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LYING AND ITS DETECTION

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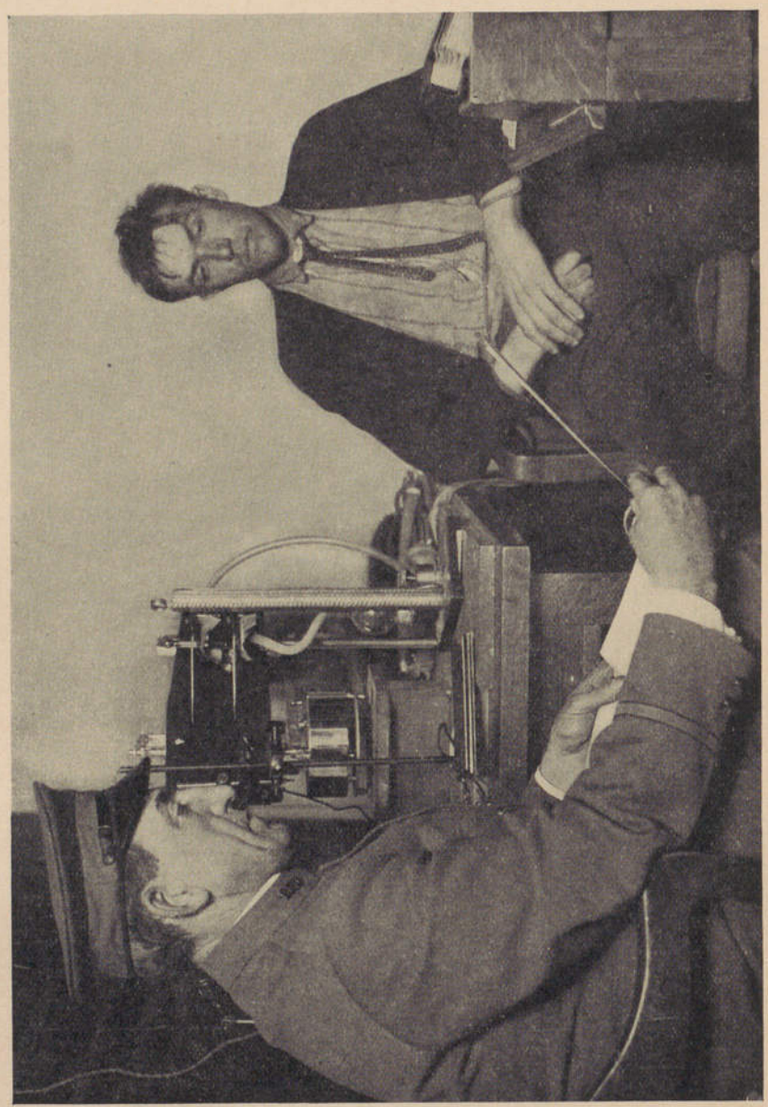

Courtesy San Francisco "Chronicle"

FIG. 1.—Officer Waterbury finishing the questioning of a murder suspect in the police laboratory. Prisoner was cleared by his record, although he had partially confessed.

LYING AND ITS DETECTION

A STUDY OF DECEPTION AND DECEPTION TESTS

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IN COLLABORATION WITH

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WITH AN INTRODUCTION BY

AUGUST VOLLMER

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INTRODUCTION

AUGUST VOLLMER
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In this book the vast literature relating to deception is critically analyzed, and excerpts from the best works on the subject are arranged in an orderly manner. The various types of deceptions are defined and classified. Deceivers are placed in their pigeonholes so that each type is readily recognizable. A detailed description is given of the physical and mental manifestations of deception in normal and abnormal persons. Ancient and modern methods employed by law-enforcement officials to determine guilt or innocence are shown to be inefficient; and finally, a comprehensive outline of scientific efforts to develop a deception technique is given, including the author's researches in California and Illinois.

Hans Gross has said that a large part of the criminal investigator's work is nothing more than a battle against the lie. Few, indeed, there are who realize just how true this is. The officer must be suspicious not only of the defendant or suspect but also of the complainant and the witnesses.

In the various complaints filed with law-enforcement officials, we not infrequently find murders reported by the murderer. In these cases the complainants seek to throw suspicion upon others. It is also common practice for complainants to report that they have been held up and relieved of large sums of money. In this way they are able to account for moneys expended unwisely, or for moneys that they themselves propose to divert to their own uses. Every police officer will testify to the fact that in the investigation of burglaries they are required to proceed with caution as the report is often made either to cover up financial weakness or to collect insurance upon property. In Chicago for many years there was a large gang who made a business of insuring their buildings and then destroying them. Millions of dollars were lost by the insurance companies as a result of depredations by this gang.

In fact, the motives for all forms of false criminal reports are so numerous that it would be impossible to chronicle them all. Suffice it

to say that careful investigators are constantly beset with the question "Is this a false or a true report?"

With witnesses another set of factors enters to add to the labors of the law-enforcement officials. Witnesses may lay the blame on innocent persons, because of some personal dislike. Again, the officers must be on their guard against the self-assertive type who love to get their names before the public and give misleading information for notoriety's sake. Where the relative or intimate friend of a suspect is interrogated, we can hope for little accurate information. The chief difficulty, however, arises where witnesses, through fear of great personal injury or even death, testify falsely. Especially is this true in cases in which notorious criminals or members of dangerous gangs are involved or investigated, such, for example, as the Chinese highbinder societies, Italian Mafia, or the gunmen gangs of the underworld in large cities. It is practically impossible to get the truth from witnesses in such cases, not only because they fear for their lives, but they also fear the destruction of their property by friends of the suspect. One of the common reasons for deliberately lying to police officers during their investigation is the fact that witnesses do not wish to lose the time in attendance upon trials. It is known that business men have suffered serious losses in business and others have lost responsible positions because they were compelled to appear as witnesses. Lying is also common in those cases where witnesses are timid and try to avoid publicity or notoriety and hope to escape the ordeal of attending court trial. In one case it may be hatred for the policeman in particular; in another case it may be hatred for policemen in general. Prejudice against a particular law, or against laws in general, may be another reason for lying. Members of the same fraternal, racial, social, or religious groups may deliberately mislead officials who are investigating a member of one of the groups mentioned. Then too, we cannot eliminate the personal prejudices of every conceivable character that may cause a man to give incorrect information to investigators.

Witnesses must be viewed with suspicion. The Hightower case, referred to in Dr. Larson's work, is a concrete example. Informants who seek to collect rewards may deliberately mislead the officer and involve an innocent person for the purpose of obtaining money offered for information leading to the apprehension of the culprit. Cupidity had led business men to give misinformation regarding another to the police in the hope that a dangerous competitor might be put out of business.

Where so many factors enter as a cause for deception by witnesses, it must be clear that suspects or defendants would have many more reasons for lying when interrogated by officials. Whether it be due to obeying the primitive instinct of self-preservation, or to protect family and friends, or any of the one hundred and one reasons, there are few cases, indeed, where the suspects or defendants tell the absolute truth. There are cases where the suspects have hesitated to tell the truth because the truth would involve innocent persons, or it might be that the truth would serve to connect the suspect with more serious crimes. Cases are on record where the suspects have deliberately lied in order to get into jail so that they might become heroes in the eyes of friends. Occasionally this is done where one criminal accepts responsibility for the acts of the group. Here the gang is saved at the expense of one of the members. On the other hand, there are cases where the suspect deliberately and viciously implicates an enemy for the purpose of "getting even." The daily accusations of prostitutes, addicts, and others against the policeman is a common example. In a rather interesting case, a suspect by the name of Weiss furnished information to the police concerning one Deidrich, hoping in this manner to throw the officers off the scent. Deidrich, who was a wanderer without a criminal record, had informed Weiss that it was his intention to go to another country. By the merest chance Deidrich was picked up by one of the policemen and found not to be the man wanted. Later Weiss was killed while in the act of committing another crime. To throw the burden of guilt upon others, several San Francisco gunmen each accused the other of shooting the victim.

Deception by defendants must also be regarded from another viewpoint. Harold Israel confessed to the police of Bridgeport, Connecticut, that he had killed Father Dahme. From evidence subsequently secured by the state's attorney, it was proved conclusively that he did not commit the murder and he was released. In the Salt Lake case, referred to by Dr. Larson in his work, the suspect admitted that he might have committed the crime but that, if he did, he did not remember. With weak-minded and extremely suggestible defendants care must always be exercised.

No more important duty devolves upon law-enforcement officials than the protection of innocent persons. Eight out of ten witnesses positively identified a well-known ex-convict as the man who held them up in a street car. He was bound over for trial. The positive identification and long criminal record meant that the defendant would have

been incarcerated for life. He stoutly maintained his innocence, and shortly after the preliminary hearing the real culprit was killed in a pistol battle following another street-car robbery. The famous Adolph Beck case in England illustrates very forcibly the necessity for the development of deception technique. In the Beck case, it will be remembered that an innocent man was sent to the penitentiary for a crime that he did not commit. After his release he was again arrested for another offense. He was promptly identified and convicted the second time, and would have undoubtedly been sent to prison again had it not been for the fact that the real culprit, William Thomas, was arrested on a charge of swindling; and as the *modus operandi* was exactly the same, the authorities were able to connect Thomas with the offenses that Beck had been tried for.

Dr. Larson has cited illustrations in sufficient number to prove that the system used by law-enforcement officers generally for determining the truth is inefficient, even where the circumstances are most favorable. Conscientious officials everywhere recognize the need for, and will welcome the perfection of, any system or device that will aid them in arriving at correct decisions in cases that come to them for investigation. Dr. Larson and other scientific workers, like Marston, are blazing a trail that must ultimately lead into fertile fields. Every encouragement and aid should be given to these tireless pioneers, and decision regarding the merits of deception technique should be withheld until it is positively proved that deception cannot be detected with the aid of scientific apparatus.

EDITOR'S FOREWORD

For the very reason, perhaps, that lying is peculiarly a human trait, this volume will be of wide general interest. It will be read from many different points of view, both by the scientist and the practitioner, by the philosopher and the layman, and by specialists in physiology, psychiatry, psychology, sociology, anthropology, and criminology, as well as by penologists, police, detectives, and other investigators. The present study is obviously one that combines scientific research with quite intriguing possibilities of practical application. Progress in devising a technique to determine whether or not a man is telling the truth is, as Dr. Maxwell points out, a great step forward.

The scientific spirit of the writer is nowhere more clearly shown than by his critical attitude toward his own work and by his caution, for example, against any premature practical uses of the so-called "lie detector" as evidence in court.

To this study Dr. Larson brings unusual qualifications in training and experience. His work on deception and the lie detector grew out of his general interest in police work, which began under the guidance and inspiration of August Vollmer, outstanding pioneer in applying science to police problems. He specialized in physiology, working out his doctoral dissertation in endocrinology, completed his medical training at Rush Medical School, and later specialized in psychiatry at Johns Hopkins University under Adolf Meyer. As psychiatrist he has had broad experience not only in a psychopathic hospital, but also as assistant state criminologist in Illinois where he is in charge of research at both the State Penitentiary and the State Reformatory. This review of his training and experience is given in this detail to indicate the varied background from which Dr. Larson has approached the problem of deception and deception tests, as well as to show why his point of view combines both theoretical and practical considerations.

This volume cannot but help to clear the atmosphere of the confusion of the controversy over the merits of the lie detector. Clearly this new scientific instrument can be of greatest value only if its use is restricted to scientific hands. At present, its most valuable practical function is perhaps in the detective bureau. Administered by a competent criminological psychologist, it will supersede the third degree and place the interviewing of suspected individuals upon both a scientific and a human basis.

ERNEST W. BURGESS

June 1, 1932

AUTHOR'S PREFACE

For years the question of a suitable deception technique has been the subject of much speculation and investigation. Relatively few workers, however, have attempted to apply any of the methods suggested for the detection of deception to actual cases encountered in criminal investigation. Much of the experimentation has revolved about artificially created situations as set up by graduate students, who, driven by the necessity for thesis material, carry on research in the university laboratory. As a result of such research conducted within the cloistered walls of the university, far-reaching conclusions and generalities have been reached as to the efficacy of a given method in use in actual field work. Much time has been spent especially in studying the association technique. Here again, with the exception of occasional sporadic tests, most of the experimentation has been conducted with university students as subjects, and the protocols secured are scarcely serviceable for practical use.

Of those workers who have utilized a deception technique in criminal investigation, Lombroso and his Italian colleagues should be mentioned. Marston's work was also unique. It is through the stimulus of such workers as Lombroso, Benussi, and Marston that the ultimate accuracy of deception technique may eventually be obtained.

The aim of this work is to present as impartially as possible such data as may be of use to the student interested in understanding the deception mechanism and its possible detection.

Whenever in this book the work of another investigator seems relevant and is described, an attempt has been made to present typical excerpts, so that the reader can draw his own conclusions as to the efficacy of a given procedure. Sufficient material is given in each case to show clearly, whether right or wrong, the opinions of the worker quoted. An exception to this procedure is made only when the author of this book feels qualified, because of his researches, to criticize certain comments or methods. Due allowance should be made for those who may seem enthusiastic and perhaps unduly optimistic about their method of approach. Whether a deception procedure is possible and practicable can be determined only by actual investigation. Even if the reader may be stimulated to experiment with the technique be-

cause of disbelief in the procedure discussed, and can ultimately show experimentally that such procedure is impractical, such a discovery and research will have been well worth while.

Appreciation can be but inadequately expressed since everyone in connection with the book has been most co-operative. Since this work is to some extent in the nature of a source book, due acknowledgments to the authors, journals, publishers, etc., will be given in the Bibliography and in the text.

Especial thanks are due to Chief August Vollmer, Dr. Herman M. Adler, Professor Ernest W. Burgess, and Dr. Paul L. Schroeder for their co-operation throughout. It was while the writer was engaged in original investigation as a member of the Berkeley Police Department that Chief Vollmer and he felt the necessity for making available to those interested some of the literature and experimental studies in this field. Dr. Adler then made it possible for the writer to carry on his researches in Illinois, an arrangement which Dr. Schroeder, Dr. Adler's successor, has continued.

Particular mention should be made of the interest and valuable assistance in several aspects of the study rendered by Mr. John C. Weigel, administrator of the Institute for Juvenile Research and the Behavior Research Fund.

The writer acknowledges his indebtedness to those men who have worked constantly with him on the firing line. These include the following persons: Inspector Frank Waterbury, who has probably done more than any one worker in assisting the writer in the experimentation involving criminal investigation; Inspector Wilson, Captain John Greening, Police Officer O. W. Wilson, and members of the Berkeley Police Department; John Fisher and William Wiltberger whose assistance made the first test possible. In addition to the personnel of the Berkeley Police Department, inspectors of Oakland and neighboring communities should be thanked for their whole-hearted support. Such support is especially necessary since, while it is a very simple matter to perform a deception test in criminal investigation if properly trained examiners are available, yet it is not simple to check up on the interpretation and clear up the investigation without the assistance of the police.

The writer is especially grateful to Inspector S. S. Maxwell, Chief Vollmer, Dr. Paul Schilder, Professor Ernest W. Burgess, and Professor Adolf Meyer for reading the manuscript and giving suggestions. Also mention should be made of Mr. Kenneth Rouse, who has assisted

the writer materially in his investigations and experiments at the University of Chicago.

Of the collaborators, especial acknowledgment is made of the untiring assistance and accurate work of George W. Haney, who has been interested in this work and associated with the writer since his first experiments in 1921. He has aided in the preparation of the manuscript, the checking of references, and in the painstaking experimental work on his own projects connected with this general research.

The other collaborator, Leonarde Keeler, has worked independently of the writer, first for the Los Angeles Police Department and at the University of Southern California, later at Stanford University with Professor Miles, and still later at the Institute for Juvenile Research. At the present time he is at the Scientific Crime Detection Laboratory in connection with Northwestern University. Although his work has been done independently, he has been for a number of years in close touch with the writer in the study of the apparatus, and it is his modification of that originally used by the writer, which is being used at the present time until a more satisfactory method, now under experimentation by Dr. Chester W. Darrow, is ready.

Grateful acknowledgment should be made to the *Institution Quarterly* and the *Welfare Magazine* published by the Illinois State Department of Public Welfare for the cuts used in this monograph which had previously appeared in articles by the author in these journals. Acknowledgment is also gratefully made to the following publishers for their courtesies in allowing us to quote material. If inadvertently some should have been omitted here, due credit is given in the text and Bibliography: F. Alcan (Paris); Little, Brown Co. (Boston); Scribners (New York); *American Journal of Psychology; Journal of the American Institute for Criminal Law and Criminology;* The Macmillan Co. (New York); Appleton Co. (New York); *Police Journal* (New York); G. Badger (Boston); New Metropolitan Fiction Co. (New York); *True Detective Magazine;* James B. Pinker & Son; Thacker, Spier & Co.; *Psychological Review; Saturday Evening Post; San Francisco Call Bulletin; Chicago Tribune; San Francisco Chronicle; Oakland Tribune;* International News Reel; Johns Hopkins University.

J. A. L.

COMMENTS

S. S. MAXWELL, M.D.
Professor Emeritus of Physiology, University of California Medical School

It has long been known that emotional states are accompanied by physical changes. Dr. Larson in his studies on deception has made valuable addition to our knowledge of this subject.

The following questions naturally suggest themselves: (1) Is emotion invariably accompanied by physical change? (2) Is lying always accompanied by emotion? (3) Are the changes occurring with the emotion produced by lying of a definite, recognizable sort? (4) Is it possible through practice or otherwise to inhibit voluntarily the physical signs of emotion?

In my opinion the answer to the first question is in the affirmative. If the James-Lange theory is correct it must be so, although that theory cannot yet be said to be proved. Practical experience, however, seems decidedly to favor the belief that emotion has always a physical accompaniment.

The answer to the second question can be secured only by exact observation and experiment. Such experiments are not possible under the usual conditions of the physiological or psychological laboratory. If, for example, the subject is asked to state either correctly or incorrectly the number on a given card, he is not lying when he answers with a number not on the card. He is merely doing what the experimenter has asked him to do. The request might just as well have been put in this form: "You will please give a number which is or which is not the one on the card." Dr. Larson in his studies has been dealing with real cases which are concerned with actual truth or falsehood. Artificial conditions, on the other hand, do not present reality. When a student of psychology suddenly said to his fellow, "I am about to give you a million dollars; how do you feel?" he received the apt reply, "I feel that you are either a liar or a fool."

To the third question, whether the emotion produced by lying is accompanied by a definite physical complex, the experiments of Larson and others give a quite definite answer. The study of many graphic records supports the conclusion that in most or perhaps all cases of real

deception with criminal intent the vascular and respiratory effects are recognizable.

Lastly, can such physical reactions be inhibited voluntarily? It would require an enormous number of experiments upon subjects trained in introspection to answer this. Certain physiological facts, however, have a bearing. Blood pressure can be raised by increase in the force or in the rate of the heart beat, or by increase in the peripheral resistance. A few persons have been known who could increase the rate of heartbeat by direct act of will. No instance has ever been recorded in which the reverse was possible. Those individuals who could retard the heartbeat did so indirectly, especially by strenuous changes in the respiratory movements of such nature that their existence would be emphatically shown on the graphic record.

Increase in peripheral resistance comes through contraction of the involuntary muscle fibers in the blood-vessel walls. That the action of these muscle fibers can be voluntarily inhibited has never been demonstrated, and it is highly improbable that it can ever be done.

PAUL SCHILDER, M.D., PH.D.

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Formerly Professor of Neuropsychiatry of the University of Vienna

Dr. Larson's book seems to be very technical. It deals with an interesting method of finding out whether a person tells the truth or not, and its possible use for police and law courts. But it offers a much broader interest. It shows that the problem of finding out whether someone is lying or not is as old as mankind. There have been many attempts to solve the problem. It is, of course, not only a problem of law but one of morals. It is the task of psychology as a science to contribute to the solution of moral problems. The meaning of scientific methods is to enable anybody of average mental endowment to find out the facts. Scientific methods make the investigation independent from intuition or at least less dependent. Science, therefore, makes a common good of what previously was only attainable by the gifted and elected.

Science and experimental methods are therefore in themselves social phenomena of general interest. Dr. Larson's method is, from a psychological point of view, remarkable. The examined person has only to answer with "yes" or "no" to questions pertinent to the crime. This "yes" or "no" is the expression of the conscious and moral personality. It is

an act of moral responsibility which calls forth the moral forces of the individual. Dr. Larson's test carries, therefore, in itself a greater moral responsibility than any test which requires an answer by free association. On the other hand, the choice of words in the association test gives some outlet for what has been suppressed. The chosen word is a symptom. The "yes" or "no" has no symbolic meaning. It carries with it only the moral responsibility. The emotional energy will, therefore, flow into the channels of expression which the body offers. There will be changes in pulse, breathing, blood pressure, and arm volume.

This leads immediately to the second important problem that is involved in Dr. Larson's experiments: In what way does the body express our emotions and what does the expression of emotion mean? There is no question that the whole body will react to whatever may happen in an individual's life. It will react as well to perceptions as to images and thoughts. There are no psychic processes which do not change our body as a whole in the feelings and emotions. But the body reacts with different parts and in a different way according to the different thoughts, ideas, and perceptions. It is true that the thoughts, ideas, and perceptions to which we react are not always in the foreground of the consciousness. Psychoanalysis speaks about the unconscious. Since, according to my opinion, the knowledge of the situation is always in the background of the consciousness, I prefer to call these experiences "spheric." Such unconscious or, better, spheric experiences can have a powerful influence on the body. Conscious moral conflicts are due to provoke enormous somatic reactions. Whatever the philosophic question of the relation of the body and mind may be, there is no question that every situation provokes an answer of the body. Dr. Larson's experiments show the enormous influence of conscious moral conflicts on the body. Dr. Larson points out rightly that lying is a universal method of human beings to escape problems in difficult situations. But whenever we perceive a situation we feel that we should act according to the situation or, in other words, that we should be truthful. There is a universal tendency in human souls to confess this truth. Very often we do not know about the strong tendencies in ourselves to confess. But there exists, as Reik has stated, a constraint, a compulsion to confess this truth. We know that the world of reality has to be respected. In our innermost heart we feel the enormous difference between reality and imagination. We know that our inner heart is never for the fantasy, or lie but for reality. Therefore when our conscious self deviates from the truth, and denies it, the subconscious self and the body de-

mand to be adapted to reality, to be truthful. We come to the paradoxical formulation that human beings lie with their consciousness, but are truthful with their unconscious, and when they do not confess with their mouths, then they confess with their body. These ideas come very near to the psychoanalytic formulations of Reik, but they confirm also another point of view which has been elaborated in the modern development of psychoanalysis.

For a long time we have believed that it does not make such a great difference whether the patient reports fantasies or whether he reports actual facts which have happened in his early childhood. We do not believe any longer that we can neglect the difference between fantasy and reality. Psychoanalysis asks that the true life-story of the individual should be re-created; it insists on truth. Psychoanalysis would not lead to the success of rebuilding the inner life-history of the individual unless there would be the strong inner drive of human beings to truth and reality. The drive to reality and truth is probably a general characteristic of life. Also, Dr. Larson's method is based upon this inner drive to truthfulness.

One sees easily that Dr. Larson's ingenious method leads immediately to central problems of psychology and philosophy.

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PART I

DEFINITION AND OCCURRENCE

CHAPTER I[1]

DEFINITION AND CLASSIFICATION

We can do no better in the attempt to define function of the criminologist than to quote from Hans Gross, one of the greatest criminologists of all time. He says:

Definition of the problem.—In a certain sense a large part of the criminalist's work is nothing more than a battle against lies. He has to discover the truth and must fight the opposite. He meets this opposite at every step. The accused, often one who has confessed completely, many of the witnesses, try to get advantage of him, and frequently he has to struggle with himself when he perceives that he is working in a direction which he cannot completely justify. Utterly to vanquish the lie, particularly in our work, is, of course, impossible, and to describe its nature exhaustively is to write a natural history of mankind. We must limit ourselves to the consideration of a definite number of means, great and small, which will make our work easier, will warn us of the presence of deception, and will prevent its playing a part. I have attempted to compile forms of it according to intent, and will here add a few words.

That by the lie is meant the intentional deliverance of a conscious untruth for the purpose of deception is as familiar as the variety of opinion concerning the permissibility of so-called necessary lies, of the pious, of the pedagogic, and the conventional. We have to assume here the standpoint of absolute rigorism, and to say with Kant, "The lie in its mere form is man's crime against his own nature, and is a vice which must make a man disreputable in his own eyes." We cannot think of a single case in which we find any ground for lying. For we lawyers need have no pedagogical duties, nor are we compelled to teach people manners, and a situation in which we may save ourselves by lying is unthinkable. Of course, we will not speak all we know; indeed, a proper silence is a sign of a good criminalist, but we need never lie. The beginner must especially learn that the "good intention" to serve the case and the so-called excusing "eagerness to do one's duty," by which little lies are sometimes justified, have absolutely no worth. An incidental word as if the accomplice had confessed; an expression intending to convey that you know more than you do; a perversion of some earlier statement of the witness, and similar "permissible tricks," can not be cheaper than the cheapest things. Their use results only in one's own shame, and if they fail, the defense has the advantage. The lost ground can never be regained.

[1] See Bibliography, arranged alphabetically by chapters, at end of book for full reference to the literature cited.

Duprat in respect to definition wrote:

Definition and types.—One perhaps can define the lie in this way: a psycho-sociological act of suggestion, by which one tends more or less intensely to introduce into the mind of another a belief, positive or negative, which is not in harmony with that which the author supposes to be the truth.

Again Duprat pointed out:

The subterfuge to which falsifiers, forgers, impostors, liars of all descriptions resort, are moreover very varied. The "manual of the perfect liar," if it exists, would doubtless be a very large volume. Children and women take refuge in weeping when one doubts their word, men feign indignation in rumbles of anger, sometimes to reinforce arguments very weak in themselves; in repetition, the expression of mimicry, the air of candor, indifference and dissimulation, the absence of hesitation, the occurrence of warmth, on the contrary the attitude of conscientious meditation or painstaking study in order to omit the truth or to add anything to reality, all this will be known to the expert liar and to the skilled deceiver.

In well prepared deceits, one finds cleverly combined the most proper means with which to inspire confidence, with which to distract attention; in slander the liar feigns indignation or manifests indulgence in order better to remove all suspicion of indelicacy. The liar must have modes corresponding to the energy of the tendencies necessary to realize his design; a lie of *simple politeness* will not be very complicated and will not be accompanied by great demonstrations of sincerity; a *business lie*, on the contrary, will have to be prepared in detail to agree with a carefully planned system and the cultivation of belief, to inspire the most keen confidence.

Among those lies which have for a goal a belief equivalent to a certainty, one must put in the first rank those which are aided by a sophism.

Specifically, one cannot begin to classify lies with all their numerous subdivisions; the commercial lie, that of those who seek to raise themselves, that of lovers, that of the servant, that of the man of the world, etc., differ doubtlessly one from another, but in the end would finally, even with all their difference, correspond in the final purpose.

Wigmore in his *Principles of Judicial Proof* discusses the psychology of the lie and quotes from Duprat as follows:

Psychology of the lie: types.—Some liars add to a true statement by adorning facts, by giving to people, acts, or things, non-existent qualities; or by exaggerating the extent, value, etc., of a fact or a relation; or by inventing new facts. They are like the artists, who sometimes simplify or "purify" nature, idealizing it while preserving its essentials, but also sometimes enrich the data of experience by combining them in a new order to make new forms. Thus there are the lies (1) of *attribution*, (2) of *addition*, (3) of *exaggeration*, (4) of *recombination*, (5) of *pure fiction*. Lies applying to personal qualities

or acts include false representations, fraud in general, and (when a prior oath to deal honestly has been taken) disloyalty. They thus pass beyond mere expressions of the speaker's own thought and include statements of external fact and it is not possible to draw a boundary between false testimony and fraud. There is an intermediate type, *simulation*, in which a mendacious assertion combines with false conduct adapted to give it credence. But the lie of *dissimulation* must be included,—the lie by suppressing facts, even without express negation in words or conduct. The false witness, by his words or by his silence, may deny the existence of a fact; the false historian may deny the existence of persons or events which would embarrass his proof of the view to which he is committed; . . . . The smuggler is typically a dissimulator, who conceals a part of the truth. Dissimulation, in short, is a negative or inhibitive suggestion, in contrast to simulation or lie in the ordinary sense, which is a positive suggestion. The two extreme types of lies are therefore the *positive*, which creates a complete fiction, and the *negative*, which removes the outward expression of whatever might furnish a clew to the truth. Between these two extremes may be arranged the other types in the order of their affinities, thus:

A. POSITIVE SUGGESTION *contrasted with*
B. NEGATIVE SUGGESTION

Invention (slander, fraud, false prosecution, false witness) / Fiction simulation	Complete dissimulation: denegation; suppression of testimony
Addition	Omission
Deformation	Mutilation
Exaggeration	Attenuation

Classification of liars.—To this classification of lies would correspond that of liars. Those who make positive suggestion exhibit capacity of invention; those who make negative suggestions are frequently lacking in imagination. . . . . Of course, many lies are mixed in character, partaking of both positive and negative suggestion. Moreover, every lie, in so far as it creates a new form for some proposed fact, is deformative, and thus is, in a sense, a positive suggestion; so that every liar to some extent uses imagination. Nevertheless there is always, within the same group, a relative contrast between the liar who needs more or less mental activity to construct or amplify, and the one who needs merely deny, suppress, or mutilate, without having to invent anything but what is furnished him in the very experience which he desires to impress falsely upon the other person.

Quoting again from Duprat:

Correlation between temperament and lying: effect of temperament.—This physiological relation matches the psychological one between the trait-tendencies

of a person and his production of images enabling him to tell a lie. A person with specific trait, or of a specific temperament, will be led into certain kinds of lies in proportion as that trait or temperament is more favorable to excitation or depression. A mendacious denial is easy to people of calm, apathetic or melancholy disposition, given to slow movements. A mendacious affirmation is easy to persons inclined to rapid movements—to an activity, if not disorderly, at least multifold and varied. Literature has often drawn the contrast between these two opposed temperaments,—the cold, calm one, and the lively, daring type; and almost always the latter has been taken as the type of the liar, e.g., Daudet's *Numa Roumestan*, the temperament of the South. But alongside this temperament we must also point out its opposite, the smooth-tongued, soft-speaking personality, a radical enemy of the truth, the type of hypocrites of all degrees.

Thus the diversity of human traits and tendencies produces a diversity of liars. And the lie is the more important, as psychologic phenomena, in proportion as it reveals the basis of the *Ego* beneath it. For then the derogation from the truth is not a mere casual incident in the life of an unstable imagination, but is a direct consequence of the person's rooted disposition to evil.[1]

Wigmore quotes Ingegnieros as follows:

Types of simulation.—All men are simulators in a greater or less degree; but the tendency to simulate is the dominant note of the trait in those who form the type of simulator,—the most comprehensive type of those who fit the common term "liar." And no type is more frequently met with in persons of all ranks and occupations.

Ingegnieros has classified simulators as follows: (1) the *Crafty*, (2) the *Servile*, (3) the *Practical Jokers*, (4) the *Dissidents*, (5) the *Neuropathic*, (6) the *Suggestible*

(1) The *Crafty* simulator is always ready to simulate; he has educated his emotional reactions so that they never betray themselves in his countenance. He is a dissimulator in the root of his being. But he employs the most varied means for succeeding. Women show themselves particularly apt in a thousand methods of sly dissimulation. (2) The *Servile* simulator is a variety of the crafty one, with this peculiarity that his tendency is to subordinate his attitude, facial expression, and words, to the requirements or desires or unspoken wishes of those who are his masters and whose good will or indulgence he hopes for. (3) The *Practical Joker* turns simulation into amusement. He enjoys mystifying his fellows without personal profit to himself. . . . . This class may also be made to include the simulator who feigns the possession of exceptional talents or virtues and takes pleasure in duping the public at large or a select circle with his deceptive assertions and inventions. . . . . (4) The *Dissidents* are those who feign sentiments which they do not possess in order to produce a reaction against current tendencies which they deplore and wish

[1] Translated by the writer.

to improve. (5) The *Neuropathic* simulator is well known. These border on the hysterical, the alcoholist, and the degenerate. . . . . (6) The simulator by *Suggestion* is rather a victim than a culprit. But here must be included those persons who receive suggestion from environment, i.e., are subjected to a vague influence which gives rise to their morbid tendency to deceptions and more or less skillful lies.

Ingegnieros' classification may not seem systematic enough. It rests upon the distinction between normal and pathological persons, and utilitarian and disinterested ends. It would seem that there may well be as many secondary types of simulators as there are distinct human traits, viz.:

Secondary classification.—The *Amorphous* are susceptible of simulation under the influence of all sorts of suggestion. They have no more a fixed trait in their simulation than in the rest of their mental and social activity. They may exhibit trickery in any fashion required by their interests or desires or caprices as circumstances vary. They are usually weak of will, and may thus yield to the exigencies of their environment, becoming, if need be, servile in their lies. The *Polymorphous* are often degenerates or hystericals,—liars and simulators to the degree that they change easily in personality. They do not long persist in any one species of simulation; e.g., they may, in succession, simulate piety and atheism, simple-mindedness and skepticism, cautiousness and imprudence, timidity and courage, lying according to the rôle they are playing, often without interest and sometimes unconsciously. The *Unbalanced* are simulators only intermittently; they have accesses of candor which make them abandon for a period their system of feints and lies. They mislead by the uncertainty which they thus produce in the mind of the observer. Next to them may be classed the *Impulsive*. These yield, but only intermittently, to their need for lying and for simulating the sentiments calculated to induce confidence in their veracity. This need is most often explainable by sudden cravings or repulsions, unforeseeable even by the subjects themselves. Such a person, without knowing why, will suddenly experience an irresistible desire to deceive in some way his wife or friend, and will simulate anger or grief or astonishment. The *Obsessed* are dominated by a fixed idea, an exclusive aim, an emotion, and sometimes are driven to simulation by the exigencies of a purposeful mind. Success in their enterprise depends often upon their aptness in feigning, in the expression of ideas which they know to be false. The pretenders who obtain a public hearing are of this type at bottom. The *Emotionals* have little aptitude for simulation; they are not able to control themselves well enough. The *Apathetics* will not take the trouble to do so. Nevertheless some emotionals do become simulators, usually through fear, love,—e.g., they will feign altruistic sentiments, for fear of seeing their egoism unmasked; or affect a deep sensitiveness in matters of aesthetics, religion, or morality; or carry on a mendacious discourse while under the emotion's influence. The apathetics, being little inclined to altruism, simulate mostly a sympathy or a pity or even a burst of feeling, when circumstances

and the environment constrain them; their discourse is particularly deceptive. The *Ratiocinatives* are those who use dialectics, captious argument, long series of propositions, so as to simulate a depth of thought. How many such disputers—metaphysicians, theologians, and others—have abused the confidence of their hearers or readers by a sterile logomachy, of which they themselves have not always been the dupes. Must we not admit that there are many men who are so devoted to empty disputatiousness that they overstep the boundary between honesty and simulation? The fear of being a renegade or a heretic makes them preserve their attitude, and lies and simulation form a larger and larger part of it. The *Intuitive* are often lacking in that check which logic puts upon excessive license in one's interpretations of experience; they are too often ready to think that they can depart from a strict veracity in contrast with persons of scientific mind—the *Imaginatives*. Contradiction does not in the least alarm them; they put on at every turn their romances. These are typical simulators. In this class belong notably those who simulate illness to obtain help, reward, or favor, or exoneration from military duty, taxes, or other social burdens.

All the above described temperaments lend themselves more or less to effect some form of simulation. Some persons seem to be innately disposed to this form of life. Certain children at an early age exhibit, as their peculiar trait, a mendacity accompanied by simulation; experience and habit, necessary for its development, increasingly betray it as they become older, and one may meet with adults and old persons whose every gesture, attitude, and discourse is directed to the deception of others. Success has made them persevere in this marked aptitude. One is almost tempted to believe that supremacy is assured, in the struggle for existence, not only to those who employ honest methods and conscientious assertions, but to the astute and shrewd simulators. . . . .

Casual and tenacious liar of Duprat.—There often occurs a violent antagonism between this natural propensity and the other inclination (casual or habitual) to disguise the truth by affirming something different. Before this antagonism can attenuate to the point where dissimulation becomes easy, the habit of telling the thing contrary to what one ought to tell must have become a strong one. Hence we come to a distinction between the casual liar and the habitual liar;—the liar who promptly confounds himself, and the tenacious liar who persists in his lie.

The casual liar may be a person having a vivid imagination or experiencing a lively emotion, who impulsively affirms or denies without precise reflection on his erroneous assertion and the distance between it and the truth. It is only when he receives some check that he definitely conceives the truth. Then he may persist in his falsity, through vanity, pride, self-esteem, or shame; or may hasten to some other topic; or may recant. If he recants, one may perhaps detect slight symptoms of lack of frankness. If he hastens to leave the subject, he usually betrays himself by his precipitateness or worried air; if he persists, he tends to become the habitual liar and now needs the power of inhibition.

With the tenacious liar, the lie is generally habitual. Fatigue, worry, uneasiness, recur as infrequently as the inhibition has become frequent. The physiological marks of lying are less apparent, the muscular contractions less forcible and particularly less spasmodic. He is more at home in supporting his assertions by a persuasive mimicry,—facial expressions appropriate to frankness, smiles less false, intonations less artificial, etc. Mendacious invention here tends to free itself from almost all the shackles customarily provided by a consciousness of the truth.

Nature of the process.—Mendacious invention rests on a well-known physiological process. We do not mean to invoke here the supposed laws of mental association, as established by English psychologists from Locke and Hume to John Stuart Mill, Bain, and Spencer. To say that syntheses of representations are formed by contiguity, resemblance, or contrast is merely to describe certain facts, not to explain them. Every imaginative synthesis must be preceded by a dissociation of the elements which already formed other empiric syntheses; for the imagination does not create its materials, it only gives them a new form and new relations, not usually pushing the analysis very far. This dissociation is scarcely ever intentional. It is due to the mutual interference of different syntheses having common elements, but in such a way that the common elements are associated here with some and there with other assumptions. Thus the associations are less firm. . . . .

Necessary condition for mendacious invention.—Here a prime condition for mendacious invention is an experience such as has already produced interferences of association which favor dissociation. This is why a denial, pure and simple, in which lying invention is at its minimum is much more at the command of children and less experienced or less gifted adults than a deceptive affirmation; for the latter is the product of a somewhat fertile imagination.

CHAPTER II

LYING IN CHILDREN

Volumes have been written concerning the nature and prevalence of the mechanism of lying in children by Baumgarten, Healy, Hall, Sisson, and others. The literature is well reviewed in Lippman's *Die Lüge*, and Wigmore's work on *Evidence*.

In this chapter a few excerpts with reference to lying in children are cited.

G. Stanley Hall, writing on children's lies, says:

Lying in children.—These returns [from a systematic inquiry] now represent nearly three hundred city children of both sexes mostly from twelve to fourteen years of age. . . . . A general statement of them according to the groups into which they naturally fall will be serviceable, it is hoped, to thoughtful parents and teachers as well as to psychologists.

Pseudophobia.—No children were found destitute of high ideals of truthfulness. Perhaps the lowest moral development is represented by about a dozen children who regarded every deviation from the most painful literal truth as alike heinous with no perspective or degrees of difference between white and black fibbing and the most barefaced intended or unintended lies. This mental state, though in a few cases probably priggish and affected, became in others so neurotic that to every statement, even to "yes" and "no," "I think," or "perhaps," was added mentally, whispered, or in two cases aloud, and nothing could prompt a positive unqualified assertion. This condition (not unknown among adults in certain morbid states of conscience) we will designate as pseudophobia, and place it among the many other morbid fears that prey upon unformed or unpoised minds. One boy told me of "spells" of saying over hundreds of times when alone the word "not" in the vague hope that it might be somehow interpolated into the divine record of his many wrong stories, past and future, to disinfect them and neutralize his guilt. Another had a long period of fear that like Ananias and Sapphira he might at some moment drop down dead for a chance and perhaps unconscious lie. This moral superstition, which seemed mostly due to mixing ethical and religious teaching in unpedagogic ways or proportions in home or Sunday school, is happily rare, generally fugitive, is not germane to the nature of childhood, and is likely to rectify itself. Where it persists it begets a quibbling, word splitting tendency, or a casuistic habit, resulting sometimes in very systematic palliatives, tricks, and evasions, which may become distinctly morbid. . . . .

Means to a noble end.—Strongly contrasted with this state, and far more common, is that in which lies are justified as a means to a noble end. Children all admire burly boys who by false confessions take upon themselves the penalties for the sins of weaker playmates, or even girls who are conscious of being favorites with teacher or parent, or of superior power of blandishment, and who claim to be the authors of the misdeeds of their disfavored mates. A teacher who told her class of thirteen-year-old children the tale of a French girl in the days of the Commune, who, when on her way to execution on a petty charge, met her betrothed and responded to his agonized appeals, "Sir, I do not know you," and passed on to her death alone, because she feared recognition might involve him in her doom, was saddened because she found it so hard to make her pupils name as a lie what was so eclipsed by heroism and love. Children have a wholesome instinct for viewing moral situations as wholes, but yet are not insensitive to that eager and sometimes tragic interest which has always for men invested those situations in both life and literature where duties seem to conflict. The normal child feels the heroism of the unaccountable instinct of self-sacrifice far earlier and more keenly than it can appreciate the sublimity of truth.

Likes and dislikes.—With most children, as with savages, truthfulness is greatly affected by likes and dislikes. In many cases they could hardly be brought to see wrong in lies a parent or some kind friend had wished to tell. Often suspected lies were long persisted in, until they were asked if they would have said that to their mothers when they at once weakened. The girls in our returns were more addicted to this class of lies than the boys. Boys keep up joint or complotted lies, while girls rarely do, who "tell on" others because they are "sure to be found out" or "someone else will tell"; while boys can more readily be brought to confess small thefts, and are more sure to own up, if caught, than girls. . . . . All children find it harder to cheat in their lessons with a teacher they like. . . . . To simulate or dissimulate to the priest, or, above all, to God, was repeatedly referred to as the worst of all. . . . . Truth for our friends and lies for our enemies is a practical, though not distinctly conscious rule, widely current with children as with uncivilized and, indeed, even with civilized races. . . . .

Selfishness.—The greatest number of lies in our collections are prompted by some of the more familiar manifestations of selfishness. Every game, especially every exciting game, has its own temptation to cheat; and long records of miscounts in tallies, moving balls in croquet, crying out "no play" or "no fair" at critical moments to divert impending defeat, false claims made to umpires and scores of others, show how unscrupulous the all-constraining passion to excell often renders even young children. . . . . School life is responsible for very many, if not most, of the deliberate lies of this class. Children copy school work, and monitors get others to do theirs as pay for not reporting them, while if a boy is reported, he tells of as much disorder as possible on the part of others, to show that the monitor did not do his duty. . . . .

The long list of headaches, nosebleeds, stomach-aches, etc., feigned to get out of going to school, of false excuses for absences and tardiness, the teacher, especially, if disliked, being so often exceptionally game for all the arts of deception—all this seems generally prevalent. This class of lies ease children over rough places in life and are convenient covers for weakness and even vice. . . . .

Self-deception in play.—Much childish play owes its charm to partial self-deception. Children imagine or make believe that they are animals, making their noises and imitating their activities; that they are soldiers, and imagine panoramas of warlike events; that they are hunters in extreme peril from wild beasts; Indians, artisans, and tradesmen of many kinds; doctors, preachers. If hit with wooden daggers in the game of war they stand aside and play they are dead. . . . . They baptize cats, bury dolls, have puppet shows with so many pins for admission, all with elaborate details. They dress up and mimic others, often older people, ride on the horse cars and imagine them fine carriages, get up doll hospitals and play surgeon or Florence Nightingale. The more severe the discipline of the play-teacher and the more savage the play-mother, the better the fun. . . . . It seems almost the rule that imaginative children are more likely to be dull in their school work, and that those who excell in it are more likely to have fewer or less vivid images of their own. . . . . One early manifestation of the shadowy falsity to fact of the idealizing temperament is often seen in children of three or four, who suddenly assert that they saw a pig with five ears, a dog as big as a horse, or, if older, apples on a cherry tree, and other Munchausen wonders, which really means at once but little more than that they have thought or made that mental combination independently of experience. They come to love to tell semiplausible stories, and perhaps, when the astonishment is over, to confess. . . . . We might almost say of children at least, somewhat as Froschamer argues of mental activity, and even of the universe itself, that all their life is imagination. . . . .

Pathological lying in children.—A less common class of what we call pathological lies was illustrated by about a score of cases in our returns. The love of showing off and seeming big, to attract attention or to win admiration, sometimes leads children to assume false characters (e.g., on going to a new town or school), kept up with difficulty by many false pretenses awhile, but likely to collapse having become transparent, and getting the masker generally disliked. A few children, especially girls, are honeycombed with morbid self-consciousness and affectation, and seem to have no natural character of their own, but to be always acting a part and attracting attention; boys prefer fooling, and humbugging by tricks and lies, sometimes of almost preternatural acuteness and cleverness. . . . .

Palliative lying.—Finally children have many palliatives for lies that wound the conscience. . . . . An acted lie is far less frequently felt than a spoken one, so to nod is far less sinful than to say "yes"; to point the wrong way when asked where someone has gone is less guilty than to say wrongly.

Pantomimed lies are, in short, for the most part easily gotten away with. It is very common for children to deny in the strongest and most solemn way wrongs they are accused of. . . . .

Sisson treats of lying in children as follows:

Truthfulness.—The first thing to say about the habit of truthfulness is that it is not a habit, but something far greater; as Richter says in his golden chapter on this virtue, "Truthfulness—that is, deliberate and self-sacrificing truthfulness,—is not so much a branch as rather the very flower of manly moral strength. Weaklings cannot but lie, let them hate it as they will. Under stress of trial and temptation, no habit, nor set of habits, will stand; only ideals and principles will then hold a man firm in the truth. Nevertheless there is justification in treating truthfulness along with habits; and, first, because lying is a habit in some defective or ill-starred children.

The child naturally tells the truth as a part of his basic suggestibility; every idea tends to utter itself in word or deed; so when he has seen, or heard, or experienced anything whatsoever, and has the image of it in his mind, he naturally puts the image into words. Similarly, when he has in mind an intention or plan for the future, it is natural for him upon occasion to express that in words also. This we believe to be absolutely true, and profoundly important in any study of the real nature of truthfulness and its contraries. But here, as with so many other natural tendencies, we must at once recognize the existence and power of conflicting forces that are just as natural. In childhood this natural tendency to truth is almost as fragile as the glassy surface of still water, on which the slightest breath of air will stir a thousand ripples, distorting and effacing the clear image that was just now mirrored in the pool. So impulses and contingencies blow in upon the mirror of truthfulness of the child's soul, and break its clear images into contradictions, exaggerations, equivocations, fantasies, evasions, and all other forms of untruth. Two questions may be asked: first, What are the chief enemies of truthfulness in the child's life? and, second, How may the frail original tendency to truth telling be invigorated and reënforced into that devotion to the truth that is so indispensable to human character?

Rôle of imagination, fear, and desire.—Three elements threaten the child's natural truthfulness: imagination, fear, and desire. The first produces images that do not correspond with reality, and these images have just the same suggestive power as the real, and lead to the "romancing" that is so marked in certain children—naturally those possessing vivid fancy. Many parents are familiar with this type of untruth: Richter tells of a little girl, truthful in all ordinary matters, who told him enthusiastic stories of how she had seen the Christ Child and what he had said and done. . . . . Frequently children have told the writer of having seen God, their dead parents or heard God speaking to them. Subsequent analysis developed the fact that these were mere fantasies and either due to wish fulfillment or suggestion plus superstition and

not real hallucinations such as the psychiatrist examining children has been heard to call them. The same children even tell of seeing these personages when lying with eyes closed, after prayer, and having been told that at such times such events would occur, or that the voices "seem to come from inside of me and are not like real people."

Sometimes these fancy-pictures are told with evident consciousness of their fiction, or even humor; Sully tells of a little boy, who, when asked who told him something, answered, "Dolly"; then burst into a laugh. All these forms of untruth must be regarded as part of the child's play, on exactly the same footing as his other make believes. Only when they take the shade of real attempt to deceive should they be rebuked and discouraged. To quote Richter: "In all these cases, do not hold before the child the image of the lie in its own forbidding blackness, but simply say; 'don't joke about it any more, but be serious.' " The same talented writer made the interesting suggestion that children's fantastic narratives may sometimes be dreams which their immature minds have not been able to distinguish from actual experiences.

Far more serious are the falsehoods generated by fear and desire, and especially the former. Here let us parents and teachers take to heart that weighty declaration of the Gospel: 'Woe unto him that causeth one of these little ones to stumble!" Avoid as far as may be the inquisitorial question that tempts so sorely to denial of conscious wrong; learn the facts, if you possibly can, without cross-examination of the culprit. It would seem that the criminal court, which does not require the prisoner to testify against himself, is more considerate of human frailty in the adult than the parental and pedagogical judiciary is of the tender conscience of the child! Above all, let parents and teachers keep green in the memory of their own childhood fears and the terrors of parental rebuke and displeasure.

To punish the lie of fear is attempting to cure one wound by inflicting another; it commissions new fear to aid the old one in its attack upon truth. The most effective remedy is the grief that the parent should feel, and wisely manifest, that his child should be so lightly bound to him; and the tender endeavor to renew and strengthen those ties of affection and trust that would make repetition of the fault impossible. Courage and honor must also be called upon to condemn and forbid stooping to deceit in order to escape penalty.

Lie of deliberation and cunning.—Very different is the lie of deliberation or cunning, told to escape consequences of wrong or avoid unpleasantness of any sort; such lies point to that most perilous of all states, in which shrewdness has outrun conscience, and character is menaced by excess of intellect over principle. Here sharp rebuke and cutting penalty are in place; especially must the child feel the contempt and abhorrence of his elders for the lie, not, be it noted, for him, but for the act; he must be helped to convict and expel the wrong deed and so make it foreign to his own being, and to aid in

this the condemnation must be leveled at the deed rather than the young doer.

Lie of escape.—It need hardly be said that in all cases of escape-lies it is highly important that the escape should fail and the lie prove futile. Letting the children pull the wool over one's eyes is doubly dangerous through the encouragement it lends to dishonesty and deceit. This evil is extreme in certain forms of "self-reporting," as when children in school answer the roll call at night with a statement of the number of times they have whispered; honest confession is penalized, a premium put on smug deceit, and a general decay of faith in righteousness ensues. Neither parent nor teacher can afford to forget to be wise as serpents, as well as harmless as doves.

Still worse is the contrary error of distrust and suspicion toward the children. It is a very commonplace experience that children will deceive one who suspects them when they would scorn to tell anything but the truth to those who trust in them. It is unfortunate for the parent or teacher to be deceived by the child, but it is ten times worse that lack of confidence on the side of the elder should breed lack of candor and good faith in the younger.[1]

[1] The following workers give interesting material upon lying in children, false accusations made by them, etc.: Duprat, Baumgarten, Key, Healey, and Locard (the first and last two give cases of pathological lying in children). Many jurists distrust the testimony of children as given in court.

CHAPTER III

SEX DIFFERENCES IN LYING

The question often arises in the mind of the police investigator, jurist, or those who have to conduct cross-examinations as to whether sex itself plays a rôle in the reaction of the witness. Here we are more concerned with deception.

After some ten years of cross-examination of various types of guilty subjects and lying witnesses, the writer finds no definite diagnostic criteria from records secured from a deception test whereby lying males can be differentiated from lying females.

However, having worked with liars of all ages and both sexes in the criminal laboratory (using artificial stimuli), with juveniles from homes and courts, with police and court suspects, and with lying recidivists in the penitentiary, the writer would prefer to attempt to secure a confession from a male or even a male recidivist than from a first-time female offender. This is not necessarily due to diffidence on the part of the writer in examining a woman, or because of any other personal factors, but to the greater difficulty in securing a confession. A college girl or other woman offender may be logically pinned down to a point where psychologically and practically a confession would ordinarily ensue on the part of a male, but by subterfuges, evasions, and often in spite of gross contradictions a girl or woman will confess, deny, evade, and retract for hours, with no apparent motivation and even in the face of her own confession and with the restoration of the stolen property. This is but an opinion with no statistical background and no objective proof, merely the impression of the writer.

Although considerable has been written concerning this rôle of sex as a factor of importance in the examination of witnesses, a careful scrutiny of the available material reveals no data of objective value which affords a basis for a discrimination against woman as a worker. As a matter of fact, there is much contradictory testimony in the discussion of this question.

