a physician just to preserve prestige in the eyes of the police investigators who called upon them for the examination of suspects. Present-day standards of caution and training are traceable in large part to the medical



men who have contributed to the field.

But as so often happens there has been a reciprocal effect in this relation between medicine and the practical art of detecting deception. Larson's investigations in criminology ultimately brought him back to the psychiatric problems concerned with emotional instability, especially certain blood pressure criteria that might be utilized in present-day army selection work. At Fordham University Father Summers' ink recording psychogalvanometer (Pathometer) so successful in diagnosing guilt or innocence in criminal cases, has been used in a series of researches dealing with specific psychiatric problems. One of these dealt with the problem of distinguishing real from feigned delusions. Not only is this an important consideration in dealing with psychotic patients, but it has been actually utilized in compensation cases where physicians have had difficulty in judging either the existence or extent of injury due to accidents. A situation analogous to the above is the problem of detecting malingering in the armed forces. The value of an instrument such as the Fordham Pathometer as an objective aid in similar diagnoses has been demonstrated in research and in practice.

A cognate research concerned itself with the detection of deception among psychotic patients or, at least, the indication of subjective uncertainty as to the truth of their statements concerning delu-

sions, hallucinations and other symptoms reported during the course of their illness. "Interpretable" records and the existence of deception criteria were found to be a function of the improvement in the patient, brought about spontaneously or consequent to the administration of shock therapy. As the patient improved the investigator could most clearly interpret his records for attempted deception on critical questions concerning his symptoms, especially those which seemed serious enough for him to try to conceal. The discovery of these and other galvanic signs of "improvement" which correlate with the mental condition of the patient point to the real value of these researches, namely, the possible use of a technique as corroborative objective evidence in the clinical determination of progress of treated patients and in the clinical evaluation of the patient's attitude towards his delusions and hallucinations.

The preceding analysis, cursory and synoptic though it be, brings to light the reciprocal relation existing between medicine and lie-detection. Though the medical profession has frequently disowned any relation to lie-detection because of the charlatans and quacks that have infested the field, it can never renounce the mutual benefits resulting from the combined efforts of physicians and scientists who have dedicated themselves to the pursuit of truth and the ultimate realization of justice.