In speaking of honesty, Gross says:

Honesty in women.—We shall speak here only of the honesty of the sort of woman the courts have most to do with, and in this regard there is little to give us joy. Not to be honest, and to lie, are two different things; the latter

is positive, the former negative; the dishonest person does not dare to tell the truth, the liar tells the untruth. It is dishonest to suppress a portion of the truth, to lead others into mistakes, to fail to justify appearances, and to make use of appearances. The dishonest person may not have said an untrue word and still have introduced many more difficulties, confusions and deceptions than the liar. He is for this reason more dangerous than the latter. Also, because his conduct is more difficult to uncover and because he is more difficult to conquer than the liar. Dishonesty is, however, a specially feminine characteristic, and in men occurs only when they are effeminate. Real manliness and dishonesty are concepts which cannot be united. Hence, the popular proverb says, "Women always tell the truth, but not the whole truth." And this is more accurate than the accusations of many writers, that women lie. I do not believe that the criminal courts can verify the latter accusation. I do not mean that women never lie—they lie enough—but they do not lie more than men do, and none of us would attribute lying to women as a sexual trait. To do so would be to confuse dishonesty with lying.

It would be a mistake to deal too sternly in court with the dishonesty of women, for we ourselves and social conditions are responsible for much of it. We dislike to use the right names of things and choose rather to suggest, to remain in embarrassed silence, or to blush. Hence, it is too much to ask that this roundaboutness should be set aside in the courtroom where circumstances make straight talking even more difficult. According to Lombroso, women lie because of their weaknesses, and because of menstruation and pregnancy, for which they have in conversation to substitute other illnesses, because of the feeling of shame, because of the sexual selection which compels them to conceal age, defects, diseases, because finally of their desire to be interesting, their suggestibility, and their small powers of judgment. All these things tend to make them lie, and then as mothers they have to deceive their children about many things. Indeed, they themselves are no more than children, Lombroso concludes. But it is a mistake to suppose that these conditions lead to lying, for women generally acquire silence, some other form of action, or the negative propagation of error. But this is essentially dishonesty. To assert that deception, lying, have become physiological properties of women is, therefore, wrong. According to Lotze, women hate analysis and hence cannot distinguish between the true and false, but then women hate analysis only when it is applied to themselves. A woman does not want to be analyzed herself simply because the analysis would reveal a great deal of dishonesty; she is therefore a stranger to thoroughgoing honest activity. But for this men are to blame. Nobody, as Flaubert says, tells women the truth. And when once they hear it, they fight it as something extraordinary. They are not even honest with themselves. But this is not only true in general; it is true also in particular cases which the courtroom sees. We ourselves make honesty difficult to women before the court. . . . . Any half-experienced criminal justice knows that much more progress can be made by simple and

absolutely open discussion. A highly educated woman with whom I had a frank talk about such a matter said at the end of this very painful sitting, "Thank God, that you spoke frankly and without prudery—I was very much afraid that by foolish questions you might compel me to prudish answers and hence to complete dishonesty."

We have led women so far by our indirection that, according to Stendthal, to be honest is with them identical with appearing naked in public. Balzac asks, "Have you ever observed a lie in the attitude and nature of women? Deceit is as easy to them as falling snow in Heaven." But this is true only if he means dishonesty. It is not true that it is easy for women really to lie. I do not know whether this fact can be proven, but I am sure the feminine malease in lying can be observed. The play of features, the eyes, the breast, the attitude, betrays almost even the experienced female offender. Nor, nothing can reveal the play of her essential dishonesty. If a man once confesses, he confesses with less constraint than a woman, and he is less likely, even if he is very bad, to take advantage of false favorable appearances, while a woman accepts them with the semblance of innocence. If a man has not altogether given a complete version, his failure is easy to recognize by his hesitation, but the opinions of women always have a definite goal, even though they should tell us only a tenth of what she might know and say.

Even her simplest affirmation or denial is not honest. Her "no" is not definite; e.g., her "no" to a man's demands. Still further, when a man affirms or denies and there is some limitation to his assertion. He either announces it expressly or the more trained ear recognizes its presence in the failure to conclude, in a hesitation of the tone. But the woman says "yes" and "no" even when only a small portion of one or the other asserts a truth behind which she can hide herself, and this is a matter to keep in mind in the courtroom.

Also the art of deception or concealment depends on dishonesty rather than on pure deceit, because it consists much more in the use of whatever is at hand, and in suppression of material, than in direct lies. So, when the proverb says that a woman was ill only three times during the course of the year, but each time for four months, it will be unjust to say that she intentionally denies a year-long illness. She does not, but, as a matter of fact, she is ill at least thirteen times a year, and besides her weak physique causes her to feel frequently unwell. She does not lie about her illness. But then she does not immediately announce her recovery and permits people to nurse, to protect, her even when she has no need of it. Perhaps she does so because, in the course of centuries, she found it necessary to magnify her little troubles in order to protect herself against brutal men, and had, therefore, to forge the weapon of dishonesty. So Schopenhauer agrees: "Nature has given women only one means of protection and defense—hypocrisy, this is congenital with them, and the use of it is as natural as the animal's use of its claws. Women feel they have a certain degree of justification for their hypocrisy."

With this hypocrisy we have, as lawyers, to wage a constant battle. Quite apart from the various ills and diseases which women assume before a judge, everything else is pretended; innocence, love of children, spouses, and parents; pain at loss and despair at reproaches; a breaking heart at separation; and piety,—in short, whatever may be useful. This subjects the examining justice to the dangers and difficulties of being either too harsh or being fooled. He can save himself much trouble by remembering that in this simulation there is much dishonesty and few lies. The simulation is rarely thoroughgoing, it is an intensification of something actual there.

Weeping in women.—And now think of the tears which are wept before every man, and not least before the criminal judge. Popular proverbs tend to undervalue, often to distrust, tearful women. Mantegazza (*Fisiologia deldolore* [Firenze, 1880]) points out that every man over thirty can recall scenes in which it was difficult to determine how much of women's tears meant real pain and how much was voluntarily shed. In the notion that tears represent a mixture of poetry and truth, we shall find the correct solution. . . . .

Fainting in the witness chair.—As with tears, so with fainting. The greater number of fainting fits are either altogether false or something between fainting and wakefulness. Women certainly, whether as prisoners or witnesses, are often very uncomfortable in court, and if the discomfort is followed immediately by illness, dizziness, and great fear, fainting is natural. If only a little exaggeration, autosuggestion, relaxation, and the attempt to dodge the unpleasant circumstances are added, then the fainting fit is to order, and the effect is generally in favor of the fainter. Although it is wrong to assume beforehand that a fainting is a comedy, it is necessary to beware of deception.

In his monograph, *Le Mensonge*, Duprat treats of this question as follows:

Sex and lying.—Popular conception upon this point is unfavorable to the feminine sex; man is considered as more inclined to loyalty, to truth, to frankness extending sometimes to brutality; woman is suspected of a leaning for deceptions of all sorts, chiefly to simulation, to deceptive invention.

It is to be feared that in passing these judgments so pessimistically upon women that one has been the victim of numerous inductive sophisms, of hasty generalizations. Incontestably, certain women push the lie farther, in general, than men who have not been born too effeminate, nor too degenerate. The wily and crafty woman is met in history, in daily life in all ranks of society. A swindle of a hundred million is a mere trifle with the resources of cunning and feminine simulation. But woman is especially dangerous when, to the power of dissimulation or lying invention, she joins the power which she derives from love (Lourbet, *The Problem of the Sexes* [Paris: Girad and Brière, 1900]). Often in order to avoid dangers, protect her honor, or her life; to gain her ends, she is obliged to have recourse to the arms which deception furnished her.

Civilized woman is actually a social product more than a being upon whom sex physiological characteristics exert their influence. Woman experiences very keenly the desire to have recourse to deception, in which she knows herself superior to man, because it is necessary for her to parry his brutality, insolence, unjust hardship, immoral experience. . . . Woman has become deceitful, as do beings belonging to species or races fallen because they have long been oppressed, as a consequence of social conditions, in which the feminine sex has been obliged in general to evolve. . . . .

Thus, it is not necessary to incriminate the feminine sex, no more than the race; the woman of our days and of our country is only deceitful or sly in the measure that she is frivolous, and she is frivolous because of the lack of suitable education.

It was remarked by Chancellor Zabrielskie of New Jersey as not unnatural that weak and ignorant man should resort to falsehood as a protection against adversaries of superior knowledge and sagacity.

Wigmore, in regard to the lies of women, states:

Lying and sex.—Schopenhauer also said that a perjury in a court of justice is more often committed by a woman than a man, and that it, indeed, be generally questioned whether woman ought to be sworn at all. Like the unenlightened observers of the epileptic and the insane in former days, he ascribed woman's shortcomings, physical and intellectual, to fundamental and innate characteristics. Spencer, who found his data in England, advances reasons for believing that the physical and mental infirmities of women are the outcome of environment and heredity, not of fundamental differences based on sex. Darwin expressed the same opinion, which he placed upon a strictly scientific basis. Mascardus said: "Feminis plerumque omnibus non creditur, et id dumtaxat, quod sunt feminae, quae ut plurimum solent esse fraudulentae fallaces, et dolosae." Byron once said, "Believe a woman or an epitaph; or any other thing that's false."

The following paragraphs, which treat of woman as a witness, were selected from Wigmore's *Principles of Judicial Proof.*

Mr. Train says: "Women in the witness chair are prone to swear to circumstances as facts of their own knowledge, simply because they confuse what they have really observed with what they believe did occur or should have occurred, or with what they are convinced did happen simply because it was accustomed to happen in the past."

If the foregoing are sound we ought to find some confirmation of them among the immense number of reported opinions of judges of courts, of first instances in the last hundred years. The author of this work has read all of the reported opinion. With his attention alert to notice any judicial expression derogatory to the testimony of any class of witnesses, the author certifies that he has not seen a single allusion to constitutional limitations of women as trustworthy witnesses.

Judges nowadays, as well as professional psychologists, are fully aware that all human beings are prone to do exactly what Mr. Train attributes especially to women, namely, to substitute inference for recollection. This vice and kindred observations are not peculiar to women, according to a great number of reported cases.

From the theological side, Gury (*Theologie Morale*, p. 381) states: "A confessor must not immediately believe a woman's words, for women are habitually inclined to lie."

Wigmore, quoting Arthur Train, continues:

Woman as a witness.—Roughly speaking, women exhibit about the same idiosyncrasies and limitations in the witness chair as the opposite sex, and at first thought one would be apt to say that it would be fruitless and absurd to attempt to predicate any general principles in regard to their testimony; but a careful study of female witnesses as a whole will result in the inevitable conclusion that their evidence has virtues and limitations peculiar to itself.

1. Whatever difference does exist in character between the testimony of men and women has its root in the generally recognized diversity in the mental processes of the two sexes. Men, it is commonly declared, rely upon their powers of reason; women upon their intuition. Not that the former is frequently any more accurate than the latter. But our courts of law (at least those in English-speaking countries) are devised and organized, perhaps unfortunately, on the principle that testimony not apparently deduced by the syllogistic method from the observation of relevant fact is valueless, and hence woman at the very outset is placed at a disadvantage and her usefulness as a probative force sadly crippled. The good old lady who takes the witness chair and swears that she knows the prisoner took her purse has perhaps quite as good a basis for her opinion and her testimony (even though she cannot give a single reason for her belief and becomes hopelessly confused on cross-examination) as the man who reaches the same conclusion ostensibly by virtue of having seen the defendant near by, observed his hand reaching for the purse, and then perceived him take to his heels. She has never been taught to reason and has really never found it necessary, having wandered through life by inference or, more frankly, by guesswork, until she is no longer able to point out the simplest stages of her most ordinary mental processes.

2. As the reader is already aware, the value of all honestly given testimony depends, first, upon the witness's original capacity to observe the facts; second, upon his ability to remember what he has seen and not to confuse knowledge with imagination, belief, or custom; and, lastly, upon his power to express what he has, in fact, seen and remembers. Women do not differ from men in their original capacity to observe, which is a quality developed by the training and environment of the individual. It is in the second class of the witness's limitations that women as a whole are more likely to trip than men,

for they are prone to swear to circumstances as facts, of their own knowledge, simply because they confuse what they have really observed with what they believe did occur or should have occurred, or with what they are convinced did happen simply because it was accustomed to happen in the past. . . . .

3. Though the conclusions to which women frequently jump may usually be shown by careful interrogation to be founded upon observation of actual fact, their habit of stating inferences often leads them to claim knowledge of the impossible—"wiser in [their] own conceit than seven men that can render a reason."

In a very recent case where a clever thief had been convicted of looting various apartments in New York City of over eighty thousand dollars' worth of jewelry, the female owners were summoned to identify their property. The writer believes that in every instance these ladies were absolutely ingenuous and intended to tell the absolute truth. Each and every one positively identified various of the loose stones found in the possession of the prisoner as her own. This was the case even when the diamonds, emeralds, and pearls had no distinguishing marks at all. It was a human impossibility actually to identify any such objects, and yet these eminently respectable and intelligent gentlewomen swore positively that they could recognize their jewels. They drew the inference merely that as the prisoner had stolen similar jewels from them these must be the actual ones which they had lost, an inference very likely correct, but valueless in a tribunal of justice.

Where their inferences are questioned, women, as a rule, are much more ready to "swear their testimony through" than men. They are so accustomed to act upon inference that, finding themselves unable to substantiate their assertion by any sufficient reason, they become irritated, "show fright," and seek refuge in prevarication. Had they not, during their entire lives, been accustomed to mental short cuts, they would be spared the humiliation of seeing their evidence "stricken from the record."

One of the ladies referred to testified as follows:

"Can you identify that diamond?" "I am quite sure that it is mine." "How do you know?" "It looks exactly like it." "But may it not be a similar one and not your own?" "No; it is mine." "But how? It has no marks." "I don't care. I know it is mine. I SWEAR IT IS!"

The good lady supposed that, unless she swore to the fact, she might lose her jewel, which was, of course, not the case at all, as the sworn testimony founded upon nothing but inference left her in no better position than she was in before.

4. The writer regrets to say that observation would lead him to believe that women as a rule have somewhat less regard for the spirit of their oaths than men, and that they are more ready, if it be necessary, to commit perjury. This may arise from the fact that women are fully aware that their sex protects them from the same severity of cross-examination to which men would be subjected under similar circumstances. It is to-day fatal to a lawyer's case if he be not invariably gentle and courteous with a female witness, and this is true even if she be a veritable Sapphira.

5. In spite of these limitations, which, of course, affect the testimony of almost every person, irrespective of sex, women, with the possible exception of children, make the most remarkable witnesses to be found in the courts. They are almost invariably quick and positive in their answers, keenly alive to the dramatic possibilities of the situation, and with an unerring instinct for a trap or compromising admission.

A woman will inevitably couple with a categorical answer to a question, if in truth she can be induced to give one at all, a statement of damaging character to her opponent. For example: "Do you know the defendant?" "Yes—to my cost!"

The writer remembers being nicely hoisted by his own petard on a similar occasion: "What do you do for a living?" he asked. The witness, a rather deceptively arrayed woman, turned upon him with a glance of contempt: "I am a respectable married woman, with seven children," she retorted. "I do nothing for a living except cook, wash, scrub, make beds, clean windows, mend my children's clothes, mind the baby, teach the four oldest their lessons, take care of my husband, and try to get enough sleep to be up by five in the morning. I guess if some lawyers worked as hard as I do, they would have sense enough not to ask impertinent questions."

6. To recapitulate, the quickness and positiveness of women make them ordinarily better witnesses than men; they are vastly more difficult to cross-examine; their sex protects them from many of the most effective weapons of the lawyer, with the result that they are the more ready to yield to prevarication; and, even where the possibility of complete and unrestricted cross-examination is afforded, their tendency to inaccurately inferential reasoning, and their elusiveness in dodging from one conclusion to another, render the opportunity of little value.

In general, however, women's testimony differs little in quality from that of men, all testimony being subject to the same three great limitations irrespective of the sex of the witness, and the conclusions set forth above are merely the result of an effort on the part of the writer to comment somewhat upon those small differences which, under close scrutiny, may fairly be said to exist. These differences are quite as noticeable at the breakfast table as in the court room; and are no more patent to the advocate than to the ordinary male animal whose forehead habitually reddens when he hears the unanswerable reason which, in default of all others, explains and glorifies the mental action of his wife, sister, or mother: "Just because!"

CHAPTER IV

PHYSICAL CONCOMITANTS OF EMOTION

At the present time the psychological and psychiatric literature, especially in the experimental field, is becoming more voluminous. More and more the psychobiological levels of personality integration, such as described by Adolf Meyer in his lectures to the Johns Hopkins medical students, are being studied experimentally. From time to time, and especially recently, there appears to be a concentration of attack along physiological and pathological levels, as shown by such studies as those on the effects of drugs; basal metabolic studies; biochemical studies of the blood with especial reference to potassium and calcium; and studies by the psychogalvanic-reflex method which is being discarded by some and improved by others.

For years C. G. MacArthur has discussed with the writer the possibilities for avoiding the chief objections to the present procedure. He has been interested in applying an electrode directly to brain tissue whenever possible. Now many investigators are turning to studies of cardiorespiratory changes, endocrine studies, etc. However, in one type of deception the situation becomes clinical in character since definite emotional factors are present and these vary in different individuals, in contrast to the absence of these same emotional factors in many of the artificial deception studies of the usual psychological laboratory. Here, then, a different set of factors, or more than one, may be detected by the use of artificial stimuli.

A survey of the entire field is not possible in this book. The material of this chapter is merely suggestive of the possibilities of research using physiological criteria in the study of emotion in personality integration.

The literature is voluminous and confusing. A survey of some of the experimental attacks, together with experimental studies of the personality, making use of physiological criteria, has been reported by Larson and Haney.[1]

In the field of emotion most of the pioneer work was done by James, Darwin, Lange, Freud, Jung, Alfred Adler, Janet, Kraeplin, Adolf

[1] J. A. Larson and George W. Haney, "Polygraphic Studies of Personality Deviates." A paper read at the meeting of the American Psychiatric Association held at Toronto, June 2, 1931, and accepted for publication in the *American Journal of Psychiatry*.

Meyer, Kretschmer, Stern, Claparède, Ribot, Münsterberg, Cannon, and Bekhterev. The work of these men furnished a basis for discussion which has never subsided, and many contemporary psychologists and psychiatrists have contributed experimental data and philosophies. One should read the *Wittenberg Symposium on Feelings and Emotions* for a number of interesting discussions in this field. In these papers by thirty-four psychologists one will find a presentation of current theories and problems. One cannot help but feel, however, that no added light has been thrown on the problem by this discussion. In this connection the first paper of the *Symposium* will prove interesting. However, the whole material of the book is so well organized that it would be difficult to cite any one writer or opinion, and the entire account is well worth reading.

The purpose of the present chapter is not to discuss the field of emotions with all the problems involved, but merely to indicate that, regardless of theories and viewpoints, emotional changes may be associated with physiological changes. These physiological criteria may be studied objectively, and the following excerpts offer illustrative material.

James-Lange on emotion.—Our natural way of thinking about these coarser emotions is that the mental perception of some fact excites the mental affection called the emotion, and that this latter state of mind gives rise to the bodily expression. My theory, on the contrary, is that *the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion.* . . . . Were we to go through the whole list of emotions which have been named by men, and study their organic manifestations, we should but ring the changes on the elements which these three typical cases involve. Rigidity of this muscle, relaxation of that, constriction of arteries here, dilation there, breathing of this sort or that, pulse slowing or quickening, this gland secreting and that one dry, etc., etc. We should, moreover, find that our descriptions had no absolute truth; that they only applied to the average man; that every one of us, almost, has some personal idiosyncrasy of expression, laughing or sobbing differently from his neighbor, or reddening or growing pale when others do not. . . . . *If we fancy some strong emotion, and then try to abstract from our consciousness of it all the feelings of its bodily symptoms, we find we have nothing left behind*, no "mind-stuff" out of which the emotion can be constituted, and that a cold and neutral state of intellectual perception is all that remains.

After a description[1] of the bodily disturbances associated with sorrow, joy,

[1] *The Emotions* (a reprinting of selections from the writings of William James and Carl George Lange), "Psychologic Classics," Vol. Q. Edited by Knight Dunlap, Johns Hopkins University (Baltimore: Williams & Wilkins Co., 1922), and reviewed by J. F. Dashell, *Journal of Abnormal Psychology and Social Psychology*, XVII, No. 4 (1923). The foregoing paragraph was selected from the review.

fright, and anger, Lange analyzes these into disturbances of muscular innervation of the voluntary, vasomotor, and organic types, finally isolating the vasomotor as the "real, primary effects of the affections, whereas the other phenomena . . . . are only secondary disturbances." . . . . Lange states his thesis that "We owe all the emotional side of our mental life, our joys and sorrows, our happy and unhappy hours, to our vasomotor system." The main point of difference between Lange and James is, of course, that between the narrower and the broader recognition of the bodily processes involved. The James-Lange treatment of emotion still holds the stage, in spite of certain inconclusive experimental data that have been pointed against it. Other and entirely different interpretations, as the psychoanalytic, may be developed, but for any complete theory of the emotional nature of man, account must be taken of the physiological basis here emphasized.

Cannon's theory.—It is to the masterly work of W. B. Cannon that we are indebted for a definite theory which involves the rôle played by sympathetic innervation, stimulation of the adrenal glands with the resultant liberation of more adrenalin, action of this adrenalin upon the liver and the liberation of more sugar to furnish the requisite energy with which to meet the new exigency. The initial emotional stimulus may be one of fear, anger, etc. The following excerpts are taken from his work, *Bodily Changes in Pain, Hunger, Fear, and Rage:*

That the adrenal glands are subject to splanchnic influence has been demonstrated anatomically and by the physiological effects of their secretion after artificial stimulation of the splanchnic nerves. Impulses are normally sent along these nerves, in the natural conditions of life, when animals become greatly excited as in fear, and rage and pain. There is every probability, therefore, that these glands are stimulated to extra secretion at such times Both by an exceedingly delicate biological test (intestinal muscle) and by an examination of the glands themselves, clear evidence has been secured that in pain and deep emotion the glands do, in fact, pour out an excess of adrenin into the circulating blood; and a secretion given forth into the blood stream by these glands, which is capable of inducing by itself, or of augmenting, the nervous influences which induce the very changes in the viscera which accompany suffering and the major emotions . . . . every one of these visceral changes is *directly serviceable in making the organism more effective in the violent display of energy which fear or rage or pain involve.*

. . . . From the evidence just given it appears that any high degree of excitement in the central nervous system, whether felt as anger, terror, pain, anxiety, joy, grief or deep disgust, is likely to break over the threshold of the sympathetic division and disturb the functions of all the organs which that division innervates. . . . . If various strong emotions can thus be expressed in the diffused activities of a single division of the autonomic—the division

which accelerates the heart, inhibits the movements of the stomach and intestines, contracts the blood vessels, erects the hairs, liberates sugar, and discharges adrenin—it would appear that the bodily conditions which have been assumed by some psychologists, to distinguish emotions from one another, must be sought for elsewhere than in the viscera. We do not "feel sorry because we cry" as James contended, but we cry when we are sorry or overjoyed or violently angry or full of tender affection. When any one of these diverse emotional states is present, there are nervous discharges by sympathetic channels to various viscera, including the lachrymal glands. In terror and rage and intense elation, for example, the responses in the viscera seem too uniform to offer a satisfactory means of distinguishing states which, in man at least, are very different in subjective quality. For this reason I am inclined to urge that the visceral changes merely contribute to an emotional complex more or less indefinite, but still pertinent, i.e., feelings of disturbances in organs of which we are not usually conscious. . . . .

The typical facial and bodily expressions, automatically assumed in different emotions, indicate the discharge of peculiar grouping of neurones in the several affective states. That these responses occur instantly and spontaneously when the appropriate "situation," actual or vividly imagined, is present, shows that they are ingrained in the nervous organization. At least one such pattern, that of anger, persists after removal of the cerebral hemispheres —the decorticated dog, by growling and biting when handled, has the appearance of being enraged.

As Cannon mentions, if the machinery of the emotional syndrome lies in the cortex at all, extirpation of the hemispheres destroys the pattern response of these more complicated emotions. Although Cannon's views are vitally discussed, not all leading psychologists approve. Since fear may play a large rôle in the deception syndrome, the following symptoms of fear enumerated by Darwin and quoted by James seem of interest.

Darwin on emotion.—Fear is often preceded by astonishment, and is so far akin to it that both lead to the senses of sight and hearing being instantly aroused. In both cases the eyes and mouth are widely opened and the eyebrows raised. The frightened man at first stands like a statue and breathless, or crouches down as if instinctively to escape observation. The heart beats quickly and violently so that it palpitates or knocks against the ribs; but it is very doubtful if it then works more efficiently than usual, so as to send a greater supply of blood to all parts of the body, for the skin instantly becomes pale as during incipient faintness. . . . .

That the skin is much affected by the sense of great fear we see in the marvelous manner in which perspiration exudes from it. This exudation is all the more remarkable, as the surface is then cold and hence the term "a

cold sweat." The hairs also on the skin stand erect and the superficial muscles shiver. In connection with the disturbed action of the heart the breathing is hurried. The salivary glands act imperfectly, the mouth becomes dry and is often opened and shut. I have also noticed that under slight fear there is a strong tendency to yawn. One of the best marked symptoms is the trembling of all of the muscles of the body; and this is often seen in the lips as the first place affected. From this cause, and from the dryness of the mouth, the voice becomes husky or indistinct or may altogether fail. . . . . As fear increases into an agony of terror, we behold, as under all violent emotions, diversified results. The heart beats wildly, or must fail to act and faintness ensues; there is a deathlike pallor; the breathing is labored; the wings of the nostrils are widely dilated; there is a gasping and convulsive motion of the lips, a tremor of the hollow cheek, a gulping and catching of the throat. The uncovered and protruding eyeballs are fixed or they rove restlessly from side to side, *huc illuc volens totumque pererrat.*

The pupils are said to be enormously dilated. All the muscles of the body may become rigid or may be thrown into convulsive movements. The hands are alternately clenched and opened, often with a twitching movement. The arms may be protruded as if to avert some dreadful danger, or may be thrown widely over the head.

Gross points out that often much can be learned merely by observing the external reactions of a suspect. He says:

External conditions.—Every state of consciousness has its physical correlate, says Helmholtz, and this proposition contains the all in all of our problem. Every mental event must have its corresponding physical event in some form, and is, therefore, capable of being sensed, or known to be indicated by some trace. Identical inner states do not, of course, invaribly have identical bodily concomitants, neither in all individuals alike, nor in the same individual at different times. Modern methods of generalization so invariably involve danger and incorrectness that one cannot be too cautious in this matter. . . . . Characteristically, the desire to fool others has also its predetermined limitations so that it often happens that simple and significant gestures contradict words when the latter are false, e.g., you hear somebody say, "She went down," but see him point at the same time, not clearly but visibly, up. Here the speech was false and the gesture true. The speaker has to turn all his attention on what he wanted to say so that the unwatched co-consciousness moved his hand in some degree.

A remarkable case of this kind was that of a suspect of child murder. The girl told that she had given birth to the child all alone, had washed it, and then laid it on the bed beside herself. She had also observed how a corner of the coverlet had fallen on the child's face, and thought it might interfere with the child's breathing. But at this point she swooned, was unable to help the child, and it was choked. While sobbing and weeping as she

was telling this story, she spread the fingers of her left hand and pressed it upon her thigh, as perhaps she might have done, if she had put something soft, the corner of a coverlet possibly, over the child's nose and mouth, and then pressed on it. This action was so clearly significant that it inevitably led to the question whether she hadn't choked the child in that way. She assented, sobbing.

Similar is another case in which a man assured us that he lived very peaceably with his neighbor and at the same time clenched his fist. The latter meant ill will toward the neighbor while the words did not.

It need not be urged that the certainty of a belief will be engendered if too much value is sanguinely set on such and similar gestures, when their observation is not easy. There is enough to do in taking testimony, and enough to observe, to make it difficult to watch gestures too. Then there is danger (because of slight practice) of easily mistaking indifferent or habitual gestures for significant ones; of supposing oneself to have seen more than should have been seen, and of making such observations too noticeably, in which case the witness immediately controls his gestures. In short, there are difficulties, but once they are surmounted, the effort to do so is not regretted.

It is to be recommended here, also, not to begin one's studies with murder and robbery, but with the simple cases of daily life, where there is no danger of making far-reaching mistakes, and where observations may be made more calmly. Gestures are especially powerful habits and almost everybody makes them, mainly not indifferent ones. It is amusing to watch a man at the telephone, his free hand makes the gestures for both. He clenches his fist threateningly, stretches one finger after another into the air if he is counting something, stamps his foot if he is angry, and puts his finger to his head if he does not understand—in that he behaves as he would if his interlocutor were before him. Such deep-rooted tendencies to gesture hardly ever leave us. The movements also occur when we lie; and inasmuch as a man who is lying at the same time has the idea of truth either directly or subconsciously before him, it is conceivable that this idea exercises much greater influence on gesture than the probably transitory lie. The question, therefore, is one of intensity, for each gesture requires a powerful impulse and the more energetic is the one that succeeds in causing the gesture.

Spencer's rule.—According to Herbert Spencer it is a general and important rule that any sensation which exceeds a definite intensity expresses itself ordinarily in activity of the body. This fact is the more important for us inasmuch as we rarely have to deal with light, superficial sensations. In most cases the sensations in question exceed a certain intensity so that we are able to perceive a bodily expression at least in the form of a gesture.

The old English physician, Charles Bell, is of the opinion that what is called the external sign of passion is only the accompanying phenomenon of that spontaneous movement required by the structure, or better, by the situation of the body. Later this was demonstrated by Darwin and his friends to

be the indubitable starting point of all gesticulation;—so, for example, the defensive action upon hearing something disgusting, the clenching of the fists in anger; or among wild animals, the baring of the teeth, or the bull's dropping of the head, etc. . . . .

How fine, for example, are the observations made by Herbert Spencer concerning the importance of the "timbre" of speech in the light of the emotional state—no one had ever thought of that before, or considered the possibilities of gaining anything of importance from this single datum which has since yielded such a rich collection of completely proved and correctly founded results. Darwin knew well enough to make use of it for his own purposes. He points out that the person who is quietly complaining of bad treatment, or is suffering a little, almost always speaks in a high tone of voice; and that deep groans or high and piercing shrieks indicate extreme pain. Now we lawyers can make just such observations in great number. Any one of us who has had a few experiences can immediately recognize from the tone of voice with which a newcomer makes his requests just about what he wants. The accused, for example, who by chance does not know why he has been called to court makes use of a questioning tone without really pronouncing his question. Anybody who is seriously wounded speaks hoarsely and abruptly. The secret tone of voice of the querulous, and of such people who speak evil of another when they are only half or not at all convinced of it, gives them away. The voice of a denying criminal has in hundreds of cases been proved through a large number of physiological phenomena to do the same thing for him; the stimulation of the nerves influences before all the characteristic snapping movement of the mouth which alternates with the reflex tendency to swallow. In addition it causes lapses in blood pressure and palpitation of the heart by means of disturbances of the heart action, and this shows clearly visible palpitation of the right carotid (well within the breadth of hand under the ear in the middle of the right side of the neck). That the left carotid does not show palpitation may be based on the fact that the right stands in much more direct connection with the aorta. All this, taken together, causes that so significant, lightly vibrating, cold and toneless voice which is so often to be perceived in criminals who deny their guilt. It rarely deceives the expert.

But these various timbres of the voice especially contain a not insignificant danger for the criminalist. Whoever once has devoted himself to the study of them trusts them altogether too easily for even if he has identified them correctly hundreds of times, it still may happen that he is completely deceived by a voice he holds as "characteristically demonstrative." That timbres may deceive, or simulations worthy of the name occur, I hardly believe. Such deceptions are often attempted and begun, but they demand the entire attention of the person who tries them, and that can be given only for a short time. In the very instant that the matter he is speaking of requires the attention of the speaker, his voice involuntarily falls into that tone demanded by its physical determinants: and the speaker significantly betrays

himself through just this alteration. We may conclude that an effective simulation is hardly thinkable.

It must, however, be noticed that earlier mistaken observations and incorrect inference at the present moment—substitutions and similar mistakes —may easily mislead. As a corroborative fact, then, the judgment of a voice would have great value; but as a means in itself it is a thing too little studied and far from confirmed.

There is, however, another aspect of the matter which manifests itself in an opposite way from voice and gesture. Lazarus calls attention to the fact that the spectators at a fencing match cannot prevent themselves from imitative accompaniment of the actions of the fencers, and that anybody who happens to have any swinging object in his hand moves his hand here and there as they do. Stricker makes similar observations concerning involuntary movements performed while looking at drilling or marching soldiers. Many other phenomena of the daily life—as, for example, keeping step with some pedestrian near us; with the movements of a pitcher, who with all sorts of twistings of his body wants to guide the ball correctly when it has already long ago left his hand; keeping time to music and accompanying the rhythm of a wagon knocking on cobblestones; even the enforcement of what is said through appropriate gestures when people speak vivaciously—naturally belong to the same class. So do nodding the head in agreement and shaking it in denial; shrugging the shoulders with a declaration of ignorance. The expression by word of mouth should have been enough to have needed no reinforcement through conventional gestures, but the last are spontaneously involuntary accompaniments.

Significance of gesticulation.—On the other hand there is the converse fact that the voice may be influenced through expression and gesture. If we fix an expression on our features or bring our body into an attitude which involves passional excitement we may be sure that we will be affected more or less by the appropriate emotion. This statement, formulated by Maudsley, is perfectly true and may be proved by anybody at any moment. It presents itself to us as an effective corroboration of the so-well-known phenomenon of "talking-yourself-into-it." Suppose you correctly imagine how a very angry man looks: frowning brow, clenched fists, gritting teeth, hoarse, gasping voice, and suppose you imitate. Then, even if you feel most harmless and order-loving, you become quite angry though you keep up the imitation only a little while. By means of the imitation of lively bodily changes you may in the same way bring yourself into any conceivable emotional condition, the outer expressions of which appear energetically. It must have occurred to every one of us how often prisoners present so well the excitement of passion that their earnestness is actually believed; as, for example, the anger of a guiltless suspect or of an obviously needy person, of a man financially ruined by his trusted servant, etc. Such scenes of passion happen daily in every court-house and they are so excellently presented that even an experienced

judge believes in their reality and tells himself that such a thing cannot be imitated because the imitation is altogether too hard to do and still harder to maintain.

But in reality the presentation is not so wonderful, and, taken altogether, is not at all skillful; whoever wants to manifest anger must make the proper gestures—and when he makes the gestures correctly the necessary conditions occur, and these stimulate and cause the correct manifestation of the latter gestures, while these again influence the voice. Thus without any essential mummery the comedy plays itself out, self-sufficient, correct, convincing.

Now this exciting gesticulation can be very easily observed, but the observation must not come too late. If the witness is once quite lost in it and sufficiently excited by the concomitant speeches he will make his gestures well and naturally and the artificial and untrue will not be discoverable. But this is not the case in the beginning; then his gestures are actually not skillful, and at that point definite force of will and rather notable exaggerations are observable; the gestures go farther than the words, and that is a matter not difficult to recognize. As soon as the recognition is made, it becomes necessary to examine whether a certain congruity invariably manifests itself between word and gesture inasmuch as with many people the above mentioned lack of congruity is habitual and honest. This is particularly the case with people who are somewhat theatrical and, hence, gesticulate too much. But if words and gesture soon conform one to another, especially after a rather lively presentation, you may be certain that the subject has skillfully worked himself into his alarm or whatever it is he wanted to manifest.

Significance of color.—In close relation to these phenomena is the change of color to which unfortunately great importance is often assigned (E. Claparède: "L'obsession de la rougeur," *Arch. de Psych. de la Suisse Romane* [1902], p. 307). In this regard paling has received less general attention because it is more rare and less suspicious. That it can not be simulated, as is frequently essential in discussions of simulation (especially of epilepsy), is not true, inasmuch as there exists an especial physiological process which succeeds in causing pallor artificially. In that experiment the chest is very forcibly contracted, the glottis is closed and the muscles used in inspiration are contracted. This matter has no practical value for us, on the one hand, because the trick is always involved with lively and obvious efforts, and, on the other, because cases are hardly thinkable in which a man will produce artificial pallor in court where it can not be of any use to him. The one possibility of use is in the simulation of epilepsy, and in such a case the trick can not be played because of the necessary falling to the ground.

Paling depends, as is well known, on the cramp of the muscles of the veins, which contract and so cause a narrowing of their bore which hinders the flow of blood. But such cramps happen only in cases of considerable anger, fear, pain, trepidation, rage; in short, in cases of excitement that no one ever has reason to simulate. Paling has no value in differentiation inasmuch as a man

might grow pale in the face through fear of being unmasked or in rage at unjust suspicion.

Blushing.—The same thing is true about blushing (Henle: *Über das Erröten* [Breslau, 1882]). It consists in a sort of transitory crippling of those nerves that end in the walls of small arteries. This causes the relaxation of the muscle-fibers of the blood vessels which are consequently filled with blood in a great degree. Blushing may also be voluntarily created by some individuals. In that case the chest is fully expanded, the glottis is closed and the muscles of expiration are contracted. But this matter again has no particular value for us since the simulation of a blush is at most of use only when a woman wants to appear quite modest and moral. But for that effect artificial blushing does not help since it requires such intense effort as to be immediately noticeable. Blushing by means of external assistance, e.g., inhaling certain chemicals, is a thing hardly anybody will want to perform before a court.

With regard to guilt or innocence, blushing offers no evidence whatever. There is a great troup of people who blush without any reason for feeling guilty.

Gross then discusses the widespread occurrence of this phenomenon and the variations with age, race, occupation, etc. He then continues:

Friedreich calls attention to the fact that people who are for the first time subject to the procedure of the law courts blush and lose color more easily than such as are accustomed to it, so that the unaccustomed scene also contributes to the confusion. Meynert (*Psychiatry* [Vienna], p. 884) states the matter explicitly: "The blush always depends upon a far-reaching association process in which the complete situation of the contemporaneously excited nervous elements constricts the orderly movement of the mental process, inasmuch as here also the simplicity of contemporaneously-occurring activities of the brain determines the scope of the function of association. How convincing this definition becomes clear on considering the processes in question. Let us think of some person accused of a crime to whom the ground of the accusation is presented for the first time, and to whom the judge after that presents the skillfully constructed proof of his guilt by means of individual bits of evidence. Now think of the mass of thoughts here excited, even if the accused is innocent. The deed itself is foreign to him, he must imagine that; should any relation to it . . . . be present in his mind, he must become clear concerning the relationship, while at the same time the possibilities of excuse—alibi, ownership of the thing, etc.—storm upon him. Then only does he consider the particular reasons of suspicion which he must, in some degree, incarnate and represent in their dangerous character, and for each of which he must find a separate excuse. We have here some several dozen of thought-series, which start their movement at the same time and through each other. If at that time an especially dangerous proof is brought, and if the accused, recognizing this danger, blushes with fear, the examiner thinks: "Now I have

caught the rascal, for he's blushing! Now, let's go ahead quickly, speed the examination and enter the confused answers in the protocol!" And who believes the accused when, later on, he withdraws the "confession" and asserts that he had said the thing because they had him mixed up. In this notion, "you blush, therefore you have lied; you did it," lie many sins the commission of which is begun at the time of admonishing little children and ending with the confessions "of the murderous thief."

Norris in his book on *Blood Pressure* makes some interesting observations regarding blood pressure in pain and simulated pain. He says:

Simulated pain.—In the neuroses unequal radial pressure on the two sides is often found as well as a general lability of pressure. These signs may be of use in diagnosticating between neurosis and simulation. Pain produces a rise of blood pressure and an increased pulse rate. Simulated pain does not. This fact has been turned to practical application in the detection of malingering in relation to industrial insurance. In persons with normal sensibility the blood pressure under the application of faradic stimulation to the upper thigh rises from 8 to 15 mm. In organic affections of the spinal cord, multiple sclerosis, hysteria, etc., it remains unaffected when stimulation is applied to analgesic regions.

If the systolic pressure is taken in one arm and simultaneously the diastolic pressure in the other (for celerity of procedure), and the subject is emotionally disturbed by conversation, gesture, or the application of ice to the abdomen, (1) marked variations of the maximum pressure are said to indicate abnormal stimulability; (2) if the diastolic pressure meanwhile remains unaltered the vascular system is normal; (3) if the diastolic pressure shows sudden variations of over 15 per cent of the systolic pressure we are dealing with arteriocapillary sclerosis. Landerer found abnormal arteriocapillary pressure relations in neuroses.

The foregoing excerpts are of interest in depicting the opinions of a few of the outstanding leaders. Many others might be cited, but enough has been given if the references offered be read to lay a foundation for the experimental study of deception to be described in Parts II and IV.

CHAPTER V

PATHOLOGICAL LYING

Much has been written about the phenomenon termed "pathological lying." The following excerpts are indicative of a few of the problems here.

Invariably when the writer is discussing a deception test before a group of individuals some clinician is sure to ask the question concerning the detection of malingering.

Only too often the examination made by the clinician has been too incomplete. He has been interested in the question of whether or not the patient is malingering, e.g., feigning blindness in one eye. The clinician forgets to consider that the patient may be mentally retarded and may never have had the sight of this eye, but not until the time of the accident which resulted in the eye examination was the defect brought to light.

In deception tests actual psychopathology has interfered but little in the examination of psychopathic malingering. Whenever a patient is concerned enough about his crime to attempt to conceal the facts, his reactions are similar to the reactions of "normal" persons who deny their guilt by lying. The greatest difficulty may be encountered in the psychoneurotic group where a "consciousness of guilt" about other situations than the one being investigated may interfere temporarily.

In these cases, however, the actual complex may, with a little care, be detected and removed.

Speaking of the "pathoformic" lie, Gross writes:

Pathological lying.—As in many other forms of human expression, there is a stage in the telling of lies where the normal condition has passed and the diseased one has not yet begun. The extreme limit on the one side is the harmless story-teller, the hunter, the tourist, the student, the lieutenant,—all of whom boast a little; on the other side there is the completely insane paretic who tells about his millions and his monstrous achievements. The characteristic pseudologia phantastica, the lie of advanced hysteria, in which people write anonymous letters and send messages to themselves, to their servants, to high officials and to clergy, in order to cast suspicion upon them—all are diseased. The characteristic lie of the epileptics, and perhaps, also, the lies of people who are close to the idiocy of old age, mixes up what has been experienced, read, and told, and represents it as the experience of

the speaker (Delbrück: *Die pathologische Lüge, etc.* [Stuttgart manual], "Das pathoforme Lügen").

Still there is the class of people who cannot be shown to be in any sense diseased, and who still lie in such fashion that they cannot be well. The development of such lies may probably be best assigned to progressive habituation. People who commit these falsehoods may be people of talent, and, as Goethe says of himself, who have "desire to fabulate." Most of them are people, I will not say who are desirous of honor, but who are still so endowed that they would be glad to play some grand part and are eager to push their personality into the foreground. If they do not succeed in the daily life, they try to convince themselves and others by progressively broader stories that they really hold a prominent position. I had and still have opportunity to study accurately several well developed types of these people. They not only have in common the fact that they lie, they also have common themes. They tell how important personages asked their advice, sought their company and honored them. They suggest their great influence, are eager to grant their patronage and protection, suggest their great intimacy with persons of high position, exaggerate when they speak of their property, their achievements, and their work, and broadly deny all events in which they are set at a disadvantage. The thing by which they are to be distinguished from ordinary "story-tellers," and which defines what is essentially pathoformic in them, is the fact that they lie without considering that the untrue is discovered immediately, or very soon. Thus they will tell somebody that he has to thank their patronage for this or that, although the person in question knows the case to be absolutely different. Or again, they tell somebody of an achievement of theirs and the man happens to have been closely concerned with that particular work and is able to estimate properly their relation to it. Again they promise things which the auditor knows that they cannot perform, and they boast of their wealth although at least one auditor knows its amount accurately. If their stories are objected to they have some extraordinarily unskillful explanation, which again indicates the pathoformic character of their minds. Their lies most resemble those of pregnant women, or women lying-in,[1] also that particular form of lie which prostitutes seem typically addicted to, and which are cited by Carlier, Lombroso, Ferrero, as representative of them, and as a professional mark of identification. I also suspect that the essentially pathoformic lie has some relation to sex, perhaps to perversity or impotence, or exaggerated sexual impulse. And I believe that it occurs more frequently than is supposed, although it is easily known even in its slightly developed stages. I once believed that the pathoformic lie was not of great importance in our work, because, on the one hand, it is most complete and distinct when it deals with the person of the speaker, and, on the other, is so

[1] Locard cites an actual case of lying apparently due to pregnancy.—AUTHOR'S NOTE.

characteristic that it must be recognized without fail by anybody who has had the slightest experience with it. But since, I have noticed that the pathoformic lie plays an enormous part in the work of the criminalist and deserves full consideration.

Healy in his work defines pathological lying thus:

Pathological lying.—Falsification entirely disproportionate to any discernible end in view, engaged in by a person who, at the time of observation, cannot definitely be called insane, feebleminded or epileptic. Such lying rarely, if ever, centers about a single event; although exhibited in very occasional cases for a short time, it manifests itself most frequently by far over a period of years, or even a life term. It represents a trait rather than an episode. Extensive, very complicated fabrication may be evolved. This has led to the synonyms: mythomania; pseudologia phantastica.[1]

It is true that in the previous literature, under the head of pathological liars, cases of epilepsy, insanity, and mental defect have been cited, but that is misleading. . . . . The pathological liar forms a species by himself. . . . . Lawyers, or other professional specialists, have slight knowledge of the subject. . . . . The legal issues presented by pathological lying may be exceedingly costly. These facts make it important that the well-equipped lawyer, ... be familiar with the specific related facts.

Comparing the above with the findings by previous writers, we see little chance to draw safe deductions. . . . . We are at once forced to agree with the previous writers that an unusual number of the pathological liar group show great aptitude for language. . . . . All this goes to show clearly that the native traits making for verbal fluency are strongly correlated with pathological lying. . . . . The general mental and moral weakness of the constitutional inferior very naturally leads him to become a pathological liar; he follows, by virtue of his make-up, the path of immediate least resistance—lying. The episodic lying or aimless false accusations of the choreic psychosis needs no comment—the confusional mental state sometimes accompanying that disease readily predisposes toward a fantastic treatment of realities. The relationship of constitutional excitement to pathological lying is less well recognized, but fully explicable when we recollect the rate at which ideas present themselves in the mental content of such individuals, who have little time, as it were, to discriminate the true from the false.

The differential diagnosis involves consideration of the characteristics of the insane, defective, and epileptic. We repeat that we agree that the mentally abnormal person may engage in pathological lying quite apart from any expression of delusion, and that during the course of such lying the insanity may not be recognized.

[1] See Locard and Delbrück for definition of these last two terms.—WRITER'S NOTE.

Duprat thus discusses lying among criminals:

Lying among criminals.—Simulation and dissimulation are frequent with criminals. According to Lombroso (*The Criminal Man*) 42 per 100 of great criminals are obstinate in denial; 21 per 100 of lesser criminals persist in denial. It is true that the proportion of denying criminals varies with the régime which they have to fear in case of confession and of conviction. The homicides of the prison of Pesaro denied in a proportion of 38 per 100, those of the prison of Castelfranco, convicted to prison and not to the bagnio, only reached in this case 4 per 100. . . . . The correlations of the various epileptic mental states with pathological lying is well recognized. . . . . Something of a point has been made in the literature heretofore that abnormalities of sexual life are unduly correlated with the inclination to pathological lying, and the conclusion is sometimes drawn, as by Stemmermann, that the two prove a degenerative tendency. Our material would not tend to show this nearly as much as it would prove that the psychical peculiarities follow on a profound upset caused by unfortunate sex experiences.

A characteristic of pathological liars is undoubtedly a deep-seated egocentrism, as Reich states. . . . . There is very little sympathy for the concern of others, and, indeed, remarkably little apperception of the opinion of others. How frequently the imagery of the heroic rôle of self recurs, and how frequently it occupies a central stronghold is seen by the fact that nearly all of our cases indubitably demonstrate the phenomenon.

Memory processes, for instance, as ordinarily tested seem to be normally acute.[1]

Fifty-nine per cent of a group of five hundred prisoners in Joliet Penitentiary, Illinois, claimed innocence of crime charged. When considering the foregoing figures, it is important to remember that not over 5 or 6 per cent (according to Dr. House and others) of that many of the prisoners in the penitentiary are innocent among all those who deny their guilt.

In his work upon malingering King writes:

Malingering.—One peculiarity of the malingering plaintiff is that he is nearly always talking about his injury and his helpless and hopeless condition. . . . . In examining the malingering plaintiff there is nothing to be ascertained except what he tells you, and, as he tells you nothing but falsehoods, you ascertain nothing. But there are means by which he may be detected and his false pretenses exposed. These means are three, viz.:

The electrical test for "reaction of degeneration," the test with the asthesiometer and by espionage. The first two of these treat of relative sensitivity of the different areas of the body of the malingerer, while the last consists in espionage by detectives.

[1] Translated by the writer.

In speaking of malingering Major A. Griffith writes:

Malingering.—The doctor who deals with prisoners has to be constantly on the *qui vive*. He meets fraud and deception at every turn; so much feigning and malingering that sometimes all science is at fault, and not even the clinical thermometer—that invaluable ally—will always reveal the impostor.

The most frequent methods employed, the ailments most often feigned, are imbecility, paralysis, hemorrhage from nose and lungs. They will go farther and imitate the obstinate endurance of an Oriental fakir in maintaining a limb, arm, leg, or hand, continuously in one position until rigidity and loss of power result. The late Dr. Guy, a very eminent authority, has stated in evidence before the Royal Commission of 1863, that he knew a case where a convict had sewn up his mouth and eyelids with needle and thread in order to convince the authorities of his insanity. Other cases quite as flagrant are recorded by Capt. Harris. A man fell against his bed and received injuries of seemingly a very trifling character; but he was taken to the hospital, complaining of a severe pain in the back, and exhibiting all the symptoms of paralysis of the lower half of the body. He seemed absolutely helpless; made out that he could not turn in bed without assistance and was carried daily to the exercise yard. He kept up this imposture for nearly three years, every remedy, every device had been tried to alleviate his suffering, but without effect. At length without warning, he threw away his crutches and told the astounded doctor that he might have them if he liked—"I've done with them for the present." All the time his deception lasted, he had been most insolent and abusive to the medical officers although they had spared no effort to put an end to his suffering.

Griffith then cites further very interesting illustrations of malingering.

The following valuable contribution is made by Bernard Glueck:

Malingering.—The following study is undertaken less for the purpose of discussing the psychology of malingering than with the object in view of illustrating by means of clinical records the type of individual who malingers. The opinion is a general one that malingering is a form of mental reaction to which certain individuals resort in their effort to adjust themselves to a difficult situation in life. Being a form of human behavior, it should have been approached, therefore, with the same attitude of mind as any other type of behavior.

Importance of malingering.—A perusal, however, of the literature on the subject, especially of the contributions of the older writers, reveals that with certain isolated exceptions the subject was viewed primarily from the standpoint of the moralist. Even today one sees in certain quarters a good deal made—certainly a great deal more than the facts would justify—of the "insanity dodge" in criminal cases. It is true that today, notwithstanding the

still broadly prevalent tendency to view with suspicion every mental disorder which becomes manifested in connection with the commission of crime, the danger of error in this respect has been reduced to a minimum owing to the more advanced state of psychiatry, and therefore the practical importance of the subject of malingering is not so great as it was formerly. We find, nevertheless, justification for the further study of this subject in the fact that, aside from its purely psychiatric importance, the most intensive study of the malingerer offers a solution for some of the important problems in criminology. As one of the results of this more intensive study may be mentioned the gradually gained conviction that malingering and actual mental disease are not only not mutually exclusive phenomena in the same individual, but that malingering itself is a form of mental reaction manifested almost exclusively by those of an inferior mental make-up; that is, by individuals concerning whom there must always be considerable doubt as to the degree of responsibility before the law. As a result of this recognition cases of pure malingering in individuals absolutely normal mentally are becoming rarer every day in psychiatric experience.

The conviction was further gained that malingering as well as lying and deceit in general, far from being a form of conduct deliberately and consciously selected by an individual for the purpose of gaining a certain known end, is in a great majority of instances wholly determined by unconscious motives, by instinctive biologic forces over which the individual has little or no control. This is one of the factors which determines the growing realization among present day psychiatrists of the extreme difficulty to state in a given case which is malingered and which genuine in the symptomatology. That such views should encounter opposition among our jurists is perfectly natural, threatening as it does with complete annihilation that wholly artificial concept of the "freedom of the will" upon which our laws are based. . . . .

In the last analysis malingering is to be looked upon as a special form of lying, and its proper understanding will necessitate a clear insight into lying in general.

Lying, a very natural and generally prevalent phenomenon, may manifest itself in all gradations—from the occasional, quite innocent "white lie" as it occurs in a perfectly normal individual to the pathological lying exhibited in that mental state known as "pseudologia phantastica." Its proper understanding, however, no matter under what circumstances and to what degree it be manifested, will be possible only through a strict adherence to the theory of absolute psychic determinism.

Lying, like every other psychic phenomenon, never occurs fortuitously, but always has its psychic determinants which determine its type and degree.

Naturally many of these determinants are quite obvious and readily ascertainable. One has only to recall the lying and deceit practiced by children.

But many others, if indeed not most of them, are active in the individual's unconscious motives and accessible objectively as well as subjectively only with great difficulty and by means of special psychological methods.

The degree of participation of unconscious motives in lying will be determined in the individual case by the extent of repression necessitated because of social, ethical, and aesthetic consideration. It is for this reason that lying is most prevalent and exhibited with the least amount of critique in those individuals who either have never developed those restraining tendencies which a normal appreciation of social, ethical, and aesthetic consideration demands, or in whom these restraining influences have been abolished by some exogenous insult to the nervous system—as, for instance, the tendency to fabrication dependent upon chronic alcoholism or morphinism. A beautiful illustration of the latter type is furnished by General Ivolgin in Dostoieffsky's *Idiot.*

The child's tendency to lying and deceit is dependent to a large extent upon the undeveloped state of those restraining forces. To state, however, that this is the sole mechanism underlying the phenomena of lying would be to state only half the truth. For it is an undeniable fact that, no matter how strongly endowed an individual may be with ethical and moral feelings, still there comes a time when these are entirely forgotten and neglected; when, finding himself in a stressful situation, the instinctive demands for a most satisfactory and least painful adjustment, no matter at what cost, assert themselves. It is then that the lie serves the purpose of a more direct, less tedious gratification of an instinctive demand. The resort to this mode of reaction, to evasion of real issues for the purpose of gratification of instinctive demands, is not characteristic of man alone, but is quite prevalent even in some low forms of life. . . . . It is an important tool in the struggle for existence among all living beings; it is one of the mechanisms by means of which the weaker inferior being escapes annihilation at the hands of the stronger, superior being.

Malingering, it will be seen later, appears to certain individuals to be the only possible means of escape from and evasion of a stressful and difficult situation of life. The lack of *critique* which permits such an abortive attempt at adjustment and the inherent weakness and incapacity to meet life's problems squarely in the face which drives them to resort to such a means of defense are some of the traits of character which serve to distinguish these individuals from what is generally conceived to be a normal man.

Unconscious motivation for lying.—The extent to which lying and allied behavior depend upon unconscious motives has never been so well illustrated as in recent psychoanalytical literature, especially in a paper by Brill. This author is so thoroughly convinced of the value of conscious lying as an indicator of unconscious strivings and motives that he frequently asks his patients to construct—artificially—dreams which he finds to be of valuable aid in the analysis of the patient's unconsciousness. After citing a number of

examples Brill states: "These examples suffice to show that these seemingly involuntary constructions have the same significance as real dreams, and that as an instrument for the discovery of hidden complexes they are just as important as the latter. Furthermore, they also demonstrate some of the mechanisms of conscious deception. The first patient deliberately tried to fool me by making up what he thought to be a senseless production, but what he actually did was to produce a distorted wish. He later admitted to me that for days he was on his guard lest I should discover his inverted sexuality, but it never occurred to him that I could discover it in his manner. That his artificial dreams have betrayed him is not so strange when one remembers that no *mental production, voluntary or involuntary, can represent anything but a vital part of the person producing it.*

Were this thesis on malingering to succeed in nothing else than in bringing home to our legal brethren this important truth of absolute psychic determinism; that a man is what he is and acts as he does because of everything that has gone before him—because of ontogenetic as well as phylogenetic instinctive motives—it will have fully established its *raison d'être.* . . . .

The psychic mechanism of lying is the same both in the occasional and in the pathological liar—in both it is the expression of a wish—but the difference in the personalities of the two is a very decided one. On the one hand we have an individual who closely approaches normal; on the other hand one who is closely allied to the mentally diseased. The difference between the pathological liar and the habitual criminal, aside from the moral phase of lying, is perhaps but a very slight one, when we keep in mind that in both instances we are dealing with individuals who habitually resort to a form of reaction in their attempts in an adjustment to reality which aims at a direct, simple, and least resistant means for gratification. In both we are dealing with a type of mental organization which is primarily incompetent to face reality in an adequate, socially acceptable manner, and therefore has to resort to constant deceit and lying, and in which those inhibitions determined by social, ethical, and aesthetic considerations are equally impotent. The marked egotistic trend which constantly comes to the surface in the habitual liar when he attempts to play the part of the hero and the central figure in the most fantastic, bizarre, and impossible adventures is likewise frequently at the bottom of the escapades of the habitual criminal. The two traits are frequently, though by no means always, concomitant manifestations in the same individual. . . . .

The transition from absolute mental health to distinct mental disease is never delimited by distinct landmarks, but shows any number of intermediary gradations. Nowhere is this better illustrated than in the pathological liar. Here one sees how a psychic phenomenon regularly manifested by perfectly normal individuals may gradually acquire such dimensions and dominate the individual to such an extent as to render him frankly insane.

. . . . Experience teaches that back of every lie are active forces, either

conscious or unconscious, which give birth to it and determine its type and degree. . . . .

Malingering as self-preservation.—In malingering we see the application of deceit and lying to a definite situation. That which is a habitual type of reaction in some individuals, as was illustrated in the foregoing cases, comes to the fore in others only under certain stressful situations of life. While in the habitual fabricator the most prominent motives are those of an egotistic nature, a craving for self-esteem as compensation for an inherent defect, in the malingerer we see a resort to this form of reaction as a means of self-preservation, as a means of escape from a particularly painful situation.

There was a time in the history of psychiatry when malingering was a frequent subject of discussion in psychiatric literature. This was not due so much to any inherent practical importance of the phenomenon of malingering as such as to the faulty conception that this phenomenon was something which by its very existence ruled out the existence of mental disease. More scientific studies of personality which led to a direction of our attention to the malingerer rather than to malingering as an isolated mental phenomenon brought with it a complete change of attitude towards the entire subject.

Malingering a symptom of psychopathology.—Today, far from harboring the notion that malingering and mental disease are mutually exclusive, we are beginning to look upon malingering itself as the expression of an abnormal psychic make-up. Furthermore, far from believing as of old that the proverbially insane is supposed to be totally devoid of discretion in his conduct, we know that there may be a good deal of method in madness, and that even the frankly insane malinger mental symptoms when the occasion requires it. No experienced psychiatrist would today, for instance, consider the oft-quoted story of the alleged madness of Ulysses as evidence of malingering.

Ulysses as a malingerer.—The story is told that Ulysses, in order to escape the Trojan War, feigned insanity. He yoked a bull and a horse together, plowed the seashore, and sowed salt instead of grain. Palamedes detected this deception by placing the infant son of the King of Ithaca in the line of furrow and observing the pretended lunatic turn the plow aside, an act of discretion which was considered sufficient proof that his madness was not real. Without attempting to pass upon the case of Ulysses, we may say without fear of contradiction that no one would today depend upon such criteria. . . . .[1]

Malingering and evolution.—A little inquiry, however, into this phenomenon will help us to understand it better. It has its root primarily in that very common tendency of man to impute to his neighbor a type of behavior, a form of reaction, of which he would gladly avail himself were he in his neighbor's

[1] However, in present judicial procedure in this country the legal definition of "insanity" which emphasizes the importance of the distinction between right and wrong is far worse when we consider that we should know better.—WRITER'S NOTE.

place, and the weapon he would use under the circumstances would very likely be that exquisitely human trait, deceit, malingering. It is a weapon which has played a tremendous part in the evolutionary struggle, not only of man but of all living things; in a broader sense, it may be looked upon as an organic function, as an endowment, thanks to which the weak, inferior being is able to avoid danger of becoming the prey of the stronger, superior being. This function is very well illustrated in those animals which are able to acquire the color of their immediate surroundings in order to render themselves more difficult of detection. It is common among the various insects, reptiles, and amphibians. The chameleon may be especially mentioned in this connection. Even eggs acquire, in the process of natural selection, the color of the place where they are deposited, and the cuckoo which is about to cheat a couple of another species by placing her eggs in their nest for them to hatch selects that species the color of whose eggs most closely resembles that of her own, in order to assure herself of the success of the deception. The simulation and malingering practiced by the fox is common knowledge. Malingering, an instinctive function originally, has, in the process of evolution, become an act of reason with certain animals. One is forced to believe, from a survey of mythological writings, that primitive man must have had recourse to simulation and all else that this term stands for whenever he was confronted with an especially difficult problem in his struggle for existence.

To the gods was attributed, among other special propensities, the ability to assume any shape or form, else how could they have performed all those miraculous escapades? Thus we are told that Jove transformed himself into an eagle when he carried off Ganymede. Achilles, the son of a goddess, sought to avoid the iniquitous fate which drove him to Troy by disguising himself as a woman. Deception is a common weapon of defense with the savage and with the inferior races of today. It is the tool by means of which these individuals render things as they want them to be; it is with them the means for a more direct, less difficult, less tedious solution of the problem of life.

The child and malingering.—The child in whose development the various stages of phylogeny are recapitulated shows this tendency to deception, to simulation, and dissimulation to a very marked degree. Lombroso, who was the first to demonstrate that so-called moral insanity is but a continuation of childhood without the adjunct of education, cites many facts, not excepting his own example, to show that the child is naturally drawn to fraud, to deception, to simulation. The child simulates either because of fear of injury and punishment or because of vanity, or jealousy. Ferrari, in his excellent work on juvenile delinquency, discusses the various motives for deception and malingering in the child. According to him, deception is, first of all, instinctive with the child. It malingers because of weakness, playfulness, imitation, egotism, jealousy, envy, and revenge. Deception frequently forms for it the only available weapon of defense against the parents and teachers.

Penta cites many well authenticated cases of malingering of mental symptoms in children. Of special interest is Malmstein's case of a girl of eight years who, in order to deceive her father and render him less severe in his treatment of her, and in order to gain the sympathy of those in the house who were in the habit of giving her sweets, feigned complete muteness for five months, after which time, no longer able to resist the desire to speak, she went into the woods, where, believing herself unobserved, she began to sing. St. Augustine, in his confession, speaks of his childhood in the following: "I cheated with innumerable lies my teachers and parents from a love of play and for the purpose of being amused."

Penta, after a thorough discussion of the subject of malingering in children, comes to the conclusion that children use all the diverse forms of fraud, from simple lying to simulation, much more frequently than is believed or known. It may with them as with some lower animals simply be an instinctive playfulness, a habit or a necessity, as a weapon consciously and voluntarily wielded. This inherent tendency is, of course, modified to a considerable extent by the environment under which the child was brought up. Finally, the independence which the growing human being acquires from this form of reaction is in direct proportion to the ability he has acquired through education and precept to meet life's problems squarely in the face. We will see, later on, how the type of individual who is most likely to malinger has in reality never fully outgrown his childhood; that his reactions to the problems of everyday life are largely infantile in character.

Frequency of malingering.—Thus we see that malingering has its *raison d'être;* that, after all, it is not at all strange that the suspicion of its existence should be so frequently raised by our legal brethren—yes, and medical brethren, too; that in reality it ought to be a very common manifestation. Nevertheless, paradoxical though it may seem, cases of pure malingering of mental disease are comparatively rare in actual practice. Willmanns, in a report of 277 cases of mental disease in prisoners, cites only two cases of pure malingering, and in a later revision of the diagnoses of the same series of cases the two cases of malingering do not appear at all. Bonhoehher, in a study of 221 cases, found only 0.5 per cent of malingering. Knecht, in an experience of seven and one-half years at the Waldheim Prison, did not observe a single case of true malingering. Vingtrinier claims not to have found a single case of true malingering among the 43,000 delinquents observed by him during his experience at Rouen. Connolly, Ball, Krafft-Ebing, Jessen, Siemens, Mittenzweign, and Scheule are quoted by Penta as having expressed themselves that pure malingering is extremely rare. Penta, on the contrary, observed about 120 cases during his four years' service in the prison in Naples. He gives as the reason for this unusually high percentage of cases observed by him the fact that two-thirds of the inmates of the prison belonged to the Camorra, an organization whose members are gleaned from the lowest and most degenerate stratum of society, and in whom the tendency for deception and fraud in any form is highly developed.

The question naturally arises, What is the reason for this rarity of cases of malingering? Is it because man has reached a state of civilization where he no longer resorts to deception? Decidedly not. The reason lies almost wholly in our changed attitude of today towards this question. As we acquire more real insight into the workings of the human mind we are prone to become more tolerant towards the human weaknesses, and in our study of the malingerer it is the type of the individual, his mental make-up, which interests us most, rather than the malingered symptoms. It is for this reason that today the number of authorities is indeed small who do not look up malingering *per se* as a morbid phenomenon, as an abortive attempt at adjustment by an individual who is quite incapable of coping with the vicissitudes of life. In my own limited experience of several years with insane delinquents I have yet to see the malingerer who, aside from being a malingerer, was not quite worthless mentally. . . . .

. . . . It is sufficient for the type of individual who malingers to merely say the word, and the most fantastic creation of his fancy immediately becomes a reality and is apperceived by him as such. A mere verbal denial of guilt on his part is sufficient to make him fully believe in his innocence and act accordingly.[1] When we inquire into the origin of this facility in transforming fantasy into reality, for this omnipotence of the mere word or thought, we find it in the totally unreasonable overcompensation of these individuals for their feeling of impotence and weakness. This feeling of weakness and helplessness naturally becomes more acute under especially stressful situations of life, and hence it is that the criminal, especially the habitual criminal, who always uses deceit and simulation in his vain attempt at meeting life's difficulties squarely in the face, regularly resorts to malingering when confronted with a serious criminal charge or when life in prison becomes especially unbearable to him. . . . .

Clinical aspects of malingering.—Clinically, malingering is to be considered from three viewpoints:

1. Malingering in the frankly insane.
2. Malingering in those apparently normal mentally.
3. Malingering in that large group of borderline cases which should be rightly looked upon as potentially insane and as constantly verging upon an actual psychosis.

It may be difficult to convince the lay mind, and especially the legal mind, that an individual may be suffering from an actual psychosis and at the same time malinger mental symptoms. . . . .

I have no doubt whatever that a considerable number of suspected malingerers are annually sent to penal institutions, there to be later recognized in their true light and transferred to hospitals for the insane; else it would be

[1] However, in certain cases tested by the author, the criminal who, for instance, malingered spells of amnesia and a resultant irresponsibility for his crime showed all conscious recognition of his deception.—WRITER'S NOTE.

difficult to account for the fact that mental disease, according to many authors, is at least ten times as frequent among prisoners as it is among a free population. . . . . I am convinced that one would not be wrong in agreeing with the opinions quoted below, that malingering, as such, is a morbid phenomenon and always the expression of an individual of inferior mentality. It may be looked upon as a psychogenetic disorder, the mere possibility of the development of which is, according to Birnbaum and others, an indication of a degenerative make-up, a defective mental organization. Siemens says: "The demonstration of the existence of simulation is not at all proof that disease is simulated; it does not exclude the existence of mental disease." Pelman holds simulation in the mentally normal to be rare, and he always finds himself at a loss to differentiate between that which is simulated and that which represents the actual traits of the individual. Melbruch holds that simulation is observed solely in individuals more or less decidedly abnormal mentally, because in the great majority of cases, if there does not actually exist a frank mental disorder, these individuals lack in a marked degree psychic balance and are constantly on the verge of a psychosis. Penta, in a most thorough study of the subject of malingering, likewise comes to the conclusion that it is always a morbid phenomenon. It is a tool almost always resorted to by the weak and incompetent whenever confronted with an especially difficult or stressful situation. It is, therefore, almost exclusively seen in hysterics, neurotics, and other types of psychopaths, in the frankly insane, and in grave delinquents.

The following paragraphs are selected from an article by Brill and relate to artificial dreams and lying:

Lying and dreams.—This also answers those who claim that some patients treated by analysis consciously lie about their symptoms and hence the analysis is worthless. I am always pleased when a patient tells me lies. Sooner or later I usually discover the truth, and the former lies then throw much light upon the neurosis. For every conscious lie, even in normal persons, is a direct or indirect wish. Like dreaming, everything that necessitates lying must be of importance to the individual concerned. Lying is one of the defense mechanisms which help the individual out of difficulties, and under such circumstances is often designated as a "white lie." Thus, we have a double standard of lying, the "white lie" which is pardonable and the lie made with malicious intent, or done habitually just for lying's sake. In early life lying is very common. Thus children invariably show a tendency to confabulate, but this cannot be considered pathological. It simply denotes a premature mentality. Children have not as yet assumed all the necessary ethical inhibitions, and therefore follow their impulses. Whenever they are in any difficulty they do not hesitate to lie out of it. Thus a boy of four having broken a dish insisted that a servant did it, and an older boy having been detected playing truant asserted his teacher was sick. Here the wishes are quite clear.

With the advance of age, however, we are expected to tell the truth and the average normal person can do so to a certain extent. The lies then serve a definite purpose. They are usually well-balanced, and sometimes seem very ingenious and complicated. The same holds true in the abnormal classes; the greater the intellect, the more difficult it is to detect the lie. Moral idiots and the superior degenerates often make such good impressions that they frequently escape detection for a long time, while it is simple enough to see through the lies of children, of most mental defectives and insane. An examination of the records of some of the international swindlers will convince one of the truth of these statements. On the other hand, the lowest type, the idiot, usually is incapable of telling a lie. His extreme mental poverty allows him to follow unhindered all his simple desires; he has not enough brains to formulate a lie. The lowest type of idiot is thereby honesty personified. That telling the truth among normals is considered something verging on the impossible is shown by the fact that one of the greatest attributes of the Father of His Country is that he never told a lie. As a matter of fact every normal person tells a lie on certain occasions, and provided certain conditions are fulfilled, it is not counted against him even if he is detected.

Habitual liars.—To be called a liar a person must not only show a frequent tendency to confabulate, but he must also evince a certain clumsiness or weakmindedness in its execution. . . . .

. . . . In other words, all habitual liars suffer from an inner voidness which they constantly strive to fill. In this respect they resemble prolific dreamers who have many wishes to fulfill, but whereas the latter by virtue of ethical inhibitions can only realize their desires during sleep, the psychopathic liar, who has never fully developed mental inhibitions, puts his wishes in operation in his waking state. In this connection it is interesting to note that confabulatory tendencies can be produced by exogenous factors. I refer to the confabulations one always finds in Korsakoff's psychoses and very often in general paresis. Here the poison having destroyed life-long inhibitions, the patients find it very easy to tell the most fantastic and embellished adventures. They never become embarrassed when brought to bay because the mental processes are partially paralyzed and because they believe their own stories. It is a known fact that even ordinary liars eventually believe their former lies, and thus realize their wishes. In my analytical work I often encounter such mechanisms. . . . .

. . . . In so far as they are arbitrary productions in the waking state they show a definite relation to lying which is also a conscious way of wish realization. Every lie is a direct or indirect wish, and hence it must be concluded that habitual liars are very dissatisfied persons. The habitual liar differs from the dreamer in the fact that he does not find it necessary to overcome resistances and inhibitions in order to gratify his cravings, nor is he forced to bring them about by hallucinatory regressions as is done by the

dreamer. The mental process of the liar is very superficial, he gains pleasure by imparting to others these desires as accomplished. The liar shows a definite relation to the born criminal from whom he differs only in degree. The latter being usually lower in the mental scale, approaching the ideally honest idiot, feels little need for dreaming in any form. I believe it was Santo de Sanctis who actually found that criminals rarely dream. . . . .

Function of poetry.—. . . . The poet may be called an artificial dreamer or a conventionalized—usually mentally balanced—confabulator. Prescott has definitely demonstrated the relation between poetry and dreams, and concerning the origin of poetry he expresses himself as follows: "The function of poetry also seems to represent the imaginary fulfillment of our ungratified wishes or desires. . . . . The poet is essentially more filled with desires, unsatisfied, and it is in a state of mind of dissatisfaction that poetry arises." We have also shown above that the same mechanism was found in the habitual liar, and to lesser degree in every normal person. What are the distinctions between them? The normal dissatisfied person contents himself with fancy formations which he keeps to himself very carefully. He does not wish to tell us his secret desires which re-echo his infantile life, because he is ashamed to do so, and because he knows that we will not find them interesting. The liar has never outgrown his infancy, so that even as an adult his fancies, that is, his wishes, are of childish nature. He is unable to adapt himself to reality, so that he builds up his world on the infantile foundation. The ego of his fancies so coyly hidden by the normal person stands out very prominently in the liar. Liars, especially of the lower types, are extremely egotistic and their productions are absolutely egocentric; they are always heroes of wonderful adventures, and for that reason they repel us. The poet or writer, not being weakminded, overcomes these difficulties by toning down the egotistic character of his fancies.

. . . . In other words, the poet offers us an enticing premium or a forepleasure whereby we can release some tension from our own mind, while the liar gives us nothing; child-like he wants everything and he obtains pleasure in reciting to others his egotistic adventures. Language, too, shows the close relation between dreamers, the poet and the liar. The word "dreamer" is supposed to be etymologically connected with the German *trügen*, to deceive, the word "lie" with the German *lügen*, to lie, to deceive; while the word "poet" comes from the Greek ποιέω and signifies to make, to invent.

CHAPTER VI

PREVALENCE OF LYING

Having briefly considered the psychology, physiology, and pathology of lying, the importance and extent of the problem will be seen in the following excerpts selected from the extensive literature upon this phase of the subject alone. In his monograph, *Le Mesonge*, Duprat writes:[1]

Every liar is an instigator, but he is a suggester of errors. That is why it is necessary to suppose a number of lies or suggestions of error (1) as well as voluntary suggestions those which are involuntary; (2) as well as voluntary or involuntary but intentional suggestion, those which are made with a clear conscience or unconsciously.

. . . . There are liars who add to the true description of reality. They embellish nature, attribute to people, to acts, or to things attributes which the person or real deeds do not possess; or they exaggerate the extent, the capacity, the worth, etc., of a deed or a relation; or they invent every kind of new deed.

. . . . There is scarcely a deed more commonplace than the lie. Children lie; savages lie; hysterics lie; and likewise so do persons deemed the most honorable. Social life is wholly, as one sees it from a distance, so full of lies that pessimists, free thinkers, or sociologists, nearly frightened at the authentication of so much deception, have pretended that so great political activity involves lies and conventional immorality.

Lying among criminals.—Recent statistics (Bertero, *Stat. giduizaria penale* [Roma, 1902], p. 76) indicate that there were in Italy, for the year 1899, 11,699 forgers and 24,170 deceivers (confidence men), in the neighborhood of 113 delinquents per 100,000 inhabitants whose delinquency has the lie for its foundation; of 370,742 convicted, 97,801 made appeal, denying having committed the offense or denying the gravity of the deed which was attributed to them; 48,851 saw the first verdict against them confirmed by the second judges. And these figures do not differ materially from those of preceding years. There is always in a given society a relatively considerable number of cheats and forgers.[2]

Lying among races.—One usually agrees that the lie is fatal in certain countries, among certain races; the Gaston has the reputation of a dreamer

[1] Writer's translation.

[2] For the occurrence of perjury, fraud, and imposition, forgery, see the contributions of Lombroso, Garafolo, Ascheffenburg, and others in the "Modern Criminal Science Series" and modern penal and court statistics.

carried by boastfulness to the frivolous lie; the Norman is considered as a dissimulator of great talent; one finds outside of France, the cheating Italian, the hypocritical Englishman, the Greek without good faith, the Turk incapable of keeping his word, the Asiatic unworthy of confidence. Captain Binger (*Du Niger au Golfe de Guinée* [Paris, 1892]) attributes to negroes of Central Africa and Australia, among other faults, those of being vain and liars from the age of puberty, in consequence of a lack of intellectual development noted elsewhere (J. A. Tillinghast, *The Negro in Africa and America* [Macmillan, 1902], p. 105). The Asiatics, the Japanese, the Chinese, the Siamese, show bad faith, and are much disposed to make deceitful promises when they struggle with the English and the Germans. It is necessary to add that they can be of good faith when they feel that they are not threatened. The Turk of the Apache has become legendary, and of the Sioux. Some members of Indian tribes have an innate bad faith as matters of principle, a natural inclination for dissimulation. . . . .

The Arabs are thieves, forgers, liars, simulators, and dissimulators in their struggles against aggressors of enemies of Allah. Does there not appear among them a sincere respect for the truth? (M. Topinard, *L'Anthropologie et la science sociale* [Paris: Mason, 1900], p. 36.)

Duprat concludes:

. . . . Shows us that the lie is a phenomenon common to all civilizations, all classes of society, all ages, and both sexes. It is at one and the same time a psycho-physiologic and psycho-sociologic phenomenon. It originates spontaneously, apart from imitation or faulty education, and merely by the combined operation of imagination and the personal tendencies or aims unsatisfied by the natural course of events, and finally, social causes, such as war, persecution, popular emotions, mob frenzy, combine to make mendacity almost inevitable.

The man of integrity, moreover, whose love of justice and truth prevent his telling a lie to surmount an obstacle, to lure distrustful persons, or to flatter princes with whom flattery is a highest virtue, will always find insurmountable difficulties barring his way. It was the worst minister that Italy had, who declared, "We shall be incapable, but honest." Yet history has shown that not even he was honest. In our time the lie is no less necessary to specialists, physicians, and lawyers; it is even the basis of their operations. The pious lie which comforts the last moments of the consumptive is often used not simply for the hysterical, but even for those who are perfectly well; just as the defense of the orphan and the widow is easily used on behalf of their persecutors.[1]

In speaking of truth and deception, Sir Edmund Cox writes:

Lying in India.—"What is truth?" said jesting Pilate, and would not stay for an answer. So the great Francis Bacon opens his book of *Essays*, "A mix-

[1] Translated by the writer.

ture of a lie," he continues, "doth ever add pleasure." David said in his haste that all men are liars. Had his work been the investigation of criminal cases in India, he might have said it at leisure. The Persian proverb runs, "Never tell a lie when the truth will serve your purpose equally well." . . . .

What is one to believe in India? The legal maxim *Falsum in uno, falsum in omnibus*, cannot be applied. If because a witness is false in one thing he must be considered false in all that he says, no case whatever would be proved in any court. A witness may not necessarily intend to say the thing which is not. Very possibly he is incapable of appreciating any distinction between what he has seen with his own eyes, or heard with his own ears, and what he has learnt from other people. He may be truthfully reporting what he believes to have occurred, and what he thinks the judge ought to be told, although he has no personal knowledge of the circumstances. Or when he has related a connected narrative of some occurrence that he has witnessed, he may be asked questions to which he does not know the answers. But he is reluctant to admit his ignorance, and at once launches out into a series of imaginative details which he thinks will help the case. Needless to say, in circumstances such as these, he utterly breaks down upon cross-examination. The not unnatural conclusion is that the whole of his evidence is false. But the conclusion is very probably wrong. An experienced judge or magistrate knows how to weigh the truth and the falsehood. While discarding the latter, he is enabled to decide the case by means of such elements of truth as the statements may contain.

The fact, however, remains that for one reason or another, whether it be, as Bacon puts it, that the mixture of a lie adds pleasure, or for the accident of a "moral lisp," and the inability to differentiate between truth and falsehood that undoubtedly exists in many Orientals, there is hardly a case tried in court in India which is free from concocted evidence.

Wigmore reports Chalmers concerning perjury as follows:

Frequency of perjury.—Though most of the perjury committed in the country courts and police courts is of a petty nature, still in the aggregate, it constitutes a serious impediment to the administration of justice. Few people, I think, realize the extent to which perjury is prevalent among the lower classes in England. I happened to have administered justice in three different countries, namely: England, Gibraltar, and India, so perhaps I have some basis of comparison. In Gibraltar there was a mixed population of Spaniards, Maltese and Barbary Jews, but there was nothing to complain about in the way of perjury. In India, no doubt, there was a great deal of lying, but many of the lies were of a stereotyped form (like fictitious averments in pleading) and I certainly think it is harder to get at the truth in any English County Court than it is in a northwest cutcherry. In the High Court a higher grade of witness is reached and perjury is comparatively rare. Moreover, a witness who will freely commit a perjury in a money matter will hesitate to do so in a

criminal cause. Wales has not a high reputation for truth-telling, but if I may judge from a single circuit, the Welshmen are no worse than their neighbors. With one exception, I was struck with the careful honesty of the witnesses all around the circuit. Sometime ago, I took a note of a hundred consecutive cases for less than £20 tried before me at Birmingham. I found that there was hard cross-swearing in 63. Of course, there is much hard swearing which is not perjury. My country court experience is mainly confined to Birmingham, but I have no reason to believe, and I do not believe, that Birmingham is worse than other large urban courts. If that be so, after making allowance for hard swearing which is not perjury, there remains a terrible residue of wilful and corrupt perjury, which urgently calls for a remedy, if the administration of justice is not to be reduced to a farce.

The subject of perjury is so distinct and far reaching that it deserves separate consideration. The crime is easy to commit and difficult to establish by competent proof, for it is a highly technical offense and one which juries seem to find easy to condone. The brother or friend has but to take the stand and swear to an alibi and lo, he is free. The chance of detection is small with the immediate benefit secured, while the temptation to swear falsely must at least in the case of the immediate family of the prisoner often be overwhelming. Where convictions for perjury are secured, heavy sentences are invariably imposed and a wholesome apprehension instilled into the hearts of prospective witnesses, yet the amount of deliberate false swearing in our criminal courts would be inadequately described as shocking. To estimate its quantity would be difficult if not impossible, for it varies with the character of the case and the nature of the defense. When the latter is an alibi, the entire testimony for the prisoner is frequently manufactured out of whole cloth, and it is probably not very wide of the mark to say that anywhere from one-half to seventy-five per cent of the testimony offered by the defendant's witnesses *upon the direct point in issue* in the ordinary run of criminal trials is perjured (A. Train, *The Prisoner at the Bar* [New York: Charles Scribner's Sons], p. 244).

In addition to presenting a table showing the number and disposal of cases of perjury, the report of the Cleveland survey contains the following paragraph concerning false testimony:

False Testimony.—Except where the defendant desires to have a record of the case, the testimony is not taken down stenographically or otherwise. The trials are ground out without attempt on the part of anybody, judge or prosecutor, to bring out all the facts in any case, and seldom is any witness permitted to complete his story.

This absence of stenographic report of the testimony, taken in connection with the whole atmosphere of the court, obviously produces opportunity, if not inducement, for perjury. The people of Cleveland are convinced that perjury has been very prevalent in the trial of criminal cases, and the criminal

court reporters of the newspapers affirm this beyond the shadow of a doubt. In view of this general opinion, which surely has considerable basis in fact, it will be interesting to note the exceedingly small number of cases of prosecution for perjury and the exceedingly smaller number of successful prosecutions for perjury.

Spencer, on the occurrence of deception, says:

Ubiquity of lying.—Complete truthfulness is one of the rarest of virtues. Even those who regard themselves as absolutely truthful are daily guilty of over-statements and under-statements. Exaggeration is almost universal. The perpetual use of the word "very," when the occasion does not call for it, shows how widely diffused and confirmed is the habit of misrepresentation. And this habit sometimes goes along with the loudest denunciation of falsehood. After much vehement talk about the "veracities" will come utterly unveracious accounts of things and people—accounts made unveracious by the use of emphatic words where ordinary words alone are warranted; pictures of which the outlines are correct but the lights and shades and colors are doubly and trebly as strong as they should be.

Here, among the countless deviations of statement from fact, we are concerned only with those in which form is wrong as well as color—those in which the statement is not merely a perversion of the fact but, practically, an inversion of it. Chiefly, too, we have to deal with cases in which personal interests of one or other kind are the prompters to falsehood—now the desire to inflict injury, as by false witness; now the desire to gain a material advantage; now the desire to escape a punishment or other threatened evil; now the desire to get favor by saying that which pleases. For in mankind at large, the love of truth for truth's sake, irrespective of ends, is but little exemplified.

Here let us contemplate some of the illustrations of veracity and unveracity—chiefly unveracity—furnished by various human races.

The members of wild tribes in different parts of the world, who, as hunters or as nomads, are more or less hostile to their neighbors, are nearly always reprobated by travellers for their untruthfulness; as are also the members of larger societies consolidated by conquest under despotic rulers.

Says Burton of the Dakotas—"The Indian, like other savages, never tells the truth." Of the Mishmis, Griffith writes—"They have so little regard for the truth that one cannot rely much on what they say." And a general remark, à propos of the Kirghiz, is to the same effect. "Truth, throughout Central Asia, is subservient to the powerful, and the ruler who governs leniently commands but little respect."

Of the settled societies, the first to be named is the Fijian. Williams tells us that—

"Among the Fijians the propensity to lie is so strong that they seem to have no wish to deny its existence. Adroitness in lying is attained by the constant use made of it to conceal the schemes and plots of the chiefs, to

whom a ready and clever liar is a valuable acquisition. . . . . A Fijian truth has been regarded as a synonym for a lie."

Of kindred nature, under kindred conditions, is the trait displayed by the people of Ugunda.

"In common with all savage tribes, truth is held in very low estimation, and it is never considered wrong to tell lies; indeed, a successful liar is considered a smart, clever fellow, and rather admired."

So, too, was it among the ancient semi-civilized peoples of Central America. De Laet says of certain of them, living under a despotic and bloody régime—"they are liars, like most of the Indians." And concerning the modern Indians, who may be supposed to have preserved more or less the character of their progenitors, Dunlop writes:—

"I never have found any native of Central America who would admit that there could be any vice in lying; and when one has succeeded in cheating another, however gross and infamous the fraud may be, the natives will only remark, "*Que hombre vivo* ('What a clever fellow')."

A like fact is given by Mr. Foreman in his work on the Philippine Islands. He says the natives do not "appear to regard lying as a sin, but rather as a legitimate, though cunning convenience."

The literatures of ancient semi-civilized peoples yield evidence of stages during which truth was little esteemed, or rather, during which lying was tacitly or openly applauded. As we saw in a recent chapter, deception, joined with atrocity, was occasionally inculcated in the early Indian literature as a means to personal advancement. We have proof in the Bible that, apart from the lying which constituted false witness, and was to the injury of a neighbor, there was among the Hebrews but little reprobation of lying. Indeed, it would be remarkable were it otherwise, considering that Jahveh set the example, as when to ruin Ahab he commissioned "a lying spirit" (I Kings 22: 22) to deceive his prophets; or as when, according to Ezek. 14: 9, he threatened to use deception as a means of vengeance.

"If the prophet be deceived when he hath spoken a thing, I the Lord have deceived that prophet, and I will stretch out my hand upon him, and will destroy him from the midst of my people Israel."

Evidently from a race character which evolved such a conception of a deity's principles, there naturally came no great regard for veracity. This we see in sundry cases; as when Isaac said Rebecca was not his wife but his sister, and nevertheless received the same year a bountiful harvest: "the Lord blessed him" (Gen. 26: 12); or as when Rebecca induced Jacob to tell a lie to his father and defraud Esau—a lie not condemned but shortly followed by a divine promise of prosperity; or, as when Jeremiah tells a falsehood at the king's suggestion. Still we must not overlook the fact that in the writings of the Hebrew prophets, as also in parts of the New Testament, lying is strongly reprobated. Averaging the evidence, we may infer that along with

the settled life of the Hebrews there had grown up among them an increased truthfulness.

Much regard for veracity was hardly to be expected among the Greeks. In the *Iliad* the gods are represented not only as deceiving men, but as deceiving one another. The chiefs "do not hesitate at all manner of lying." Pallas Athene is described as loving Ulysses because he is so deceitful; and, in the words of Mahaffy, the Homeric society is full of "guile and falsehood." (Marvelous are the effects of educational bias. Familiarity with the doings of these people, guilty of many "atrocities," characterized by such "revolting cruelty of manners, as Grote says, who were liars through all grades from their gods down to their slaves, and whose religion was made up of gross and brutal superstitions, ...)

Evidence of the relation between chronic hostilities and utter disregard of truth is furnished throughout the history of Europe. In the Merovingian period—"the era of blood"—oaths taken by rulers, even with their hands on the altar, were forthwith broken; and Salvian writes—"If a Frank forswear himself, where's the wonder, when he thinks perjury but a form of speech, not of crime?" After perpetual wars during the two hundred years of the Carolingian period, with Arabs, Saracens, Aquitanians, Saxons, Lombards, Slavs, Avars, Normans, came the early feudal period, of which H. Martin says:—

"The tenth [century] may pass for the era of fraud and deceit. At no other epoch of our history does the moral sense appear to have been so completely effaced from the human soul as in that first period of feudalism."

And then, as an accompaniment and consequence of the internal conflicts which ended in the establishment of the French monarchy, there was a still continued treachery: the aristocracy in their relations with one another "were without truth, loyalty, or disinterestedness. Neither life nor character was safe in their hands." Though Mr. Lecky ascribes the mediaeval "indifference to truth" to other causes than chronic militancy, yet he furnishes a sentence which indirectly yields support to the induction here made, and is the more to be valued because it is not intended to yield such support. He remarks that "where the industrial spirit has not penetrated, truthfulness rarely occupies in the popular mind the same prominent position in the catalog of virtues," as it does among those "educated in the habits of industrial life."

Nor do we fail to see at the present time, in the contrasts between the Eastern and Western nations of Europe, a like relation of phenomena.

Reflection shows, however, that this relation is not a direct one. There is no immediate connection between bloodthirstiness and the telling of lies. Not because a man is kind-hearted, does it follow that he is truthful. If, as above implied, a life of amity is conducive to veracity, while a life of enmity fosters unveracity, the dependencies must be indirect. . . . . In respect to veracity, as in respect to other virtues, I have again to instance various

aboriginal peoples who have been thrust by invading races into undesirable habitats; and have there been left either in absolute tranquillity or free from chronic hostilities with their neighbors. Saying of the Kois that they all seem to suffer from chronic fever . . . . Morris tells us that—"They are noted for truthfulness, and are quite an example in this respect to the civilized and more cultivated inhabitants of the plains."

According to Shortt, in his *Hill Ranges of Southern India*—"A pleasing feature in their [Sowrahs] character is their complete truthfulness. They do not know how to tell a lie. They are not sufficiently civilized to be able to invent."

I may remark in passing that I have heard other Anglo-Indians assign lack of intelligence as the cause of this good trait, a not very respectable endeavor to save the credit of the higher races. Considering that small children tell lies, and that lies are told, if not in speech yet in acts, by dogs, considerable hardihood is shown in ascribing the truthfulness of these and kindred peoples to stupidity. In his *Highlands of Central India*, Forsyth writes:

"The aborigine is the most truthful of beings, and rarely denies either a money obligation or a crime really chargeable against him."

Describing the Râmósîs, Sinclair alleges that "They are as great liars as the most civilized races, differing in this from the Hill tribes proper, and from the Parwârîs, of whom I once knew a Brâhman to say: "The Kunabîs, if they have made a promise, will keep it, but a Mahra [Parwari] is such a fool that he will tell the truth without any reason at all."

And this opinion expressed by the Brâhman well illustrates the way in which their more civilized neighbors corrupt these veracious aborigines; for while Sherwill, writing of another tribe, says—"The truth is by a Sonthal held sacred, offering in this respect a bright example to their lying neighbors the Bengalis," it is remarked of them by man that—

"Evil communications are exercising their baneful influence over them, and soon, I fear, the proverbial veracity of the Sonthal will cease to become a by-word."

In the *Principles of Sociology*, II, 437 and 574, I gave the names of others of these Indian Hill tribes noted for veracity—the Bodo and the Dhináls, the Carnatic aborigines, the Toadas, the Hos; and here I may add one more, the Puluyans, whose refuge is "hemmed in on all sides by mountains, woods, backwaters, swamps, and the sea," and who "are sometimes distinguished by a rare character for truth and honor, which their superiors in the caste scale might well emulate." So too is it in a neighboring land, Ceylon. Wood-Veddahs are described as "proverbially truthful and honest." From other regions there comes kindred evidence.

Of some Northern Asiatic peoples, who are apparently without any organization for offense or defense, we read:—"To the credit of the Ostiaks and Samoiedes it must be said, that they are eminently distinguished for integrity and truthfulness."

But now we have to note facts which make us pause. There are instances of truthfulness among peoples who are but partially peaceful, and among others who are anything but peaceful. Though characterized as "mild, quiet, and timid," the Hottentots have not infrequent wars about territories; and yet in agreement with Barrow, Kolben says:—

"The word of a hottentot 'is sacred': and there is hardly any thing upon Earth they look upon as a fouler Crime than Breach of Engagement."

Morgan, writing of the Iroquois, states that "The love of truth was another marked trait of the Indian Character." And yet, though the Iroquois league was formed avowedly for the preservation of peace, and achieved this end in respect of its component nations, these nations carried on hostilities with their neighbors. The Patagonian tribes have frequent fights with one another, as well as with the aggressive Spaniards; and yet Snow says—"A lie with them is held in detestation." The Khonds, too, who believe that truthfulness is one of the most sacred duties imposed by the gods, have "sanguinary conflicts" between tribes respecting their lands. And of the Kolîs, inhabiting the highlands of the Dekhan, we read that though "manly, simple, and truthful," they are "great plunders" and guilty of "unrelenting cruelty."

What is there in common between these truthful and pacific tribes and these truthful tribes which are more or less warlike? The common trait is that they are not subject to coercived rule. That this is so with tribes which are peaceful, I have shown elsewhere (*Principles of Sociology*, II, 573–74); and here we come upon the significant fact that it is so, too, with truthful tribes which are not peaceful. The Hottentots are governed by an assembly, deciding by a majority, and the head men have but little authority. The Iroquois were under the control of a council of fifty elected sachems, who could be deposed by their tribes; and military expeditions, led by chiefs chosen for merit, were left to private enterprise and voluntary service. Among the Patagonians there was but feeble government: followers deserting their chiefs if dissatisfied. Writing of the Khonds' "system of society" Macpherson says —"The spirit of equality pervades its whole constitution, society is governed by the moral influence of its natural heads alone, to the entire exclusion of the principle of coercive authority."

In the remarks of sundry travellers, we find evidence that it is the presence or absence of despotic rule which leads to prevalent falsehood or prevalent truth.

Reference to the reports on the discovery of Peru of Xeres and Pizarro makes it manifest that the general untruthfulness described was due to the intimidation the Indians were subject to. So, too, respecting the Mexicans, the Franciscan testimony was "they are liars, but to those who treat them well they speak the truth readily." A clear conception of the relation between mendacity and fear was given to Livingstone by his experiences. Speaking of the falsehood of the East Africans he says—

"But great as this failing is among the free, it is much more annoying

among the slaves. One can scarcely induce a slave to translate anything truly: he is so intent on thinking what he pleases." And he further remarks that "untruthfulness is a sort of refuge for the weak and oppressed."

A glance over civilized communities at once furnishes verification. Of European peoples, those subject to the most absolute rule, running down from their autocrat through all grades, are the Russians; and their extreme untruthfulness is notorious. Among the Egyptians, long subject to a despotism administered by despotic officials, a man prides himself on successful lying, and will even ascribe a defect in his work to failure in deceiving someone. Then we have the case of the Hindus, who in their early days irresponsibly governed, afterwards subject for a long period to the brutal rule of the Mahometans, and since that time to the scarcely less brutal rule of the Christians, are so utterly untruthful that oaths in the courts of justice are of no avail, and lying is confessed to without shame. Histories tell like tales of a mendacity which, beginning with the ruled, infects the rulers. Writing of the later feudal period in France Michelet says: "It is curious to trace from year to year the lies and tergiversations of the royal false coiner"; but nowadays political deceptions in France, though still practiced, are nothing like so gross. Nor has it been otherwise among ourselves. If with the "universal and loathesome treachery of which every statesman of every party was continually guilty," during Elizabeth's reign, while monarchial power was still but little qualified, we contrast the veracity of statesmen in recent days, we see a kindred instance of the relations between the untruthfulness which accompanies tyranny and the truthfulness which arises strong with increase of liberty.

Hence, such connections as we trace between mendacity and a life of external enmity, and between veracity and a life of internal amity, are not due to any direct relations between violence and lying and between peacefulness and truth-telling; but are due to the coercive social structure which chronic external enmity develops, and to the non-coercive social structure developed by a life of internal amity. To which it should be added that under the one set of conditions there is little or no ethical, or rather pro-ethical, reprobation of lying; while under the other set of conditions the pro-ethical reprobation of lying, and in considerable measure the ethical reprobation, becomes strong.

Wigmore writes:

Veracity among aliens.—It is everywhere a deep-rooted tendency to distrust the alien of another nation,—much more the alien of another theology or race or color. The progressive diminution of the strength of this instinct, from the days of primitive commercial interchange between neighboring tribes to the modern solidarity of international commerce, has been almost imperceptibly slow; the last hundred years have probably seen more rapid progress in European and American spheres than all the preceding centuries. It is a part of this instinct to distrust the good faith and honesty of the alien.

It was a much-mooted question in Christendom, down into the 1600's, whether faith should be pledged or need be kept with infidels, or alien infidels, or alien enemies.

It is no doubt true that certain races are less strongly moved to constant truth-speaking than are others; and the causes, sociological and physiological, are sometimes not difficult to analyze. But it is by no means certain that the English speaking peoples are the most veracious; it is probable (according to travelers' reports) that some others excel them; so that the difference becomes merely a question of degree. Moreover the quality of truth-speaking is only a part of the larger trait of honesty and loyalty in general; and, among the other qualities which go to make up that larger trait, there are certainly some in which Occidental peoples are not much, if at all, superior to some of the Oriental peoples. Again, whatever comparison can be made at all between Occidental and Asiatic or African peoples, as to their standards of veraciousness, ought to be based upon the respective practice of each people among its own members; i.e., the Chinese dealing with Chinese, the German with the German, and so on; because there has everywhere and always been a tendency (rooted in human nature), as between aliens to abandon reciprocally their own native standards, which they would have towards their own people; and thus such dealings afford no criterion for judging the normal standard of their people. Add to this, finally, that the classes of native persons with whom the resident alien observer comes in contact are usually the less scrupulous and honorable; and it will be understood that such observers have decidedly less trustworthy sources for forming a judgment upon the people as a whole, and that thus the reports which they send home are by no means a sound basis for public opinion and legislative enactment.

Taking all these considerations together, it may be concluded that any judgment of condemnation for the testimony of aliens in general, or of a particular race of people, is likely to be, in the first place, absolutely incorrect, as not founded on facts; in the second place, relatively unjust, as assuming a superiority of honesty which can only be hypothetical; and in the third place, unwise, as tending merely to perpetuate ill-feeling and misunderstanding.

. . . .

Where the witness speaks a foreign language, the task of discovering exactly what he knows, or even what he actually says, is herculean. In the first place interpreters, as a rule, give the substance—as they understand it—of the witnesses' testimony rather than his exact words. It is also practically impossible to cross-examine through an interpreter, for the whole psychological significance of the answer is destroyed, ample opportunity being given for the witness to collect his wits and to carefully form his reply. One could cross-examine a deaf mute by means of the finger alphabet about as effectively as an Italian through the court interpreter, who probably speaks (defectively) seventeen languages.

As to the veracity of aliens in general, and of particular races, considerable knowledge has been made available for us:

a) The alien in general, by reason of his strangeness to the surroundings, his racial sentiments, and his special dilemmas, has often a temptation both to save himself by falsifying and to save his fellow-racials by falsifying in their favor. But this tendency is so elusive and irregular as to be of only occasional service in weighing testimony. And it has nothing to do with race; it applies equally to our own natives when in a foreign country.

b) Particular races or tribes have been observed to have a marked tendency either to truth-telling or to falsifying. But the records of observations of this tendency have been limited to primitive tribes; no careful studies of the so-called civilized (modern) races or peoples appear to have been made; moreover, travelers' reports on the former class of peoples sometimes differ irreconcilably.

PART II

ANCIENT AND MODERN FORENSIC METHODS FOR THE DETECTION OF THE INNOCENCE OR GUILT OF THE SUSPECT

CHAPTER VII

COMBAT—ORDEAL—TORTURE

Although a discussion of the ancient legal methods for the determination of the innocence or guilt of a suspect might, at first sight, seem ridiculous to a reader of this age, yet, if he scrutinizes the brief account here he may be able to discern certain threads or trends which have been carried down through the years and persist to the present time. This is especially true with reference to the reliance on divine aid, ceremony of oath, kissing the Bible, and a utilization of torture in various forms, now popularly termed the "third degree."

One not infrequently sees well-trained, skilled detectives consulting clairvoyants and fortune-tellers when baffled by some horrifying or sensational crime. Before the reader becomes too scornful of many apparent absurdities now plain to us in the old methods, he should think of the irregularities at present in our procedure such that we often go to the other extreme in order to protect the innocent suspect.

The detection of deception has been attempted by many methods throughout the centuries. In the earliest days the problem was dealt with in a manner similar to that of King Solomon, who, when confronted by two women, each of whom claimed the child in question as her own, detected the liar by ordering the child to be cut in two by a sword. The liar maintained silence while the truthful woman was willing to relinquish her claim if by so doing she could save the child's life.

Again, at a later date, the Orientals used a deception test based upon sound principles. The accused was given some rice to chew and if he were unable to spit it out he was deemed guilty, and, if he could spit it out, innocent. This test was the result of the observation that fear inhibits the secretion of saliva in some people. In a much cruder fashion the English attempted to detect the guilty by various methods collectively known as "trial by ordeal."

Of the old methods of the determination of the guilt or innocence of the accused the following were the chief methods employed: (1) trial by combat; (2) the ordeal; (3) torture; (4) benefit of clergy; (5) sanctuary; (6) compurgation, described in the discussion of the jury system.

TRIAL BY COMBAT

In his excellent work *Superstition and Force*, Lea writes:

Genesis of the combat.— . . . . [if] therefore, the fierce warrior, resolute to maintain an injustice or an usurpation, can be brought to submit his claim to the chances of an equal combat or of an ordeal, he had already taken a vast step towards acknowledging the empire of right and abandoning the personal independence which is incompatible with the relations of human society. . . . .

There is a natural tendency in the human mind to cast the burden of its doubt upon a higher power, and to relieve itself from the effort of decision by seeking in mystery the solution of its difficulties.

. . . . The abolition of private wars gave a stimulus to the duel at nearly the period when the judicial combat fell gradually into desuetude. The one thus succeeded to the other, and, being kindred in nature, it is not surprising that for a time there was some confusion in the minds of men respecting their distinctive characteristics. Yet it is not difficult to draw a line between them. The object of the one was the vengeance and reparation; the theory of the other was the discovery of the truth, and the impartial administration of justice. . . . . So, when Francis I, in idle bravado, flung down the gauntlet to Charles V, it was not to save half of Europe from fire and sword, but simply to absolve himself from the well-grounded charge of perjury brought against him by the Emperor for his non-observance of the treaty of Madrid. This again, therefore, wore the form of the judicial combat, ... Henry IV having granted in 22 years no less than 7000 letters of pardons for duels. . . . .

The earliest allusion to the practice occurs in Livy, who describes how some Spaniards seized the opportunity of a gladiatorial exhibition held by Scipio to settle civil suits by combat, when no other convenient mode of solution had presented itself; and he proceeds to particularize a case in which two rival cousins decided in this manner a disputed question in the law of descent. . . . .

In its origin, the judicial duel was doubtless merely an expedient resorted to in the absence of direct or sufficient testimony. . . . .

Nielson gives some examples of combat. He writes:

Examples of combat.—In 1096 William of Eu, charged with treason, was defeated in the duel which followed. As punishment he had his eyes torn out, in pursuance of the principle laid down in the Conqueror's laws that the mutilated trunk should remain as evidence of treason and iniquity. . . . .

. . . . On the 3rd of March, 1155, "Arthur, a traitor to the king, died in single combat." Here evidently was a case of treason tried by battle. The king in question was Malcolm IV. . . . .

In speaking of another case Nielson writes:

His trial is unique, showing side by side in one case the three systems—battle, compurgation, and visnet (assise of knights or hereditary freeholders).

A breach-of-promise case.—There were many whimsical variants before the customs became stereotyped. Thus, in mediaeval Germany, when the plea was a delicate question of breach of promise or concerned the marital relations, it was disposed of in a manner certainly odd. The battle was done by both parties in person. The man had his left arm tied to his side, in his right hand he held a short baton, and he stood in a tub sunk waist-deep in the ground. His fair adversary was armed with a paving-stone sewn up into the purposely lengthened sleeve of the solitary under-garment which she was allowed to wear. She had full liberty to manoeuver round the tub, and watch for a favorable opportunity to deliver a crushing argument with the paving-stone. As the man's movements were restrained within the limits of his tub, the chances must have been strongly on the virago's side; but an ancient picture of one of these singular encounters represents the woman with her head in the tub and her heels in the air.

Norse custom.—Amongst them [Norsemen] the right of appeal after a duel—in other words, the right of revenge—was lost if the victor with a single blow could slay a bull produced for this purpose (Arng. Jon Chym 100 Egill Scallagrunson did this feat). . . . . In 1066 Wager of Battle entered England in train of William the Conqueror. By the laws bearing his name, an Englishman accused by a Norman of perjury, murder, homicide, or open robbery could defend himself as he preferred—by the ordeal of carrying the hot iron, or by the duel. . . . . A Norman had the same options as the Englishman, and in addition might clear himself by the oaths of witnesses after the custom of Normandy. . . . . An accused Englishman who will not fight must go to the ordeal; a Norman, accused by an Englishman who will not fight, may clear himself by oath.

Challenging of witnesses.—One of the most fruitful of these expedients [trial by combat] was the custom of challenging witnesses. It was a favorite mode of determining questions of perjury, and there was nothing to prevent a suitor, who saw his case going adversely, from accusing an inconvenient witness of false swearing, and demanding the "campus" to prove it—a proceeding which adjourned the main case, and likewise decided its result. This summary process of course brought every action within the jurisdiction of force, and deprived the judges of all authority to control the abuse.

Warrantor.— . . . . A still more bizarre extension of the practice, and one which was most ingeniously adapted to defeat the ends of justice, is found in the English law of the thirteenth century. . . . . Thus in many classes of crime, such as theft, forgery, coining, etc., the accused could summon a "warrantor." The warrantor could scarcely give evidence in favor of the accused without assuming the responsibility himself. If he refused, the accused was at liberty to challenge him; if he gave the required evidence, he was liable to a challenge from the accuser (Bracton, *De legibus Angl.*, Lib. III, Tract II, cap. xxxvii, 5; Fleta, Lib. I, cap. xxii). Another mode extensively used in France about the same time was to accuse the principal witness of some crime

rendering him incapable of giving testimony, when he was obliged to dispose of the charge by fighting, either personally or by a champion, in order to get his evidence admitted.

Such a system prevented serfs, women, and clergy from testifying.

The result of this system was that, in causes subject to such appeal, no witness could be forced to testify, by the French law of the thirteenth century, unless his principal entered into bonds to see him harmless in cause of challenge, to provide a champion, and to make good all damages in case of defeat; . . . .

Anselm case.— . . . . A sacrilegious thief named Anselm stole the sacred vessels from the church of Laon and sold them to a merchant, from whom he exacted an oath of secrecy. Frightened at the excommunications fulminated by the authorities of the plundered church, the unhappy traitor revealed the name of the robber. Anselm denied the accusation, offered the wager of battle, defeated the unfortunate receiver of stolen goods, and was proclaimed innocent. Encouraged by impunity, he repeated the offense, and after his conviction by the ordeal of cold water, he confessed the previous crime. The doubts cast by this event on the efficacy of the judicial combat were, however, happily removed by the suggestion that the merchant had suffered for the violation of the oath which he had sworn to Anselm; and the reputation of the duel remained intact.

Opinion of the combatants.— . . . . That the combatants themselves did not always feel implicit confidence in the justice of the event, or rely solely upon the righteousness of their cause, is shown by the custom of occasionally bribing Heaven either to assist the right or to defend the wrong.

One of the most important examples of a judicial appeal to sword is that mentioned by Lea.

Case of Otho.—A worthless adventurer, named Egena, accused the proud and powerful Otho of conspiring against the life of Henry IV. In a diet held at Mainz . . . . , the duke was commanded to disprove the charge by doing battle with the accuser within six weeks. According to some authorities, his pride revolted at meeting an adversary so far his inferior; according to others he was prevented from appearing in the lists only by the refusal of the Emperor to grant him a safe conduct. Be this as it may, the appointed term elapsed, his default of appearance caused judgment to be taken against him and his duchy was confiscated accordingly. It was bestowed on Welf . . . . ; and thus, on the basis of a judicial duel, was founded the second Bavarian house of Guelf, from which have sprung so many royal and noble lines, including their Guelfic Majesties of Britain.

[In France] . . . . a legal record, compiled about 1325 . . . . , and that indeed it [wager of battle] was the ordinary defense in accusations of homicide.

Combat in France.—In 1386 The Parlement of Paris was occupied with a subtle discussion as to whether the accused was obliged, in cases where battle

was gaged, to give the lie to the appellant, under pain of being considered to confess the crime charged, and it was decided that the lie was not essential.

Case showing the injustice of the judicial combat.— . . . . The same year [1386] occurred the celebrated duel between the Chevalier de Carrouges and Jacques le Gris, to witness which the King shortened a campaign, ... The cruelly wronged Dame de Carrouges, clothed in black, is mounted on a sable scaffold, watching the varying chances of the unequal combat between her husband, weakened by disease and his vigorous antagonist; with the fearful certainty that, if might alone prevail, he must die a shameful death and she be consigned to the stake. Hope grows faint and fainter; a grievous wound seems to place Carrouges at the mercy of his adversary, until at the last moment, when all appeared lost, she sees the avenger drive his sword through the body of his prostrate enemy, vindicating at once his wife's honor and his own good cause (Froissart, Liv. III, chap. xlix). Froissart . . . . omits to mention . . . . that Le Gris was subsequently proved innocent by the deathbed confession of the real offender (*Hist. de Charles VI* [ann. 1386]). To make the tragedy complete . . . . adds that the miserable Dame de Carrouges, overwhelmed with remorse at having unwittingly caused the disgrace and death of an innocent man, ended her days in a convent.

Last case in France.— . . . . Two years later, two young notables of his court, Jacques de Fontaine, Sieur de Fendilles, and Claude des Guerres, Baron de Vienne-le-Châtel, desired to settle in this manner a disgusting accusation brought against the latter by the former. The king, having debarred himself from granting the appeal, arranged the matter by allowing . . . . Marshall of France . . . . to permit it in the territory of which he was suzerain. Fendilles was so sure of success that he refused to enter the lists until a gallows was erected and a stake lighted, where his adversary after defeat was to be gibbeted and burned. Their only weapons were broad swords, and at the first pass Fendilles inflicted on his opponent a fearful gash in the thigh. Des Guerres, seeing that loss of blood would soon reduce him to extremity, closed with his antagonist, and being a skillful wrestler, speedily threw him. Reduced to his natural weapons, he could only inflict blows with the fist, which failing strength rendered less and less effective, when a scaffold crowded with ladies and gentlemen gave way throwing down the spectators in a shrieking mass. Taking advantage of the confusion, the friends of de Guerres violated the law which imposed absolute silence and neutrality on all, and called to him to blind and suffocate his adversary with sand. Des Guerres promptly took the hint, and Fendilles succumbed to this unknightly weapon. Whether he formally yielded or not was disputed. Des Guerres claimed that he should undergo the punishment of the gallows and stake prepared for himself, but . . . . interfered, and the combatants were both suffered to retire in peace (Brantome, *Discours sur les duels* . . . . [1620]). This is the last recorded instance of the wager of battle in France. The custom appears never to have been formally abolished, and so little did it repre-

sent the thoughts and feelings of the age which witnessed the Reformation that when, in 1566 Charles IX issued an edict prohibiting duels, no allusion was made to the judicial combat, ... The custom died a natural death. No ordinance was necessary to abrogate it; and, seemingly from forgetfulness, the crown appears never to have been divested of the right to adjudge the wager of battle.

Wager in Hungary.—In Hungary, it was not until 1492 that any attempt was made to restrict the judicial duel. In that year Vladislas II prohibited it in cases where direct testimony was procurable; . . . . The terms of the decree show that previously its use was general. . . . .

Wager Abolished in Italy, Flanders, and Russia.—Even the precocious civilization of Italy, which usually preferred astuteness to force, could not altogether shake off the traditions of the Lombard law until the sixteenth century. In 1505, Julius II forbade the duel under severest penalties. . . . . In Flanders the duel lasted until late in the sixteenth century. The trial by duel was promulgated in Russia in 1498 and abrogated in 1649 by Czar Alexis Mikhailowitch.

Wager in Servia and Bulgaria.—In Servia and Bulgaria the custom is supposedly in existence at the present time (according to Lea).

In Scotland wager was limited until abolished by Queen Mary.

Wager in Scotland.—A curious custom, peculiar to the English jurisprudence, allowed a man indicted for a capital offense to turn "approver," by confessing the crime and charging or appealing any one he chose as an accomplice, and this appeal was usually settled by the single combat.

THE ORDEAL

Ordeal in Japan.—Fire is there considered, as in India, to be the touchstone of innocence, ... The GOO, a paper inscribed with certain cabalistic characters, and rolled up into a bolus, when swallowed by an accused person, is believed to afford him no internal rest, if guilty, until he is relieved by confession; and a beverage of water in which the GOO has been soaked is attended with like happy effects.

Ordeal in Thibet.— . . . . Thibetan justice has a custom of its own, which is literally evenhanded, and which, if generally used, must exert a powerful influence in repressing litigation. Both plaintiff and defendant thrust their arms into a cauldron of boiling water containing a black and white stone, victory being assigned to the one who succeeds in obtaining the white. (Duclos, *Mém. sur les épreuves*).

Ordeal in India.—In the following texts the principal forms of Ordeal prescribed are precisely similar to the most popular of the mediaeval judgments of God: or according to the nature of the case, let the judge cause him who is under trial to take fire in his hand, or to plunge in water, or to touch separately the heads of his children and of his wife.

Whom the flame burneth not, whom the water rejects not from its depths, whom misfortune overtakes not speedily, his oath shall be received as undoubted.

Richs Vatsa case.—When the Richs Vatsa was accused by his young half-brother, who stigmatized him as the son of a Sôudra, he sware that it was false, and passing through fire proved the truth of his oath; the fire, which attests the guilt and innocence of all men, harmed not a hair of his head for he spoke the truth.

Ordeal in Modern India.—So in the form ordinarily in use throughout modern India, the patient bathes and performs certain religious ceremonies. After rubbing his hands with rice bran, seven green peepul leaves are placed on the extended palms and bound round seven times with raw silk. A red-hot iron of a certain weight is then placed on his hands, and with this he has to walk across seven consecutive circles, each with a radius 16 finger breadths larger than the preceding. If this is accomplished without burning the hands, he gains his cause.

Biblical ordeal.—The bitter water by which conjugal infidelity was revealed (Num. 5: 11–31) was an ordeal pure and simple, as likewise the special cases of determining criminals by lot, such as that of Achan (Josh. 7:16–18) and of Jonathan (I Sam. 14:41, 42)—precedents which were duly put forward by the monkish defenders of the practice, when battling against the efforts of the papacy to abolish it.

Ordeal of Arabs.—Among some tribes of Arabs, for instance, the ordeal of red-hot irons appears in the shape of a gigantic spoon, to which, when duly heated, the accused applies his tongue, his guilt or innocence being apparent from his undergoing or escaping injury.

Ordeal in Egypt.—Owing to loss of records in Egypt there is not much evidence of the ordeal. Lea refers to the case of King Anasis whose reign immediately preceded the invasion of Cambyses, and was a petty thief in order to obtain money for drinks.

When therefore, he came to the throne, he acted as follows: Whatever Gods had absolved him from the charge of theft, of their temples he neither took any heed . . . . , considering them of no consequence at all, and as having only lying responses to give. But as many as had convicted him of the charge of theft, to them he paid the highest respect, considering them as truly Gods, and delivering authentic responses (*Euterpe* 174 [Cary's trans.]).

Ordeal in Africa.—The "afia-edet-ibom"is administered with the curved fang of a snake, which is cunningly inserted under the lid and round the ball of the defendant's eye; if innocent, he is expected to eject it by rolling the eye, while, if unable to perform this feat, it is removed with a leopard's tooth, and he is condemned. The ceremony of the "afia-ibnot-idiok" is even more childish. A white and black line is drawn on the skull of a chimpanzee, which is then held up before the accused, when an apparent attraction of the

white line towards him indicates his innocence, or an inclination of the black towards him pronounces his guilt. The use of the ordeal-nut is more formidable, as it contains an active principle which is a deadly poison, manifesting its effects by frothing at the mouth, convulsions, paralysis, and speedy death. . . . .

Ordeal in Tahiti.—A similar tendency is visible in a custom, prevalent in Tahiti, where in cases of theft, when the priest is applied to for discovery of the criminal, he digs a hole in the clay floor of the house, fills it with water, and, invoking his God, stands over it with a young plantain in his hand. The god to whom he prays is supposed to conduct the spirit of the thief over the water, and the priest recognizes the image by looking in the pool (Ellis, *Polynesian Researches*, Vol. I, chap. xiv).

Water ordeal in Western Africa.— . . . . The ordeal of red water, or infusion of sassy bark, also prevails throughout a wide region in Western Africa. . . . . It is administered . . . . by requiring the accused to fast for the previous twelve hours and to swallow a small quantity of rice previous to the trial. The infusion is then taken in large quantities, or as much as a gallon being sometimes employed; if it produces emesia, so as to eject all of the rice, the proof of innocence is complete, but if it fails in this, or if it acts as a purgative, the accused is condemned. . . . . When the emetic effects are depended on, the popular explanation is that the fetish enters with the draught, examines the heart of the accused, and, in cases of innocence, returns with the rice as evidence.

Water ordeal in Greece.— . . . . The water ordeal . . . . may, nevertheless, be considered as having its prototype in several fountains, which were held to possess special power in cases of suspected female virtue. One at Artecomium . . . . became turbid as soon as entered by a guilty woman. Another, near Ephesus . . . . was even more miraculous. The accused swore to her innocence, and entered the water, bearing suspended to her neck a tablet inscribed with the oath. If she were innocent, the water remained stationary, at the depth of the midleg; while, if she were guilty, it rose until the tablet floated. Somewhat similar to this was the Lake of Policia in Sicily . . . . , where the party (Ordeal in Sicily) inscribed his oath on a tablet, and committed it to the water, when if the oath were true it floated, and if false it sank.

Water ordeal in Rome.— . . . . Special instances of miraculous interposition to save the innocent from unjust condemnation may also be quoted as manifesting the same general tendency of belief. Such was the case of the Vestal Tucca, accused of incest, who demonstrated her purity by carrying water in a sieve. As somewhat connected with the same ideas, we may allude to the imprecations accompanying with most solemn form of oath among the Romans, known as "Jovem lapidem jurare," whither we take the ceremony . . . . of casting a stone from the hand, and invoking Jupiter to reject in like manner the swearer if guilty of perjury, ... St. Augustine relates

that at Milan a thief who swore upon some holy relics with the intention of bearing a false witness was suddenly forced to confess himself the author of the crime which he had designed fastening on another, ...

Water ordeal among the barbarians.—Thus an anonymous epigram preserved in the Greek anthology informs us of a singular custom existing in the Rhineland, ... by which the legitimacy of children was established by exposure to an ordeal of the purest chance. . . . .

> Upon the waters of the jealous Rhine
> The savage Celts their children cast, nor own
> Themselves as fathers, till the power divine
> Of the chaste river shall the truth make known.
> Scarce breathed its first faint cry, the husband tears
> Away the new-born babe, and to the wave
> Commits it on his shield, nor for it cares
> Till the wife-judging stream the infant save,
> And prove himself the sire. All trembling lies
> The mother, racked with anguish, knowing well
> The truth, but forced to risk her cherished prize
> On the inconstant waters' restless swell.

Cold-water ordeal.—[The] cold-water ordeal (*judicium aquae frigidae*) differed from most of its congenes in requiring a miracle to convict the accused, as in the natural order of things he escaped. The preliminary solemnities, fasting, prayer, and religious rites . . . . : holy water sometimes was given the accused to drink; the reservoir of water, or pond, was then exorcised with formulas exhibiting the same combination of faith and impiety, and the accused, bound with cords, was lowered into it with a rope, to prevent fraud if guilty, and to save him from drowning if innocent. According to the Anglo-Saxon rule the length of the rope allowed under water was an ell and a half; but in the process of time nice questions arose as to the precise amount of submergence requisite for acquittal. Towards the close of the twelfth century we find that some learned doctors insisted that sinking to the very bottom of the water was indispensable; others decided that if the whole person were submerged it was sufficient; while others again reasoned that as the hair was an accident or excrement of the body, it had the privilege of floating without convicting its owner, if the rest of the body was satisfactorily covered.

The basis of this ordeal was the superstitious belief that the pure element would not receive into its bosom anyone stained with the crime of a false oath, ... to kindred superstitions of old, that the earth would eject the corpse of a criminal, and not allow it to remain quietly interred.

Lea gives the argument of Hinceamur:

He who seeks to conceal the truth by a lie will not sink in the waters over which the voice of the Lord hath thundered; for the pure nature of the water recognizes as impure, and rejects as incompatible, human nature which, released from falsehood by the waters of baptism becomes again infected with

untruth. The baptism in the Jordan, the passing of the Red Sea, and the crowning judgment of the Deluge, were freely adduced in support of this theory. . . . . As practised in modern India, however, the trial is rather one of endurance. The patient stands in water up to his middle, facing the East. He dives under, while simultaneously an arrow of reed without a head is shot from a bow, 106 fingers' breadth in length, and if he can remain under water until the arrow is picked up and brought back, he gains his cause.

Detection of culprit by cold-water ordeal.—Perhaps the most extensive instance of the application of this form of ordeal was that proposed when the sacred vessels were stolen from the cathedral church of Laon, ... At a council convened on the subject, Master Anselm, the most learned doctor of the diocese, suggested that, in imitation of the plan adopted by Joshua at Jericho, a young child should be taken from each parish of the town and tried by immersion in consecrated water. From each house of the parish which should be found guilty, another child should be chosen to undergo the same process. When the house of the criminal should thus be discovered, all its inmates should be submitted to the ordeal, and the author of the sacrilege would thus be revealed.[1] This plan would have been adopted had not the frightened inhabitants rushed to the Bishop and insisted that the experiment should commence with those whose access to the church gave them the best opportunity to perpetrate the theft. Six of these latter were accordingly selected, among whom was Anselm himself. While in the prison awaiting his trial, he caused himself to be bound hand and foot and placed in a tub full of water, in which he sank satisfactorily to the bottom, and assured himself that he should escape. On the day of the trial, in the presence of an immense crowd, in the cathedral which was chosen as a place of judgment, the first prisoner sank, the second floated, the third sank, the fourth floated, the fifth sank, and Anselm, who was the sixth, notwithstanding his previous experiment, obstinately floated, and was condemned with his accomplices, in spite of his earnest protestations of innocence (Hermann de Mirac, *S. Marique Laudun*, Lib. III, cap. xxviii).

Boiling-water ordeal.—In boiling water the guilty are scalded and the innocent are unhurt, because Lot escaped unharmed from the fire of Sodom, and the future fire which will precede the terrible judge will be harmless to the saints, and will burn the wicked as in the Babylonian furnace of old.

Boiling-water ordeal in the ploughshare case.—Occasionally Heaven interposed to reverse the ordinary form of the hot-water ordeal. D'Achery quotes from a contemporary MS life of the holy Ponce, Abbot of Audaone near Avignon, a miracle which relates that one morning after mass, as he was about to cross the Rhone, he met two men who were quarreling over a ploughshare, which, after being lost for several days, had been found buried in the

[1] Cf. this method with that used by the author in the latter part of the book where it is necessary to ascertain which individual out of a series of sources is responsible for thefts, etc.

ground, and which each accused the other of having purloined and hidden. As the question was impenetrable to human wisdom, Ponce intervened and told them to place the ploughshare in the water of the river within easy reach. Then, making over it the sign of the cross, he ordered the disputant who was the most suspected to lift it out of the river. The man accordingly plunged his arm into the stream only to withdraw it exclaiming that the water was boiling, and showed his hand fearfully scalded, thus affording the most satisfactory evidence of his guilt.

. . . . The ordeals of both hot and cold water were stigmatized as plebeian from an early period as the red-hot iron and the duel were patrician.

Boiling-water ordeal in Ireland.—Irish law or Salique Law. . . . . In this text, the ordeal of boiling water finds its place as a judicial process in regular use, ... contains unequivocal evidence of the existence of the ordeal, in a provision which grants a delay of ten days to a man condemned to undergo the test of hot water.

Ordeal by purging with water.—One Ralph, accused of larceny, is adjured to purge himself by water; he did clear himself, and adjured the realm. . . . . In a third case a person was charged with supplying the knife with which a homicide was committed, and was adjudged to purge himself by water of consenting to the act. He failed, and was hanged.

Ordeal with red-hot iron.—The trial by red-hot iron (*judicium ferri, juise*) was in use from a very early period and became one of the favorite modes of determining disputed questions. It was administered in two essentially different forms. The one (*vomeres igniti, examen pedale*) consisted in laying on the ground at certain distances 6, 9, or in some cases 12, red-hot ploughshares, among which the accused walked barefooted, sometimes blindfolded, when it became an ordeal of pure chance, and sometimes compelled to press an iron with his naked feet. The other and more usual form obliged the patient to carry in his hand for a certain distance, usually 9 feet, a piece of red-hot iron, the weight of which was determined by law and varied with the importance of the question at issue or the magnitude of the alleged crime. The hand was then wrapped up and sealed, and three days afterwards the decision was rendered in accordance with its condition (*Laws of Athelstane*, IV, 7). . . . . Occasionally, when several criminals were examined together, the same piece of heated iron was borne by them successively, giving a manifest advantage to the last one, who had to endure a temperature considerably less than his companions.

Sophocles and the iron ordeal.—In Sophocles, *Antigone*, the guards protest their innocence to Creon, of any complicity in the burial of Polynices and offer to establish their innocence by ordeal, in the following lines:

> Ready with hands to bear the red-hot iron,
> To pass the fire, and by the Gods to swear
> That we nor did the deed, nor do we know
> Who counselled it, or who performed it.

Infidelity case and the iron ordeal.—In 887 Charles le Gros accused his wife, the Empress Richada, of adultery with Bishop . . . . , and she offered to prove her innocence by the judicial combat or the ordeal of the red-hot iron.

St. Cunigundi and the iron ordeal.—St. Cunigundi, referred to as the "virgin-wife" of the Emperor St. Henry II, is also reported to have eagerly appealed to the judgment of God, to establish her innocence of the baseless charges of infidelity preferred against her by a jealous lord and in vindication of her honor, to have successfully trod, unharmed, the red-hot ploughshares.

In the earlier periods the burning iron was reserved for cases of peculiar atrocity:

Iron ordeal in the Curthose case.—Robert Curthose, ... while in exile during his youthful rebellion against the father, formed an intimacy with a pretty girl. Years afterwards, when he was Duke of Normandy, she presented herself before him with two likely youths, who she asserted to be pledges of his former affection. Robert was incredulous; but the mother, carrying unhurt the red-hot iron, forced him to forego his doubts, and to acknowledge the paternity of the boys, whom he thereupon adopted.

Iron ordeal to disprove lying deities.—But perhaps the instance of this ordeal most notable in its results was that by which Bishop Poppo, in 962, succeeded in convincing and converting the pagan Danes. The worthy missionary, dining with King Harold Blaatand, denounced, with more zeal than discretion, the indigenous deities as lying devils. The king dared him to prove his faith in his God, and on his assenting, caused next morning an immense piece of iron to be duly heated, which the undaunted Poppo grasped and carried round to the satisfaction of the royal circle, displaying his hand unscathed by the glowing mass. The miracle was sufficient, and Denmark thenceforth became an integral portion of Christendom (Widukindi, Lib. III, cap. lxv).

Catching a thief by fire ordeal.—The most miraculous example of this form of ordeal, however, was one by which the holy Suidger, Bishop of Münster, reversed the usual process. Suspecting his chamberlain of the theft of a cap which was stoutly denied, he ordered the man to pick up a knife lying on the table, having mentally exorcised it. The cold metal burned the culprit's hands, as though it were red hot, and he forthwith confessed his guilt (*Annalista Saxo* [ann. 993]).

In the same way the truth or falsehood of a document was attested to. Thus Lea cites the following case:

Ordeal of a document.— . . . . More satisfactory to the orthodox was the result of a similar ordeal which marked the opening of St. Dominic's career against the Albigenses. In a dispute with some heretics he wrote out his argument on the points of faith, and gave it to them for examination and reply.

That night, as they were seated around the hearth, the paper was produced and read, when one of them proposed that it should be cast into the flames, when, if it remained unconsumed, they would see that the contents were true. This was promptly done, when the saintly document was unharmed. One, more obdurate than the rest, asked for a second and a third trial, with the same result . . . . (Pet. Val. Crenaii, *Hist. Albigens*, cap. iii).

Ordeal of the cross.—A slight variation of this form of ordeal consisted in standing with the arms extended in the form of a cross, while certain portions of the service were recited. In this manner St. Lioba, Abbess of Bischoffshein, triumphantly vindicated the purity of her flock, and traced out the offender, when the reputation of her convent was imperiled by the discovery of a new-born child drowned in a neighboring pond.

Ordeal of "corsaened."—The ordeal of consecrated bread or cheese (*Judicium offae, pains conjuratio*, the corsaened of the Anglo-Saxons) was administered by presenting to the accused a piece of bread (generally of barley) or cheese, about an ounce in weight, over which prayers and adjurations had been pronounced. After appropriate religious ceremonies, including the communion, the morsel was eaten, the event being determined by the ability of the accused to swallow it. This depended of course upon the imagination, and we can readily understand how, in those times of faith, the impressive observances which accompanied the ordeal would affect the criminal, who, conscious of guilt, stood up at the altar, took the sacrament, and pledged his salvation on the truth of his oath.

The prayer, or exorcism, employed during the corsaened ordeal was similar to one mentioned by Lea:

Prayer with corsaened.—O God, Most High, who dwellest in Heaven, who through Thy Trinity and Majesty hast Thy just angels, send, O Lord, Thy Angel Gabriel to stick in the throat of those who have committed this theft, that they may neither chew nor swallow this bread and cheese created by Thee. I invoke the Patriarchs, Abraham, Isaac and Jacob, with 12,000 Angels and Archangels. I invoke the four Evangelists, Matthew, Mark, Luke and John. I invoke Moses and Aaron, who divided the sea. That they may bind to the throats and tongues of the men who have committed the theft, or consented thereto. If they taste this bread and cheese created by Thee, may they tremble like a trembling tree, and have no rest, nor keep the bread and cheese in their mouths, that all may know Thou are the Lord and there is none but Thee.

Corsaened in India.—In India, this ordeal is performed with a kind of rice called *sathee*, prepared with various incantation. The person on trial eats it, with his face to the East, and then spits on a peepul leaf. "If the saliva is mixed with blood, or corners of his mouth swell, or he trembles, he is declared to be a liar."

Lea cites this case:

Eucharistic ordeal in the case of an accused monk.— . . . . A monk, condemned to undergo the trial, boldly received the sacrament, when the Host, indignant at its lodgement in the body of so perjured a criminal, immediately slipped out at the naval, white and pure as before, to the immense consternation of the accused, who forthwith confessed his crime (Greg., *Turon Hist.*, Lib. X, cap. viii).

Lothar tried by ordeal of the Eucharist.—Perhaps the most striking instance recorded of its administration was, however, in a secular matter, when in 869 it closed the unhappy controversy between King Lothar and his wives. . . . . To reconcile himself with the Church, Lothar took a solemn oath before Adrian II, that he had obeyed the ecclesiastical mandate . . . . after which the Pontiff admitted him to communion, under an adjuration that it should prove the test of his truthfulness. Lothar did not shrink from the ordeal, nor did his nobles . . . . but, leaving Rome immediately afterwards, the royal *cortège* was stopped at Paicenza by a sudden epidemic . . . . and then Lothar died, August 8th, with nearly all of his followers—an awful example held out by the worthy chroniclers as a warning to future generations.

Bread-in-water ordeal in Russia.—When a theft is committed in a household, the servants are assembled, and a sorceress, or *Borogeia*, is sent for. Dread of what is to follow generally extorts a confession from the guilty party without proceeding further, but if not, the *Borogeia* places on the table a vase of water and rolls up as many little balls of bread as there are suspected persons present. Then taking one of the balls, she addresses the nearest servant—"If you have committed the theft, this ball will sink to the bottom of the vase, as will your soul in Hell; but if you are innocent, it will float on the water." The truth or falsehood of this assertion is never tested, for the criminal invariably confesses before his time arrives to undergo the ordeal (Hartausen, *Etudes sur la Russie*).

Ordeal of lot in India.—The ordeal of the lot left the decision to pure chance, in the hope that Heaven would interpose to save the innocent and punish the guilty. . . . . As administered in India, the ordeal of chance consists in writing the words *dherem* and *adheram* on plates of silver and lead respectively, or on pieces of white and black linen, which are placed in a vessel that has never held water. The party on trial draws out one of the pieces, and if it proves to be *dherem* he gains his cause.

Bier ordeal.—Shakespeare introduces it in *King Richard III*, where Gloster interrupts the funeral of Henry VI, and Lady Anne exclaims:

> Oh gentlemen, see, see! dead Henry's wounds
> Open their congealed mouths, and bleed afresh.

Carter case of ordeal by bier.—Somewhat remarkable, in view of the length of time which had elapsed between the death and the ordeal, is a case alluded to in the records of Accomac County, Virginia. About the middle of January,

1680, a new-born illegitimate child of Mary, daughter of Sarah, wife of Paul Carter, died and was buried. It was nearly six weeks before suspicion was aroused, when the coroner impaneled a jury of twelve matrons, whose verdict reported that Sarah Carter was brought to touch the corpse without result, but that when Paul Carter touched it "immediately whilst he was stroaking ye childe the black and settled places above the body of the childe grew fresh and red so that blud was redy to come through ye skin of the childe." On the strength of this verdict an indictment was found against Paul Carter. . . . .

Irregular ordeals.—We may even include among ordeals the ordinary purgatorial oath, when administered upon relics of peculiar sanctity, to which the superstition of the age attributed the power of punishing the perjurer.

When, in the tenth century, Adaulfus, Bishop of Compostella, was accused of a nameless crime, and was sentenced by the hasty judgment of the king to be gored to death by a wild bull, he had taken the precaution, before appearing at the trial, to devoutly celebrate Mass in his full pontificals. The bull, maddened with dogs and trumpets, rushed furiously at the holy man, then suddenly pausing, advanced gently towards him and placed its horns in his hands, nor could any efforts of the assistants provoke it to attack him. The king and his courtiers, awed by this divine interposition in favor of innocence, threw themselves at the feet of the saint, who pardoned them and retired to the wildest region of the Asturias, where he passed the rest of his days as an anchorite.

He left his chasuble behind him, however, and this garment thenceforth possessed the miraculous power that, when worn by anyone taking an oath, it could not be removed if he committed perjury. The shrines of other saints convicted the perjurer by throwing him down in an epileptic fit, or fixing him rigid and motionless at the moment of his invoking them to witness his false oath. The monks of Abingdon boasted a black cross made from the nails of the crucifixion and . . . . , a false oath on which was sure to cost the malefactor his life. Though not legally an ordeal, I may refer to a practice cognate in its origin as an appeal to Heaven to regulate the amount of punishment requisite for the expiation of a crime. One or more bands of iron were not infrequently fastened round the neck or arm of a murderer, who was banished until by pilgrimage and prayer his reconciliation and pardon should be manifested by the miraculous loosening of the fetter, showing that soul and body were each released from their bonds.

TORTURE

In addition to the ordeal and the trial by battle it was also customary to use torture in order to elicit a confession. Thus Feilden in his *Short Constitutional History of England* states:

Torture, though contrary to the law of England (Magna Carta: *Nullus liber homo aliquo modo destruatur*), was frequently employed during the mid-

dle ages by the exercise of the prerogative of the Crown, more especially for the purpose of manufacturing evidence, and extorting confessions. The first instance occurs in the reign of Edward II (the French Admiral, Turheville, captured at Dover, 1625, is said to have been tortured), when the King and Council, in answer to a request of Pope Clement V, allowed the Templars to be tortured. The Duke of Exeter (John Holland), temp. Henry VI, is said to have introduced the rack, which was, in consequence, known as the Duke of Exeter's daughter and temp. Edward IV there are instances of its employment. Under Henry VIII, Anne Askew was severely racked; and under Elizabeth, the victims of the Star Chamber (especially the Jesuits and Catholics) were frequently tortured when it was desired to elicit information, although torture was forbidden by the Queen, The case of Timothy Penreed, charged with forging the seal of the King's Bench, in 1571, deserves mention from the barbarity of the sentence; His ears were to be nailed on successive days to the pillory in such a manner that he, "the said Timothy, shall, by his own proper motion, be compelled to tear away his two ears from the pillory." The conspirators in the Gunpowder Plot of 1605 were all tortured, and Edmund Peacham was severely racked (1615). "He was examined," says Sir Ralph Winwood, "before torture, in torture, between torture, and after torture." Torture was declared illegal by Sir Edward Coke, and this opinion was expressed by all the judges when it was proposed by the Privy Council to put John Felton, the assassin of the Duke of Buckingham, to the rack, in 1628. The last instance of torture in England occurred in May, 1640 (Jardine, *Readings on the Use of Torture in the Criminal Law of England* [1378]), although it was not forbidden by Statute until 7 Anne, c. 21–8, 1709, which, ... however, provides for the continuance of the *Peine Forte Et Dure*. The usual modes of torture were the rack, the Scavenger's daughter (an instrument invented temp. Henry VIII by Sir W. Seffinton, Governor of the Tower of London), the thumbscrews and the boot.

Torture in Greece.—In Greece, we find the use of torture thoroughly understood and permanently established. . . . . As a general rule, no freeman could be tortured. . . . .

In formal litigation, the defeated suitor paid whatever damages his adversary's slaves might have undergone at the hands of the professional torturer. . . . .

Torture in Rome.—The principles were the same as in Greece at first, but later any citizen was liable. Torture was made use of on all occasions by Roman Emperors. No one was immune if a confession was desired.

The torture of freemen accused of crime against the state or the sacred person of the Emperor thus became an admitted principle of Roman Law. . . . . In bringing an accusation the accuser was obliged to inscribe himself formally, and was exposed to the *lex talionis* in case he failed to prove the justice of the charge (Const. 17, Code lxii). . . . . All these laws relate to the extortion of confessions from the accused. . . . . There was but one limitation

to the universal liability of slaves. They could not be tortured to extract testimony against masters, whether in civil action or in criminal cases. . . . .

Accordingly we find that, in 197, Septimus Severus specified adultery, fraudulent assessment, and crime against the state as cases in which the evidence of slaves against their masters was admissible. . . . . Under the Republic . . . . anyone could offer his slaves to the torture when he desired to produce their evidence. In the earlier times, this was done by the owner himself in the presence of the family, and the testimony thus extorted was carefully taken down to be duly produced in court; . . . . The declaration of Diocletian, in 286, that masters were not permitted to bring forthward their own slaves to be tortured for evidence in cases wherein they were personally interested . . . . (Const. 7, Codes IX, XII—Dioclet. et Maxin). . . . . When the slave himself was arraigned upon a false accusation and tortured, an old law provided that the master should receive double the loss or damage sustained; . . . . This was an immense step towards equalizing the legal condition of the bondsman and his master. . . . .

Limitations to Roman torture.— . . . . There were some general limitations imposed on the application of torture, but they were hardly such as to prevent its abuse at the hands of cruel and unscrupulous judges. Antonius Pius set an example which modern jurists might well have imitated when he directed that no one should be tortured after confession to implicate others; . . . . Women were spared during pregnancy, ... and Adrian reminded his magistrate that it should be used for the investigation of truth, and not for the infliction of punishment. . . . . Adrian further directed, in the same spirit, that the torture of slave witnesses should only be resorted to when the accused was so nearly convicted that it alone was required to confirm his guilt. Diocletian ordered that the proceedings should never be commenced with torture, but that it might be employed when requisite to complete the proof, if other evidence afforded rational belief in the guilt of the accused.

Value of torture to the Roman jurist.—We have seen above that Augustus pronounced it the best form of proof, but other legislators and jurists thought differently. Modestinus affirms that it is only to be believed when there is no other mode of ascertaining the truth (L. 7, Dig. XXV). Adrian cautions his judges not to trust to the torture of a single slave, but to examine all cases by the light of reason and arguments. According to Ulpian, the imperial constitutions provided that it was not always to be received nor always rejected; in his own opinion it was unsafe, dangerous, and deceitful, for some men are not so resolute that they would bear the extremity of torture without yielding, while others were so timid that through fear they would at once inculpate the innocent. From the manner in which Cicero alternately praises and discredits it, we can safely assume that lawyers were in the habit of treating it, not on any general principle, but according as it might affect their client in any particular case; and Quintilian remarks that it was frequently objected to on the ground that under it one man's constancy makes false-

hood easy to him, while another's weakness renders falsehood necessary. That these views were shared by the public would appear from the often quoted maxim of Publius Syrus—Etiam innocentes cogit mentire dolor." . . . .

Torture in a slave case.—A slave of M. Agnius was accused of the murder of Alexander, a slave of C. Fannius. Agnius tortured him, and, on his confessing the crime, handed him over to Fannius, who put him to death. Shortly afterwards the missing slave returned home. . . . .

Other cases of torture.— . . . . Story told by St. Jerome of a woman of Vercelli repeatedly tortured on an accusation of adultery, and finally condemned to death in spite of her constancy in asserting her innocence, the only evidence against her being that of her presumed accomplice, extorted under torment. Quintus Curtius probably reflects the popular feeling on the subject, in his pathetic narrative of the torture of Philotas on a charge of conspiracy against Alexander. After enduring in silence the extremity of hideous torment, he promised to confess if it were stopped, and when the torture was removed he addressed his brother-in-law Craterus, who was conducting the investigation: "Tell me what you wish me to say." Curtius adds that no one knew whether or not to believe his final confession, for torture is as apt to bring forth lies as well as truth.

. . . . When several persons were accused as accomplices, the judges were directed to commence with the youngest and weakest.

Torture among the barbarians.— . . . . The principal resource for the repression of crime was by giving free scope to the vengeance of the injured party, and by providing fixed rates of compensation by which he could be bought off. . . . . The suggestion of torturing him to extort a confession would seem an absurd violation of his rights. . . . . Caesar states that when a man of rank died his relatives assembled and investigated the circumstances of his death. If suspicion alighted upon his wives, they were tortured like slaves, and if found guilty they were executed with all the refinement of torment.

In accordance with this tendency of legislation, therefore, we find that among the barbarians the legal regulations for the torture of slaves are intended to protect the interests of the owner alone. . . . . all these regulations provide merely for extracting confessions from accused slaves and not testimony from witnesses. . . . .

Torture among the Wisgoths.—Among the Wisgoths there were some changes of the imperial constitutions. . . . . If no confessions were extorted, and the accused were crippled in the torture, the judge and the accuser were both heavily fined for his benefit, and if he died the fines were paid to his family. . . . . No accuser could force to the torture a man higher in station or rank than himself. . . . .

Torture and false confession.— . . . . A very remarkable regulation, moreover, provided against false confessions extorted by torment. The accuser was obliged to draw up his accusation in all its details, and submit it secretly

to the judge. Any confession under torture which did not agree substantially with this was set aside, and neither convicted the accused nor released the accuser from the penalties to which he was liable. . . . .

Torture in Spain.—Torture was thus maintained in Spain, an unbroken ancestral custom. . . . . Asserting that torture was frequently requisite for the discovery of hidden crimes, he found himself confronted by the church which taught . . . . that confessions extorted under torture were invalid. To this doctrine he gave his full assent. . . . . After confession under torture, the prisoner was remanded to his prison. On being subsequently brought befor the judge, he was again interrogated, when, if he persisted in his confession, he was condemned. If he recanted, he was again tortured; and, if the crime was grave, the process could be repeated a third time; but, throughout all, he could not be convicted unless he made a free confession apart from the torture. Even after conviction, moreover, if the judge found reason to believe that the confession was the result of fear of the torture, or of rage at being tortured, or of insanity, the prisoner was entitled to an acquittal. . . . .

Universality of torture.— . . . . Simancos . . . . speaks of it as a generally received axiom that scarcely any criminal accusation could be satisfactorily tried without torture (Simancos, *De Cathol. instit.*, Lib. Tit. LXV, No. 8).

Persons immune from torture under Alphonso.—The provision, also, that when a master, or mistress, or one of the children was found dead at home, all of the household slaves were liable to torture in search for the murderer bears a strong resemblance to the cruel law of the Romans, which condemned them to death in case the murder remained undiscovered. . . . .

In the final shape which the administration of torture assumed in Spain . . . . (about 1600), it was employed only when the proof was strong, and yet not sufficient for conviction. No allusion is made to the torture of witnesses, and Villidrego condemns the cruelty of some judges who divide the torture into three days in order to render it more effective, since, after a certain prolongation of torture, the limbs begin to lose their sensibility, which is recovered after an interval, and on the second and third days they are more sensitive than the first. This he pronounces rather a repetition than a continuation of torture, and repetition was illegal unless rendered necessary by the introduction of new testimony. . . . . Nobles, doctors of law, pregnant women, and children under fourteen were not liable, except in cases of high treason and some other heinous offenses. The clergy also were now exempted, ... and advocates engaged in pleading enjoyed a similar privilege. With the growth of the inquisition, however, heresy had now advanced to the dignity of a crime which extinguished all prerogatives, for it was held to be a far more serious offense to be false to Divine than to human majesty (*De Cathol. instit.*, Lib. Tit. LXV, Nos. 44–48).

Opposition to torture in Spain.— . . . . Juan Luis Vives, one of the profoundest scholars of the 16th century, condemned this as useless and inhuman. The skeptic of the period, Montaigne, was too cool and clearheaded

not to appreciate the vicious principle on which it was based, ... "To tell the truth, it is a means full of uncertainty and danger; . . . . whence it happens that when a judge tortures a prisoner for the purpose of not putting an innocent man to death, he puts him to death both innocent and tortured." . . . .

In the ninth century, moreover, torture was incompatible with the forms of judicial procedure handed down as relics of the time when every freeman bore his share in the public business of his department.

Torture in Italy.—Italy was the center from which radiated the influences of the Roman Law throughout Western Europe, and, as might be expected, it is to Italy that we must look for the earliest incorporation of torture in the procedures of modern criminal jurisprudence. The Veronese laws in force in 1228 already show a mixture of proceedings suggestive. . . . . In doubtful cases, the Podesta was empowered to ascertain the truth of testimony by either inquest, torture, or the duel (*Lib. juris civilis Veronae*, cap. lxxv, p. 61). . . . . That by the middle of the century, indeed, the practical applications of torture had been profoundly studied and were thoroughly understood in all their most inhuman ramifications. . . . .

The church and torture.—The church had been actively engaged in discountenancing and extirpating the ordeal, and it now threw the immense weight of its authority in favor of the new process of extorting confessions. . . . . In 1252, however, when Innocent IV issued his elaborate instructions for the guidance of the inquisition in Tuscany and Lombardy, he ordered the civil magistrates to extort from all heretics by torture not merely a confession of their own guilt, but an accusation of all who might be their accomplices; and this derives significance from his reference to similar proceedings as customary in trials of thieves and robbers.

. . . . In the celebrated case, also, of the robbery of the church of Laon, about the year 1100, the suspected thief, after conviction by the cold-water ordeal, was tortured by the command of the bishop in order to make him surrender the sacred vessels which he had concealed. Basting with hot lard was tried unsuccessfully; he was then hanged by the neck and let down at intervals for nearly a whole day, and when life was almost extinct his resolution gave way and he agreed to discover the place where the valuables were hidden.

Torture in France.— . . . . About the time when Innocent IV was prescribing torture in Italy we find the first evidence of its authoritative use in France as an ordinary legal procedure. In December, 1254, an assembly of the nobles of the realm at Paris adopted an ordinance regulating many points in the administration of justice. . . . . Still, as an admitted legal procedure, the introduction of torture was very gradual. . . . .

The fourth case does not present itself until 1306. Two Jews, under accusation of larceny by their brethren, complain that they have been illegally tortured by the Bailli of Bourges, and though one of them under the infliction had confessed to complicity, the confession is retracted and damages of 3,000 livres Tournois are demanded. . . . . The Parliament adopts a middle course; it acquits the Jews and awards no damages showing that the torture was legal and a retracted confession valueless. . . . .

The seventh case took place in 1312, when Michael de Poolay, accused of stealing a sum of money from Nicolas Loquetier of Rouen, was subjected to long imprisonment and torture at Château-Neuf de Lincourt, and was then brought to the Châtelet at Paris, where he was again examined without confession or conviction. Meanwhile, the real criminal confessed the theft and Nicolas applies to the Parliament for the liberation of Michael, which is duly granted (Olim, III, 1299).

Development of torture in France.—The use of torture was thus permanently established in the judicial machinery of France, as one of the incidents in the great revolution which destroyed the feudal power. . . . . By this time, however, places where torture was not used were exceptional. By a document of 1359, it appears that it was the custom to torture all malefactors brought to the Châtelet of Paris. . . . . At the end of the century, indeed, the right to administer torture in cases wherein the accused denied the charge was regularly established as incident to the possession of *haute* justice. . . . . Noble blood afforded no exception, for gentlemen were placed on the rack for petty crimes as freely as Roturrers. No avenue of escape was open to the miserable culprit. If he denied the alleged offense he was tortured at once for a confession, and no settled rules seem to have existed as to the amount of evidence requisite to justify it. . . . . If, on the other hand, the prisoner persistently denied his guilt there was no limit to the repetition of the torture, and yet, even when no confession could be thus extracted, the failure did not always exempt the prisoner from punishment. If he retracted the confession extorted from him, he was tortured again and again until he ceased to assert his innocence, for it was a positive necessity for convictions that the confession under torture should be confirmed by the prisoner without constraint . . . . when sentence came to be passed upon him outside of the torture-chamber.

If, again, the luckless prisoner freely confessed the crime of which he stood accused, he was likewise promptly tortured to find out what other offenses he might at some previous time have committed. . . . .

Case of Caussois.— . . . . Arrested for stealing some iron tools, he promptly confessed the crime. Among the reasons on record for proceeding to torture him in order to elicit an account of his other presumed misdemeanors is included the excellent one, "attendu qu'il est scabieux." Under the torment, the poor wretch accused himself of some other petty thefts, but even this did not satisfy his examiners, for the next day he was again brought before them and bound to the *Trestaue*, when he confessed to a few more trifling larcenies. Having apparently thus obtained enough evidence to satisfy their consciences, his judges mercifully hanged him without further infliction (*Registre criminel de Châtelet de Paris*, I, 36). . . . .

Case of Fleurant de Saint-Leu.—How that discretion was habitually exercised may be judged from the case of a certain Fleurant de Saint-Leu who was brought up for examination, ... on a charge of stealing a silver buckle. Denying the accusation he was twice tortured with increasing severity, until he confessed the alleged crime, but asserted it to be a first offense. On January 8th, the court directed that as a petty theft was insufficient to merit death, he should be tortured repeatedly to ascertain whether he had not been guilty of something else worthy of capital punishment. On that day he was therefore twice exposed to the questions, in an ascending scale of severity, but without success. On the 13th he was again twice tortured, when the only admission that rewarded the examiners was that three years before he had married a prostitute at. . . . . This uncommon obduracy seems to have staggered the court, for he was then kept in his dungeon until April 9th, when his case was carefully considered, and though nothing had been extorted from him since his first confession, he was condemned, and was hanged the same day . . . . thus proving how purely gratuitous the fearful sufferings to which he had been exposed in order to gratify the curiosity or satisfy the consciences of his remorseless judges.

Case of M. de la Pinele.— . . . . Somewhat similar was the case of Marguerite de la Pinele, accused of stealing a ring, which she confessed under torture. As she did not, however, give a satisfactory account of some money found upon her, though her story was partially confirmed by other evidence, she was again twice tortured. This was apparently done to gratify the curiosity of her judges, for though no further confession was extracted from her she was duly buried alive. . . . .

Crimes for which a man was hanged or decapitated were punished in a woman by burying or burning. Jews were executed by being hanged by the heels between two large dogs suspended by the hind legs—a frightful death, the fear of which sometimes produced conversion and baptism on the gallows. . . . .

Ordinance of 1670.—The ordinance of 1670 was drawn up by a committee of the ablest and most enlightened jurists of the day, and it is a melancholy exhibition of human wisdom when regarded as the production of such men as Lamoignon and Pussort. The cruel mockery of the *Question Preabable* was retained; and in the principal proceedings all the chances were thrown against the prisoner. All preliminary testimony was still *Exparte* . . . . gave formal expression to another abuse which was equally brutal and illogical—the employment of torture *Avec Reserve Des Preuves.* When the judges resolved on this, the silence of the accused under torment did not acquit him, though the whole theory of the question lay in the necessity of the confession. . . . .

Case of Barberousse.— . . . . But more inexcusable from its date was the sentence of the court of Orleans in 1740, by which a man named Barberousse, from whom no confession had been extorted, was condemned to the galleys

for life, because, as the sentence declared, he was *strongly suspected* of a premeditated murder (L'Oiseleur, *Les Crimes et les peines*, pp. 206–7).

French objection to torture.—When the French Ordinance of 1670 was in preparation, various magistrates of the highest character and largest experience gave it as their fixed opinion that torture was useless, that it rarely succeeded in eliciting the truth from the accused, and that it ought to be abolished (Declaration du 24 août, 1780 [Isambert, XXVII, 374]).

Montesquieu and Voltaire.— . . . . In the *Esprit des lois*, published in 1748, Montesquieu stamped his reprobation on the system with a quiet significance which showed that he had on his side all of the greater thinkers of the age, and that he felt argument to be mere surplusage. Voltaire did not allow its absurdities and incongruities to escape . . . . and cases of the use of torture still occasionally occurred, as that of Marie Tison. . . . .

Case of Marie Tison.— . . . . Marie Tison at Rouen, in 1788, [was] accused of the murder of her husband (thumbscrews were applied to both thumbs and at the same time she was hoisted to the strappado, in which she was allowed to hang for an hour after the executioner had reported that her shoulders were out of joint. All these inhuman cruelties were insufficient to extort a confession.) (Desmaye, *Pénaltés anciennes*, pp. 176–77.)

Abolition of torture in France.—Yet it was not until 1780 that the *Question Preparatoire* was abolished by a royal edict . . . . ; and torture as an element of criminal jurisprudence was a thing of the past. By the decree of October 9th, 1789, it was abolished forever.

Torture in Russia, Poland, Hungary, and Venetian Corsica.—In Russia, the first formal allusion to it [torture] is to be found in the Oulagenié Zakonoff, a code promulgated in 1497 by Ivan III, which merely orders that persons accused of robbery, if of evil repute, may be tortured to supply deficiencies of evidence; but as the duel was still freely allowed to the accused the use of torture must have been merely incidental (Esneaux, *Hist. of Russia*, III, 236).

In Corsica, at the same period [1356], we find the use of torture fully established, though subject to careful restrictions. Abolished in 1801 after restriction in 1767. The peculiar character of Venetian civilization made torture almost a necessity. The atmosphere of suspicion and secrecy which surrounded every movement of that republican despotism, the mystery in which it delighted to enshroud itself, and the pitiless nature of its legislation conspired to render torture an indispensable resource . . . . in the statutes of the State Inquisition, where the merest suspicion is sufficient to authorize its application. . . . . The first formal embodiment of torture in the law occurs in 1514. In Poland, torture does not make its appearance until the fifteenth century, and then it was introduced gradually, with strict instructions to the tribunals to use the most careful discretion in its administration (Du Boys, *Droit criminel*, I, 650).

Torture in Germany.—In Germany . . . . in the Golden Bull of Charles

IV, ... in 1356, there is a provision allowing the torture of slaves to incriminate their masters. . . . . In Germany, torture had been reduced to a system, in 1532, by the Emperor Charles V., whose *Caroline Constitutions* contain a more complete code on the subject than had previously existed, except in the records of the Inquisition.

" . . . . Confession made during torture was not to be believed, nor could a conviction be based upon it; yet what the accused might confess after being removed from torture was to be received as the disposition of a dying man and was full evidence. In practice, however, this only held good when adverse to the accused, for he was brought before his judge after an interval of a day or two, when, if he confirmed the confession, he was condemned, while if he retracted it, he was at once thrust again upon the rack. In confession, under torture, moreover, he was to be closely cross-questioned, and if any inconsistency was observable in his self-condemnation, the torture was at once to be redoubled in severity. . . . . To guard against abuse, the impossible effort was made to define strictly the exact quality and amount of evidence requisite to justify torture, and the most elaborate and minute directions were given with respect to all the various classes of crime, such as homicide, child-murder, robbery, theft, receiving stolen goods, posioning, arson, treason, sorcery and the like; . . . . The amount of torment, moreover, was to be proportioned to the age, sex, and strength of the patient; women during pregnancy were never to be subjected to it; and in no case was it to be carried to such a point as to cause permanent injury or death. . . . . Damhouder declares that in his day bloodthirsty judges were in the habit of employing the severest torture without sufficient proof or investigation, boasting that by its means they could extract a confession of everything; and von Rasbach tells us that the magistrates of his time, in the absence of all evidence, sometimes resorted to divination or the lot in order to obtain proof on which they could employ the rack or strappado (Emer. a Rosbach, Tit. V, cap. x, No. 25).

Torture and two conflicting witnesses.—An ingenious plan was also adopted by which, when two witnesses gave testimony irreconcilable with each other, their comparative credulity was tested by torturing both simultaneously in each other's presence. . . . . The Roman rule was followed that, whenever, several parties were on trial under the same accusation, the torturer should commence with the weakest and tenderest; while a refinement of cruelty prescribed that if a husband and wife were arraigned together, the wife should be tortured first, and in the presence of the husband; and if a father and son, the son before his father's face.

As to its special application Lea wrote after some preliminary remark:

. . . . Yet von Rosbach remarks that as soon as anyone claimed to have lost anything by theft, the judges of his day hastened to torture all suspect,

without waiting to determine whether or not the theft had really been committed as alleged (*Process Criminal*, Tit. V, cap. ix, No. 17); and von Boden declares that many tribunals were in the habit of resorting to it in cases wherein subsequent developments showed that the alleged crime had not really taken place; . . . . and he quotes a brother lawyer, who jocosely characterized such proceedings as putting the cart before the horse, and bridling him by the tail (*De usu et ab. tort. th.*, lx). . . . . The history of criminal jurisprudence is full of such proceedings. B. du Villars relates that during the war in Piedmont, in 1559, he released from the dungeons of the Marquis of Masserain an unfortunate gentleman who had been secretly kept there for 18 years, in consequence of having attempted to serve a process from the Duke of Savoy on the marquis. His disappearance naturally having been attributed to foul play, his kindred prosecuted an enemy of the family, who under the stress of torture, duly confessed to having committed the murder, and was accordingly executed in a tower where Masserain himself was residing (B. Villars, *Mémoirs*, Liv. VII).

Warning to the accused.—There is indeed something very suggestive in the directions which Simonacus gives to the judges that they should warn the accused when brought into the torture chamber, that if he is crippled or dies under the torture he must hold himself accountable for it is not spontaneously confessing the truth (Simonacus, *De Cathol. instit.*, Lib. Tit. LXV, No. 56).

Test of torture method by a judge.—Few, when once engaged in such a pursuit, could be expected to follow the example of the Milanese judge, who resolved his doubts as to the efficacy of torture in evidence by killing a favorite mule, and allowing the accusation to fall upon one of his servants. The man of course denied the offense, was duly tortured, confessed, and persisted in his confession after torture. The judge, thus convinced by experiment of the fallacy of the system, resigned the office whose duties he could no longer conscientiously discharge, and in his subsequent career rose to the cardinalate.

Abolition of torture in Italy.—In Italy, Beccaria, in 1764, took occasion to devote a few pages of his treatise on crimes and punishment to the subject of torture and its illogical cruelty which could not well be exposed with more terseness and force. . . . . It was probably due to the movement excited by this work that in 1786 torture was formally abolished in Tuscany.

Torture in Holland.— . . . . It appears that a young man of Amsterdam, returning home late at night from a revel, sank upon a door-step in a drunken sleep. A thief emptied his pockets, securing, among other things, a dirk, with which a few minutes later he stabbed a man in a quarrel. Returning to the sleeper, he slipped the bloody weapon back to its place. The young man awoke, but, before he had taken many steps, he was seized by the watch, who had just discovered the murder. Appearances were against him, he was tortured, confessed, persisted in his confession after torture and was duly

hanged. Soon after, the real criminal was condemned for another crime, and revealed the history of the preceding one, whereupon the States General of the United Provinces, using the ordinary logic of the criminal law, deprived the city of Amsterdam of its executioner, as a punishment for a result that was inevitable under the system.

Objections to torture.—In 1692 von Boden, ... inveighed against its abuses, while admitting its utility in many classes of crime. . . . . Bernhardi states that at this time it was no longer employed in Holland, and its disuse in Utrecht he attributes to a case in which a thief procured the execution, after due torture and confession, of a shoemaker against whom he brought a false charge for the refusal of a pair of boots.

As Lea indicated, torture was formally abolished on June 3, 1740, by Frederick the Great.

Torture in Iceland.—The earliest extant law of Iceland, the Grágás, which dates from 1119, has one or two indications of its existence, ... An unmarried woman with child who refused to name her seducer could be forced to do so by moderate torments which should not break or discolor the skin. The object of this was to enable the family to obtain the fine from the seducer and to save themselves the expense of supporting the child. . . . .

Torture in Scandinavia.—It is probable that the employment of torture may have crept in from Germany. . . . . The Scandinavian nation as a whole did not admit torture into their systems of jurisprudence. . . . . So in Sweden . . . . the code of Ragnald compiled in 1441 and in force in 1614, during a period in which torture flourished in almost every European state, has no place for it.

Torture in England.—To the same causes may be attributed the absence of torture from the Common Law of England. . . . . A confession by fear or fraud is pronounced invalid, and no one who has confessed his own crime is to be believed with respect to that of another. . . . . In fact, the whole spirit of the English Law was irreconcilable with the fundamental principles of the inquisitorial process. . . . . Under the common law, therefore, torture had properly no existence in England. . . . .

Royal prerogative in use of torture.—Under Henry VIII and his children, the power of the Crown was largely extended, and the doctrine became fashionable that, though no one could be tortured for confession or evidence by law, yet outside and above the law the royal prerogative was supreme, and that a warrant from the King in Privy Council fully justified the use of the rack and the introduction of the secret inquisitorial process, with all its attendant cruelty and injustice. As in other countries, so in England, when torture was once introduced, it rapidly broke the bounds which the prudence of the Roman lawgivers had established for it. . . . . Suspicion of theft, murder, horse-stealing, embezzlement, and other similar offenses were sufficient to consign the unfortunate accused to the tender mercies of the rack

. . . . that torture began to be habitually applied in the Bridewell. Jardine, however, states that this especially dangerous extension of the abuse appears to have ceased with the death of Elizabeth, and that no trace of the torture even of political prisoners can be found later than the year 1640. . . . . The only exception was in the cases of witchcraft.

Opposition in England.—Sir Thomas Smith, one of the ornaments of the Elizabethan bar, condemned the practice as not only illegal, but illogical. "To torment or question, which is used by order of the civile law and custome of other countries, ... is not used in England. . . . . The nature of Englishmen is to neglect death, to abide no torment; and, therefore hee will confesse rather to have done anything, yea, to have killed his owne father, than to suffer torment." . . . . In like manner, Sir Edward Coke . . . . declared, "So, as there is no law to warrant tortures in this land, nor can they be justified by any prescription, being so lately brought in, ..."

Lea remarks that both of these men, however, were later involved in the torturing of suspects.

Torture in Scotland.— . . . . In Scotland, torture, as a regular form of judicial investigation, was of late introduction. In the witch persecutions . . . . it was carried to a pitch of frightful cruelty which far transcended the limits assigned to it elsewhere. . . . . Torture thus maintained its place in the law of Scotland as long as the kingdom preserved the right of self-legislation, ... but the legal administration of torture was not abolished until after the Union, in 1709, by which it was done away with.

Forms of torture.—Sir W. Skevington, a lieutenant of the Tower, under Henry VIII, immortalized himself by reviving an old implement of torture, consisting of an iron hoop, in which the prisoner was bent, heels to hands, and chest to knees, and was thus crushed together unmercifully, ... the Scavenger's Daughter . . . . inscription on the wall of his dungeon, is still among the curiosities of the Tower:

> Thomas Miagh, which liethe here alone,
> That fayne wold from herr begon:
> By torture straunge mi truth was tryed,
> Yet of my libertie denied [1581].

Pricking of witches.—Another form of torture used in Great Britain was the "pricking" adopted to discover the insensible spot, which, according to popular belief, was one of the invariable signs of the witch. There were even professional "prickers" who were called in as experts in witch-trials and who thrust long pins into the body of the accused until some result, either negative or positive, was obtained.

Torture by water.—Ordonnance, Mars, 1498: . . . . That of water, as the clerk is directed to record "la quantite de l'eau qu'on aura bailée audit prisonniet." This was administered by gagging the patient, and pouring water down his throat until he was distended. It was sometimes diversified by

making him eject the water violently by forcible blows on the stomach. . . . . Sometimes a piece of cloth was used to conduct the water down the throat.

Torture by sleeplessness.—This mode of torture consisted in placing the accused between two jailers, who pummelled him whenever he began to doze, and thus, with proper relays, deprived him of sleep for 40 hours. Its inventor considered it humane, as it endangered neither life nor limb, but the extremity of suffering to which it reduced the prisoner is shown by its efficaciousness. . . . . Johann Graefe enumerates no less than 600 different instruments for the purpose.

Torture without risk.—One of these, which he states to produce insufferable torment without risk, is bathing the feet with brine, and setting a goat to lick the soles (Damhouder).

Modes of Grecian torture.—Principal modes in which torture was sanctioned by them were the wheel, the ladder or rack, ... the comb with sharp teeth, the low vault—in which the unfortunate witness was thrust and bent double—the burning tiles, the heavy whip, and the injection of vinegar into the nostrils (Eshbach's Introduction to *L'Etude de droit*).

Modes of Roman torture.— . . . . Various forms of torture [were] employed by the Romans. They illustrate no principles, however, and it is sufficient to enumerate the rack, the scourge, the fire in various forms, and hooks for tearing the flesh, as the modes generally authorized by law.

Torture forms in Spain.— . . . . Only two were commonly employed, the scourge and the strappado, or hanging the prisoner by his arms while his back and legs were loaded with heavy weights. . . . . The former of these, however, seems to be the only one alluded to throughout the code.

Lea also mentions the use of fire, applied to the soles of the feet, as well as scourging.

A form of torture in Russia.— . . . . The fingernails were wrenched off with little wooden wedges.

BENEFIT OF CLERGY

Benefit of clergy, originating in the early favor with which the church was regarded, and in the power which churchmen exercised through their higher education, was the right of any clerk in order, who was accused in a secular court, to claim his discharge at once into the bishop's court, where he was usually acquitted. This privilege, which had led to great abuses, was partially restricted by a statute of Henry VI, to the effect that the clerk must be convicted, or at least arraigned, before he could claim it; by that time the privilege had become extended to all who could read, whether clergy or not; and in 1849 . . . . it was enacted that those not in order should only be allowed to claim benefit of clergy once, and that they should be branded on the hand. In 1512 . . . . the privilege was taken away from the murderers and felons; . . . . In 1576 . . . . the process of handing the offender over to the

ecclesiastical court was done away with, and in 1706 . . . . the test of reading was no longer required. The privilege of benefit of clergy was taken away in 1827. . . . . By a statute, 1547, ... peers of parliament were granted a privilege equivalent to benefit of clergy, although they cannot read, and without being branded in the hand. . . . . This privilege of peerage was abolished in 1841.

PRIVILEGE OF SANCTUARY

On the privilege of sanctuary Feilden writes:

There were certain spots set aside as sanctuaries, or places in which persons guilty of any crime except sacrilege or treason were safe from penalties. The custom is of very ancient origin, and appears in England in the laws of Gni, Alfred, and William the Conqueror. The privilege of sanctuary extended for 40 days, within which time the person taking sanctuary had to confess his guilt before the coroner, and to adjure the realm. It was sometimes violated. . . . . In 1624 sanctuaries were abolished though they still continued to be used in London, in the case of debtors in 1697.

A FURTHER LEGAL METHOD FOR THE DETECTION OF GUILT

Ellis notes:

. . . . Later on a mediaeval law declared that if two persons fell under suspicion of crime the uglier or more deformed was to be regarded as more probably guilty.

CHAPTER VIII

POLICE METHODS

If justice as administered at the present time in this country by the judge, attorneys, and the juries lacks in efficiency, one cannot expect much of the police force. Here, as is well known, the police department is only too often the political football. What can be expected when the chiefs or commissioners are frequently laymen, army officers, political appointees, or men with no concept of what police work means? With each political election men may be transferred and inspectors specializing in certain fields may, after years of study and experience, be relegated overnight to the "sticks" to make room for political favorites.

Fosdick years ago depicted admirably the police situation here and in Europe. Fortunately, with the establishment of higher education and proper training as requirements in police work, policemanship is being raised to the dignity of a profession. It is the policeman who is the buffer for all society's maladjustments, and the intelligent and well-trained police officer is in a much better position to do even preventive work than are those who work in the court or in the penal institutions.[1]

When considering the existing scientific attempts being made to determine the innocence or guilt of the suspect, the police and judicial machinery furnish an interesting contrast in many ways. Especially is their procedure worthy of consideration since one daily reads in our largest cities of brutal treatment which the suspect is subjected to in the attempt to elicit a confession. Again one reads of the alleged cases of "jury-fixing" and acquittal of suspects, because of attempting to purchase freedom.

The third degree.—For many years, and even now in certain localities, the method of the ordeal was supplanted by that of the "third degree" of the police. By this procedure one favorite method of eliciting the truth is for a relay of detectives to quiz the suspect for a period of hours during which he is given no food or allowed to sleep until a

[1] The material in this chapter from this point on was published by the writer in the *Journal of the American Institute for Criminal Law and Criminology*, XVI (August, 1925), 219, under the title, "Present Police and Legal Methods for the Determination of the Innocence or Guilt of the Suspect."

confession is extorted. Naturally, with the suspect in an extremely fatigued condition, the nature of the confession will vary according to the suggestibility of the subject and the suggestions of the examiner. In one large city one important step in the procedure was to compel the suspect to face a powerful light which was turned directly into his eyes. It is not an unknown procedure for sheriffs to take advantage of the fear of a Negro by placing a pistol against his chest and commanding him to confess. In the Philippines what was termed the "water cure" has been employed. By dint of partial suffocation the desired confession is elicited. It has not been uncommon for detectives to employ brutal beating of the suspect to more refined methods of torture in which the suspect is deprived of his tobacco, especially if he is an intense addict. Again a man may be "planted" in an adjoining cell who may scream and rave all night as though he was going to be punished for the crime the suspect is supposed to have committed. Numberless incidents could be enumerated, but the same objections would apply to all. Aside from humanitarian objections to this procedure, the objection to this injudicious method of examining a suspect is that the suspect may confess to a crime of which he is innocent.

Münsterberg expresses his opinion on police methods in the following excerpts:

> *Police methods.*— . . . . And today the fortresses of Russia are said to witness torture which would be impossible in non-Slavic lands and, although the forms have changed, can there be any doubt that even in the United States brutality is still a favorite method of undermining the mental resistance of the accused? There are no longer any thumbscrews, but the lower orders of the police have still uncounted means to make the prisoner's life uncomfortable and perhaps intolerable, and to break down his energy. A rat put secretly into a woman's cell may exhaust her nervous system and her inner strength till she is unable to stick to her story. The dazzling light and the cold-water hose and the secret blow seem still to serve, even if nine-tenths of the newspaper stories of the "third degree" are exaggerated. Worst of all are the brutal shocks given with fiendish cruelty to the terrified imagination of the suspect.
>
> Decent public opinion stands firmly against such barbarism; and this opposition springs not only from sentimental horror and from aesthetic disgust; stronger, perhaps, than either of these is the instinctive conviction that the method is ineffective in bringing out the real truth. At all times, innocent men have been accused by the tortured ones, crimes which were never committed were confessed, infamous lies have been invented to satisfy the demands of the torturers. Under pain and fear a man may make an admission

which will relieve his suffering, and, still more misleading, his mind may lose the power to discriminate between the illusion and real memory.

. . . . The clean conscience of a modern nation rejects every such brutal scheme in the search for truth, and yet it is painfully aware that the accredited means for unveiling the facts are too often insufficient. The more complex the machinery of our social life, the easier it seems to cover the traces of crime and to hide the outrage by lies and deception. . . . .

The vulgar ordeals of the "third degree" in every form belongs to the Middle Ages, and much of the wrangling of attorneys about technicalities in admitting the "evidence" appears to not a few somewhat out of date, too; the methods of experimental psychology are working in the spirit of the twentieth century. The "third degree" may brutalize the mind and force either correct or falsified secrets to light. . . . . Enlightened juries have begun to understand how the ends of justice are frustrated by such methods. Only recently an American jury, according to the newspapers, acquitted a suspect who, after a previous denial, confessed with full detail to having murdered a girl whose slain body had been found. The detectives had taken the shabby young man to the undertaking-rooms, led him to the side of the coffin, suddenly whipped back the sheet, exposing the white, bruised face, and abruptly demanded, "When did you see her?" He sank on his knees and put his hands over his face; but they dragged him up to his feet and ordered him to place his right hand on the forehead of the body. Shuddering, he obeyed, and the next moment again collapsed. The detectives pulled him again to his feet, and fired at him question after question, forcing him to stroke the girl's hair and cheeks; and evidently without control of his mind he affirmed all that his torturers asked, and in his half-demented state even added details to his untrue story.

Henry Wilkins case.—In the San Francisco case of Henry Wilkins marked feeling seemed to be present at the time and one newspaper ran a serial story by Wilkins himself, in which it was alleged that Wilkins was taken from his children at a camp and, without hat or coat, dragged to San Francisco to the St. Francis Hotel. Here it was alleged that he was grilled for hours while the investigating attorney and his assistants imbibed whiskey. Again, in connection with the same case, according to a story published by a reporter who covered the case,[1] the confession of Arthur Castro was obtained as follows: A man was "planted" by police officials in a cell adjoining that of Castro. This individual spent the night moaning and shrieking to the effect that he was accused of the murder. Finally, it is alleged that Castro, unable to endure the strain, confessed. In spite of this and the fact that he was offered immunity, the testimony of this man was offered in an attempt

[1] *True Confessions*, October, 1923.

to implicate Henry Wilkins in the murder of his wife. (The Supreme Court overrules a confession made by an individual under offer of immunity which implicates another.)

It has not been, and is not still uncommon, for police officers to instruct the brawny neophyte as to how to inflict the most physical damage upon a recalcitrant suspect in such a manner that no evidence such as bruises or broken skin is afforded. In this technique the stomach is the favorite site for the administration of the blows.

A very interesting discussion of the third degree occurred at the seventh annual session of the International Association of Chiefs of Police (*Proceedings* [1910]). The following excerpt is taken from Wigmore:

Third degree.—MAJOR SYLVESTER OF WASHINGTON, D.C. [president of the Association]: While there was a cessation of visitations of the criminal classes to our shores during the War of the Revolution, yet eighty years later, in the War of the Rebellion, at a time when our population had grown to tremendous proportions and our commercialism extended from ocean to ocean, the disruption demanded extraordinary military and civil police activity. The marauder, the bank robber, and the highwayman, thieves and criminals of every kind, took advantage of the exciting times to engage in their nefarious undertakings. At the close of the conflict, during the period of reconstruction, soldiers and police were required to meet unusual conditions in the cities. Many of those arrested, criminals and suspects, were subjected to many kinds of inquisition and torture prior to court trials, in order that convicting confessions, implicating themselves or others in the commission of violations, might be had. It was clearly following upon these exciting times that the practical "sweat box" was described. As pictured, it was a cell adjoining which, in close proximity, was a high iron stove of drum formation. The subject indisposed to give information securely locked within his bosom would be confined within the cell; a scorching fire would be encouraged in the monster stove adjoining, into which vegetable matter, old bones, pieces of rubber shoes, and kindred trophies would be thrown; all to make a terrible heat, offensive as it was hot, to at last become so torturous and terrible as to cause the sickened and perspiring object of punishment to reveal the innermost secrets he possessed, as the compensation of release from the "sweat box." This is the origin of the torrid appellation which has been so much discussed within the past few and preceding years. The existence of any such character of contrivance in these enlightened days would be followed by raid and suppression. On the other hand, the criminal and those who use the criminal vernacular apply the effervescent term to the office, or room adjacent to a detective headquarters, where consultation may be had or questions asked in secrecy of prisoners under investigation.

We have heard of the other vulgarity, "third degree." Some of us have taken the genuine article. In police and criminal procedure and practice the officer of the law administers the "first degree," so called, when he makes the arrest. When taken to the place of confinement, there is the "second degree." When the prisoner is taken into private quarters and there interrogated as to his goings and comings, or asked to explain what he may be doing with Mr. Brown's broken and dismantled jewelry in his possession, to take off a rubber-heeled shoe he may be wearing in order to compare it with a footprint in the burglarized premises, or even to explain the bloodstains on his hands and clothing, that, hypothetically, illustrates, what would be called the "third degree." The prisoner is cautioned by the reputable officer today that he need not incriminate himself, and in some places the authorities have blank forms in use stipulating that what a prisoner states is of his own volition and without coercion. In the pursuit of their investigations, there is no law to prevent the officers of the law questioning any person who, in their opinion, may be able to give information which may enable them to discover the perpetrator of a crime. It becomes the bounden duty of the police to locate the violator. There is no justification for personal violence, inhuman or unfair conduct, in order to extort their confessions. The officer who understands his position will offer admissions obtained from prisoners in no other manner than that sanctioned by the law. If a confession, preceded by the customary caution, obtained through remorse or a desire to make reparation for a crime, is advanced by a prisoner, it surely should not be regarded as unfair. . . . . Volunteer confessions and admissions made after a prisoner has been cautioned that what he states may be used against him are all there is to the so-called "third degree."

Third degree.—Chief Corriston of Minneapolis: The "third degree" as understood by the public is a very different thing from the "third degree" as known by a police official. . . . . This body of men should by every means in its power refute the sensational idea that the public has of the so-called "third degree." . . . . In making an investigation as to who is responsible for committing an offense, it is often necessary to have several talks with the persons suspected, and their statements as to their whereabouts and conduct at the time in question are important links in unraveling a mystery. These investigations by the police have no doubt cleared the record of many an innocent suspect. The object is to ascertain the truth, not, as the public seem to think, fasten the commission of a crime upon someone—whether innocent or guilty.

Within the last year or two all have seen an exemplification upon the stage of the "third degree." One connected with the police department cannot witness this play without being thoroughly impressed with the thought that the audience only gets a portion of the author's idea—the reputed methods of the police. . . . . No true and sincere police officer who has witnessed this play of the "third degree" will disagree with me that it does a gross injustice to that hard-working body of men who preserve the peace and dignity of the various municipalities of this country, and an endeavor should be made to correct the false impressions given the public of police officials and police methods by this play. . . . . No police official would take this play seriously, but the public will. . . . .

There may be individual cases where police officials have used improper and unfair methods to obtain results, but the "third degree" is and always should be a battle of wits, the only object being to get at the truth. There can be no set rules for gaining information from a person suspected, but brute force to accomplish the result should never be resorted to, and any police official should be promptly dismissed who employs harsh measures to obtain statements. The methods of acquiring information depend upon the circumstances of each case and the disposition and mental faculties of the person under suspicion. . . . . A crime has been committed. It is reported to the police; facts may come quickly or slowly. On the spur of the moment the head of the detective bureau must evolve a theory; what was the motive of the crime, who may have had an object in committing it? Someone is suspected, brought in and questioned. The one object is to get the truth. A searching examination is made, call it the "third degree" or whatever you may; a great deal depends upon it. It may send out from police headquarters a suspect with his reputation good before the world, it may be the means of bringing a felon to justice. If the suspect is innocent his story can generally be quickly checked up and proved, and the "third degree" is then the means of working to advantage for society and the suspect. . . . .

Third degree.—Chief Janssen of Milwaukee: I think that future historians will write of the present age as the time of yellow journalism and the age of yellow statesmanship. This "third degree" is brought about in this manner: A man is arrested charged with an offense. An investigation is set on foot, and the prisoner is asked certain questions in order to ascertain his defense or an excuse he may have in regard to certain suspicious circumstances that may surround him. When he finds that he cannot get around those circumstances he tells the truth and admits the crime. Why? First, a cowardly conscience; second, that he wants to tell somebody about it; and third, that he may escape the maximum penalty prescribed for the offense with which he may be charged. What happens next? He goes to court and waives examination, and is bound over for trial, and he is sent to jail to wait for that trial. Now the shyster lawyer comes around, one who hangs around the courthouse, or has been sent by a friend or an accomplice of the man who is under arrest, and the first thing he asks is, "What have you done?" And the answer is, "I have talked with the Chief of Police. . . . ." His reply is, "Why, you fool, what did you do that for? I can't do anything for you unless you make some excuse for that statement; what did they say to you?" and the prisoner answers that they said this and that; and the lawyer asks, "What did they do?" and he tells something, and with this the prisoner goes

on, the lawyer always suggesting, and finally the prisoner gets the idea that he has made a mistake in making a statement to the police officer. The case of this man goes to trial, and the lawyer begins to tell before the jury of the violence that had been practiced upon the prisoner, about the terrible strain he was placed under by the police to get this confession, and the poor creature who stands before the bar for trial is the victim of police persecution. The press is represented, and in a sensational manner starts to vilify the police. . . . . This is why you hear so much about the "third degree," caused by the vile, unrestrained, unwarranted attacks published in the daily press, brought about by the action of these shyster lawyers and the prisoners themselves in misrepresenting what really did happen when they were questioned by the police.

In his work, *Sidelights of Criminal Matters*, page 205, John C. Goodwin writes:

Third degree.— . . . . This is a form of the notorious third degree, a police subterfuge of German origin, but now also practiced extensively in America. The third degree is not, as is erroneously implied by some writers of detective fiction in this country, the relentless and persistent cross-examination, bullying, and browbeating of a suspect in the hope that he will ultimately confess for the sheer sake of peace at any price. Rather is it the very practical application of the fundamental principles of psychology; it is a mental process, refined cruelty, the constant insistence on the unexpected, the creation around the suspect of an atmosphere of nervous tension and nerve-racking uncertainty. Defined in popular language the third degree might be described as the art of getting on someone else's nerves. The whole essence of the process is not what is said to the man under suspicion but what is deliberately not said, but subtly implied.

When a crime has been committed and there is insufficient evidence to inculpate the suspected person, the net is at once drawn around him and he knows no peace until either he or someone else confesses.

The writer has frequently questioned American detectives and others concerning the third degree, and their replies have invariably agreed, in substance, namely, that necessity knows no law, that the end justifies the means, that proof of the pudding is in the eating, and that it is "Hobson's choice."

A practical illustration of the working of this extraordinary machine will serve the double purpose of demonstrating its principle and of indicating the almost despotic sway of the American police over the American public.

A certain citizen in an eastern town was suspected of a crime, the solution of which was baffling the most nimble-witted of American detectives and was drawing upon them the thinly-veiled ridicule of the neighborhood. They accordingly resolved to try the effect of a few weeks of third degree.

Though not a word was actually said to the suspect, a man holding an important appointment in the town, he was from that moment never allowed to forget that he was under suspicion. First of all, his servants gave notice to leave, furnishing, however, no reasons. Then he was made constantly aware that he was being shadowed. On leaving his house, his club, or his office, he was confronted by shapes that glided away into the shadows on his approach. Then as he was sitting in tramway cars people opposite to him would whisper together, glancing meaningly across at him the while. Anonymous letters arrived. His friends began to look askance at him, and the climax was reached when, on the occasion of his taking his wife to the local theatre, the orchestra, at that moment in the middle of an overture, stopped dead at his entry. This was the last straw, and the same evening he telephoned for the police, who were by now expecting such a call at any moment, and confessed all.

This is a true story and will serve to show how much can be implied without a single word being said. The various mishaps that befell the subject of this narrative were, of course, stage-managed by the astute detectives in charge of the case. Had he been innocent, time would, of course, have been in his favor, and the case would ultimately have been dropped, though, on the other hand, cases are on record in which quite innocent suspects, whose nerves have been overwrought by the application of the third degree, have been stampeded into confessing to crimes of which they were absolutely innocent.

An even more dramatic instance than that quoted above of the lengths to which the refined cruelty of the third degree will go is that in which an American citizen of great wealth was invited to the house of a friend and there at a private cinema show was shown the reconstruction of a crime of which he was suspected. In this case the film was taken on the actual scene of the crime—a private yacht lying off Rhode Island—the chief characters, including, of course, himself, being made up to resemble the originals down to the smallest details. He confessed precisely four and a quarter minutes after the film had started.

A review by George H. McCaffey (*Journal of the American Institute of Criminal Law and Criminology*, III, 129) gives Stark's views on the "third degree":

Third degree.—Deputy Chief Stark, in a strong article on "Police Methods and Their Critics," in the August, 1911, number of the *International Police Service Magazine*, assails the popular ideas on the "third degree" and those lawyers whose main ability consists in deriding witnesses, distorting evidence and even insulting their opponents with impunity. He claims that popular knowledge of the "sweat box" is such that few could define the difference between it and a "soap-box," although they would gladly join in condemning it. Newspapers are often only too willing to dilate upon the supposed horrors of this system of obtaining evidence. I have seen the actual operation of a "third degree" case which obtained a complete confession of

two criminals engaged in a variation of the "green goods" game within eight hours after the case was reported. The police worked upon the basis of two words carelessly dropped by the first two men arrested in regard to the third, who was the leader of the plot. Only once during the whole examination was a voice raised above a conversational tone, and then to forbid the prisoners talking in a foreign tongue. In another case the confession of a stubborn juvenile was obtained only by strapping him in a surgeon's operating chair and ordering another officer to "turn the current on slowly at first." The result was the breaking up of a dangerous gang of burglars and transom workers. I think that anybody objecting to such methods is either criminal himself or quite too soft-hearted for a police critic.[1]

The sarcastic and glib lawyers surely ought to be squashed at every opportunity, for not only do they add to the growing contempt of courts, but decrease the willingness, small at any time, of private citizens to testify in court and to make still more disagreeable the task of enforcing the law which every police officer finds is approved loudly in general and as loudly scoffed at in particular.

The following description is of interest, although the suggested prophylaxis in which all confessions to the police should be inadmissible in evidence may seem fallacious to some. This writer is probably only familiar with alleged accounts of the abuse by the police or he gives too credulous an ear to the statements of the prisoner who, advised by some shyster attorney, concocts a story of a confession extorted by threats and under duress. Anyone who has been present when the suspect is apprehended is familiar with the fact as to the ease and often extreme eagerness with which the suspect blurts out the real truth of the crime. It is here that, perhaps confused because of the obvious discrepancies in his story, as the suddenness of his arrest had left no time for the construction of alibis, etc., that he confesses, and then later, after seeing what little evidence was against him and at the prompting of the parasitic type of lawyer whose ideal and aim consists in securing a fee, that he changes his story. It is the police who are in the best position to secure the real statement of the case before the distortion which so often attends the court-attempt to elicit the truth and real facts, has

[1] This case is indeed unfortunate if the writer wanted to show that the police procedure is what it should be, for, although the author is not a criminal so far as he knows, yet, in his experience, the method used far surpasses in refined cruelty any case that he has heard of and is even on a level with the ancient methods of torture. Especially is this so because of the fear entertained by nearly everyone of anything relevant to a shock. This method is certainly no less brutal than that of the method employed by a sheriff—personally communicated—in which he would place a pistol against the chest of the suspect and, cocking it, tell him to "come through."

occurred. When the subject is first apprehended, violence is never necessary for the eliciting of the confession, for any competent officer who knows his work can by proper questioning bring out the truth as well as any jurist or jury and often much better.

E. R. Keedy writes as follows:

Third degree.—In theory, torture as a method of investigation has no place in our administration of criminal law. The principal reasons are: first, because the idea is repellant to our feelings of humanity and fair play; second, because the presumption of innocence until guilt is proven is a fundamental principle of our law, whereas the practice of torture is based on the presumption of guilt; and, third, because it has long been recognized that admissions or confessions secured under the pressure of torture are unreliable.

At times the charge has been made that police inflict physical or mental torture in so-called "third degree" examinations; but since the examinations of prisoners by the police are generally conducted in private, it is difficult to secure proof of improper practices. It is, therefore, of particular interest to note a case in which the police administered the "third degree" before an audience of newspaper reporters, and even permitted these to join in the examination.

On the morning of Thursday, October 31, Charles N. Conway and his wife, Lillian Conway, were arrested in Lima, Ohio, charged with the murder of ——— in Chicago on October 28; at 2 A.M. of the following day they were taken to a police station; and at noon the woman confessed to detectives that the murder was committed by her husband. The experiences of this couple during the period from their arrest to the woman's confession are described in the following clippings from various editions of six Chicago papers.

In none of the descriptions furnished by Keedy does there seem to be any evidence of any "pernicious" feature of the "third degree." As far as the police are concerned all that Keedy seems to present is that a confession was obtained as the effect of continuous cross-examination. No force or violence is referred to and the only evidence of the "tortured woman" mentioned in one description is that of screaming, nearly fainting, and other indications of a collapse. Is it to be expected that a suspect, if guilty, would enjoy with equanimity a persistent cross-examination without any defense reactions, especially in the case of first offenders and women? Is a woman, especially if of a nervous disposition, ordinarily going to confess unemotionally when questioned or entrapped by her own discrepant statements? In some cases much of the alleged "torture" in cross-examination of a suspect by the police is due to the defense reaction of a guilty conscience. It is a well-known fact that fainting may be employed by a weakling or a woman as a

way out of a difficult situation and by no means is fainting to be taken necessarily as the criterion of brutal or inquisitorial methods.

To quote again from Keedy's article (p. 503):

> The prisoners were, of course, admonished during the course of the examination to tell nothing but the truth, and warned that anything they might say would be used in evidence against them. The inquisitors of the Spanish Inquisition used the same formula. In a book on the Inquisition, published in 1734, the author says:
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> "The criminals are with great care and diligence to be admonished by their inquisitors, and especially when they are under torture, that they shall not by any means bear false witness against themselves, or others, through fear of punishments, but speak the truth only. . . . .
>
> What would the situation have been if the endurance of Mrs. Conway had proved superior to the grilling of the detectives, and she had not confessed? The newspapers throughout the day had published statements of the detectives, indicating their belief in the guilt of the accused. Large headlines announced incriminating circumstances . . . . in short, the newspapers proclaimed abroad the guilt of the accused. Opinions prejudicial to the accused are thus created in the minds of the readers, who thereby are unfitted for jury service, or if not are provided with an excuse for escaping such service. . . . .
>
> The Conway case presents in open and striking manner two pernicious features of our administration—the "third degree" and trial by newspapers. In fairness to the police their point of view should be considered. In so far as this can be determined, it is that, since there are so many loopholes for escape in the trial of accused persons, the only practical and safe method of securing conviction is by extracting confessions. Though we are convinced that convictions at such cost are not desirable, yet the premise of the police deserves consideration. It is submitted that two of the greatest defects in the administration of the criminal law are the weak position of the trial judge and the frequency of reversals of convictions due to immaterial errors.
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> To prevent the "third degree" and trial by newspapers and to remedy two striking defects in our criminal procedure it is suggested that a statute or statutes be enacted providing for the following:
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> 1. That it shall be a misdemeanor, punishable by imprisonment, for any police officer to exert any force, mental or physical, against an accused for the purpose of extorting any admission or confession.
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> 2. That any admission or confession made by an accused person in response to interrogatories of the police shall be inadmissible in evidence.
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> 3. That it shall be a misdemeanor, punishable by fine and imprisonment, for the editor of any newspaper to publish regarding an accused person statements or comments which create a belief in the guilt of the accused before his trial, thereby prejudicing him at his trial and interfering with the proper administration of justice. This is an offense at common law (*Rex* v. *Fisher*, 2 Camp. 563, and *Rex* v. *Tibbits*, 1902, I.K.B. 77), but the courts in this country have hesitated to apply it.
>
> 4. That the trial judge be given power to declare the law (he has this power in most states) and to comment on the evidence.
>
> 5. That no judgment of conviction shall be reversed unless the trial court committed substantial error prejudicial to the defendant, thereby causing a miscarriage of justice.

Somewhat similar to those who would abrogate the cross-examination or the admission of evidence obtained by the police officer is the following statement from Bentham:

> *Claim of privilege.*—If the accused were compelled to testify, the method of extorting confessions to which recourse is so frequently had by police officers would be unnecessary to a very large extent. Far less physical torture would result from the examination in open court than now results from the continued efforts to extract a statement before trial.
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> Because confessions were extorted under the Inquisition in the court of Star chamber, therefore one should never be compelled to incriminate himself. This association has doubtless been of prime importance in giving the privilege the dignity of constitutional protection, but nevertheless it is difficult to find therein any real argument for the privilege. It must be kept in mind that this privilege was at a time when accused was not permitted to testify in his own behalf and that conditions are not at all similar at the present time.

The following review by Robert H. Gault is of interest:

> *Legal aspect of confession.*—Henry C. Spurr, in a recent article in *Case and Comment*, discusses the legal aspect of the confessions made to police officers. Among other things he says:
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> "The Hon. Orlando Hubbs, of Long Island, came forth at the present session of the New York Senate with a bill designed to shield persons under arrest from the terrors of the modern inquisition, as some of the observers are pleased to call the police practice of questioning prisoners. The bill makes any admission by the defendant while under arrest inadmissible as evidence unless corroborated by a disinterested person and the defendant has been advised that his admissions may be used against him. . . . . It would seem as if the time had come to say something on the other side of the question on behalf of a sane administration of the criminal laws for the protection of life and property, especially in view of the fact that we in America have already been at such pains to safeguard every interest of the accused that it sometimes takes as long as three months to get a jury in a criminal case, and when, by reason of delays and technicalities and new trials, the course of justice is so impeded and the punishment of crime made so uncertain that

our administration of criminal law has caused us to become a laughingstock in other countries. Before making this new crossing suggested by Senator Hubbs, is it not our duty to stop, look, and listen?"

An examination of the cases will show that the courts have been influenced by two theories as to the propriety of the use of confessions. The first of these may be called the humanitarian theory. It is responsible for all the courtesies that have been extended to persons accused of crime, for the delays and technicalities which have made the administration of the criminal laws of the present day so slow, so uncertain and, in many respects, so unsatisfactory. As applied to the exclusion of confessions it has been called by Jeremy Bentham, in his *Rationale of Judicial Evidence* (7 Bentham's works, ed. Bowing, p. 454), "the fox hunter's reason."

The other theory is that confessions are to be excluded only when there is reason to believe that they may not be true. If they appear to be reliable, the fact that the accused may have been taken off his guard is no objection to them, since the punishment of crime is not a sport or a game, but a serious business, made necessary for the welfare of society and the protection of life and property. "The reason for the exclusion of confessions," says the court in *People* v. *Wentz*, 37 N.Y. 304, "is not because any right or privilege of the person has been violated, but because it is deemed unsafe to rely upon it as evidence of guilt."

There is, of course, some real danger that confession may not be true. It would hardly seem as if any innocent man would admit the commission of a serious crime; but experience has amply shown that they may so do. It has been said that the "human mind," under the pressure of calamity, is easily seduced, and is liable, in the alarm of danger, to acknowledge indiscriminately a falsehood or a truth as different agitations may prevail (2 Hawk, P.C., 6th ed., p. 604). Let this be conceded. Then if the reliability theory as to the admission of confessions is sound, the problem of dealing with the third degree is not whether the personal comfort of the accused is likely to be disturbed, but whether admissions secured in this way can be depended upon. Are innocent men being browbeaten into confession of crime by means of the "third degree"?

It is unquestionably true that many criminals have confessed their guilt or have made their admissions which have led to their conviction, under the "grilling" of the police, which they would not have done if they had had time for deliberation, or had they had an opportunity to consult counsel. Many have been convicted when they would have gone free had they kept still, but this is far from being against the peace and welfare of society. It is rather for its benefit. As before stated, it is the serious business of the state to discover and punish the guilty, and, if the police are assisted in their part of this duty by the employment of the third degree, honest men need not be conscience stricken because the process is not entirely fair, in the sense that the word is used by the sportsman, to the criminal.

But, conceding the purpose of the police to be honest, are unreliable confessions produced by means of the third degree? Confessions extracted by means of physical torture are worthless. Are statements drawn out by this so-called mental inquisition also not to be relied on? When it is remembered that nothing that can operate on the hopes or the fears of the accused is permitted, nothing that can be construed either as an inducement or a threat is allowed, it would seem as if little room were left to lead an innocent man to say he is guilty. An examination of all the reported cases on the subject will show, in fact, that there is little chance of this. And if this is so, the proposed New York law would not be a benefit, but a menace to the state.

If Senator Hubb's bill should become a law, it would practically shut out all confessions, for, in cases in which they might be useful, how are they to be corroborated by a disinterested person? Who is this disinterested person to be? It would mean that conviction must be secured without confessions.

If there is to be any restriction in the use of confessions, it would seem as if it ought to be aimed at verbal admissions. These are often extremely unreliable, because the words of the accused may have been misunderstood and misinterpreted, and because he may be misrepresented, owing to the infirmities of the memory of the witnesses and, also—to concede a point—by the desire of an overzealous public officer to convict one whom he believes guilty of a crime. But if the confession is signed by the accused, or taken down accurately when it is made, and there is every reason to believe that it is true, it would seem as if it ought not to be rejected simply because it was obtained by means of the "third degree."

On every side the cry is raised that we are altogether too lax in the enforcement of our laws. It would seem as if no necessity had yet been shown for the erection of a new barrier to the punishment of crime by the abolition of the third degree.

Senate Committee and third degree.—Moved by stories and reports concerning alleged maltreatment by the police in some of our large cities of prisoners charged with crime, the Senate of the United States has authorized the appointment of a select committee to "inquire into and report the facts as to the alleged practices of administering what is known as the 'third degree' ordeal by officers or employees of the United States for the purpose of extorting from those charged with crimes statements and confessions, and also to any other practices tending to prevent or impair the fair and impartial administration of the criminal law." . . . . Most public officials deny that such practices exist, but as there is a widespread popular belief to the contrary, no harm and possibly some good may be derived from the investigation, if nothing more than the removal of the popular suspicion.

The following report (No. 128) was submitted by the Select Committee To Investigate the Administration of the Criminal Law by

Federal Officials on the Administration of Criminal Law by Federal Officials:

The undersigned, being the SELECT COMMITTEE OF THE SENATE, duly appointed under the authority of a resolution of the Senate adopted April 30, 1910, known as Senate resolution 186, and instructed by said resolution—"to inquire into and report to the Senate the facts as to the alleged practice of administering what is known as the 'third degree' ordeal by officers and employees of the United States for the purpose of extorting from those charged with crime statements and confessions, and also as to any other practices tending to prevent or impair the fair and impartial administration of the criminal law . . . ." which committee was continued after the 4th of March, 1911, and during this session of Congress, by a Senate resolution adopted February 21, 1911, beg leave to report as follows:

We have caused it to be generally published in the press that we were ready to hear any complaints falling within the scope of our powers, and have had such as have been received investigated. Several of these complaints were against the metropolitan police of the District of Columbia. Most of these complaints were more in the nature of brutality by policemen than in the nature of "third-degree" ordeal. In one instance a policeman of the metropolitan police was proved to have been guilty of gross brutality inflicted upon an innocent citizen in an attempt to arrest another citizen. This officer was afterwards convicted in the criminal court of the District and discharged from the force. Maj. Sylvester, the superintendent of the metropolitan police, who has been for ten years the President of the International Police Chiefs' Association, numbering several hundred members in this country and Canada, testified that while there were instances of brutality by police officers from time to time in various parts of the country that they were sporadic and were not the regular practice. At the annual meeting of the International Police Chiefs' Association, held at Birmingham, Ala., in June, 1910, the employment of the so-called "third-degree" ordeal for the purpose of extorting confessions and brutality in the treatment of prisoners was strongly condemned by resolutions adopted by the association.

In the case of the alleged administration of the "third-degree" methods to the Seyler brothers in Atlantic City, which, as reported in the press, was possibly the moving cause for the creation of this committee, we, through our agent employed to make the preliminary investigation in such cases, obtained the affidavits of the Seyler brothers as to the alleged brutalities practiced upon them by the police of that city. As this was not a case involving officers or employees of the United States, the committee was without authority to investigate it. While the agent of the committee was making a preliminary examination of the facts of this case one of the Seyler brothers was arrested with stolen goods in his possession and was subsequently convicted and sentenced for theft. No well-defined case of the practice of the "third-degree" method by the metropolitan police of the District of Columbia has been presented to the committee. While we are not prepared to say that cases do not occasionally arise, we have not discovered any, although diligent search has been made.

Mr. John E. Wilkie, Chief of the Street Service Division of the Treasury Department, testified that he knew of no practice by federal officials, either in his own or other departments or bureaus of the government, which tended to prevent the fair and impartial administration of the criminal law. He knew of no instance of cruelty or brutality in the attempt to extort confessions from those charged with crime. He stated that he had himself subjected suspects to lengthy examinations, and instanced one case where he had talked with the prisoner for four consecutive hours and the person had at the end of that time made a confession to him. There seems to be no clear definition of what constitutes the so-called "third-degree" ordeal. In a general way any examination of a prisoner by officers of the law is called by the prisoner and by the press the administration of the "third degree" or the "sweating process." These examinations and investigations are carried on by all departments of the government, by detective agencies, and by the police forces in the different states and municipalities. From the nature of the case, there is no witness to it except the police officer conducting the examination and the prisoner himself, and from the nature of the case, convincing evidence of brutality would be difficult to obtain. Whatever may be the facts as to the alleged administration of the so-called "third degree" by the police of the state and cities, in the opinion of the committee the Congress of the United States is lacking authority to legislate concerning the alleged practice, except where it is practiced by officers or employees of the United States. The Hon. George W. Wickersham, Attorney-General of the United States, testified before the committee that he had never heard of the use of the so-called "third degree" by any federal official and that the knowledge which he had obtained since his appointment led him to believe that no such practice exists among federal officials.[1]

Third degree in India.—Sir Edward E. Cox, in *Police and Crime in India*, discusses alleged cases of torture by the police about which much has been written, but official investigations in the leading cases revealed the innocence of the officials concerned. As Cox states:

It seems to me natural enough from a psychological point of view that a robber or murderer should, upon the discovery of his crime, be overwhelmed by the knowledge that his sin had come to light, feel aghast at what he had done, and find himself compelled in his excited frame of mind to relieve his

[1] This material was secured through the courtesy of Dr. L. J. O'Rourke, Director of the Civil Service Research Bureau. The question of lawless methods as employed by the investigating official outside federal jurisdiction has been described in a recent Wickersham report.

soul by confessing. It seems also natural to me that in the course of weeks while he is awaiting trial, he should cool down, and consider that he is doing himself no good by his confession. Old jailbirds get at him, and under their persuasion he tells the familiar tale that he is quite innocent, and that he only confessed because the police beat him.

If for one hundred years no police-officer, ever in the mildest way, even by persuasion, induced an accused person to confess, the mere fact that confessions have been volunteered and subsequently retracted from part of the record would leave the case against the police as strong as it is now. It is of the most supreme importance to get rid of the taint once for all.

There is only one way to do this—to make it illegal for anyone, police or magistrate, to record the confession of an accused person before he is actually put upon his trial. If when he is being tried he chooses to plead guilty and confesses to what he has done, let him do so. It will not occur often. If the police cannot obtain sufficient evidence against an accused person to send him up for trial apart from a confession he ought not to be sent up for trial at all—some few cases would end in acquittal which now, with a confession, end in conviction. I fully admit this. But it would not much matter. Our law as it now stands is so much more designed for the protection of the innocent than for bringing home their guilt to the guilty, and so many undoubted criminals are daily acquitted that to add a few to the number of improper acquittals would be of no great consequence.

Such a procedure as advocated by Cox is obviously unsound scientifically. It would be much better to rely upon properly trained and trusted officials to secure the exact facts in the case as they actually are. If the energy of those who advocate legislation restricting the activities of the police, already impeded by the faulty co-operation so often present between them and the district attorney's office as well as the court, would be diverted to securing the properly trained police and judicial officials, much more would be accomplished in the impartial administration of justice and the maximum protection of the society.

In speaking of the "Control of Crime in India," Charles Richmond Henderson writes:

The "third degree" is said to be familiar in India. "Wherever I went in India I heard the same complaint of the unscrupulousness and corruption of the police" (Henry W. Nevinson, *The New Spirit in India* [1905], p. 120). The wages of the native policemen are very low, only eight to ten shillings a month, and the temptation to extortion and bribery is very great.

Arthur Train, in his *Courts, Criminals and the Camorra*, writes:

Third degree.—The ordinary petty criminal is arrested without a warrant, often illegally, hustled to the nearest police court, put through a species of examination composed largely of invective and assertion on the part of the

officer, found guilty, and "sent away" to the Island, without lawyer, adjournment, or notice to his family. . . . . The "cop" tells him "to shut his mouth or he will knock his block off. . . . ."

When it comes to the more important cases the accused is usually put through some sort of an inquisitorial process by the captain at the station house. If he is not very successful at getting anything out of the prisoner the latter is turned over to the sergeant and a couple of officers who can use methods of a more urgent character. If the prisoner is arrested by headquarters detectives, various efficient devices to compel him to "give up what he knows" may be used—such as depriving him of food and sleep, placing him in a cell with a "stoolpigeon" who will try to worm a confession out of him, and the usual moral suasion of a heart-to-heart (!) talk in the back room with the inspector.

Again (p. 31):

In every great criminal case there are always four different and frequently antagonistic elements engaged in the work of detection and prosecution—first, the police; second, the district attorney; third, the press; and lastly, the personal friends and family of the deceased or injured party. Each for its own ends—be it professional pride, personal glorification, hard cash, or revenge—is equally anxious to find the evidence and establish a case. Of course, the police are the first ones notified of the commission of a crime, but as it is now almost universally their duty to inform at once the coroner and also the district attorney thereof, a tripartite race for glory frequently results which adds nothing to the dignity of the administration of criminal justice.

The coroner is at best no more than an appendix to the legal anatomy, and frequently he is a disease. The spectacle of a medical man of small learning and less English trying to preside over a court of first instance is enough to make the accused himself. . . . .[1]

Police tricks.—Many devices and subterfuges have been related whereby the sheriffs have secured confessions from negroes by working upon their superstitions. Thus it has been related that in a certain locality in the South there was a certain swamp to which the suspect was sent and from which he never returned if guilty.

Another favorite *modus operandi* utilized by some police investigators in the attempt to elicit a confession is to get the prisoner in a proper condition of hunger and then letting him order an elaborate meal and placing the food before him. As long as he would not confess he could not eat. On one occasion mentioned to the writer the program

[1] L. Hacheimer, " 'Third Degree' and Illegal Procedure," *Central Law Journal*, July 15, 1910.

"Torture in American Prisons," *Law Times*, July 2, 1910.

was varied by knocking the man to the floor in an attempt to beat the truth out of him since the starving process was inadequate. At another time the suspect was deprived of food and compelled to climb the high steps of a high tower in his stocking feet. Finally, after his feet were bleeding, he confessed, but, as he explained, so that he might eat.

Baker, in writing on the "third degree," asserts the following:

Third degree.—A police officer, conducting an examination of an accused person, if he has any information in his possession which makes him feel morally sure or have grave suspicions that the person, before he has committed a crime, must contrive to place the information before the prisoner, that, if guilty, it will overwhelm him with the idea that more is known than has actually been told to him, thereby in many cases obtaining a confession. Much information is obtained from an accused person by the cleverness with which a police officer can ask questions; also in many instances where fear means nothing a police officer makes good guesses. But this is absolutely no torture nor punishment, physically or mentally, and nothing except clever arguments and the presentation of facts or correct impressions, thereby convincing an accused person that it is useless for him to withhold any knowledge which he may possess of a crime of which he is accused.

Considerable publicity was given the methods alleged to have been employed in Chicago. The following excerpt is from an editorial in the *Chicago Tribune*, February 29, 1924 (used through their courtesy):

Seeing the goldfish.—Detective Sergeants Haas, Pengin, and Bratgel, of the Central Detail, caught the youth and took him to the *Herald and Examiner* office. He was there examined. At detective headquarters there is a room known as the "goldfish room." There is another in the *Herald and Examiner* office, where the "goldfish" work on persons the police bring in.

Last year a man arrested by the police and taken to the *Herald and Examiner* office was examined to make him confess that he was a moron and had attempted rape. He did not confess because he was innocent, but he heard the "goldfish" and subsequently tried to collect damages for his injuries.

Perfect ladies who have killed the other woman's husband or the other husband's wife have been taken to the *Herald and Examiner* office by the police. Each is found on being examined to have brought with her a diary in which several months of emotional preparation for the killing is found. These diaries reveal a strange similarity of culture, correct breeding and sometimes penmanship. Each concludes—in case the victim were a man—"My God, Diary, you know I loved him and didn't mean to kill him!" The ladies all write alike.

Engelke, examined by the goldfish, confessed that he was in the flat when Duffy quarreled with the Exley girl and shot her. The *Herald and Examiner*

explained that the examination in its goldfish room merely broke a little police red tape and that it was natural procedure considering what the *Herald and Examiner* did for the police—in co-operation with them.

The *Herald and Examiner* also says that after the prisoner had been examined he was tired and said he was ready to see the official goldfish at the detective headquarters, "Only I wish I could get a few hours' sleep."

Actuated by humane motives, the *Herald and Examiner* suggested that the detectives take their man to the Bismarck Hotel. They did, still keeping him hidden and out of police headquarters. This was Tuesday night.

He was still getting a little sleep in the custody of the *Herald and Examiner* at 2 o'clock Wednesday afternoon. . . . .

The chief called one of the editors of the *Herald and Examiner* and demanded that the prisoner be given over to the police. The editor said that he had paid $1,000 for the story and he intended to hold the man. . . . .

The three detectives were stripped of their stars and suspended, charged with what the *Herald and Examiner* calls a technicality. . . . .

We frequently read that the *Herald and Examiner* reports "arrested a man." Detectives take these persons to the *Herald and Examiner* goldfish room. A new function of government seems to have appeared, a new journalistic responsibility and duty towards the community and to the city administration. We'll equip a goldfish room with some hose lengths and blackjacks. There will be a cashier's cage outside of it with a night man on duty, and adequate funds. Possibly in giving $100.00 a month to the policeman honest in the performance of his duty we've been playing a piker's game in the wrong market. Possibly the way to collect news is to have a grand to slip into the palms of a detective or two detectives who bring their prisoners to our "goldfish" for what in medieval days used to be called the "question."

The following represents the *Herald and Examiner* version of their "goldfish" methods as appearing in the issues of February 27, 1924, and February 28, 1924:

. . . . Engelke unburdened himself of his take in the office of the newspaper as a man casting a heavy load from his shoulders.

Laboring under intense excitement all through the story, when the final yarn was spun he was in a near collapse from excess of smoking. . . . .

This newspaper's notable contribution to the cause of justice in getting into police hands a criminal about to fly from the city was accompanied with police at all times in touch with the situation. From the moment he stepped out of the Goldberg apartment until he landed in Central Station Engelke was in police custody every second. But because of the slight infraction of police department red tape involved in the rush to capture the criminal, who was about to take a train out of town (as evidenced by the fact that his baggage already had been sent to the Union Station), the three detective sergeants who made the arrest were yesterday suspended by Chief of Police

Collins, because they had failed to communicate their action step by step to their superior officer.

Captain Kelliher, of the Central Station, commanding officer of the three, was informed of the arrests early in the morning and he co-operated in the matter of taking full advantage of the information obtained by this newspaper. Under his orders a detective was dispatched to relieve the one who had been on guard during the night in the Goldberg home.

This relief man was sent at 8 A.M. yesterday.

After he had told his story, Engelke turned to the three detectives and said, "Well, I'm ready now to see the 'goldfish' [thief parlance for the detective bureau]; only I wish I could get a couple of hours' sleep first." . . . .

Actuated by humane motives, the *Herald and Examiner* suggested that the detectives take their man to the Bismarck Hotel. They put him to bed there and set guard over him from 6 A.M. till shortly after noon when he was turned over to Captain Kelliher.

Cases of third degree.—Following the confessions of two boys alleged to have murdered Robert Frank, there was considerable publicity concerning alleged third-degree methods employed during the treatment of two suspects, afterward shown to be innocent, by the police. According to the statements in the papers, the attorneys of these suspects were going to sue the police, as the police were alleged to have used rubber hose and blows with the fist during a cross-examination in one of the precinct stations. Of course the chief of detectives denied that any such methods had been used. Simultaneously interviews were published in the papers in which leading club women expressed their sentiments against such third-degree methods and intimated that action should be taken to stop such practice. Finally, an inquiry was instituted and a test case was brought before the committee in which a meat-market and grocery proprietor accused Lieutenant ——— of leading his squad into his place of business and threatening to arrest everyone in sight. The victim complained to the patrolman on the beat and was arrested and locked up for forty-eight hours without booking. According to the newspaper accounts, this victim was intimidated into "laying off," not only by those whom he accused but also by members of their cohort of gunmen, beer-runners, etc.

When considering the existence of brutal methods of the police in connection with forced confessions, the following observation is of interest. Upon comparing the methods of two of the largest cities in the United States, the police in one carry their baton concealed under their coat, while in the other the club is carried openly and often in the hand and is twenty-four inches in length at least, and this club is several

inches longer than that employed by the police of one city. Whether the larger club gives the men a sense of greater security or what not, the fact remains that the police of the eastern city are alleged to use their clubs very freely upon young boys. It is not uncommon when examining boys under eighteen who have been arrested by the police to find that the officers (members of the flying squad, valiant motorcycle officers, or detective sergeants) secure confessions by the use of the club or hose. In one typical case examined two officers sat on each side of the suspect (fifteen years) and the cross-examination was commenced. The procedure was as follows:

QUESTION 1. Did you burglarize the house upon ——— Street?
ANSWER. No.

Officer upon the right hand thereupon promptly hit the suspect with his billy on the back of the neck. The question was then repeated, whereupon the answer was in the affirmative.

QUESTION 2. Did you burglarize a house on ——— Avenue?

Following the answer of the boy in the negative, who was crying, the officer (motorcycle) on the left hit the boy over the stomach with a piece of hose, whereupon the answer was again affirmative.

This procedure was continued until the boy had confessed to a series of fifty burglaries. The officers, much elated, then went to notify the various owners of the homes that had been burglarized of their "cleaning up the case." Much to their surprise and chagrin they found that some of the houses mentioned had never been burglarized, for the suspect, thinking to terminate the inquisition (as he afterward told us), confessed to crimes and pointed out houses which had never been entered. The most enterprising officer of the two thought to solve the problem by saying the boy was feeble-minded, and he was sent to the detention home for corroborative evidence (intelligence testing). Here it was found that the boy had burglarized some five or six houses, but said that he had confessed to the others because of beatings he had received. While telling us of these beatings he began to cry and was much terrified and afraid we would tell the officers.

The following statement is fairly representative of the *modus operandi* which seems to be employed when the officer picks up a suspect (in this case a juvenile) and the suspect denies the accusation or admits to one crime and denies others:

It was May 13 when I stole a bicycle and was riding down ——— Avenue, near ———, when two officers in a flivver squad stopped me and asked me

whose bicycle it was. I told them I stole it and one of them hit me with his fist. A man passing said to them: "Here, don't hit the kid or I'll report you." The officers replied: "Go ahead or we'll take you and lock you up also." Then they drove to the station, leaving the man there. When they got me to the station they tried to make me say that I stole some more bicycles, but I said I didn't, which was true. Then, seeing they would not let up hitting me, I lied and said I stole four others, which was not true. They hit me with a rubber hose before I said that I took the bicycles. The men who used the hose on me were in uniform and were from the ——— Station, No. ———. It was May 13 they hit me with their fists, about 10 o'clock, and with the hose about 4:30. [Signed] ——— .

Of course, by such methods the officials are able to report a tremendous increase in the percentage of cases cleaned up, and this percentage will increase or decrease depending upon the type of recruits who join the force. It is interesting to note that in this same city one or two officials of rather high rank (politically appointed) publicly stated their views as to the best methods for handling the juvenile offenders, who are caged like animals in a new jail detention home. In brief, the method advocated was that of whipping posts or some method whereby the bad boys could be severely whipped and thereby disciplined. The complaint was that these terrible boys had been breaking all the windows in the jail and that things had come to such a pass that the county had decided not to furnish any more windows. Children still suffering from the effects of encephalitis were disciplined according to the best ideas of the attendants (cuffing side of head, etc.), and the chief honor allocated to these youthful delinquents seemed to consist in shining the shoes of the middle-aged, very corpulent, ignorant, and politically appointed supervisors of the floor (similar to practice used by guards in many penitentiaries). Needless to say, such conditions can and will in time be dispensed with by the selection of properly trained attendants, of police officials who are not selected because of their political achievements, with a resultant increase of reasoning power. Of course such improvements will only result through the education of the public itself. Because of their ignorance present conditions exist, and it is only by a realization of the true conditions, which can only be achieved by education and not fanatic propaganda, that proper institutions and officials will be selected.

The following excerpts are interesting instances of police methods as gathered by the Prison Reform League and cited in its publication, *Crime and Criminals:*

Third degree in Los Angeles.—In Los Angeles, where these lines are written, as recently as July, 1909, complaints that defenseless prisoners in the city jail were "manhandled" and otherwise ill-treated drew from the chief of police an assurance that such methods and the administration of the "third degree" would not be permitted; but the persecution to which Mrs. Laura Sim, wrongfully suspected of having tried to murder Mrs. Staehle, claims to have been subjected discounts considerably the worth of the assurance. According to her statement, published October 22, 1909, she was arrested Tuesday afternoon, searched, her watch and all her belongings taken from her, thrown into a dark cell and left there until the following afternoon, when she was taken again to the detectives' office. Her account continues: "They said, 'Well, if this woman dies you can just feel the noose around your neck. In any case we've got you and we're going to send you up for this.' No matter how many times they asked me to repeat my story I did not change. They said the prints on the window were the same as mine. I reached out my hands and said: 'Here, take as many imprints as you like. These hands are clean of crime.' They called up some one on the 'phone, and they said that my imprints had been found to be exactly the same as those on the window. When they saw that I did not falter they accused me of caring for Mr. Staehle. They were absolutely devoted to each other and it did my heart good to see it. They accused me of intimacy with Mr. Staehle. I said, 'No. I am a lady and until you can prove me other than one you will please treat me as such.' Thursday afternoon they took all kinds of imprints of my hand with ink, with powder and with a black powder. They accused me over and over of stabbing my friend. They again accused me of intimacy with Mr. Staehle. . . . . When they found they could not shake my story they released me. It was about 5 o'clock Thursday evening. They said: 'We have conducted this case as carefully and as delicately as we could. We do not want you to be put to any unnecessary notoriety. There is a crowd of newspaper men outside. Walk between us and duck your head, so that they cannot get your picture.' "

Third degree in St. Louis.—For a full and earnest discussion of the entire question, however, one cannot go to a better place than St. Louis, Mo. There the efforts of the police to obtain from a stenographer information as to the whereabouts of her employer, who had absconded, aroused a storm of protests. The *St. Louis Post-Dispatch*, the *Republic*, the *Mirror*, former Governor Johnson and others expressed themselves with great vigor, and, as Mr. Johnson has been for some fifty years one of the most noted criminal lawyers in the West, we quote him at some length, his review of the situation being at once forcible and exhaustive. He says:

"It is not going beyond the domain of exact truth to assert that no ordinary citizen without position, political influence, or wealth is safe from an infringement of his rights if he unfortunately falls under the suspicion of the police. In such a case he is lucky if he escapes alone with a deprivation of his

liberty, and is not subjected to humiliation, degradation, insult, and assault. The principal individual rights guaranteed by the Constitution and the laws, both state and national, are not possessed by the mass of the people of our city, and the deprivation is through an usurped authority of the police department, without right or reason." And he adds:

"One day's visit to the courts will overwhelmingly prove the charges made above. A morning paper says: 'More than half a hundred men who sweltered in the cells of station houses during Sunday, one of the most humid days of the summer, were adjudged innocent of wrongdoing when haled into police court Monday.' Again: 'There were 102 cases on the Clark Avenue police court docket Monday. Of this number only sixteen convictions were recorded.' And this for one day, and about one hundred falsely arrested credited to the police department. An examination of the testimony in these cases will show that there was not a particle of testimony to warrant these arrests. It will show the most tyrannical abuse of power in the officers making the arrests and a heartless disregard of the plainest dictates of humanity in unnecessarily shutting them up like negroes in the hold of a slave ship with the thermometer at 90. Frequently, in what is called the round-up of certain localities, a swarm of detectives go forth and indiscriminately arrest persons and are at a loss to know what charge to put against them; it usually ends with the entry, held for the Chief, or idling."

Passing to a consideration of the "third degree," the former governor of Missouri expresses himself in the following forceful language: "Note some of their official methods: They arrest citizens upon bare suspicion, and on the flimsiest hearsay evidence or at the dictum of their chief. The law-prescribing warrant, in certain cases, is entirely ignored. They invade the sanctity of the home and drag the innocent males and females at unseasonable hours of the night to the prison. But the principal outrages perpetrated by them occur after arrests and commitment to the cells of the hold-over. The occupant of the hold-over is a person against whom no formal charge is made.

"The arrested party if suspected of complicity in a crime, or thought to have knowledge of others implicated therein, is frequently brought forth and in the presence of members of the force is put on the rack of a series of the most ingenious questions, in fact, a searching cross-examination. When the official becomes wearied another takes it up, in the effort to entrap the victim into inculpatory statements. They are bent on obtaining a confession from him. He may be innocent; they consider him guilty. The more the accused insists on his innocence the more fiercely insistent his examiners become. He is bullied, browbeaten, insulted, called foul names, and if especially obdurate and irritating to his tormentors he is cuffed and beaten. In administering the last indignity in various cities the favorite weapon is a hard piece of rubber hose. It bruises and leaves no tell-tale lacerated flesh. This ordeal for the accused, in the vulgar language of the force, is called 'sweating.'"

The *St. Louis Mirror* (William Marion Reedy, editor), a weekly of established reputation in the literary world, summed up the whole case in an article so trenchant that we reproduce it, in part, as follows:

"The issue is not local. The police of every big city torture prisoners to extort information from them to be used against themselves or others. The police say they do these things only to the professional criminal. The answer is not good. The police have no right to abuse a man or woman who is a criminal. Even the criminal has rights. He cannot be deprived of life, liberty or property, except by due process of law. He cannot be compelled to testify against himself. In England, when a policeman arrests a man, he warns the prisoner that anything he may say will be used against him. This is supposed to be a freer country than England, yet as soon as a man is arrested here he is subjected to an inquisition under threats and often to the accompaniment of kicks and cuffs. The police have no authority to question under torture or otherwise. The only authority to question rests in the court in which the prisoner is tried. The police proceed upon a theory the exact opposite of that of the law. They believe every man guilty until he is proven innocent. They punish him without trial. They act as judge, jury, and executioner, and they are the more ruthless the more helpless the person falling into their hands. Police methods make criminals worse than they would naturally be. We read of city roughs who 'hate the law,' and we think it just natural cussedness. We are wrong. Those men do not hate the law. They hate the police who abuse and maltreat them every time they are arrested. They are clubbed and drubbed on the street and in the calaboose. Their arms are twisted until they 'talk' or they are denied food and drink."

Third degree in New York.—The storm in St. Louis came almost simultaneously with the frank avowal that torture has been applied to a Chinaman in New York in an effort to wring from him the confession that he had murdered Miss Sigel. It was proved eventually that he was not the man the police had supposed him to be, and that he had not been near the scene of the murder. The course pursued by the police gave rise to international comment, and we quote from the *London Spectator*, a weekly of the very highest character. After remarking that the "third degree" is nothing more or less than the revival of the rack and the thumbscrew in judicial investigations, the writer continues: "Enough has been seen of the 'third degree' to make it probable that every respectable American will wish to have it abolished on the ground that it conflicts with common sense as with humanity. Torture never did, and never can, prove anything. History has shown that the tenacity, even the callousness, of victims in resisting torture equaled the ingenuity and persistence of the tormentors. Resistance proves as little as surrender. Religious devotees, the professors of shining and heroic faith, should have a dignified history of torture to themselves, for their resolution is a thing apart. If there is a source of endurance more splendid than religious faith it is surely the unwillingness of a man to betray his friends. . . . . We venture to hope that the latest experience of the 'third degree' in New York, which

seems considerably to outrun the vices of 'reconstructing the crime' in France, and which, after all, is only the newest kind of way of doing the oldest kind of wrong, will cause everyone to see that it is removed a great many more than three degrees from usefulness and decency."

Terms defined.—"The 'third degree'—a term adopted from Free Masonry—shows a savage survival. There is little difference between it and the methods employed in the dim past. For example, in a Texas case, in 1906, the defendant's confession of the charge of burglary was obtained after a rope had been placed around his neck and drawn up sufficiently to choke him. This confession was admitted in evidence on the trial, but the Texas court of criminal appeals reversed the conviction saying: 'The cruelty manifested on the part of the officers toward defendant has not been surpassed since the days of the Spanish Inquisition. Any officer engaged in, or permitting, such barbarity should be impeached.'

Sweat box.—"In Mississippi, not long ago, a conviction was reversed because what was referred to as a 'sweat-box' confession had been admitted in evidence. The 'sweat-box,' it was made to appear, was a compartment about five or six feet by eight, entirely dark, and all cracks were 'carefully blanketed' to shut out light and air. The prisoner was allowed no communication with the outside world and from time to time the officer who had put him in this dungeon interrogated the prisoner about the crime with which he was charged, although holding out no inducements and making no threats of the kind which commonly vitiate confessions.

"Commenting on this practice, the court said: 'Such proceedings as this record discloses cannot be too strongly denounced. They violate every principle of law, reason, humanity, and personal right. They restore the barbarity of ancient and medieval methods. They obstruct, instead of advance, the proper ascertainment of truth.'

Louisiana case.—"In a Louisiana case, however, the court rejected statements made by prisoners charged with burglary, who had been heavily handcuffed, kept in separate cells and repeatedly interrogated and plied by their keepers with numerous questions, separate and apart from each other, with direct reference to the charges preferred against them, coupled with the injunction that it were better for them that they should tell the truth. One of the defendants had been taken also to the scene of the supposed burglary.

"As in earlier times physical torture, so in later days the 'third degree' has been resorted to on occasions as a mere matter of convenience—to save the trouble of hunting up evidence elsewhere. Thus, in an article on the 'Judicial Use of Torture,' Professor Lowell says: 'Sir James Stephen tells us that during the preparation of the Indian code of criminal procedure in 1872 some discussion took place about the reasons which occasionally led native police officers to torture prisoners, when an experienced civil officer observed: "There is a great deal of laziness in it. It is far pleasanter to sit comfortably in the shade rubbing red pepper into a poor devil's eyes than to go about in the sun hunting up evidence." '

"Professor Lowell, after advocating so radical a departure from criminal procedure as to require the accused to testify on the trial, goes on to say that any preliminary examination of the accused, however conducted, offers, in the nature of things, a great temptation to oppressive and cruel treatment, and to prosecution on insufficient grounds, while it tends to lessen the incentive to an independent and laborious search for evidence, and hence to a thorough investigation of the fact."

Meanwhile an encouraging note of protest comes from the South, the Georgia court of appeals, in the case of *Holmes* v. *State*, having upheld recently the right of a man to defend himself from illegal arrest, even at the cost of taking life. The defendant in that case was a negro, and used his gun after the officer had shot at him. The *Central Law Journal* remarks: "The sacredness of one's person from illegal arrest, or his habitation from unlawful intrusion, is often disregarded these latter days, especially in our large cities, where it frequently occurs that men are placed under arrest without warrant and for offenses not committed in the presence of the officer."

Perhaps it may not be impertinent to notice here the fact that Inspector Byrnes, who is credited with the invention of the "third degree," accumulated a fortune from his office, though his expenditures were on a princely scale, and to contrast this with Mr. McAdoo's statement relative to the London policeman's recognized honesty. In this connection he remarks: "It may be of interest to note that a chief inspector who died while I was in London, after serving on the police force for nearly forty years, who had a remarkably brilliant career as policeman and detective, left an estate of less than four thousand dollars. . . . ."

So long as ignorant officials are employed by the police or in the district attorney's office there will be cases in which a false confession has been obtained by brutal methods. There have been many attempts at investigating such conditions, but the difficulties are such that the results are always negative. Although a physician in charge of prisoners once told the writer that he had even seen fractured skulls that were the results of attempts to secure a confession by police detectives, it is difficult or impossible to secure sufficient evidence to warrant a conviction.

CHAPTER IX

THE JUDGE AND THE JURY

The problem.—When, some seventeen years ago, the writer began to study crime and criminal procedure in order to ascertain and to attempt properly to evaluate the various factors involved, he thought best to begin as a police officer. He hoped, after he had learned the rudiments of criminal investigation and had acquired a proper respect and awe of judicial machinery, to become a criminologist in the real sense of the word by finishing a course in law. Four years of experience as a police officer investigating cases and carrying them through court decided him to add the study of medicine and psychiatry to his preliminary preparation before securing academic training in law.

He was brought to this decision by seeing apparently trained and honest judges fail to administer justice (as judged by subsequent developments) through ignorance of the fundamental principles of behavior. Having more than once secured sufficient evidence for conviction, he had seen cases lost or no verdict given because of some absurd legal technicality or the indifference of the prosecuting attorney, whom he invariably found to be less interested (unless an election were impending) than the attorney for the defense. It took him some time to become inured to such instances as the one in which a criminal lawyer of note came to him before a trial telling him how guilty the defendant really was, and that he was afraid to put him on the stand (insanity trial by jury) lest the jurors recognize his true mental condition.

Thinking that his adverse opinions of judicial procedure might be due to ignorance, and that he had not had the necessary preliminary legal foundation to permit him to pass judgment, the writer sought the opinion of honest legal friends. One by one they made the same statement: that they would not handle criminal cases because of what they had experienced in the conduct of such cases. Feeling that these attorneys might be idealists, and that therefore their statements did not represent the consensus of conscientious judicial opinion, he made a survey of the literature.

The first opinion of note is that attributed to Chief Justice Taft: "I believe, and I regret to say it, that throughout this country the ad-

ministration of criminal law and the prosecution of crime are a disgrace to our civilization."

The Czolgosz case.—The conduct of the attorneys and the jury in the case of Czolgosz, who assassinated President McKinley, is illustrative of how bias and prejudice may enter into a case. Regardless of the enormity of heinousness of the offense, which inevitably influences the conduct of the judiciary, the procedure should be impartial. In this connection the following excerpts from Vernon Briggs, *The Manner of Man That Kills*, are of interest:

> Having in view the nature and importance of the case, the fact that no testimony was offered on the defendant's behalf and that practically no offense was made, beyond a perfunctory examination of jurors and a mild cross-examination of some of the people's witnesses, which was limited to the efforts to elicit information respecting the President's condition during his illness and of his body after death, and a summing up by one of the counsel—Judge Lewis—which consisted mainly of an apology for appearing as counsel for the defendant and a touching eulogy of his distinguished victim, renders the case in this respect a unique one in the annals of criminal jurisprudence.
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> The jury retired for deliberation about 4 P.M., and returned in less than an hour with a verdict of murder in the first degree. . . . . Several of the jurors were reported to have said after the trial that the jury was in favor of conviction unanimously from the first, and could have rendered a verdict without leaving their seats, but deemed it best to make a pretense at deliberation "for appearances' sake."
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> . . . . The two superannuated and apparently self-satisfied ex-judges assigned for the defense apologized freely and humbly for *their appearance in behalf of this wretched man*, referred to "the dastardly murder of our martyred president," and really made nothing more than a formal perfunctory effort, if it could be called such. Long and fulsome perorations were indulged in by these remiss members of a great and dignified profession, and others who praised the dead President and flattered each other, the District Attorney, the presiding Judge, the Medical Faculty of Buffalo and every one else they could think of. . . . .
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> . . . . A secret meeting, to which I was not invited, was held that night by the experts with the attorneys of *both* sides, and it was decided to go on with the trial. It really would appear as if everyone had surrendered to the popular clamor for the life of Czolgosz, who was practically friendless and deserted. . . . . I really do not think in all my experience that I have ever seen such a travesty of justice nor have I heard of such a tribunal, except in the clever *Grand Guignol* little horror of *Les trois Messieurs du Havre*. . . . .
>
> Crank or crazed or criminal, these creatures are a menace to the welfare of the state. To summarily kill them in detail as crimes are committed is no

adequate remedy. Neither does electrocution enlighten us as to the engendering and evolving causes of the murderous breed. The thoughtful psychologist would find the nests and destroy the eggs of the abnormal neuroses that make up these abnormal magnicides. . . . . Carboys of vitriol obliterate the victim, but they do not solve the problem. . . . . It is a pity that science should be crippled in her honest efforts after truth by the too hasty executions of these mental anomalies among civilized mankind. It were better for the governments concerned, for science and for the world, that haste to execute vengeance should wait on scientific deliberation in these cases. They are morally and politically unique and out of harmony with liberal modern governments regulated by law and aiming at justice. . . . . We are left sitting in the dark, still wondering how such a deed could have been done by a man in his sound and sober senses in fair and free America, and appalled at the possibility of a sane man murdering an American President.

Again in another case which had attracted much attention, Briggs wrote:

The Spencer case.—The experts for the State and for the defense knew that Bertram G. Spencer was insane at the time of the homicide and at the time of the trial. They differed in that some thought that he was medically insane, but sane under the technical rule of law; while others thought that he was medically and legally insane. Recognizing the vital fact that Spencer was actually insane, all of the important experts believed that he should not be tried. They knew the facts were undisputed and that they would not differ in their medical conclusions. Believing that the trial of an insane man would be an offense against humanity, an effort was made to stop the trial through a conference by the alienists of both the defense and the prosecution, but since all parties were not willing to agree to such a conference the effort failed.

The whole legal machinery of the state had been put in motion to crush this defective and uphold the Majesty of the Law, and so it came about that Bertram G. Spencer, a defective from birth, with the mind of a child, was tried for his life and sentenced to death and was executed with a smile upon his lips.

It is interesting to contrast the judicial procedure in the two following cases (quoting again from Briggs):

The Richeson case.— . . . . But Richeson speaking for the first time in court, entered a plea of guilty to the indictment, which plea the court promptly rejected and directed that one of not guilty be entered on the record of the defendant. . . . .

On December 27 three hundred veniremen were drawn from among whom to select the Richeson jury, but no jury was ever selected. On January 5 he retracted his plea of "Not Guilty" and pled guilty to murder in the first degree and his counsel presented the following confession: . . . .

On January 9 Richeson pled "Guilty to murder in the First Degree" before Judge Sanderson in the Superior Court, and as there was only one penalty, only one course was open for the judge in first-degree murder, Judge Sanderson sentenced Richeson to death during the week of May 19. . . . .

The Hon. William A. Morse says that to his knowledge Richeson is the only man in Massachusetts who ever pleaded guilty of murder in the first degree with confession and the only man he knows of who was executed without trial by judge or jury.

Before studying experimental methods in an attempt to determine the innocence or guilt, or the presence of deception in the suspect, the efficacy of the judge and jury should be examined. In this connection we are chiefly interested in the ability to ascertain the real facts of the case, in the sifting of the chaff, or fabrications, or perjury, from the rare kernel of truth as sought for in the criminal-court room. All must recognize that litigation often is born of, and certainly thrives on, falsehood.

We are not interested here in the rôle of political corruption, bribery of jurors, judge, witnesses, and investigators, which so often make a farce of the criminal administration of justice in the United States, but in the actual limitation of the present administration of justice where the procedure functions at its best, as in many of the Continental and English courts.

Influence of wealth.—Although theoretically of course the administration of justice is impartial, practically it certainly is not in America at least. One needs only to follow daily accounts of murder trials to see how the influence of wealth can save murderers from execution when the same type of defense is not afforded the poor defendant, who after a paternal admonition from the court is rather promptly executed.

The following excerpt (used through the courtesy of the *Chicago Tribune* and written by John Steele) seems indicative of foreign comment upon the trial which caused the thinkers to stop and wonder:

LONDON, Aug. 7.—British lawyers are watching with interest and amazement, and, it must be confessed, some amusement, the battle of alienists now going on in a Chicago court at the trial of Nathan Leopold and Richard Loeb. There is also, perhaps, a tinge of envy for the opportunity given their American brethren to make fat fees.

Such a fight would be impossible in an English court, no matter how rich or highly placed the defendant might be. English judges have little patience with the efforts of a counsel to defeat justice by technicalities of law,[1] and as

[1] Contrast this conduct with the untiring patience exhibited by the judge in the Chicago court.—WRITER'S NOTE.

their power over procedure is much greater than that of most American judges, they are able to check any effort of the sort.

To begin with, the law regarding insanity as regards crime is different in England from that in most American states. The American verdict is "not guilty because insane," while the English verdict is "guilty, but insane."

Cites Thaw case.—In the case of a wealthy murderer, like, for instance, Harry Thaw in New York, the culprit may, after spending a longer or shorter time in a comfortable asylum, secure medical evidence that he has recovered his sanity and as he has been found "not guilty," he goes free, the asylum having no power to retain a sane man.

In the case of an English verdict, a man is sent at once to Broadmoor prison for the criminal insane, where the treatment is much the same as in ordinary prisons, and the sentence is that he is "to be detained during his majesty's pleasure." This means if he becomes really sane and the authorities are satisfied that he is not dangerous he may be released by the home secretary, but if for any reason it is believed that he is not safe to be at large he, being a convicted murderer, can be detained at Broadmoor or moved to another prison.

A noted case in such circumstances was that of Major Ronald True, who murdered a woman in London a few years ago. True was an assumed name. He was the son of a woman with a title, who had extremely influential connections. It was found that he was abnormal, and after being found guilty but insane he was sent to Broadmoor, where he still is.

Must remain in prison.—To all appearances he is as sane as anyone else today, and the greatest possible efforts have been made by relatives to secure his release, but the prison doctors refuse to certify that he is safe to be at large, and he remains in Broadmoor. He will probably remain there for the rest of his life. Incidentally, he was caught, tried, and convicted and in the asylum prison within a month after his crime, and the actual trial only took two days.

Such a spectacle as a wrangle by alienists for weeks is impossible in this country. No judge would allow it and no counsel would attempt it. In a very important case, perhaps, one eminent man is called by each side, and only questions are allowed which follow the line of whether the prisoner knew the nature of his action when he committed the crime. All evidence such as childish abnormality is ruled out as inapplicable, the only question being whether the man was capable of distinguishing between right and wrong. If he is sane enough for that, in the opinion of English judges and juries, he is sane enough to hang. As a matter of fact, little weight is given to the testimony of these medical experts.

Rely on police doctors.—The evidence which really counts is that of the prison and police doctors who have had the prisoner under examination from the moment of his arrest. If they declare that he is sane there is little chance of a jury being influenced against their judgment by high priced experts.

Perhaps, for this reason the defense of insanity is seldom raised in England unless it is genuine, and in the rare cases when it is raised it generally succeeds. There are many cases, however, in the English courts in which persons of low or abnormal intelligence are accused and convicted of crime for which they would be acquitted in most American states because of their low mentality.

All conscientious students will agree that wealth causes a discrimination in the course of justice. Aside from flagrant cases of "jury-fixing" and perjury by expert witnesses, etc., the fact remains that the poor should receive as good a defense as the rich. If the offender is poor let the community have experts examine him to determine his mental condition, but his mental responsibility should be determined before he comes to court, not after he is sent to the penitentiary, nor by the examination of his brain after execution in the search for anomalies.

Limitations of the judicial system.—John H. Wigmore, former president of the American Institute of Criminal Law and Criminology, in "The Judge's Sentence" (*Journal of Law and Criminology*), writes:

Judge's sentence in the Frank case.—In the judicial opinion giving reasons for imposing less than the extreme sentence for murder in the Loeb-Leopold case, the court was "moved chiefly by the consideration of the *age of the defendants*—boys of 18 and 19 years, ... persons who are not of full age." Declaring that the court's judgment "is not affected" by the psychiatrists' analysis of the "physical, mental and moral condition of the two defendants," and dwelling exclusively on their age, the court points out that the mitigation of penalty based on that circumstance alone "appears to be in accordance with (1) the progress of criminal law all over the world and (2) the dictates of enlightened humanity." The opinion adds that the life-imprisonment penalty "may well be the severer form of retribution and expiation."

These astonishing pronouncements, with their incidental reference to "progress of criminal law," "humanity," "expiation," "retribution," evidently were logical consequences of some conceptions, in the judicial mind, of the purpose of the penal law. Let us therefore briefly glance at the well-known state of theory on that subject.

The theories of the basis of penal law are all reducible to four—Retribution, Reformation, Deterrence, Prevention. But the last of the four—the preventive basis—does not concern the law and the courts; it concerns the general social measures—such as education and eugenics—which will eliminate or diminish the tendencies to crime; hence it is here immaterial. There remain the theories of Retribution, Reformation and Deterrence.

The *retribution* theory was once dominant, centuries ago. It had a theological origin, but has long been discarded. Probably the last writer to advocate it frankly was Thomas Carlyle. In his *Latter Day Pamphlets*, he says,

"There is one valid reason, and only one, for punishing" a murderer with death, and that is that nature "has planted natural wrath against him in every God-created human heart. Caitiff! we hate thee—not with a diabolic, but a divine hatred. In the name of God, not with joy and exultation, but with sorrow stern as thy own, we will hang thee on Wednesday next!" But nobody defends this theory any longer.

Why, then, does the opinion in the Loeb-Leopold case refer to a life sentence as "the severer form of *retribution* and *expiation?*" Those terms are discarded—and discarded by the very "progress of the criminal law" elsewhere invoked in the same opinion.

There is indeed one aspect in which the retribution idea still legitimately has a bearing, viz., not in initially fixing the penalty, but in *rebutting a plea* for mitigation. "We do pray for mercy," says Portia, "and that same prayer doth teach us all to render the deeds of mercy." He who asks for mercy is met by the retributive answer. "You yourself showed no mercy." So in a homicide case: The atrocious killer, if he asks for mitigation, is answered: "Who are *you*, to ask for mercy, that showed no mercy to others?" From the killer's point of view the retribution idea is a sufficient answer. And so it should have been in the Loeb-Leopold case.

But *that* theory does not tell the law how to fix the penalty in the first instance. And so we come to the other two theories.

The *reformation* theory is the proper basis for shaping any and all penalties, so far as concerns the individual at bar. It may lead to permanent segregation from society, at one end, or to immediate discharge on probation, at the other end. All modern criminal law has been modified, in obedience to this theory. In the Loeb-Leopold case it would lead to no mitigation; for there was no evidence at all that these men would ever reform. The evidence was all to the contrary. Their philosophy of life was fixed; they had been developed by the highest education; their cynical, callous unscrupulousness revealed them as irreclaimable.

But this reformation theory affects solely the *individual at bar*. It takes no account of the mass of humans outside. The criminal law is quite as much concerned with social effects, i.e., effects on the community at large. And that is where the deterrence theory comes in. The opinion in the Loeb-Leopold case ignores entirely this basis of the criminal law. And that is its cardinal error.

The *deterrence* theory is the kingpin of the criminal law. The crimes contemplated but not committed bear the same ratio, or greater, to those actually committed that the submerged base of an iceberg bears to the portion visible above the surface; scientists say it is as 6 to 1. The fear of being overtaken by the law's penalties is, next to morality, what keeps most of us from being offenders, in one way or another. For the professional or habitual criminals, who have ceased to care for social opinion, it is the only thing. A

lax criminal law means greater yielding to the opportunities to crime. This is common knowledge.

So the main question here really was: Would the remission of the extreme penalty for murder in the Loeb-Leopold case lessen the restraints on the *outside class of potential homiciders?* The answer is *yes*, emphatically. And daily newspapers dispense us from laboring to offer any elaborate proof. On September 1, after the counsel's argument for the defense had been published, two 18-year-old girls were arrested in Chicago for assisting two youths of 16 and 19 (Bill and Tony) to kill cruelly an old woman whose money they coveted. And the girls on their arrest said: "A cop told me they would hang Tony. But they can't. *There's never been a minor hanged* in Cook County. [Note that the judge later cited this point in his opinion.] Loeb and Leopold probably won't hang. They are our age. *Why should we?*" These particular reckless dastards, it seems, "wanted money for our good times, excitement, clothes, and fun," and they don't mind killing because they won't hang. On September 2, a male and a female, 19 years old, were arrested for highway robbery in Alexandria, Va.: the robbery failed, by accident only, from being a murder; the female when arrested said, "I'm sorry I didn't get away with it; if I had more experience, I would have" (*New York Times*, Sept. 3, 1924).

As everyone knows, today is a period of reckless immorality and lawlessness on the part of younger people at the ages of 18–25. It is more or less due to the vicious philosophy of life, spread in our schools for the last twenty-five years by John Dewey and others—the philosophy which worships self-expression, and emphasizes the uncontrolled search for complete experience. Whatever the temporary cause of this behavior may be, it is in special need of repression. The instances above quoted show that such persons *are* amenable to the threats of the criminal law. If that law has no threat for them, they will the less try to repress their nefarious antisocial actions. Life imprisonment has no terrors to their minds. It takes not only imagination, but an experience of it, to sense any of that terror. But hanging is a penalty that needs no imagination and no experience. Everybody has sufficient horror of that—everybody except the crazy and the mere child.

And that is where we see the special, dangerous error of the court's opinion in the Loeb-Leopold case, in basing the mitigation on the offenders being "under age"—that is, under twenty-one. What has the twenty-one year line to do with the criminal law? Nothing at all, nor ever did have. The twenty-one years is merely an arbitrary date for purposes of property rights, family rights, and contract rights. For purposes of criminal law the only question is: *Are persons in general of the age at bar susceptible to the threat of the law's extreme penalty? Would it help to deter them?*

It certainly would. Those two clever female miscreants of eighteen that helped choke the old woman to death were smart enough to perceive the difference between hanging and imprisonment. Loeb and Leopold were clever

enough to understand it; else why did they take such ingenious pains to avoid detection and to leave the country? As a matter of fact, the *only* thing that they did fear was the criminal law. Neither personal morality nor social opinion imposed any limit on their plans. The only repressing influence on them was the criminal law. To mitigate its penalty for them was therefore to "take the lid off" for all unscrupulous persons of their type.

And that is what the sentence of the judge in this case has done for Cook County!

Just as juries on the Continent are swayed by the popular fear of the Mafia or Camorra, to acquit an offender, just so is the American jury swayed by popular clamor. Much of this is doubtless due to the harmful method of trying a case in the newspapers even before the facts are known.

That intimidation and fear of gangsters can play an important part in the American administration of justice is well known but not always admitted. Not so long ago it was alleged a pickpocket who had been arrested three times within a month, and who had earned the sobriquet of "Immune Eddy" because of his ability to avoid the penitentiary as a permanent residence, was released on a charge. However, the complainant was supposedly sentenced to the Bridewell for refusing to testify or appear in court after swearing to the complaint. He refused to testify, saying that he was afraid for his life. Whether he was intimidated, or had been persuaded by friends of the defendant, the fact remains that the alleged crook was freed and the victim made to suffer.

That the pathway of the victim is not an easy one the writer can testify. On one occasion he had one hundred and fifty dollars removed from him by a "dip" and his "mob." He reported the loss. Later he was shown two men who were known to be pickpockets with records. One of these he felt reasonably sure was one of the three who had robbed him. The appearance of this man fitted exactly with the description of one of the men which he had turned in prior to the arrest. When the victim said, "I think he is the one," the trouble began. He was told that he couldn't *think*, but that he had to *know* when he went to court. One officer advised him not to swear to a complaint. Another officer recommended it, for, he said, "with the testimony you have and with the defendant's record he is sure to get a 'ride.'" Since the injured man did not wish to see the suspect committed on the strength of his past record, and since he was not sure that this was the man who robbed him, he did not swear to a complaint. He was criticized by several of his friends who said, "Whether he got your money or not, he got someone's, and should 'go over' as he would if you would positively identify him."

Rôle of intimidation.—The following editorial is an interesting description of a case in which intimidation was alleged to be the factor in the acquittal of the defendant by a coroner's jury. This editorial is used through the courtesy of the *Chicago Tribune:*

The Chicago Camorra.—Alfred C. Deckman, driving his car in the early morning after a late party, was unfortunate enough to get into a row with the men in another car. Evidently there had been some drinks at the party. Deckman had Earl Cooper with him as a companion. As the story is told, the driver of the other car crowded Deckman's and he resented it with fighting words. There were six men in the other car and Cooper saw that it was no time or place for a fight. He told Deckman to get away and Deckman tried.

Someone fired from the other car. Deckman was hit. Cooper stopped the car. The other men came up, dragged him out and beat him savagely. Police heard the shot and were in time to get the men. Deckman died.

The men were Walter O'Donnell, beer runner, and five members of his gang. The police are now trying to find a way for prosecution to start and their difficulties are worth considering. It is believed that the facts as we have stated them are fairly accurate. Deckman is dead and there is no doubt as to that. It is fairly certain that he was trying to get away from the gang when he was shot. Cooper has been backward in identifying the men who slugged him. Citizens not in his position of course think he ought to come straight through with everything he knows.

Put yourself in his place. When he went to the coroner's inquest this gang ruled it. He was placed between two of its members. The gang told a newspaper photographer that he would be thrown out of a window if he tried to take a picture. The jury was composed of men obviously intimidated. They did not hold the six men to the grand jury. So far as they were concerned the case was dropped. That is not important except as it revealed successful terrorism.

Cooper has been intimidated. If he testifies and aids the police he is marked. How will the community protect him and how long? He naturally is asking himself what will happen to him a week, a month or a year after the trial. He will not be living the rest of his life here in the shadow of a policeman and he has no assurance that a man killing gang will be put out of business.

That is one difficulty. Another is that the police do not know and Cooper can hardly know who fired the shot. If the gang had started out deliberately to get Deckman it wouldn't matter who fired, but this was an incident in the night life of the outfit, arising casually because Deckman did not know with whom he was dealing when he got fresh with the occupants of the other car. They bumped him off for being fresh and while he was dying they beat Cooper up.

The gangsters are out on bonds. There is a hearing pending in the Municipal Court and the police are trying to get a case which will bring punishment in the Criminal Court.

This murder has quite as much significance as the one which now has everybody's attention. It has even more. Its source is organized recklessness, entrenched, politically protected, callous, almost immune and quite inhuman. The development of this lawlessness has as serious import as the development of the Camorra in Italy. As its immunity increases so will its activities.

In this particular instance the police have a hard case to prove although they got the men on the scene. They will need all the help the state's attorney can give them.[1]

The foregoing editorial is typical of public opinion generally in its belief that evidently police protection and the present mode of administration of criminal justice is not very successful in coping with crime in Chicago. The same sort of conditions will doubtless be found in New York, San Francisco, and other large cosmopolitan centers, and will continue to be found until radical changes are made in the police administration and criminal procedure.

In the light of the foregoing cases and problems it is rather instructive to note the opinions of contemporary workers of note from the various fields, as to the efficacy of the judge and jury as satisfactory units in the determination of the innocence or guilt of the defendant.

In his *Testimony and Human Nature*, W. C. Otto writes:

Unintelligent methods.—Unless we presume to know the facts before we begin, or are indifferent whether we get them in the end, the taking of testimony is difficult even under the most favorable conditions. And a first step would seem to be the recognition on the part of society that this constitutes a genuine and most vital problem, and one of peculiar niceness and complexity; a problem, moreover, which is not simplified, but enormously complicated, when we have hired two lawyers, each called upon to supply a theory as the "facts in the case," each armed with the ability to browbeat witnesses and to appeal to the emotions of jurors selected for their "innocence," and each, in the very nature of the case, forced to feel greater concern for victory than for truth. We have done something to make the examination of witnesses humane, but we have done little enough to make it intelligent. Our attitude is describable as a childlike faith that someone is taking care of such difficulties.

[1] It is alleged that the coroner stated that members of this same gang had been involved in a murder two years prior to the shooting described above.—AUTHOR'S NOTE.

Consequently, a defective method of determining the guilt or innocence of those accused of antisocial acts may long be accepted as satisfactory.

It is encouraging to believe that we are entering upon the state such that we shall presently show less of a tendency in the face of crime to indulge in sentimental inebriety—itself a dangerous antisocial attitude—and shall instead, give whole-hearted support to the moment which aims to make the taking of testimony more scientific and . . . . more just.

DuBois, in *Observations on the Psychology of Jurors and Juries*, writes:

Limitations of juror.—The juror's office is, in some respects, the most ironical and paradoxical in the whole range of human service. Its requirements are those of a learned profession with demands of extraordinary versatility. . . . . Yet the juror is so hedged about, officially suppressed and oppressed, that the opportunity for initiative, the value of his knowledge, and the freedom of his judgment are reduced to a minimum instead of being employed at their maximum. . . . .

He is never quite himself because he is under duress involuntarily doing the work of professional nicety . . . . involving complex calculation and insight to human motive, a gift of interpretation, a sense of probability, the elimination of personal bias. He is physiologist, pathologist, physicist, psychologist, detective, financier, moralist, jurist, and he is only a lackey without personality. . . . .

Under the prescription of our common jurisprudence the verdict of a court jury is mainly a resultant of many subconscious forces and unseen influences. . . . . Comparatively little of the "evidence" admitted by the court during the trial and little of the pleading operates directly upon the mind of the jury—even though, paradoxically, without these there could be no trial. . . . .

Chiefly it is limited to the proposition that, so far as the juror is concerned court discipline tends to diminish rather than to increase, and to hamper rather than to facilitate, his efficiency as an agency of justice. In other words, the conscientious juryman of good average equipment goes handicapped to the task largely because he is in subjection to an iron rule which takes no note of his individuality or fitness or unfitness, distress or ease, or of other personal and court conditions which themselves determine his judiciality. . . . .

It is comparatively seldom that the witness who is sworn to give the "whole truth" is permitted to do so. The juror sees the effort of counsel to prevent his getting hold of it. He notes how the wooden "rules of evidence" sometimes cuts out a body of testimony, the pores of which are juicy with the very quintessence of evidence. The keen juror, scenting the aroma, longs to tap or squeeze out the sap of truth. . . . .

A physician, speaking out of much experience as an expert witness, told his medical associates that it is not enough that the evidence which they might be called to give should be the truth. This, indeed, he said, has little to do with it, for it must agree with the lawyers' and the court's idea of what is evidence, which is sometimes quite another thing. . . . .

In speaking of the judge, DuBois says:

Limitations of judge.—In point, here is a paragraph from the *Law Notes* (March, 1910): "Judge Caldwell who served nearly thirty-five years on the bench of the Federal District and Circuit courts, said that trial by jury was guaranteed in the Constitution because the people knew the judges were poor judges of the facts" and that "every day's experience confirms the wisdom of their action. Equally strong testimony has been given by some of the greatest judges the country has ever known." . . . . How many self-respecting men will condescend to serve willingly on juries if they know the judge is likely to hold them up to public scorn because he disagrees with their unanimous opinion delivered under oath?

In a recent trial in San Francisco, Judge Ward is alleged to have taken exception to the verdict which acquitted Henry Wilkins. Although it was too late to affect the legal status of Wilkins, three members of the jury are alleged to have changed their opinions, claiming that they misunderstood the instructions of the court. This case also serves to illustrate the variable which legal technicalities offer to the juror who, in addition to his attempt to evaluate the closing arguments of both the defense and the prosecution, must heed also what must often seem to him a meaningless jumble of legal phrases from the court.

As a result of a lifetime of experience in court procedure Henry Wilcox published, as one of a series of books, a work, *Frailties of the Jury*. He says:

The judge has been selected for his learning; the jury for their lack of it. . . . . The jury pass on questions as to facts, but cannot use the knowledge they possess. Had it been known that they had such knowledge they had not then been chosen. The nearer their minds approach a blank on questions they must try, the better are they qualified. Thus knowledge qualifies the judge, and ignorance, the jury. . . .

Rôle of falsehood.—Lawsuits are born of falsehood. The truth is rarely told by all the parties; sometimes both deal in lies. They come to court with their well-varnished tales, trained and much practised, and with a skill that would adorn a better cause they act the part of martyrs to the truth. The untrained, inexperienced novice who does not know the color of a lie can find no explanation to the puzzle, and in his efforts will often put aside the solid gold of truth and choose the plated ware. Fraud comes to court dressed like the truth and wears her mask so well that the unpractised juror believes her guiltless. . . . . Before his [the judges'] eyes for many years have passed the true and the false, making their claims for his redress; he knows the gait of each, the ring of truth and falsehood: . . . .

Judges may preach . . . . and may paint upon the heavens the lustrous image of eternal truth and beg all lawyers to bow down before it, ... their likes will have poor success . . . . while there abides a law that fills the jury box with lowly minds, with whom a truth is as potent as a lie. Some lawyers will still falsify the facts, make pleas of lying fabrics and bring forth, to touch the juror's sympathetic nerves, a mass of matter not in evidence. Suitors anxious for success will seek such lawyers for their advocate and let the truthful starve.

Game of chance.—Jury trial is a game of chance where he who wins must often lose by winning, verdicts obtained are set aside because against the evidence, and thus a case is often tried again, until the substance of the final judgment is wasted in the cost of many trials. Ofttimes the case goes to a higher court and, there reversed, comes back, is tried again before another jury, again appealed, reversed and tried again, and thus the shuttle goes from court to court and then returns and makes another trip, weaving a shroud of loss for every party to the suit. . . .

Number of jurors.—As to the number of jurors, Israel had twelve tribes, and Christ had twelve apostles, and therefore must we have twelve men on the jury. . . .

In his *Juristic Psychology*, P. C. Bose writes of the judge in his capacity of examiner of witnesses:

Standards of judge.—A judge hears evidence but what is the standard by which he judges? It is the same standard by which every person judges or interprets every new experience. A person's nature and stock of ideas or, in other words, his character, habits, memory, education, previous experience, momentary mood, constitute what Mr. Lewis calls his entire "psychostatical conditions." . . . .

Perception, classification, naming, conception, recognition take place, through and in the light of the mass of ideas or representative elements, present in the mind. This is the process of apperception or assimilation or psychic reaction, ... which takes place through and in the light of the "psychostatical conditions" aforesaid. . . .

Judicial experience may deepen and widen the judge's vision if he possesses the capacity to utilize the same for his mental growth. Other conditions being the same, a judge of experience is better than a new judge. . . . . A judge's mind contains many complexes, such as political complex, religious complex, ethical complex, social complex, family complex, professional complexes and such other complexes. A judge's judgment is the result of the operation of the evidence before him and only as far appreciated by him in his mind as

composed of various complexes. In the evolution of every judgment, emotional elements always intervene. . . . . Dr. Bernard Hart in the *Psychology of Insanity* says:—"The prevalence of rationalization is responsible for the erroneous belief that reason, taken in the sense of logical deduction from given premises, plays the dominating rôle in the formation of human thought and conduct. In most cases, the thought or action makes its appearance without any such antecedent process, moulded by the various complexes resulting from our instinct and experience. The "reason" is evolved subsequently, to satisfy our craving for rationality."

Bose finds the following types of individuals when classified according to ways of thinking:

1. Visual concrete
2. Motor concrete
3. Visual topographic group of robot
4. Auditory-motor type of mind.

He also finds the following types of judgment:

1. Reasonable
2. Impulsive
3. Revolutionary
4. Decisions with effort.

The judge's decisions may be any of the type Nos. 1, 2, and 4.

Rôle of emotion.—Every emotion other than for the truth becomes the interest which chains attention and helps the revival of reasons, arguments which favor the emotion and tends to inhibit revival of reasons, arguments contrary to its interest. Even when such contrary reasons and arguments are pressed the emotion tends to minimize the effect of their true cogency. Such a judge if he does not deliver the judgment just after the close of arguments, but sometime after, may even forget the reasons and arguments contrary to the emotion. . . .

Limits of attention.—Professor James says:—"There is no such thing as voluntary attention sustained for more than a few seconds at a time. What is called sustained voluntary attention is a repetition of successive efforts which bring back the topic to the mind. The topic once brought back, if a congenial one develops, and if its development is interesting, it engages the attention passively for a time."

As to the ability of the judge to ascertain whether the testimony of the witness is true or false by the external demeanor, Bose quotes J. F. Stephen as saying:

Subjective nature of decisions.—"Upon the whole, it must be admitted that little that is really serviceable can be said upon the inference from an assertion to the truth of the matter asserted. The observations of which the matter admits are either generalities too vague to be of much practical use, or they are so narrow and special that they can be learned only by personal observation and practical experience. Such observations are seldom, if ever, thrown by those who make them into the form of express propositions. Indeed, for obvious reasons, it would be impossible to do so.

"The most acute observer would never be able to catalogue the *Tones of Voice*, *The Passing Shades of Expression*, and the *Unconscious Gesture* which he had learned to associate with falsehood; and if he did, his observations would probably be of little use to others. Everyone must learn matters of this sort for himself and though no sort of knowledge is so important to a Judge, no rules can be laid down for its acquisition."

As to belief Bose writes:

Belief.—Belief is the result of subjective factors of nature of reaction of the individual mind and the objective factors of objective experience which operated from birth till time of belief relating to the matter of belief.

The subjective condition of belief is no guarantee of the truth of the belief. To every individual, his beliefs make up his world of reality and he can no more escape his beliefs so long as they are beliefs than he can avoid his own shadow. . . . . A judge's conviction and findings are relative things; and they are conditioned by the information and circumstances present to the judge's mind when the finding is made. A judge's decision may change in the light of fresh evidence. The judge wants material truth and not mere formal truth but the judge's truth is always a relative one.

The foregoing excerpts represent a few American opinions as to the present system and especially the trial by jury. The following paragraphs offer the views of a few Continental thinkers. Ferri, speaking of the jury, writes:

Sentiment over reason in jury decisions.—Hence, the inevitable tendency of the jury to allow itself to be influenced by isolated events, guided, as it is, by a sentiment of compassion if much time has elapsed since the crime, or governed by a more or less disguised feeling of vengeance, if class interest or a short interval has not allowed the first impression of the misdeed to cool. Hence, shortsighted judgments, governed by passion, which cannot be approved by the people. This predominance of sentiment over reason, which is the fundamental note of the jury, is first of all shown by the nature of the arguments of counsel. There is no need for a profound philosophical or juridical thought; there is nothing to which it could be applied. As to the criticism of evidence or logic, they need not be considered. What is of capital importance is oratorical charm. Thus, science, not only criminal, but medical and anthropological, is not found in the criminal courts of today, for it is necessary to place the most difficult scientific problems within the sphere of popular knowledge, with the certainty that chance and external circumstances alone will decide the question.

The assemblage of a certain number of persons generally intelligent is not a guarantee of the definite resulting capacity of the assembly, because in the

psychological field the union of individuals never gives, as it would seem it should, a total equal to the individual value of each of them. An intelligent group need not be the result of the grouping of intelligent individuals, as in chemistry a liquid may be the resultant of two gases. The ignorant elements which remain hidden in isolated individuals unite, and through an effect of affinity and psychological fermentation rise to the surface. . . . .

It is argued that a professional judge, accustomed as he is to judge origina criminal actions, is irresistibly led to look upon every accused as guilty, and to disregard, so to speak, the presumption of innocence, even when justice insists upon it most emphatically. . . . .

Retrograde step.—History and sociology show, therefore, that the jury system is a retrograde step. It is, as Ellero said, a return to the barbarous times of the Middle Ages and represents in penal justice a phase different and distant from maturity and perfection. . . . .

In his *Criminology* Garafolo writes:

Limitations of jury.—The system of investigation introduced by the ecclesiastical tribunal during the Middle Ages and adopted in France by Louis XII undeniably marked a step in advance, inasmuch as it recognized the real essential of procedure to be the critical and impartial search for the truth, and that this should be the object of every rational and lawful judicial proceeding.

And, finally, if tried judges, if an assembly of experts, can in certain cases hardly disentangle the truth, which can only be understood through a knowledge of toxicology, surgery, and psychiatry, how can it be done by individuals who are not only not specialists but quite ignorant of any science whatsoever? And this at a time when division of labor is required in things much less important than justice. Are we not abandoning to chance something that ought to be conducted according to the strictest rules?

Saleilles discusses the jury as follows:

Influence of sentiment.—They become so wholly absorbed in the impression of the individual that, time and again, in defiance of the law, they forget the crime; and thus crimes come to be distinguished by their tendency or their failure to enlist the sympathies of the jury. There are classes of crimes in which the jury always ignores the facts and is moved by sentiment, by the sway of the instinctive and possibly irresistible passions from which the crime resulted. Such crimes come to be called the crimes of passion. For them the law prescribes punishments no differently than for other crimes and equally ignores their nature. The jury circumvents the law and brings in an acquittal, thereby favoring individualization in so far as it takes account of the individual. It often applies this policy poorly, and sometimes very unjustly. However, it reveals loyalty to a psychological impulse as well as to a principle; and it aims to place the consideration of the individual above that of the deed. . . .

Inconsistent verdicts.—From this source arise, in practice, the wholly inconsistent verdicts of the juries, the injustice of which is well-nigh scandalous; for there is no rule, no uniform standard of judgment. At times the jury's attitude is derived from the consideration of freedom and intent alone, and accordingly it is the degree of premeditation which is considered. In other instances freedom, will, and premeditation are disregarded, and the crime is recognized as a freely willed action; and then it is the motives and the determining circumstances of the crime that are taken into account. There is likewise a tendency to penetrate more and more deeply into the analysis of the nature and character of the defendant, utilizing the consideration of motives and contributory causes for this purpose. All this leads to capricious and variable decisions. Each jury has its own standards of judgment, and each juryman individually has his. It is almost a justice of chance, which is the worst and most disconcerting of all. . . .

Training necessary.—No objections are made to the present system; and we may admit that our magistrates, with the aid of the jury, have proved its worth. They may be said to have made the best of the situation; and yet further progress is possible. No one proposes a return to the hampered and legally restricted procedure of older regulations; such barriers serve only as technical protections for the worst and most objectionable forms of justice. The desideratum is a better preparation and education of future magistrates. At present only their legal education is considered. If this comprises merely an ordinary knowledge of the statutes and their more or less intricate interpretations, it may well be of secondary importance for the criminal judge. A knowledge of men is of prime importance. In place of an off-hand impressionism such as at present characterizes the decisions, there should be substituted, as M. Carnevale demands, a true scientific procedure. . . . .

The question of how the magistrates shall become capable of solving the problem remains. Perhaps a psychological, as well as a legal, education is necessary. Are not magistrates, through their profession, engaged daily in psychological problems? Whether they desire it or not, they must consider things psychologically, at first feeling their way by intuition, and later by professional acumen. But judgment of this type they must make and cannot avoid. The mistake consists in not insisting openly and professionally that such is their chief function. We ask that they be thus instructed, and that they thus qualify for the rendering of decisions. When so qualified their judgments will be sound because based upon sure foundations. Their formal education, which now teaches them to look upon the facts uninfluenced by the consideration of the individual, will no longer be at odds with their loyalty to a humane justice, which equally serves the interests of society and leads them to judge the man rather than the deed. At present they practise a compromise, a thinly disguised combination of the two tendencies, and reach results that are satisfactory to no one. To enable them to act for the welfare of human and social justice a clear and frank allowance must be made for

both interests and tendencies. Let them argue in terms of the law in so far as concerns the status of the deed and its objective appraisal; let them increasingly consider the subjective element in the appraisal of the subjective gravity of the offense in its bearing upon the severity of punishment, thus at once considering the motive as well as the objective gravity of the crime. Here lies the practical field for concessions such as now obtain between the spirit of legal abstraction and that of psychological observation.

Under the caption, "Criticism of the Jury System," Tarde wrote concerning the juror as follows:

Incompetence.—His worth lies in his incompetence. After this, how can we be astonished at his insufficiency? This curious sort of a magistrate is chosen by lot. This was no doubt a very wise guarantee during the superstitious times when a providential character was attached to the man chosen by fate; but a thing which is still more hazardous than the choice of the individuals who make up the jury is the character of their decision. Their decision, first of all, depends upon the greater or lesser amount of eloquence indulged in by counsel, and what eloquence it is! The criminal court room seems to be a school of all the common grounds of old-fashioned forms of rhetoric. Furthermore, their decision depends upon influences which are less admissible and even more dangerous. . . . .

Why twelve jurymen, rather than ten or twenty? The predilection for this number, in a century saturated with the decimal system, would be incomprehensible, were we not aware of the mystic virtues which used to be attributed to certain numbers and especially to this number twelve. . . . .

However, the English jury is the best in the whole world; it is relatively severe, it is full of deference for the presiding judge, and it sometimes consults jury manuals which have been compiled for its use; with us people do not waste their time writing books of this kind. In spite of all this the English jury scandalizes the English public by its unreasonable acquittals. Even Lord Kingsdown said in the House of Lords in 1850 that "it would be better to abolish the institution of the jury than to maintain it such as it is." Taine in his *Notes sur l'Angleterre*, has collected similar complaints. Now they go even farther; in 1884 James Stephen, one of the eminent lawyers across the Channel, wrote a book condemning the jury which met with great success. . . . .

Under the absorbing effects of the advocate, the twelve jurymen are weaned away from popular feeling, just as a little sea water placed in a vessel is no longer affected by the movements of the tides.

The thing with which the jury is most unanimously reproached is its weakness. Its proverbial indulgence is not only scandalous because of the frequency with which it occurs, and often shameful because of the cases in which it is applied, but it is even more injurious by reason of its object. This

indulgence is exercised in dealing with the species of crime which it is most important to repress in places where it is in vogue. According to Jacoby, the American jury is as indulgent for every sort of fraud as the Italian jury is in cases of stabbing, or the Corsican jury is in cases of shooting. . . . .

The whole institution of the jury is defective in its foundations. If we stop to think of all the homicides, and all the infanticides, and all the cases of thefts, and all the cases of arson, the cases of forgery, and the cases of abuse of confidence, and all the cases of rape, which, had it not been for the jury, would not have existed, one can be pardoned for going so far as to say that it has done more harm to society even than torture. . . . .

The judge and the individualization of punishment.—Finally, the judge readily forgets that the penalty which he is inflicting ought, before everything, to serve some useful purpose; that this useful purpose is attained in various ways according to the individual dealt with, and that consequently it is an examination of the individual which should determine the nature and extent of the penalty. Why has the judge condemned some man to six months' imprisonment rather than a week, or a year? Because he remembers having a week, or a month ago, in a similar case or one which *appeared* to be similar, pronounced a similar sentence. We need seek no further reason. When he thus falls back upon his "jurisprudence," it is in order to disguise his absolute despotism and to conceal it from himself. To tell the truth, he is out of his element in a criminal court.

Now we see this same man sitting in a civil court; here he once more finds his guiding star. . . . .

Neglect of vital problem.—But the very next day in the criminal court, the scene is quite different. Ugly faces, I admit, but expressive ones, physiognomies which are just so many social or pathological conundrums to be solved, pass before the inattentive looks of the court and the bar. Neither the lawyer nor the judge notices the serious problems offered by these unfortunates nor sees any use in thoroughly investigating their past, and sometimes consulting some efficient medico-legal expert with regard to them, or else some former prison keeper, nor even of instituting an investigation. This would require too much time and too much expense.

Now, if it were a question of some hedge or road of no special value about which the two parties litigant were disputing, an adjournment to the locality would be ordered, a colored diagram of the place would be drawn up by a draughtsman, nothing would be too expensive. But here it is only a question of throwing some light on the darkest obscurities of the mind, and this same judge, who believing himself to be unable to make a sketch of a field, or incapable of verifying the fact of two examples of handwriting resembling each other, yesterday called in the doubtful assistance of a land expert or school teacher, today believes that he can get along perfectly well without the assistance of an alienist. . . . .

JURY TRIAL

The *Wickersham Report*, No. 8, has this to say about jury trial:

Development and limitations.—For historical reasons, trial by jury in criminal cases has been regarded chiefly from the standpoint of a safeguard of the accused. Indeed nineteenth-century discussions of the criminal jury put the chief stress upon the power of rendering general verdicts as a mitigating agency and on the dispensing power of juries as a protection to the individual citizen as against oppressive laws or oppressive enforcement of law. America was colonized by Englishmen who had had a bad experience of seventeenth-century English legislation and seventeenth-century law enforcement under the Stuarts, and had been taught to think of the jury as standing between them and royal tyranny. Again, on the eve of the Revolution, the local jury in more than one colony was a safeguard against enforcement of obnoxious legislation by royal governors. Thus, from the beginning of American law, we have thought of the jury in terms of the seventeenth-century contests between the courts and the Crown and in terms of the eighteenth-century contests between the colonies and royal authority, rather than as an effective tribunal for ascertainment of the facts in criminal prosecutions.

Moreover, the jury in a homogeneous pioneer or rural community functioned under circumstances much more favorable for good results than those which obtain in the heterogeneous diversified urban industrial community of today. The strong point in the common law as a fact-finding agency was that it brought to the solution of controverted questions of fact and the weighing of conflicting evidence neighborhood knowledge of men and things, the common sense of everyday men with reference to everyday things. No such knowledge is possible in industrial communities where "there is residential turnover in some districts of 80 per cent in five years." No such everyday opinion and general understanding can form in "an intermingling of over 50 nationalities and races . . . . white, black, and yellow," such as is to be found in greater or less degree in our large cities. The resulting strain on jury trial is reflected in complaints as to the inefficiency of juries in almost every part of the country.

Another circumstance which has been making against the efficiency of jury trial in criminal cases is the excessive demand upon the time and energy of the citizen in proper performance of civic duties in the city of the twentieth century as compared with the rural community of the past. Frequent elections, often with very long lists of officials to be elected and of candidates for each office, grand juries and trial juries in almost continuous session throughout the year, with service upon them in no way adjusted to the exigencies of callings or businesses, call for more than the citizen may reasonably be expected to do under the stress of competition in urban life. It is highly inconvenient for those who are best qualified to do what is demanded for the best results in criminal cases. Hence there is constant heavy pressure to be ex-

cused on the part of those best fitted for jury service. When elected judges, frequently holding for relatively short terms, are subjected to this pressure, often re-enforced by political influence, it can not be expected that a high standard of competent juries may be maintained. The difficulty is increased in some States where the legislature by statute has given exemption from liability to jury duty to so many classes and categories of persons as to remove from possibility of service the best qualified citizens, thus narrowing the body from which selection must be made to the least intelligent, experienced, and competent part of the community. There is a great variety in the modes of selecting the panel in the different States. But taking our cities as a whole, none has succeeded in bringing about enduring improvement. It seems clear that stronger trial judges, emancipated from politics, and less demand for public service upon the time of the citizen, give more promise of insuring service upon juries of the citizens best qualified than further tinkering with the statutes governing selection of the panel.

At the trial, selection of trial juries from the panel has come to take an inordinate time and cause an inordinate expense in all hotly contested cases in the great majority of jurisdictions. Elaborate examinations with reference to the qualifications of each juror, as the foundation for challenges, in which each side endeavors to secure every advantage in the personnel of the jury, taken advantage of by intelligent members of the panel eager to escape service, often require many successive panels to be drawn and summoned and days of examination before all challenges are exhausted and the 12 who are to serve can be selected. This wasteful proceeding does not result in better juries, as is shown by experience in those jurisdictions where the practice does not obtain. Indeed, on the whole, it results in weak and even ignorant juries for the cases where strong and intelligent juries are most required.

CHAPTER X

EVIDENCE AND CONFESSION

The foregoing excerpts are fairly representative of the opinion held by the progressive student of the present efficacy of the jury and judge as a means of determining the real facts in a criminal case, or of the innocence or guilt of the defendant; or, in short, whether deception is present. The following few paragraphs, selected from a very voluminous literature, relate to other problems present in judicial procedure which bear also upon the evaluation of the truth and character of the witness and the evidence presented.

In his *Criminal Sociology*, Ferri writes as follows:

Evidence.—In the evolution of the system of evidence, four characteristic phases, which follow more or less accurately the phases of the evolution of punishment, are found: The primitive phase—where proofs are left entirely to the naïve empiricism of personal impressions and the critique of evidence has few occasions to be exercised because the vengeance—defense—is exercised almost always against a flagrant crime or against the well-known author of the damage. The religious phase—in which the divinity is called upon to intervene to discover the author of a crime which is regarded as an offense against the deity (Judgment by Ordeal). The legal phase—where the value of divers elements of evidence is fixed by law as well as the necessity of sufficient degree of proof to fix an ordinary or extraordinary penalty. It is in this period that a confession is considered the best evidence and, therefore, all means are employed to obtain it, including torture, without which the judges, enemies of all innovations, state, in reply to Beccaria, "It would be impossible to administer justice because it would not be possible to obtain the confession of the guilty nor a certainty of his fault."

The sentimental phase of intimate conviction—to which the opposite excess is reached by freeing the conscience of the judge and jury of every obligation in relation to the evidence and declaring that "the law does not demand from the jury an account of the means by which they have determined upon conviction" and warning them even "that they failed in their principal duty if, in determining their decision, they considered the penal consequences that it will have for the accused"—a naïve manner of stating that everything is left to the inspiration of their intimate conscience to judge, in the inextricable tangle of evidence, whether or not it shows that the accused is really the author of the crime. From this principle comes the absurd conviction that judges, through their study of law, are preferable to alienists and more com-

petent to judge whether the accused is insane or his intelligence normal. It is to this phase of proof that we wish to add another—the scientific—represented by expert testimony; that is to say, by the methodic collection and weighing of experimental conclusions from the material circumstances of the crime (physical, mechanical, calligraphical, professional, toxicological, and other proofs) and, above all, by individual and social proofs relative to the person of the delinquent (anthropological, psychic, psycho-pathological).

In *Anthropology and Sociology in Relation to Criminal Procedure*, Parmelee notes:

Evidence.—The examination in the procedure of accusation has certain faults. Its publicity frequently enables the accused to destroy incriminating evidence. The power of the accused not to testify if he so chooses deprives the court of one valuable source of information. This silence of the accused usually deprives society of a powerful weapon against crime, though sometimes it does injury to the accused himself, especially when he is innocent. . . . .

This brief summary of the fundamental principles of the English law of evidence gives some idea of its character. Its characteristic features have been stated as follows: The characteristic features of the English common law system of judicial evidence, like those of every other system, are essentially connected with the constitution of the tribunal by which it is administered, and may be stated as consisting of three great principles: (1) The admissibility of evidence is matter of *law*, but the weight or value of evidence is matter of *fact*. (2) Matters of law, including the admissibility of evidence, are proper to be determined by a *fixed*, matters of fact by a *casual*, tribunal; but this is a principle which found little favor with the Court of Chancery and has gradually become a less integral part of the whole English system. (3) In determining the admissibility of evidence, the production of the best evidence should be exacted. . . . .

What is needed is a trained judge who will know the true significance of a piece of circumstantial evidence and will draw the correct inferences therefrom. The juror, inexperienced in these matters, may easily draw the wrong inferences and this prejudice against circumstantial evidence has grown up in his defense. But the juror is liable to similar dangers in receiving direct evidence, for the witness is likely to make mistakes and it is frequently necessary to infer from testimony. Here again is needed the trained judge to estimate, on the basis of a knowledge of the psychology of testimony, the true value of the testimony and then draw the correct inferences therefrom. . . . .

The exclusion of hearsay evidence is one of the distinguishing features of the English law of evidence, since such evidence is very generally admitted in Continental procedure. This exclusion is in accordance with the object of English rules of evidence "to provide that conclusions in judicial cases should be founded on solid grounds" (J. F. Stephen). . . . .

But notwithstanding all these dangers it is true that very valuable in-

formation can be derived from hearsay evidence which cannot be secured in any other way. The question, therefore, may be raised whether with proper restrictions and with trained judges to estimate its value, more use cannot be made of hearsay evidence. . . . .

Testimony.—As the reception of the credit attached to the statements of witnesses by courts of justice rests on the natural, if not instinctive, belief which is found to exist in the human mind, in the general veracity of human testimony, especially when guarded by the sanction of an oath, it follows that all testimony delivered under that sanction, and perhaps even without it, ought to be heard and believed, unless special reason appears for doubt or disbelief. And here arises a leading distinction which runs through the judicial evidence of this and most other countries; namely, that in some instances the special reason is so obvious that the law deems it safer to reject the testimony of the witness altogether; while in others it allows the witness to make his statement, leaving its truth to be estimated by the tribunal. This is the distinction taken in our books between the *competency* and the *credibility* of the witnesses. A witness is said to be *incompetent* to give evidence, when the judge is bound as a matter of law to reject his testimony, either generally or in some particular subject; in all other cases it is to be received and its credibility weighed by the jury. . . . .

It is impossible to enumerate, a priori, the causes which may distort or bias the minds of men to misstate or pervert the truth, or to estimate the weight of each of these causes in each individual case or with each particular person. . . . .

Expert testimony in general will always be a superior means of information at the disposal of justice, a new form of legal proof of which more and more use should be made. The reason for this is that judges are not competent to judge technical matters. But while the judge cannot be expected to have all this technical knowledge he should have a sufficiently general knowledge to know when such expert testimony should be used. Courses, therefore, should be given in law schools acquainting those who may become judges with the general nature of expert testimony and with the occasions on which such testimony is needed. . . . .

The oath.—In the case of testimony its value depends upon its veracity. The standards according to which the value of the testimony have been judged have been very naïve. Generally speaking, testimony has been considered veracious except under certain exceptional circumstances which are indicated by the law of evidence. The oath has been regarded as a guarantee of the veracity of testimony. But there have also been strong protests against the oath. It has been contended that the oath cannot confer the capacity for telling the truth. The judge cannot be certain that the witness is veracious if he has no other evidence of the truth of this testimony. The oath is useless for the moral and for the religious man for they will try to tell the truth without oath. It is also useless for the irreligious man who is also of a low moral

character, for the oath will not influence him to tell the truth. The Swiss constitution says that no one shall be forced to perform a religious act and that therefore no one shall be forced to take an oath (C. Stooss, in the *Archiv für Kriminal-Anthropologie*, July, 1905). The oath is not compatible with liberty of conscience and belief. The canonical law in creating the inquisitorial procedure in the thirteenth century submitted the accused to the oath, and this custom entered the law of almost all of Europe, the principal exception being England where it was not required on account of the accusatory principle (A. Esmein, *Le "Criminal Evidence Act" de 1898 et le serment des accuses en Angleterre* [Paris, 1898]). The oath in this case necessitated the perjury of the guilty accused. The absurdity of this was shown by Becarria in these words, "The laws are again in contradiction with nature when they demand of an accused the oath to tell the truth when he has the greatest interest to suppress it; as if one could be obliged in good faith, by an oath, to contribute to one's own destruction; as if the voice of interest would not stifle in most men that of religion."

What then is the utility of the oath? It may secure a certain amount of subjective truth but very little if any objective truth (Hugo Münsterberg, in the *Times Magazine*, New York, March, 1907). That is to say, by the threat of punishment which its religious character implies it may remove the intention to hide the truth but this does not necessarily increase the capacity for telling the truth. The Romans seem to have regarded the oath as guaranteeing subjective truth only, for Mommsen tells us that in the Roman penal procedure witnesses swore to what they thought they had seen or heard and not what they knew (C. Stooss, in the *Archiv für Kriminal-Anthropologie*, July, 1885). In other words it was an oath of good faith.

The oath may help a little to secure objective truth by increasing the attentiveness of the witness. As Münsterberg has expressed it: "It not only suppresses the intentional lie, but it focusses the intention on the details of the statement. It excludes the careless, hasty, haphazard remembrance and stirs the deliberate attention of the witness. He feels the duty of putting his best will into the effort to reproduce the whole truth and nothing but the truth. No psychologist will deny this effect. He will ask only whether the intention alone is sufficient for success and whether the memory is really improved in every respect by increased attention. We are not always sure that our functions run best when we concentrate our effort on them and turn the full light of attention on the details." The utility of the oath for securing objective truth is, therefore, very slight indeed. If then the oath is to be used at all, it will have its greatest utility in securing subjective truth from religious persons who are so weak morally as to be likely to give false testimony knowingly if not prevented by the threat of punishment implied in the oath. For the irreligious the oath is not only useless but it is an imposition upon their freedom of conscience and should be substituted in their case by a simple affirmation of intention to tell the truth.

There is a pretty general confidence in the veracity of testimony. If there is any suspicion it is of the intention rather than of the ability of the witness to tell the truth. It is subjective rather than objective truth that is questioned. This confidence has probably grown out of the fact that most of our knowledge is based on testimony and that we have an instinctive dislike of uncertainty. The guarantee of veracity which the oath is supposed to furnish confirms this confidence. But as we have seen the oath is a very slight guarantee and we must look for another test of veracity. . . . .

Truth and the witness.—Witnesses may be classified according to their desire to tell the truth. Those who do not intend to tell the truth can very frequently be found out by means of methods discovered by experimental psychology and the truth forced from them in spite of themselves. But even those who desire to tell the truth very frequently fail to do so for reasons which have been suggested above. These include many types passing from the very pathological such as the insane, the paranoiac, the hysterical, etc., to the normal or nearly normal who give false testimony unwittingly on account of psychological errors to which any normal person is liable. . . . .

So far evidence has been judged by purely empirical rules and principles which have frequently been wrong as indicated by Ferri in the following quotation: "The child as a witness is the voice of innocence (when it is too often the dupe of auto-suggestion or of suggestion from another), or: the witness who is frank and sure in what he says is the most sincere (when more probably he recites words learned by heart), or: probability is the surest criterion of truth (while too often the truth is very improbable), etc." (*La justice penale* [Brussels, 1898], p. 62). The principles of experimental psychology should, therefore, be applied as soon and as much as possible. The determination of the veracity of legal and sociological testimony would then be in accordance with these principles.

A phonograph may be used at times to record testimony in order to give the tone and expression of the witness, thus presenting the subjective elements of the testimony in a way that a written record cannot do.

In addition to the significance of the oath, the kissing of the Bible has assumed forensic importance. Thus Sullivan wrote:

The oath.—I have noticed that since kissing the Bible was dispensed with perjury has increased, the witness now simply holds the book in his hands and repeats the oath. The soul is defiled in order that the body may be kept free from alleged disease germs; thus we satisfy doctors and sanitary experts at the expense of justice. In the old days the rogue many times kissed his thumb instead of the book, and thus satisfied a pliable, elastic and adjustable conscience. I would suggest buying inexpensive Bibles, making them kiss the page, and immediately tear out the page. Thus one Bible would last for thousands of oaths, and the miscreant who thinks he has a privilege to lie because he has not kissed the sacred scriptures would be outwitted, and perhaps the truth wrung from him. The police are lax at times because they know the reluctance of magistrates to convict their friends, relatives, customers and neighbors, and as a result we see a growing contempt for law and order.

Divine intervention.—Aside from the oath and the kissing of the Bible there are other evidences today which indicate a trust in the divine intervention. The following few instances are typical and may be seen frequently. In the closing paragraphs in the address to the jury in the case of *Hillman* v. *Insurance Co.* (1887) are these words:

Is this one of those mysterious and inexplicable coincidences which happen sometimes in life, or is it a sort of a guide board at the corner where the two roads meet, pointing in the line of truth? That is a question of fact which comes home to each of you. Consider all the facts in this case. Fear not. Be just; and may that infinite Being, who, from his unseen throne in the center of this mystic universe, who sees and knows the very fact, help you to be strong and guide you to truth.[1]

Again in Knapp's trial:

. . . . And upon your arraignment have pleaded that you were not guilty . . . . and put yourself upon God and your country for trial. The truth has prevailed. . . . .[2]

Also in the case of the Boorns:

. . . . Thus, by what may be considered almost a direct interposition of Divine Providence, two innocent men were restored to society, and, at least in one instance, it was satisfactorily proved that lawyers may undertake the defense of "atrocious criminals" against the clearest conviction of the people, with truth, honesty, and justice on their side. . . . .[3]

J. E. Gambier, in discussing testimony, says:

Veracity of testimony.—Is the subject of such a nature, and so circumstantial, as to admit of an easy confutation, if it be false? No consideration can be of greater importance than this, for, otherwise, the law of reputation (Locke's *Essay*, I, 326), the great principle of human conduct, opposes no barrier against falsehood; but the witness is at liberty to make what misrepresentations he pleases, and thereby to gratify any secret passion, or to promote any private interest, without danger of disgrace. But, if the fact asserted be such that the witness must be conscious he shall be detected and exposed if he ventures to misrepresent it, the dread of disgrace will then operate as a powerful motive with him to abstain from falsehood. In like manner it should be considered whether the rank or situation of the witness be

[1] Wigmore, *Principles of Judicial Proof*, p. 896.
[2] *Ibid.*, p. 1168.
[3] *Ibid.*, p. 564.

such as to secure him from shame, if his falsehood be detected, for this would weaken very much the credibility of his testimony, for the same reason. . . . .

If, while the witness speaks positively as to some particulars, he acknowledges himself to be ignorant of others, or to be only imperfectly acquainted with them, this acknowledgement tends to confirm his evidence, as to those which he positively affirms. . . . .

We should inquire whether the witness be a man of general veracity. If integrity were always understood in its proper sense, no man who allowed himself to violate the truth would be regarded as a man of integrity. . . . .

It is evident that the credit which can safely be given to any man's testimony must be regulated, in part, by the regard which he may be presumed in general to have for the truth; and the degree of that regard can be known only by an acquaintance with his general character.

It may, moreover, be safely presumed that the more a man has accustomed himself to disregard the obligations of veracity, the less influence will they have upon his mind; and therefore he will need the less powerful motives to induce him to violate the truth on any occasion. For this, also, due allowance must be made, in estimating the truth of his assertions. The credibility, therefore, of such a witness should be considered as reduced;—and if the habit of lying prevails in him to a great extent, we should regard it as considerably reduced;—but it is not destroyed. In cases in which neither any of the ordinary inducements to falsehood exist, nor any of those peculiar motives can operate which we have learned to be efficacious with him, it would be unsafe wholly to reject his testimony; though we may certainly be allowed to view it with suspicion.

But, if this doctrine be sound in regard to habitual liars, it is more obviously true in relation to those who are only occasionally guilty of untruths, under circumstances which naturally tend to overcome a man's integrity. For, we cannot safely conclude that, because a man may yield to the influence of a strong temptation, he would yield to a much weaker; and still less that he would transgress without any. . . . .

The manner in which the evidence is given may afford some assistance in judging of the veracity of the witness. There is a simplicity and firmness, equally remote from hesitation and assumed confidence, with which men generally speak the truth. This, though difficult to describe, may be learnt by observation. . . . .

The occasion on which a testimony is given may sometimes render it suspicious. Thus, should a man inform me, unasked, and without any assignable reason, that a person just died, and from whom I had no expectation, had *not* left me anything in his will, I should be apt to suspect his assertion. But, if there were any apparent reason why he should give me this information, provided it were true, no such suspicion would be excited by it.

In treating of the witness Mercier wrote:

The witness.—In his capacity as witness, his duty is to come forward and tender evidence if he can assist the ends of justice by doing so. To neglect a summons to give evidence is an offense; and when the witness is in court he is sworn to tell the truth, the whole truth, and nothing but the truth; and if he violates his oath, he commits a crime, and is punishable for perjury. Nor does his obligation to justice end here. He cannot evade it by refusing to answer a question. To refuse to answer a question after taking an oath to tell the whole truth is an offense, and punishable as such. To this rule there is in this country an exception, due to the extraordinary tenderness with which English law treats the criminal. A witness cannot be compelled to answer, or rather cannot be punished for refusing to answer, a question if the answer would incriminate himself. The law seems to me absurd and perverse. The purpose of a criminal trial, and of the law governing the criminal trials, should be to arrive at the truth with respect to the perpetrators of the crime, to discover those who are guilty and acquit those who are not. To ask a witness point-blank, Did you commit this crime? is not in the least unfair to the witness, and may conceivably be the means of acquitting an innocent prisoner. It is not unfair, but it is injudicious, on the ground already insisted on *supra*, that it holds out a very strong temptation to guilty witnesses to commit the additional crime of perjury. This should be avoided; but there is nothing unfair to the witness in the question, and there is no reason in justice why he should not be punished for refusing to answer a question solely on the grounds that if he did answer it truly, the answer would incriminate him. In its anxiety to be fair to the accused person, the law is, I think, unfair to society at large which the law has been constituted to protect. . . . .

Marston, in his paper "Studies in Testimony," wrote:

Lack of scientific study of testimony.—It seems to be a regrettable fact that little systematic psychological experimentation is being carried on in the field of normal adult testimony. Much valuable material is being produced by psychiatrists, sociologists, and criminologists from time to time; but the subjects of such studies are, for the most part, either psychopathic or criminal variants from the mental or social norms. On the other hand, much constructive work is being done by statistical and educational psychologists toward the development of intelligence and fitness tests; but the direct application of such psycho-statistical procedures to everyday legal problems of testimony seems a long way off.

Aussage tests.—Such work as has been reported in the legal field proper lies almost wholly in the line of the "Aussage," or "fidelity of report" tests. (For summary see Wigmore, *Principles of Judicial Proof*, pp. 575 ff.) An incident is performed, or an object presented, before experimental subjects whose immediate, written report is scored as to accuracy and completeness by the experimenter.

Some of Marston's findings in an experimental investigation were:

Marston's conclusions.—A. A single trained individual, sitting as judge, is more successful as finder of fact than is a male jury or a female jury, the judge excelling the jury more significantly, on the average, in the completeness of correct findings than in the accuracy of total report.

B. Female juries excel male juries, on the average, both in completeness of findings and in accuracy of report.

C. Professional training and experience, and possibly also sex, appear to have some psychological bearing upon success in individual finding of facts.

. . . .

In conclusion, I would point out various concrete examples of results herein reported which, if verified, might be utilized to bring out practical improvements in courtroom procedure without any prerequisite change in basic law. Judges, for instance, have wide discretion in limitation of cross-examination, and granting of broad latitude in direct examination. If psycho-legal research should finally establish the fact that testimonial results in response to direct questioning have preponderantly greater completeness and accuracy, the bench would already possess sufficient power to put this conclusion into practice to a considerable extent.

Again, it is possible, under our present procedure to take immediate, written statements from witnesses, who have been present during accidents, and other occurrences of ultimate trial importance. Such statements may be used in various ways during actual trial and are so used very frequently. If it were established as a definite, scientific fact that such immediate written testimony has several times the value of oral testimony given later, at the trial, the court and counsel, knowing this fact, might add much emphasis and weight in the immediately written statements, ... in many ways with departing materially from our present trial system. Indeed, it would not necessitate a very radical departure in legal procedure to provide official machinery for the eliciting and recording of crucial testimony, in important cases, as soon after the occurrence as the witness could be summoned; and the establishment of subsequent admissibility of such testimony, as a check upon the witnesses' later testimony, at the trial, would merely require an extension of the rule under which previous sworn testimony may be used at the present time to discredit a witness in cross-examination. The official, immediate eliciting of testimony might, moreover, be conducted according to that form which psycho-legal research had proved productive of most complete and accurate results.[1]

In the matter of woman jurors, in jurisdictions where sex is no longer a bar to jury service, both counsel and court possess the power to influence the

[1] Consider the condition of the notes of the usual police official or alienist when on trial. The connotations, few and in such shape that recess is necessary to enable the witness to find the answer in the notations, are often made some time after the actual incident or interview.—AUTHOR'S NOTE.

proportion of female representation in any panel. Excusing of jurors, disqualification for cause, and the arbitrary right of challenge may all be used, legitimately, to effect the result of securing women on every jury, if this result turns out to be desirable in the interests of justice. Only continued psycho-legal investigation can establish the desirability of such procedure; but the preliminary experiments reported above certainly indicate a possible value of women as jurors which is wholly contrary to the older practice of deliberate exclusion of women from the jury, whenever possible.

If properly guarded scientific researches should establish the fact, which already seems obvious to many psychologists, that any ordinary jury has lamentable absence of ability and skill in analyzing, psychologically, the reliability of the witnesses appearing before it, and of analyzing, both logically and psychologically, the testimony of those witnesses, upon which the case must be decided, much may be done in the way of producing expert analysis of testimony for the jury's assistance; counsel may procure properly qualified experts in various aspects of testimonial analysis; the court has a wide discretion in admitting such expert testimony; and the jury may be required, by the court's charge, to give due consideration to all the testimony before it, with the possibility of a new trial, should expert analysis of crucial evidence be patently disregarded. Nor is the plan of a testimonial expert officially retained in capacity of "friend of the court" so foreign to modern practice which thus utilizes the sociological advice of probation officers and the psychiatric services of medical examiners.

Finally, if it can be conclusively demonstrated that a single, trained individual greatly excels any jury in fact-finding ability, parties to any cause, civil or criminal, who honestly desire efficient findings of fact may, in most cases, waive the right to jury trial and thus secure that result most in accordance with justice. Also, in the appointment of masters, commissioners, and other non-judicial fact-finding agents, the court or other appointing official may be directly guided by the results of adequate psycho-legal investigations indicating what types of training and experience are most conducive to completeness and accuracy of report upon the testimony submitted.

All these possibilities for practical improvement in the handling of human testimony as a result of psycho-legal experimentation are cited, not because of their supreme intrinsic importance, but merely to illustrate the possibilities of immediate co-operation between the psychological laboratory and the courtroom. Juristic theory and practice have profited enormously from scientific treatment of abnormalities; why should not a similar profit be derived from psycho-legal solution of normal problems?

Confessions.—As a part of the machinery involved in the present methods for determining the innocence or guilt of the defendant, confession plays a rôle of considerable importance at times. Given the confession, the problem then becomes that of evaluating its truth.

Many times confessions are false, because of intimidation by ambitious district attorneys, or brutal methods of ignorant, politically appointed policemen, or due to some inherent psychopathic factors in the confessor. To aid in the proper evaluation and understanding of confession, the following excerpts and cases from Gross' *Criminal Psychology* are of possible advantage:

Underlying factors of confession.—The relatively most important secret is that of one's guilt, and the associated most suggestive establishment of it, the confession, is a very extraordinary psychological problem. In many cases the reasons for confession are very obvious. The criminal sees that the evidence is so complete that he is soon to be convicted and seeks a mitigation of the sentence by confession, or he hopes through a more honest narration of the crime to throw a great degree of guilt on another. In addition there is a thread of vanity in confession—as among young peasants who confess to a greater share in burglary than they actually had (easily discoverable by the magniloquent manner of describing their actual crime). Then there are confessions made for the sake of care and winter lodgings; the confession arising from "firm conviction" (as political criminals and others). There are even confessions arising from nobility, from the wish to save an intimate, and confessions intended to deceive, and such as occur especially in conspiracy and are made to gain time (either for the flight of the real criminal or for the destruction of compromising objects). Generally, in the latter case, guilt is admitted only until the plan for which it was made has succeeded; then the judge is surprised with well founded, regular and successful establishment of an alibi. Not infrequently confession of small crimes is made to establish an alibi for a greater one. And finally, there are the confessions Catholics are required to make in confessional, and the deathbed confessions.[1] The first are distinguished by the fact that they are made freely and that the confessee does not try to mitigate his crime, but is aiming to make amends, even when he finds it hard; and desires even a definite penance. Deathbed confessions may indeed have religious grounds, or the desire to prevent the punishment or the further punishment of an innocent person.

Confession types.—Although this list of applicable confession-types is long, it is in no way exhaustive. It is only a small portion of all the confessions that we received; of these the greater part remain more or less unexplained. Mittermaier (*Die Lehre vom Beweise im deutchschen Strafprozess* [Darmstadt, 1834]) has already dealt with those acutely, and cited examples as well as the relatively well-studied older literature of the subject. A number of cases may be perhaps explained through pressure of conscience, especially where there are involved hysterical or nervous persons, who are plagued with vengeful images in which the ghost of their victim would appear, or in whose ear the unendurable clang of the stolen money never ceases, etc. If the confessor only intends to free himself from these disturbing images and the consequent punishment by means of confession, we are not dealing with what is properly called conscience but more or less with disease, with an abnormally excited imagination. (Poe calls such confessions pure perversities.) But where such hallucinations are lacking, and religious influences are absent, and the confession is freely made in response to mere pressure, we have a case of conscience—another of those terms which need explanation. I know of no analogy in the inner nature of man, in which anybody with open eyes does himself exclusive harm without any contingent use being apparent, as is the case in this class of confession. There is always considerable difficulty in explaining these cases. One way of explaining them is to say that their source is mere stupidity and impulsiveness, or simply to deny their occurrence. But the theory of stupidity does not appeal to the practitioner, for even if we agree that a man foolishly makes a confession and later, when he perceives his mistake, bitterly regrets telling it, we still find many confessions that are not regretted and the makers of which can in no wise be accused of defective intelligence. To deny that there are such is comfortable but wrong, because we each know collections of such cases in which no effort could bring to light a motive for the confession. The confession was made because the confessor wanted to make it, and that's the whole story.

Problem of the confession.—The making of a confession, according to laymen, ends the matter, but, really, the judge's work begins with it. As a matter of caution all statutes approve confessions as evidence only when they agree completely with the other evidence. Confession is a means of proof, and not proof. Some objective, evidentially concurrent support and confirmation of the confession is required. But the same legal requirements necessitate that the value of the concurrent evidence shall depend on its having been arrived at and established independently. The existence of a confession contains powerful suggestive influences for judge, witness, expert, for all concerned in the case. If a confession is made, all that is perceived in the case may be seen in the light of it, and experience teaches well enough how that alters the situation. There is so strong an inclination to pigeonhole and adapt everything perceived in some given explanation that the explanation is strained after, and facts are squeezed and trimmed until they fit easily. . . . .

False confessions.—The legislators of contemporary civilization have started with the proper presupposition—that also false confessions are made,

[1] Cf. the extraordinary confession of the wife of the "cannibal" Bratuscha. The latter had confessed to having stifled his twelve-year-old daughter, burned and part by part consumed her. He said his wife was his accomplice. The woman denied it at first but after going to confession told the judge the same story as her husband. It turned out that the priest had refused her absolution until she "confessed the truth." But both she and her husband had confessed falsely. The child was alive. Her father's confession was pathologically caused, her mother's by her desire for absolution.

—and who of us has not heard such? Confessions, for whatever reason,—because the confessor wants to die, because he is diseased, because he wants to free the real criminal,—can be discovered as false only by showing their contradiction with other evidence. If, however, the judge only fits the evidence, he abandons this means of getting the truth. Nor must false confessions be supposed to occur only in the case of homicide. They occur most numerously in cases of importance, where more than one person is involved. It happens, perhaps, that only one or two are captured, and they assume all the guilt, e.g., in cases of larceny, brawls, rioting, etc. I repeat: the suggestive power of a confession is great and it is hence really not easy to exclude its influence and to consider the balance of the evidence on its merits,—but this must be done if one is not to deceive one's self. . . . .

By demanding complete accuracy and insisting, in any event, on the *ratio sciendi*, one may generally succeed in turning a perception, uncertain with regard to any individual, into a trustworthy one with regard to the confessor. It happens comparatively seldom that untrue confessions are discovered, but once this does occur, and the trouble is taken to subject the given evidence to a critical comparison, the manner of adaptation of the evidence to the confession may easily be discovered. The witnesses were altogether unwilling to tell any falsehood and the judge was equally eager to establish the truth, nevertheless the issue must have received considerable perversion to fix the guilt on the confessor. Such examinations are so instructive that opportunity to make them should never be missed. All the testimony presents a typical picture. The evidence is consistent with the theory that the real confessor was guilty, but it is also consistent with the theory that the real criminal was guilty, but some details must be altered, often very many. If there is an opportunity to hear the same witnesses again, the procedure becomes still more instructive. The witnesses (supposing they want honestly to tell the truth) naturally confirm the evidence as it points to the second, more real criminal, and if an explanation is asked for the statements that pointed to the "confessor," the answers make it indubitably evident that their incorrectness came as without intention; the circumstances that a confession has been made acted as a suggestion.[1] . . . .

Partial confessions.—Let us take now the third condition of our suppositious case, i.e. partial confession. It is generally self-evident that the value of the latter is to be judged according to its own nature. The confession must be accepted as a means of proof, not as proof, and this demands that it shall be consistent with the rest of the evidence, for in that way only can it become proof. But it is most essential that the confession shall be internally

[1] We must not overlook those cases in which false confessions are the results of disease, vivid dreams, and toxications, especially toxication by coal-gas. People so poisoned, but saved from death, claim frequently to have been guilty of murder (Hofman, *Gerichtliche Medizin*, p. 676).

tested, i.e. examined for logical and psychological consistency. This procedure is especially necessary with regard to certain definite confessions.

a) Confessions given without motive.

b) Partial confessions.

c) Confessions implying the guilt of another.

d) Logic is, according to Schiel,[1] the science of evidence—not of finding evidence but of rendering evidence evidential. This is particularly true with regard to confessions, if we substitute psychology for logic. It is generally true that many propositions hold so long only as they are not doubted, and such is the case with many confessions. The crime is confessed; he who confesses to it is always a criminal, and no man doubts it, and so the confession stands. But as soon as doubt, justified or unjustified, occurs, the question takes quite a different form. The confession has first served as proof, but now psychological examination alone will show whether it can continue to serve as proof.

The most certain foundation for the truth of confession in any case is the establishment of a clear motive for it—and that is rarely present. We are, then, to bring all conceivable motives and study the confession with regard to them. If all, or most of them, are shown to be impossible or insufficient we have left only the judgment of one or more conclusions, and with this we have an essentially psychological problem.

Partial confessions are difficult, not only because they make it harder to prove the evidence for what is not confessed, but also because what is confessed appears doubtful in the light of what is not. Even in the simplest cases where the reason for confession and silence seems to be clear, mistakes are possible. If, for example, a thief confesses to having stolen only what has been found in his possession but denies the rest, it is fairly possible that he hopes some gain from the evidence in which there appears to be no proof of his having stolen what has not been found upon him. But though this is generally the case, it might occur that the thief wants to assume the guilt of another person, and hence naturally can confess only to what he is accused of, inasmuch as he either has insufficient or no evidence whatever of his guilt for the rest of his crime.

Another fairly clear reason for partial confession is shown in the confession to a certain degree of malicious intent, as the denial of the intent to kill. If this is made by a person who may be supposed to know the legal situation, either because of earlier experience or for other reasons, there is sufficient justification for doubting the honesty of his confession. . . . .

If a denying fellow-criminal is accused by a confession, the interpretation of the latter becomes difficult. First of all, the pure kernel of the confession must be brought to light, and everything set aside that might serve to free the confessor and involve the other in guilt. This portion of the work is com-

[1] *Die Methode der Induktiven Forschung* (Braunschweig, 1865).

paratively the easiest, inasmuch as it depends upon the circumstances of the crime. It is more difficult to determine what degree of crime the confessor attached to himself by accusing also the other man, because clearness can be reached in such a case only by working out the situation from the beginning to the end in two directions, first, by studying it without reference to the fellow-criminal, second with such reference. The complete elimination of the additional circumstance is exceedingly troublesome because it requires the complete control of the material and because it is always psychologically difficult so to exclude an event already known in its development and inference as to be able to formulate a theory quite without reference to it.[1]

If this is really accomplished and some positive fact is established in the self-accusation, the question becomes one of finding the value seen by the confessor in blaming himself together with his fellow. Revenge, hatred, jealousy, envy, anger, suspicion, and other passions will be the forces in which this value will be found. . . . .

The man who confesses puts himself again on an equal ground with the honest majority; he belongs again. To those who want both health and justice, he gives up his identity with the criminal and eliminates the crime like a foreign body from his life. A true confession wins the bedrock of life again and is the safest prevention of further crime.

Confession of the dying.—Under emotional stress as in the deathbed, or angry at betrayal, or terrified of arrest, they suddenly declare: "Now I am going to tell the truth." This statement serves to introduce confession. This resolution to be truthful is usually of short duration, and if the emotion passes, the confession is regretted. It is difficult to lie under the influence of narcotics and during intoxication. This question of the truthfulness of the dying is an important one. . . . .

The opinion of lawyers varies greatly upon this point, some declare that the words of a dying man are true and infallible in all cases; others are of the opinion that they must be valued on the same footing as any other man. This is the view adopted by the Indian Legislature, as enacted in the "Indian Evidence Act," Sec. 32. Clergymen, and especially Catholic priests who have heard a thousand times the last secrets of the dying, must have had much greater experience than lawyers on so important a question. The opinion of the enlightened and unprejudiced is that the answer depends upon whether the dying man is a true believer. In the former case every credence can be

[1] As illustrating the problem furnished by a confession implicating another as well as himself the Wilkens case of San Francisco may be cited. Here Arthur Castro confessed that he and his brother were involved in the murder of Mrs. Wilkens but that the crime was originated by the husband, Wilkens. Since Walter Castro was killed in his attempted arrest, and since Arthur Castro was offered and received immunity because of his confession, the proper evaluation of the confession seems impossible. In view of the fact that Arthur Castro was to receive immunity, his confession might well be viewed with some suspicion.—WRITER'S NOTE.

given his statement, since in the firm conviction that he is about to appear before the supreme judge he will certainly not burden his conscience with a grave sin. The difficulty is to know whether he is a true believer.

Assuming that he is not a believer a further distinction must be drawn. In the first case the dying man has no need to be cautious because his memory cannot be injured by what he says, or because it matters little to him if it be, so long as he is sure that no injury can befall his relations in honour, fortune, or any other fashion. Here the disposition made in the presence of death is true, even if the deponent has not been in life one to whom absolute credence could be afforded. But when it can be proved that the believer still takes an interest in his own memory and his relations' welfare, and that interest is affected by his statements, then the latter is of no more value than if made at any other period of life. If he was an honest man, he will speak the truth also on his deathbed; but if not, he may well have lied, even at the supreme moment.

According to Gambier:

The testimony of a dying man has been considered as entitled to peculiar credit; for, as he knows he is about to leave the world, and all its concerns, and to appear immediately in the presence of his Judge, it is presumed that he would not willingly contract the guilt of a deliberate falsehood,—a falsehood in which he can have but very little interest. Yet, it is not unusual for persons who are executed to die asserting their innocence, though there be strong reasons to conclude them guilty; and nothing occurs afterwards to make that guilt suspected. To determine the degree of credit given such evidence, the general state of the man's mind should be considered. If his conduct shows that his mind is duly impressed with the awfulness of the eternal judgment, his testimony is entitled to great credit; but, if it manifests no such impression, his evidence should be regarded as of little weight. The persons above-mentioned, who testify their innocence at their execution, are most frequently void of moral principle, and no suitable change appears to take place in their minds, even to the last. Their apprehensions of the judgment to come are so slight as to be capable of being surmounted by any temporal interests, however small: as a regard to their character after death, or the interest of the families or friends, or even the pleasure of casting a suspicion on the prosecutor, the witnesses, or the judge. The testimony of such persons is evidently very suspicious. If, however, the subject of their testimony be such as can no way affect their own character, or promote any interest for which they can be supposed to have any concern, or gratify any passion, however momentary, their evidence is then worthy of credit. The general nature of the subjects, also, should be considered. For, there are subjects, as to justify the use of almost any means necessary to their success; and it cannot be presumed that such prejudices wholly lose their influence even in moments of death. Hence the testimony of a dying man cannot be as safely

trusted on such subjects, as on others, where no such prejudice prevail. It should also be observed that where the evidence of a dying man to a specific fact would be fully entitled to credit, his evidence as to the general rectitude of a certain cause may deserve no regard. All that it can possibly prove is that he sincerely believes the cause to be just. But, as we have no reason to suppose that the minds of men become enlightened in *articulo mortis*, we cannot safely trust the judgment of a dying man, any more than one in sound health. As this topic has been examined by a man so justly celebrated for his talents as the late Mr. Fox, it would be a culpable omission not to introduce what he has said upon it. . . . .

Of course no credence can be given to the dying statement of certain types of psychopathy termed by some investigators pathological liars, or those individuals suffering from a definite psychosis.

In spite of the opinion of various investigators, the statement of a dying man should be treated with caution if the life of another is involved. Either because of pathological factors, deliberate intent, or ignorance, the dying testimony may be false, and if no confirmation be obtained, such evidence should be treated very cautiously. The following cases are cited as showing the legal procedure, the first of which illustrates ancient procedure. Lea, in his *Superstition and Force*, writes:

In 1835, a man was attacked and wandered in the street at night, a crowd collected at his side, and he named the assailant. No rule was more fairly established than the importance of two important witnesses to justify condemnation and the authorities of St. Dizier, not knowing what course to take, applied as usual for instruction to the magistrate of Ypres. The latter defined the law to be that the court should visit the wounded man in his sickbed and adjure him by his salvation to tell the truth. If on this he named anyone and subsequently died, the accused should be pronounced guilty; if, on the other hand, he recovered, then the accused should be treated according to his reputation, that is, if of good name, he should be acquitted; if of evil repute, he should be banished.

As illustrative of the cases in which the dying declaration was false the following were obtained from local cases:

In the case of ———, accused of *fellatio*, the defendant was suddenly seized with an acute illness and he as well as everyone thought that he would die. He made what he thought to be a deathbed statement. In this he took an oath that he was innocent. However, he lived, and subsequent evidence indicated him to be guilty.

Lieutenant Colonel W. Pugh, M.D., formerly chief of police at Duluth, Minnesota, told the writer that he was personally familiar

with cases in which the dying declaration later proved to be false and had been made so deliberately because of various motives.

In the following case the dying declaration, later proved to be false, was made sincerely enough but was merely based upon belief: Sometime ago the police were called to investigate a murder (Richmond, Calif.). The victim, Manuel Gaverell, while dying stated that his brother-in-law, M. Morcoza, had shot him. The latter was then apprehended but subsequent investigation brought out the fact that a boy, Euer, had committed the crime as he was infatuated with the victim's wife. It developed that because of various quarrels and jealousies the victim and his brother-in-law had recently fallen out and the former, therefore, thought that his brother-in-law was responsible.

In *The Principles of Juristic Psychology*, Bose analyzes a confession as follows:

Definition of confession.—A confession is "an admission made at any time by a person charged with a crime, stating or suggesting the inference that he committed the crime." . . . . Confessions of guilt may contain also hearsay information. An accused may confess the crime of adultery on information and belief that the woman is a lawfully wedded wife of the complainant while she may not be so really.

Confession may involve an inference and a person may confess a crime not committed by him owing to mistake in inference. A person may die from poison self-administered before but if the death takes place while the person is being assaulted by another, the latter person may infer that the death was the result of his assault.

Every crime being the creation of law, in every finding of crime there is a legal inference. A mistake may be committed relating to an inference of fact as well as an inference of law. An action may not amount to a crime in law but a crime may be confessed owing to a mistake in law. . . . .

Direct acknowledgment of guilt as well as inculpatory statements which suggest an inference of guilt are confessions.

In determining truth, the courts may rely upon admissions (whether confessions or other than confessions) on the presumption that a normal man will not make admissions prejudicial to his interest and safety unless urged by the motives of truth and conscience.

Admissions mislead courts from truth, [in] so far [as] they spring from a motive regardless of those of truth and conscience, and [in] so far [as] the belief and information on which admissions may be made are unsound and incorrect.

Admissions (whether confessions or other than confessions) mislead either from a defect in the cognitive side of the mind or defect in the conative-affective side of the mind. . . . .

Voluntary confession.—In law courts, a confession is presumed to be voluntary unless the contrary is shown. It has been said that the ground upon which confessions are received is the presumption that no person will voluntarily make a statement which is against his interest unless it be true. Law courts assume that true confessions are voluntarily made by many confessors, against their own interest. This assumption involves the principle that many criminals against their own interest voluntarily make true confessions of their guilt.

Section 24 of the I.E.A. runs thus: "A confession made by an accused person is irrelevant in a criminal proceeding, if the making of the confession appears to the court to have been caused by an inducement, threat, or promise, having reference to the charge against the accused person, proceeding from a person in authority, and sufficient in the opinion of the court to give the accused person grounds, which would appear to him reasonable, for supposing that by making it he would gain any advantage or avoid any evil of a temporal nature, in reference to the proceeding against him.

"The operation of inducement, threat, or promise of a person in authority, upon the mind of the accused, depends upon the mental constitution of the accused, the condition of his mind at the time, the nature of his previous experience, and upon the surrounding circumstances. The individual elements should not be ignored."

Section 28 of the I.E.A. says: "If such a confession as is referred to in Section 24 is made after the impression caused by such inducement, threat, or promise has, in the opinion of the court, been fully removed, it is relevant. . . . . No magistrate shall record any confession referred to in the section unless *upon questioning the person making it, he has reason to believe that it was made voluntarily*. He is required to certify that he believes that the confession was voluntarily made."

What is a voluntary confession? . . . .

1. A person may be driven by cross-examination to incriminate himself. Is such incriminatory statement voluntary?

2. By leading questions put in a manner as to suggest strongly incriminating answers, a person may be sometimes somewhat hypnotized and thus deprived of free volition. . . . .

3. But an accused may have been hypnotized before and suggestion for confession at post-hypnotic state may have been given. No magistrate can ever be sure that such hypnotic influence is not working.

4. The influence of a previous *Moral or Religious* persuasion in making a confession cannot take away the voluntary character of the confession.

5. The magistrate should remove all persons so far as practicable whose very presence may work as a force retarding the free motion of the confessor's volition. The confessor may confess falsely to avoid displeasing some person who by the prestige of his position may naturally enjoy a control over the will of the confessor. . . . .

1. There are crimes done in a fit of passion or under extremely tempting circumstances against which the stable nature of the man rebels. Every impulse, every passion under favorable circumstances and when highly excited, tends to bind down attention and thoughts in his own interest and to rule out contrary impulses and suggestions. After it has exhausted itself in action, contrary impulses and suggestions of higher order wholly occupying the mind rush in many minds. We, thus, get the phenomenon of repentance. In repentance a person condemns himself and in such a mood he would voluntarily make a confession. The instincts of anger, revenge, retribution, the defensive impulses to destroy or remove anything that molests or endangers us; the sexual instinct may lead us to do acts which cause repentance afterwards. Crimes may be committed under the wrong belief that one is morally justified in committing them but repentance may come afterwards when they are seen to be not morally justifiable. An individual may think himself a better agent than the State for punishing crime but may find himself mistaken in his decision in the particular case. All our impulses, emotions, do not always become fully organized in one system, but individuals, on some occasion, may behave against the developing order of the whole system; such instances being repentance. . . . .

2. There are criminals who commit crimes which do not bring any real gain to them but in such a careless manner as readily to bring detection. These are committed by persons of weak intellect, weak foresight, weak will. These persons before men in authority exercising prestige readily confess. These weak-minded persons often act on the impulse of the moment; they reflect little. Sometimes they confess because truth is to them spontaneous recollection, expression of which is not controlled for want of will-power and for want of sufficient prudence. Imprudent as they are in everything, they are imprudent equally in making confessions against their own interest. Such persons may confess to avoid the vexation of being pressed in police investigation or any expected vexation of inquiry.

3. A voluntary confession may be made under the belief that it is impossible for him to escape detection and that a confession would secure a more lenient treatment of him. In every day life, society feels leniently towards the fallen brother who confesses and expresses repentance. . . . .

A confession of a lighter sentence may be made when it is apprehended that further investigation may reveal a more serious offense or may raise a charge of a more serious offense.

4. Confession secured by the legitimate influence of mind upon mind:

a) Influence of appeal to moral nature.

b) Influence of appeal to religious nature.

c) Influence of prestige. A person may have a person or persons who enjoy such prestige over him that the offender would not conceal the truth before the person enjoying the prestige.

5. The confession may be made during a temporary disorganized state of mind caused by panic or by shock of the crime committed.

A criminal finding himself in the clutches of the law may be overtaken by sudden violent panic in which he makes a confession and. . . . .

6. Other regarding voluntary confession.

A false confession may be made by one to save the real guilty one out of love for the guilty or to save a family-reputation, or family-honour.

A confession may be voluntarily made when it is found that further investigation or trial may bring out guilt of accomplices whom the confessor wants to safe-guard.

7. Confessions arising from hallucinatory imaginary beliefs. In days of belief of witchcraft in Europe, many innocent women confessed commission of evils ascribed to witches.

8. Voluntary confessions as means for satisfaction of any impulse or emotion or end or purpose. . . . .

As regards the murder of Captain Pigot of the Hermione Frigate, on separate occasions, more than six sailors voluntarily confessed to having struck the first blow at Captain Pigot, though not one of them had seen Captain Pigot or had been in the ship.

a) A person who has been an inmate of jail for many years, to whom the prison-life seems home-life, who finds himself a friendless, helpless, homeless stranger out of prison, may voluntarily confess to go back to prison.

b) A person may confess for getting conviction of some accomplice or accomplices against whom he has some grievance and whom he likes to see punished.

c) A person may confess implicating some innocent person who is his enemy for getting him punished.

d) A person may confess implicating some innocent persons to safe-guard his accomplices by putting the prosecution on the wrong scent.

e) A person may voluntarily but falsely confess commission of some capital crime when he desires to be executed, owing to weariness of life.

f) A dramatic bold crime may captivate imagination and rouse admiration and may lead someone to confess falsely for being looked upon by others as the author of the crime.

g) A false confession may be made to divert the scent from the real offender or offenders and from more serious crimes.

h) Vanity (a morbid love of notoriety at any price).

9. *Collusive confessions.*—A person may falsely confess commission of a crime, on being bribed, for the protection of the real criminal or on being bribed by some official who will be benefitted by the confession and conviction.

10. *Penitential confession.*—A person of deeply susceptible moral sensibility may confess the crime of putting a person to death, when the person died from some cause for which the confessor thinks that he is to be morally blamed.

11. *Confession on tender of pardon* may or may not be true. The cool deliberative calculating criminal who commits crimes after cool deliberation and choice in the light of reason . . . . never voluntarily confesses unless confession is useful to him in the cold light of reason. Persons of adventurous and bold spirit may follow a profession of crime in a sportsmanlike spirit but such persons may confess on return of their higher nature. Real criminals possessing satanic acuteness of intelligence, strength of will, and satanic character never confess voluntarily.

There are many persons who can't keep a secret but feel a thirst for communicating the same to some other person or persons. This tendency of the mind explains why a true confession may be got from a criminal under a promise of secrecy when the criminal believed that the secrecy would be kept.

If a criminal can be made to believe by deception a state of things under which in case of true existence he may confess, confession may spring also from such deception.

An effect of alcoholic drunkenness is to take away the power of voluntary self-control. A criminal on removal of prudential self-control owing to drunkenness may confess his guilt. But as such intoxication deranges the intellect also, it would be dangerous to convict a person on such confession only. Confession obtained under drunkenness may be safely used in investigating for finding out evidence for determination of the truth.[1] . . . .

Bose states:

False confession.—False confessions are real facts. A confession is a very strong suggestive force. The accused has given his own version of the case. The tendency of all is to try to fit all evidence with this confession. The strong preposession created by the confession tends to obstruct a fair and impartial estimation of the evidence *independently* of the confession.

Extra-judicial confessions come through lips of witnesses and may be misunderstood for the following grounds:—

1. Mendacity in the reports
2. Misinterpretations of the language
3. Incompleteness of the statement

Bose quotes a case from Münsterberg:

In such cases the psychologist feels it his duty fearlessly to oppose the popular prejudice. . . . .

I ventured last year to write a letter to a well-known specialist in Chicago who had privately asked my opinion as a psychologist in the case of a man condemned to death for murder. The man had confessed his crime. Yet I felt sure that he was innocent. My letter somehow reached the papers

[1] *In vino veritas est . . . .*—Author's Note.

and I became the target for editorial sharpshooters everywhere. "Harvard's Contempt of Court," "Science Gone Crazy." One week later the accused was hanged; yet, if scientific conviction has the right to stand frankly for the truth, I have to say again that he was hanged for a crime of which he was no more guilty than you or I,—the most sober-minded people of Chicago today share this sad opinion. . . . .

Then a leading paper reviewed the situation in this way: "Illinois has quite enough of people with an itching mania for attending to other people's business without importing impertinence from Massachusetts. This crime itself, no matter who may be the criminal, was one of frightful fruits of a sickly paltering with the stern administration of justice. We do not want any directions from Harvard University." Irresponsibilities for paltering still further. . . . . I think it does matter who may be the criminal whether the one whom they hanged or somebody else who is still today in freedom. It is important that the court, instead of bringing out the guilty thought, shall not bring it "in" into an innocent consciousness.

In explaining the status of the person hanged, Münsterberg wrote:

It is an interesting case of dissociation and auto-suggestion; it would need probably careful treatment to build up his dissociated mind again and thus to awaken in him a clear memory of his real experiences.

The essential argument, however, against the trustworthiness of confessions had a purely social origin; referred to possible promises or threats by other members of the community. The self-sacrificing desire to exculpate others has played its rôle occasionally also. In short then there is no lack of social motives to make it conceivable from the start that an accused makes of his own accord a confession against himself which is not true. Especially in the realm of the minor offenses, promise and threat are still today constant sources of untrue confessions. . . . .

No statistics tell the story, but we can suppose that persons suspected wrongly of a crime may, in the face of an unfortunate cumulation of damaging evidence, prefer to make a false confession in the hope of a recommendation to mercy. Every lawyer knows the famous Boon case in Vermont, where the brothers confessed to having killed their brother-in-law and described the deed in full detail, and how they destroyed the body; while long afterwards the "murdered" man returned alive to the village—only one hope to save their lives by turning the verdict, through their untrue confession, from murder to manslaughter.

The untrue confessions from hope or fear, through promise or threats, from cunning calculations and passive yielding, thus shade off into others which are given with real conviction under the pressure of emotional excitement or under the spell of overpowering influence. Even the mere fatigue often brought to the Salem witches the loosening of the mental firmness and the intrusion of the suggestion of guilt. . . . .

But the sounds of reckless untrue self-accusation are familiar . . . . to everyone who knows the scenes of misery in the ward of the melancholic patient. There is no judge and no jury, only the physician and the nurse, yet no tortured punishment can be harder than the suffering of the melancholic who feels remorse for sins which he never committed, for crimes of which he never thought before. The last fire in the town was laid by him; he is guilty of the unpardonable sin. . . . .

Even the self-accusations and the self-destructive despair of the melancholic find their counterpart in the realm of normal life; the pessimist is too often inclined to torture himself by opprobrium, to feel discouraged with himself, and to feel guilty without real guilt.

The perusal of the accounts of sensational murder mysteries will often reveal one or more cases in which false confessions are made. Of these the following are illustrative of certain types:

During the investigation following the murder of Mrs. Wilkens a confession was made by a man who professed to have committed the crime. A careful checking-up revealed the fact that he was unfamiliar with essential facts, and it later developed that his story was false. His confession was probably induced by a craving for the publicity which any connection with this case would bring.

In the ——— murder case a sex pervert confessed to committing the crime. When tested he was cleared, and he later confessed that he had made the confession in the hopes that he would be transferred to a different institution and at the same time receive some publicity.

Judicial errors.—Aside from the errors and resulting miscarriage of justice which may occur as the result of false confessions, errors due to police or judicial action are also prevalent. In Volume I of his *Mysteries of Police and Crime*, Griffith treats of cases in which errors on the part of the police were involved. He also treats of judicial errors in the same volume. He prefaced the account of the latter by writing:

The criminal annals of all countries record cases of innocent persons condemned by judicial process on grounds that seemed sufficient at the time, but that ultimately proved mistaken. Where circumstantial evidence is alone forthcoming, terrible errors have been committed, and when, later, new facts are brought to light, the mischief has been done. There is a family likeness in these causes of judicial mistake; strong personal resemblance between the real criminal and another; strangely suspicious facts confirming a first strong conjecture, such as having been near the scene of the crime, having let drop incautious words, being found with articles the possession of which has been misinterpreted and given a wrong impression. Often a sudden accusation has produced confusion, and consequently a strong presumption

of guilt; another time, the accused, although perfectly innocent, has been weak enough to invent a false defense, as in the case quoted by Sir Edward Cope of a man charged with killing his niece. The accused put forward another niece in place of the victim to show that the alleged murder had never taken place. The truth was discovered, his guilt assumed, and he paid the penalty with his life.

If the real facts could be ascertained, a survey of all the penitentiaries would doubtless reveal a varying number of inmates wrongly convicted and innocent of the charge for which they are serving time.

Although the foregoing cases and descriptions of the present administration of justice certainly indicate that the present judicial methods are inadequate in the determination of the innocence or guilt of the suspect, the members of the bar in all countries are not inactive. Surveys such as that made in Cleveland are being made in other cities, and American committees are studying methods in other countries. The reports of the Cleveland Survey, the Missouri Crime Survey, the Illinois Crime Survey, the Chicago Crime Commission, the American Institute for Criminal Law and Criminology, the reports of the New York State Crime Commission, the report of the National Commission on Law Observance and Enforcement, and others contain some very valuable data and suggestive therapeutic remedies which are neither drastic nor revolutionary. The data obtained on conditions in Cleveland are probably similar to those obtained from other American cities if similarly surveyed.

PART III

MODERN SCIENTIFIC METHODS

CHAPTER XI

EARLY EXPERIMENTS

For some years there have been attempts, for the most part sporadic and short-lived, on the part of psychologists and criminologists, to devise methods for the determination of the presence of deception, that is, for the detection of the innocence or guilt of the suspect. The difficulty has been, and still is, that often only one or two experiments are made, and sweeping generalizations or inferences then broadcasted. Again, these experiments are only too often made under different conditions where the stimuli and resultant reactions are not directly comparable, owing to the different factors involved. Unfortunately, these experimenters are rarely familiar with anything in the field of criminology.

In the latest edition of Dean Wigmore's masterly work on criminology, in a section on deception tests, he discusses blood-pressure experiments, mentioning the work of Marsten, Larson, and Keeler in this country, and states that their work was preceded by that of workers in Europe. He undoubtedly refers to the work of Lombroso who is a pioneer in this field as well as in other fields of criminological research, except that Lombroso worked with the pulse rate and not with blood pressure. However, there is contemporary work being done in other countries at the present time.

Lombroso's experiments.—Lombroso will always stand out as the pioneer in criminology through his work with the individual delinquent. It is true that he made mistakes, but who of the present-day psychiatrists have not made mistakes, quite possibly more far reaching in their consequences than the mistakes of Lombroso. Lombroso was, after all, emphasizing the approach to the individual, and his mistakes, in view of the lack of psychiatric knowledge at that time, are more pardonable and more understandable than the mistakes of those poorly trained individuals in the field of mental hygiene who, through propaganda and the issuing to the public of promissory notes which can never be paid, have brought about a tremendous confusion among present-day psychiatrists. Even the best workers in the field of delinquency, from the standpoint of personality, are confessedly at a loss as to procedure, and are turning to psychoanalysis. Here, if not

considerable care is taken, more serious mistakes will result than were made by Lombroso.[1]

No one factor can be expected to solve the problem of delinquency, and no one panacea or universal remedy will be found. We shall have to recognize that our present technique, where only too often only one tool is used, is not going to solve the problem of the individual delinquent.

It was Lombroso who first performed experiments with the heartbeat in an effort to determine the innocence or guilt of the suspect. This was independent of the work of later psychologists and physiologists. The following excerpts are of interest in this connection:

I will cite as proof of this the following examples: 1. Bersone Pierre, 37 years of age, well known as a thief, had been arrested under charge of having stolen 20,000 francs upon the railroad. In prison he feigned madness, pretending that someone had poisoned him. It was soon plain that he had committed many other thefts, since he was found in possession of a number of documents and passports, among others that of a certain Torelli. The result of an anthropological examination was as follows: mean cranial capacity, 1589 c.c.; cephalic index, 77; type of physiognomy, completely criminal; touch, nearly normal—tongue, 1.9 mm. (between points perceived separately), right hand, 2–3, left hand, 1–2 (with sensorial mancinism); general sensibility and sensibility to pain, very obtuse—48 mm. and 10 mm. respectively, on the adjustable Rhumkorff coil, as against 61 mm. and 24 mm. for the normal man. An investigation with the hydrosphygmograph[2] confirmed me in my observation of his great insensibility to pain, which did not change the sphygmographic lines. The same apathy persisted when he was spoken to of the robbery on the railroad, while there was an enormous depression—a fall of 14 mm.—when the Torelli theft was mentioned. I concluded, therefore, that he had had no part in the railway robbery, but that he had certainly participated in the Torelli affair; and my conclusions were completely verified.

2. Maria Gall ——— of Lucera, 66 years of age, was found dead in her bed, her face to the mattress, and her nostrils bloody, bruised and lacerated inside. Suspicion at once directed itself against her two step-sons, M—— and F——, men of bad reputation, who had been seen roaming in the neighborhood during the day and alone had an interest in the death of the victim, since she was about to purchase a life annuity which would have disinherited

[1] See paper by J. A. Larson, read at the American Psychiatric Convention, June, 1932.

[2] An instrument by which tracings of the pulse and of alterations in the volume of the members under the influence of emotion may be obtained, and which expresses in millimeters the psychic reaction.

them. At the autopsy there were shown to be all the internal marks of advanced putrefaction and of asphyxiation; and in the oesophagus was found an intestinal worm resting upon the opening of the glottis. Two experts pronounced it to be a case of asphyxia produced by violent suffocation through the victim's being held with her face against the bolster, the worm having been drawn there only through a fit of coughing. Another expert admitted the asphyxia but was not willing to deny the possibility of its having been caused by the worm. Called in, in my turn, as a consulting expert, I was able at least to observe that death from asphyxia produced by intestinal worms is found only in infants and insane persons, and that then marked phenomena of reaction appear, which in this case were completely wanting; further, that the witness C—— declared he heard stifled cries and the sound of blows on the night of the crime in the direction of the chamber of the victim; and especially that M——, the accused person, was juridically and anthropologically suspected of the crime, of which he was openly accused by his brother, who, much less criminal than he, was less obstinate in his denials. M—— was, in fact, the most perfect type of the born criminal; enormous jaws, frontal sinuses, and zygomata, thin upper lip, huge incisors, unusually large head (1620 c.c.) tactile obtuseness (4 mm. right, 2 mm. left, with sensorial mancinism). He was convicted.

3. A rich farmer, S——, returning from market with 2000 francs about him, was asked by an unknown person seeking work to take him into the carriage with him. From then on this person did not leave him. They supped together and were seen towards evening going along the high road, where the following night the unfortunate farmer was found assassinated, bearing the marks of strangulation, his head shattered with great stones, and his purse empty. Four witnesses called the judge's attention to the sinister physiognomy of the unknown man, and a certain young girl declared that she had seen in the evening, sleeping near the murdered man, a certain Fazio, who was observed the next day hiding himself when the gendarmes approached the neighborhood. Upon examination I found that this man had outstanding ears, great macillaries and cheekbones, lemurine appendix, division of the frontal bone, premature wrinkles, sinister look, nose twisted to the right—in short, a physiognomy approaching the criminal type; pupils very slightly mobile, reflexes of the tendons quicker on the right side than on the left, great tactile obtuseness, more in the right hand (5 mm.) than in the left (4 mm.); motor and sensorial mancinism; a large picture of a woman tattooed upon his breast with the words, "Remembrance of Celina Laura" (his wife), and on his arm the picture of a girl. He had an epileptic aunt and an insane cousin, and investigation showed that he was a gambler and idler. In every way, then, biology furnished in this case indications which, joined with the other evidence, would have been enough to convict him in a country less tender towards criminals. Notwithstanding this, he was acquitted.

In the foregoing cases Lombroso bases his technique upon the theory that there are physical characteristics peculiar to criminals which will differentiate them from others. This theory is, of course, no longer accepted.

Again, in *Crime: Its Causes and Remedies*, Lombroso writes:

Proof of innocence.—Criminal anthropology can not only help us to discover the real culprits, but may also save, or at least rehabilitate, innocent persons accused or convicted.

Such a case occurred where a little girl, three and a half years old, was violated and infected by an unknown man, and her mother accused successively 6 young men who lived on the same staircase and were familiar with the child. They were arrested but all denied the crime. I picked out immediately one among them who had obscene tattooing upon his arm, a sinister physiognomy, irregularities of the fields of vision, and also traces of a recent attack of syphilis. Later this individual confessed his crime.

A case observed in my clinic and published by Rossi in *Una centuria de criminali* revealed the innocence of a convict. A certain Rossotto Giacinto, as a consequence of a series of false declarations and a letter received from his brother-in-law begging him to give false testimony, was condemned to imprisonment for life for highway robbery. Examining this man before my students, I found to my great surprise that this was the most normal individual I had ever investigated. He was 50 years old; his height was 1.73 meters; he weighed 74.5 kilograms; his hair and beard were abundant; mean cranial capacity, 1575 c.c.; cephalic index, 84; and he was without facial anomaly. His sense of touch was very fine, 1.1 mm. for the right hand, 1.0 for the left, and .5 for the tongue; his general sensibility was normal (50), and sensibility to pain 30. He was ignorant of thieves' slang and was not cynical. . . . .

Before turning to more recent and present-day investigations it might be well at this point to discuss very briefly the question of hypnosis as a means of determining innocence or guilt. There has been but little formal investigation with this problem.

Hypnosis as an agent in securing confession.—Frequently one meets the query as to why a confession could not be secured by the use of hypnosis. The following represents the opinion of those who have studied the question with this purpose in mind. After enumerating, *Die besonderen Mittel der Wahrheitserforschung*, Schneickert writes:

A criminal investigator can bring about a confession often by means of suggestion on the basis of the concrete evidence he has at hand. The mere sight of the tangible evidence is often enough. For example, if a suspect is shown some of the stolen articles that have been found, or an intercepted letter involved in a certain case, it may lead him to confess. The barking of police dogs put on the trail, or a fingerprint shown him as having been found at the scene of crime, may have the desired result. There have been cases where the mere mention of the fact that police dogs were on the way has caused a suspect to confess.

If ordinary suggestion is so effective, it has been thought that hypnotic suggestion would be even more productive of results. But this is not the case. As I said before, if a person is determined to keep silent about something, a sworn oath will not cause him to tell his secret. The same is true of the effect of hypnotic suggestion upon a person determined to conceal the truth. A patient in a certain psychiatric clinic who attempted to commit suicide by taking veronal, having received some of this poison from a nurse, refused to mention this nurse when under hypnosis (see *Archiv für Kriminologie*, LXXIV, 286, where further evidence is cited against the use of hypnosis and telepathy for purposes of criminal investigation).

Much can be accomplished by hypnosis, but not nearly as much as desired. Hypnotic experts are agreed, however, in believing that it is not a dependable or useable method of finding out the truth, because the person hypnotized can lie just as well while in that state. Thus hypnosis is out of the question here, quite aside from the possible moral or legal objections to its use. In those cases where hypnotism may be successfully employed, ordinary suggestion would be equally successful. The situation is, however, slightly different in cases where certain details have been actually forgotten. Admittedly, it is possible by hypnosis to help a person remember such matters as names and certain numbers.

According to Münsterberg (p. 503) any confession obtained by means of hypnotism would be worthless. There have been many cases where suspects stated they would be willing to let themselves be hypnotized and then questioned to show they were concealing nothing. Such a procedure would hardly be legal either, for two reasons. In the first place, one could never be sure that the subject was not feigning hypnosis; and secondly, because the statements of any person thus deprived of his full mental faculties would not be accepted as legal testimony. Kauffmann in his *Suggestion and Hypnosis* (Berlin, 1920), p. 117, agrees with Moll (p. 549) that it is a great mistake to think that it is possible to compel criminals to confess by hypnotizing them and then questioning them; for, they say, a hypnotized person can lie just as well as before being hypnotized. It is interesting to note that the International Police Congress (held in Vienna, September 3–7, 1923) passed a resolution to the effect that it was not permissible to use hypnosis in criminal investigations.

Dr. Albert Moll has answered the important question as to whether a person in a hypnotic state gives away secrets (in his book *Hypnotism* [5th ed.; Berlin, 1924], p. 548) by stating that it is a mistake to believe that a person hypnotized gives away such secrets. At least, he says, there is seldom any spontaneous (voluntary) giving away of information of this kind. He

further states that a person hypnotized retains his individuality, and keeps quiet about things he doesn't want to talk about. It is probably true, says Dr. Moll, that it is easier to suggest answers to a person in the hypnotic state; but this does not mean it is possible to get such a person to tell secrets. For this reason it is not advisable to believe a confession obtained in this way, especially if it cannot be verified.

This kind of testimony is of no more value in cases where such questioning has been carried on in open court than it is if offered as testimony received outside of court. In any case, it is the general opinion that such testimony (obtained from a person in hypnotic state) cannot be used.[1]

The opinion of trained psychiatrists tends to agree that hypnosis would be impractical for the courtroom (see the discussion of Hugo Münsterberg, *On the Witness Stand*). He feels that hypnosis is impractical as a legal tool. Some feel that it would be impossible to force a suspect, even if he co-operated to the extent of allowing hypnosis, to admit guilt when such an admission might result in death. Paul Schilder, an authority on the use of hypnosis, in a personal communication to the writer stated that he felt information of service might be gained from a suspect while under hypnosis. When possible, hypnosis with accused subjects will be carried out.

Helen G. Jefferson performed some laboratory experiments which she submitted for her thesis for Master of Arts degree, University of California, Department of Psychology. Because her method included too much diversity in experimental approach, and because of the artificial nature of the experiments, no inferences can be made from the work with reference to deception tests when they are considered as a method for the determination of the innocence or guilt of a suspect. About one-half of the thesis was devoted to literature.

[1] Translated by A. O. Knoll.

CHAPTER XII

WORD-ASSOCIATION AND REACTION-TIME EXPERIMENTS

The work of Lombroso and that of Jung and others at a somewhat later period have given rise to much interest in the word-association and reaction-time method. Many experimenters have described their techniques and a few names stand out in connection with the medical and legal significance of the work. These include Münsterberg, Wigmore, Crane, Marston, Goldstein, Crossland, and others. They give extensive bibliographies and discussions. The excerpts presented in this chapter are some of the representative opinions.

So far as the writer is concerned, the method alone is not so satisfactory to him as the modified method utilized in his experiments with the deception test. Here the associations are made in the form of simple, direct questions which definitely do or do not concern the supposed "guilt complex." By including in this test the added factor of truth or falsehood, the tension may often be increased at the will of the examiner. This, also, seems to make it easier for the securing of the confession. The reaction-time method alone is not always advantageous. No one method, in fact, is wholly satisfactory, and the writer feels that the word-association method with reaction time, so well described and experimented with by the writers mentioned, and especially recently by Crossland, should be included with other physiological techniques such as the psychogalvanic, blood pressure, respiration, and the registration of motor impulses by the automograph.

The following excerpt, taken from Münsterberg's *On the Witness Stand*, describes his use of the association method:

Association experiment.—The study of the association of ideas has attracted the students of the human mind since the days of Aristotle; but only in the last century have we come to inquire systematically into the laws and causes of these mental connections. Of course, everyone knows that our memory ideas link themselves with our impressions—that a face reminds us of a name, or a name of a face; that one word calls another to mind; that even smell or taste may wake in us manifold associations. But out of such commonplaces grew a whole systematic science, and the school of associationists. . . . There are the outer associations of time and place, . . . There are

inner associations, where one thing awakens in our minds something else which has a similarity to it, or to which it is related as a part to the whole or the whole to a part, and so on. . . . . With the application of experimental methods, the study of association took at once a new turn. . . . .

But one aspect dominates in importance: I can measure the time of this connection of ideas. Suppose that both my subject and I have little electrical instruments between the lips, which, by the least movement of speaking, make or break the electrical current passing through an electric clockwork whose index moves around a dial ten times in every second.

One revolution of the index thus means the tenth part of a second, and, as the whole dial is divided into one hundred parts, every division indicates the thousandth part of a second. My index stands quietly till I move my lips to make, for instance, the word "dog." In that moment the electric current causes the pointer to revolve. My subject, as soon as he hears the word, is to speak out as quickly as possible the first association which comes to his mind. He perhaps shouts "cat," and the movement of his lips breaks the current, stops the pointer, and thus allows me to read from the clockwork in thousandth parts of a second the time which passed between my speaking the word and his naming the association. Of course, this time includes not only the time for the process of association, but also the time for the learning of the word, for the undertaking, for the impulse of speaking, and so on.

Jung's experiment.—The physician, Dr. Jung, in Zurich, arranged that the young man come for an examination of his nerves. He then proposed to him a list of a hundred associations as part of his medical inspection. The physician said "head," the patient associated "nose," then "green"—"blue," "water"—"air," "long"—"short," "five"—"six," "wool"—"cloth," and so on, the average time of these commonplace connections being 1.6 seconds. But there were thirty-seven dangerous words scattered among the hundred words that had to do with the things in the room from which the money was abstracted, or with the theft and its punishment, or with some possible motives. There appeared, for instance, the word "thief." The association "burglar" seemed quite natural, but it took the boy suddenly 4.6 seconds to reach it. In the same way "police"—"theft" took 3.6 seconds, "jail"—"penitentiary" 4.2 seconds. In other cases the dangerous word itself came with the normal automatic quickness, but the emotional disturbance became evident in the retardation of the next word. For instance, "key"—"false key" took only 1.6 seconds, but the following trivial association "stupid"—"clever" grew to 3.0 seconds. "Crime"—"theft" came again promptly in 1.8, but the inner shock was so strong that the commonplace word "cook" was entirely inhibited and did not produce an association at all in 20 seconds. In the same way "bread"—"water" rushed forward in 1.6 seconds, but this characteristic choice, the supposed diet of the jail, stopped the association mechanism again for the following trivial word. It would lead too far to go further into the analysis of the case, but it may be added that a repetition of the same

series showed the characteristic variation in the region of the suspicious words. . . . . In the harmless words there was hardly any change at all. But, finally, a subtle analysis of the selection of words and the retardations pointed to sufficient details to make a clear diagnosis . . . . and the boy confessed everything, and was saved from jail by the early discovery. The brutalities of the third degree would hardly have yielded such a complete result, nor the technicalities of legal evidence, either.

Of course, this case is that of a highly sensitive mind with the strong feelings of a bad conscience. A professional tough criminal would not show such intense emotions (experiments with recidivists by the writer seem to indicate that intense emotional reactions may be present), and hence not such long retardations, ... But what would be the situation of such a trained criminal who had no conscience and who knew beforehand that the experiment was to determine whether or not he lied or spoke the truth? In that case, another group of facts is to be considered. We might expect from such

TABLE I

Physician	Patient	Time
Thief.....	Burglar	4.6 seconds
Police.....	Theft	3.6
Jail.....	Penitentiary	4.2
Key.....	False key	1.6
Stupid.....	Clever	3.0
Crime.....	Theft	1.8
Cook.....	No association in 20.0 seconds due to the foregoing	.....

a subject very little lengthening of the simple association-time by emotion, but instead of it a considerable lengthening by conscious effort to avoid suspicious and dangerous associations, provided that he were anxious to hide the damaging truth. As soon as a critical word was offered, he would be on the look-out not to betray the first word which came over the threshold of consciousness, but to make sure that it was harmless, and to replace it if it were dangerous. Experiment shows that such watching and conscious sanctioning takes time, and the replacing of the unfit word by a fitting word brings still larger loss of time; nobody is able to look out for harmlessness of his associations and yet to associate them with the average quickness with which the commonplace ideas can be brought forth. If the dangerous words show association-times of unusual shortness, it is necessary to suppose that the subject of the experiment makes no effort to suppress the truth . . . . (Table I).

Wigmore's opinion: the word-association method.—If a person's impressions of a unique act done by him associate in his recollection the words belonging to the various items in and around that particular act, and if the

utterance of one of those words by another person excites cerebrally in the subject the recollection of the others, and if he utters the other words promptly and without conscious repression, then the words uttered will reveal his consciousness of that particular act. If, moreover, upon hearing the other person's word, the subject seeks consciously to repress the associated word and to substitute a different one, then the time elapsing before his utterance will be relatively longer than for other answers. If now a record of his answer-words and times of answer is instantaneously made, the words and the times thus recorded will reveal either his words associated with that act or his attempts to substitute other words,—in short, will reveal his consciousness of having done the act; and thus, if he is an accused person, his consciousness of guilt. Such is the general principle of the word-association method.

The method has been developed into details of recorded data much more complex than the foregoing simple statement indicates. But at this point the important feature to notice is that it does not reveal a lie (like the blood-pressure method), but a consciousness of guilt. Logically, therefore, it is not concerned with the valuation of testimonial assertions (our present subject), but with evidencing consciousness of guilt as a trace-evidence of having done an act (*ante*, chap. x, p. 85; chap. xv, p. 111).

From this point of view, it is not likely to be available as evidence in a judicial trial, unless developed to a degree of unquestioned reliability. Its reliability depends, not only on the arithmetical calculation of its data, but on their interpretation by the investigator, using accepted standards, and thus only skilled persons can interpret them with uniform agreement.

This method was first brought to the attention of our legal profession by Professor Hugo Muensterberg, in 1909; but it had for some years before then been studied in Europe, in its application to guilt-discovery; these studies in turn having been stimulated by the researches of Galton and Wundt in word-association in general.

The results of Marston's experiment disclosed two distinct types of reaction-time behavior during deception. We quote here from his description of the positive type:

Marston's experiment.—The introspections of positive type subjects, when analyzed to the lowest common denominator, show *fear* appearing in many guises, and this report of fear at crucial points does not appear in the introspection of the negative type of subjects. . . . .

The positive type.— . . . . The flush, traditionally indicative of guilt, is almost always present with the positive type. Frequent obvious confusions and embarrassments are noted together with evidence in facial expression of great effort, which effort, nevertheless, proves unsuccessful in precluding numerous clearly manifested inhibitions and interferences of motor impulses. . . . . What, then, is the mechanism by which positive type reaction times are delayed? Jung and his school unanimously ascribed the increase of reaction times to emotion, and, from the above reported results, emotion of one sort or another would certainly seem to be the prime cause. We may go a step further, I believe, with the data in hand, and postulate *Fear* variously expressed and always more or less Freudianly concealed, even in the introspection, as the prime cause underlying delayed reaction times in the positive type subjects. The witness, unable to concentrate because of the inevitable physiological expression of his fear, becomes more and more introspectively aware of the fear content itself, and proceeds to exert great effort to suppress this fear, yet, since the only method of successfully suppressing emotion is to eliminate this emotion from the focus of consciousness by concentration, such increased effort only tends to bring intellectual and motor processes into consciousness in addition to the fear content already present. At this step, introspective awareness of the then conscious difficulties of performing the task in hand acts as a new and adqeuate stimulus to a new set of fear reactions (which, of course, constantly enhance themselves through the adrenal autonomic mechanism). The final consequence, which is of course inevitable in any intellectual task performed under distraction, is a conflict and confusion of motor impulses directed to the work in hand, with prolonged inhibitions as the final step. In short, the positive type subject, engaged in the game of deceit, makes a tremendous effort to win, but, like the beginner at golf or tennis, he is unable to concentrate his attention upon the end to be attained, with the result that consciousness of muscular movements and the general *modus operandi* precludes success and he misses the stroke. The positive type subject is the unsuccessful liar in the detection of whom trial lawyers and jurists have delighted through the centuries.[1]

The negative type.— . . . . I believe it will be commonly recognized that there are individuals among our acquaintance who can lie faster and more fluently than they can tell the truth. This type of liar never has been discovered in association-reaction time experiments as reported in the literature probably for the very simple reason that such individuals were wiped out in the general averages. . . . . Indeed, in both the experiments of Washburn and Leach and Yerkes and Berry (*American Journal of Psychology*, 1910–1909) close inspection of the quantitative results will reveal instances of this unrecognized negative type. . . . .

. . . . Subjects of negative type give very little introspective data indicative of fear. . . . . Anger, on the other hand, was frequently introspected and seemed to be aroused in negative type subjects by the least difficulty in arithmetical processes during the deceptive lists. . . . .

The behavior of the negative type subjects . . . . was almost wholly calm, confident, and showed a high degree of intellectual concentration. The guilty flush was almost altogether absent and the manner of the subject was usually

[1] It is of interest to note that the positive type give the most extreme and erratic-blood-pressure changes; but exhibit the least marked breathing changes, according to Benussi.

more convincing upon deceptive lists than upon truthful ones. . . . . The experimenter frequently observed, however, a tendency in negative type subjects to avoid the experimenter's eyes; and this symptom suggests that fear is present with subjects of the negative type also, although such subjects are successful in preventing the emotion from emerging into the focus of attention.

In the negative type we find the successful liar. The psycho-physiological mechanism by which reaction times are delayed with subjects of the positive type is voluntarily controlled and stopped at its inception by negative type witnesses, with the result that we have the intellectual task of sustaining deception at the very center of attention. The mind then being concentrated upon the end to be gained is able to use all its ingenuity and skill in deceiving the experimenter, and, since no mind is capable of exact judgments of time over a long series of reactions, the only flaw in the negative type's efforts at deception lies in said efforts being *too successful*. . . . . The negative type subject then is the one who, through the centuries, has had the joke on the lawyers and juries[1] . . . .

The mixed type.—It appears to the writer that the mixed group probably takes in the whole middle range of liars. Only very good liars succeed in keeping every single day's work up to negative type deception speed; and most negative type liars probably have their "off days." . . . . On the other hand it is a very poor liar who is never able to attain sufficient concentration to throw himself for a day into the class of successful deceivers. . . . .

Psycho-legal conclusions.—It seems to the writer that this experiment has added one stone to the foundation necessary to qualify the psychological expert on deception before the court. The district attorney points to the flushed face and obvious confusion of a witness for the defense; but our psychologist is put on the stand to testify that he has proved the defendant to be of negative deception type. Attorney for the defense then can place before the jury the psychological fact that, were a negative type witness lying, no such flushed face and obvious confusion would appear, for the negative type is the gifted liar who would be expected to exhibit much less confusion were he lying than if he were telling the truth. Or our expert may succeed in discrediting the star witness for the state solely because said witness, being a subject of negative reaction time type, was oversuccessful in going through a terrific cross-examination with unbroken rapidity and consistently. . . . . From what is known of reversals of reaction type in the mixed group should lead the boldest psychological expert to check up his reaction time results with other test data before venturing an opinion in court. In any event, if

[1] The blood-pressure symptoms of the negative type show a more even curve but with just as great or even greater net rise in blood pressure than is found in the positive type. According to Benussi, the breathing of the successful liar shows greater modification than that of the unsuccessful.

psychological authority can succeed generally in disabusing the minds of the average jury of the conviction that the slightest hesitation, delay, or confusion in the testimony of any witness is indicative of deception, ...

Smith's experiment.—William Brown in his foreword to *The Measurement of Emotion*[1] asserts that the most characteristic features of modern psychology are (1) the special attention given to the facts of emotional consciousness, and (2) the persistent endeavor to obtain a quantitative statement of results. The present work by Whately Smith may be taken to illustrate these two features. The writer employs the word-reaction method, but confines himself to a study of reaction times and disturbances in reproduction in relation to a psychogalvanic reflex. The procedure parallels in most respects that of Jung. Instead of finding, however, that the affective tone connected with "strong" words is always prejudicial to memory, he finds that effective tone, as detected by the psychogalvanic reflex, exerts an influence in two diametrically opposite directions. The fact that a given word evokes a well-marked affective tone may lead to its being remembered better than a less intensely toned word, or may lead to its being forgotten more quickly. The investigator finds, likewise, that nonsense syllables, presented visually, evoked in varying degrees the psychogalvanic reflex, even though no associations are asked for. The reproduction of these syllables is influenced by the affective tone in two different ways: the syllables which are attended by a large deflection are either more readily remembered or more readily forgotten than those attended by a slight deflection. The writer concludes that "nonsense" syllables are not devoid of meaning; unconsciously they are associated with pleasantly or unpleasantly toned ideas.

The chief argument of the book is that there are two types of affective tone—the positive and the negative. The positive tone is of the facilitating, harmonious, and of the consciously pleasant variety; negative tone is related to inhibition, withdrawing repression, and unpleasant states of consciousness. The "innerness" of the response word is associated with negative affective tone. The effect of alcohol is in general to raise the threshold of emotional response, but in cases where an emotional response is present at all the reaction tends to be extreme: there tends to be a large response or none at all.

Very little is contributed in this book to the theory of emotion, beyond the contention of a two-dimensional affective tone, and nothing that is new to the technique of investigation. The writer throughout oversimplifies the complexities of emotional consciousness. Thus, for example, he does not deal with the numerous qualitative differences which exist between affective states; he subsumes them all under "positive tone" and "negative tone." Notwithstanding the hypothetical nature of his work, and of all work on the measurement of emotion at the present time, he gives to his data an over-

[1] Gordon Allport, *The Measurement of Emotion*, by W. Whately Smith (a review in the *Journal of Abnormal Psychology*, XVIII, 414).

refined quantitative treatment. It would be of more value at this stage to have a critical formulation of the fundamental principles of emotional measurement than to have any amount of such misguided precision.

H. R. Crossland, writing on *The Psychological Methods of Word-Association and Reaction-Time as Tests of Deception,* makes the following statements in his summary:

Crossland's researches.—1. The association reaction-time test has been applied to the practical problem of diagnosing guilt on seven different occasions; and a total of 55 persons have been examined with the method. Fully 40 of these subjects have served as controls; 25 of the 40 have been entirely ignorant of the various details of the "crimes," the remaining 15 being subjects from whom money or articles have been stolen or who otherwise had learned of the thefts.

4. The experimentally "guilty" subject has in all these cases been isolated by number, and it has happened that he was then found to be the subject already under suspicion, and concerning whose probable guilt evidence had been accumulated. The test results have, therefore, coincided with the preliminary evidence and prior suspicion.

14. The following differences were found between the suspects (the guilty and one doubtful case) and the innocent subjects:

1. The suspects were slower on the 80 contaminated or semi-significant stimuli;
2. The suspects were slower on the 20 pure significant stimuli;
3. The suspects were slower on the 19 post-significant stimuli;
4. The suspects were slower on the 61 pure non-significant stimuli;
5. The suspects were slower on the 39 contaminated or semi-significant stimuli;
6. The excess of reaction-time on the 20 significant stimuli, as compared with that on the 80 non-significant stimuli, is greater for the suspects;
7. The excess of reaction-time on 20 significant stimuli, as compared with that on 61 pure non-significant stimuli, is greater for the suspects;
8. The excess of reaction-time on the 20 significant plus 19 post-significant stimuli, as compared with that on the 61 pure non-significant stimuli, is greater for the suspects;
9. The excess of reaction-time on 19 post-significant stimuli, as compared with that on 61 pure non-significant stimuli, is greater for the innocents;
10. The excess of reaction-time on 20 significant plus 19 post-significant stimuli, as compared with that on 19 post-significant stimuli, is greater for the suspects;
11. The excess of reaction-time on 19 post-significant stimuli, as compared with that on 80 contaminated or semi-non-significant stimuli, is greater for the innocents;
12. The excess of reaction-time on 20 pure significant stimuli, as compared with that on 19 post-significant stimuli, was greater for the suspects;
13. The innocent subjects exhibited a slightly higher number of post-critical reaction-times which exceed their mean pure non-significant reaction-time;

14. The suspects exhibited two times as many guilt-revealing replies as did the innocent subjects, by group means;
15. The innocent subjects possessed the larger number of two-time repeating responses;
16. The innocent subjects made the larger number of three-time repeating responses;
17. The suspects showed the higher number of four-time repeating responses;
18. The innocents revealed the larger number of five-time repeaters;
19. The suspects exhibited the larger number of repeaters in excess of five-timers. Totaling all repeaters, by means for each of the groups, it is revealed that the innocent subjects repeated more old replies than did the suspect subjects;
20. The suspects gave, on an average, twice as many especially significant replies, such as "money," etc., as did the innocents;
21. The suspects exhibited three times as many replies such as "take," "steal," etc.;
22. The suspects revealed sixteen times as many personal, peculiar, significant replies as did the innocent subjects;
23. The suspects exhibited the larger number of failures to hear or comprehend the stimulus;
24. The suspects failed to respond six times more frequently;
25. The suspects more frequently repeated the stimulus or some previous stimulus, instead of giving the usual sort of response;
26. The suspects revealed three times as many concealing, compensating, or concocted replies;
27. No statement may be made as to the differences in breathing, pulse, and dryness of mouth, by reason of lack of accurate and complete data and by reason of a poor method of scoring the data which were accumulated;
28. The suspects were more nervous, however; they exhibited far greater lack of poise, and showed greater tension all over their bodies, in hands, and in voice;
29. The suspects failed more often to eye the experimenter or the behavior-observing assistant, and otherwise "looked guilty";
30. The suspects have shown the greater interest in the test after it has been completed;
31. The suspects were shown to be twice as variable as were the innocents (where we have the S.D.'s computed for such a comparison: i.e., in Criteria 1, 2, 4, 5, 6, 20, 23, 25, 26, 27 and 29).

15. The $\frac{\text{Difference}}{\text{S.D. Difference}}$ formula, when applied to 28 of the differences listed above, shows them all to be significant, the chances ranging from 53 to 99.7 in 100. . . . .

McCORMICK'S REVIEW

Several years ago Mr. C. T. McCormick, dean of the school of law, University of North Carolina, interested himself in the question of deception tests and the law of evidence. He reviewed both carefully and completely the work on association-word experiments by Galton, Wundt, Wertheimer, Klein, and Jung. He likewise considered the work

on the physiological aspects of deception, dealing carefully and critically with Benussi's, H. E. Burtt's, Marston's, and our own work. He dismisses the association-word experiments as being a possible basis for detection of deception on the ground of insufficient evidence from the standpoint of pure science; and quite rightfully so. As to the experiments of a physiological nature we may best quote him to understand the nature of his problem. In the following he has reference to the question as to whether or not deception tests have a place in the courtroom procedure.

These reports pro and con contained in the psychological journals referred to do not enable a lawyer to answer with confidence the all-important question, what is the consensus of opinion of psychologists as to the value of these deception tests? So rather than indulge in a guess at this, I have taken a canvass. A questionnaire has been sent to eighty-eight members of the American Psychological Association, selected by a psychologist as being likely to be interested in this field, asking for their opinion upon the question of whether deception tests combining the measurement of reaction time, respiratory changes, and blood-pressure changes furnish results of sufficient accuracy as to warrant the credibility of testimony given in court.

Of those who answered his questionnaire, eighteen answered "yes," with qualifications, thirteen answered "no," and seven answers were of doubtful classification.

The responses of those leaders in psychological thought are of interest to us. First, we give the responses of those who answered his question with "yes," but with qualifications.

Opinions of psychologists.—Among those who so answered were: Drs. Walter D. Scott, Northwestern University; Samuel E. Fernberger, University of Pennsylvania ("Yes, if handled by an expert only"); Harold E. Burtt, Ohio State University ("Yes, should be administered by psychologists with laboratory training. Not fool-proof enough for laymen. Should go in with the other expert testimony"); William M. Marston, New York City ("No. Emphatically not if the judges and jurors themselves are to interpret them. Yes, if the records are used as basis of expert testimony. I should think the admission of expert testimony on deception one of the greatest steps toward real justice, toward eliciting real confessions, and toward deterring crime that ever had been made in court procedure. But I should expect the tests to become rapidly discredited if they were admitted as a sort of "patent medicine," a fortune-telling, penny-in-the-slot answer to whether the witness or defendant were telling the truth or not, or as a record which judge, jury, or anybody else could tell the meaning of as well as the trained legal-psychologist. Also, mere psychological training should have less value, I think, in qualifying the expert than legal, or criminological training in investigation and

examining of witnesses"); A. P. Weiss, Ohio State University ("Yes, if not given too exclusive value. I regard them as supplementary. Much more experimental work needs to be done"); Charles H. Judd, University of Chicago ("Yes. I do not recommend reliance on the tests as sole evidence, but do regard them as very useful confirmatory evidence when administered by competent people"); Hulsey Cason, University of Rochester ("Yes; they should be considered. But psychologists themselves would not conclude from these tests alone. None of them [the tests] is wholly reliable. However, they are being improved"); Robert M. Yerkes, Yale University ("I do. I consider present methods promising, but their use requires extreme care, caution, skill, and their application demands extreme conservatism. No jurist can safely accept results of such methods without the advice of competent psychologists"); M. R. Trabue, University of North Carolina ("I do, in most cases"); R. S. Woodworth, Columbia University ("Yes, not of course with 100 per cent certainty, but with a considerable preponderance of correctness"); Joseph Peterson, Peabody College, Nashville, Tennessee ("Yes; certainly to warrant consideration, but one should not be convicted on such tests alone"); F. Kingsbury, University of Chicago ("Yes, when administered and interpreted by competent psychologists. My answer does not imply my belief in their infallibility; but that they are of equal or superior value to the prevailingly accepted types of evidence"); Max F. Meyer, University of Missouri ("They should be considered, yes—as contributory evidence not as absolutely establishing the credibility of the witness. Here as elsewhere in social progress one should follow such rules as 'Nec temere, nec timide' or 'Festina lente' "); Ralph Gundlach, University of Illinois ("Yes, if properly given"); C. H. Griffitts, Ann Arbor, Michigan ("Under certain conditions. Particularly when the details of the crime are known only to the guilty person. Tests must be given and the results interpreted by one with considerable experience"); David Wechsler, 1291 Madison Avenue, New York City ("Under certain conditions and with certain perfections of technique, yes"); Harry T. Moore, Saratoga Springs, New York ("Incidental consideration only").

The following are the names of the thirteen psychologists who answered "no," with a statement of their reasons for such an answer:

John B. Watson, 244 Madison Avenue, New York City ("No. All this is a thing for the laboratory for another 25 years. They might under favorable circumstances be indicative.—No more"); David Mitchell, 160 West Eighty-fifth Street, New York City ("No. A member of the Section of Consulting Psychologists of the A.P.A. using such tests as described could get suggestive leads but no formal test result would have the validity necessary for a court of law"); Edwin G. Boring, Harvard University ("No. I do not believe that any tests of deception are per se reliable or admissible directly in court. It seems to me probable that there may be experts on the detection of deception

whose evidence might be admitted as other expert opinion is admitted [perhaps after the degree of expertness of the person had been established by tests, to interpret them according to his mature judgment, and to accept or reject their results accordingly]. I cannot avoid the conviction that Marston's success with the tests mentioned is more the success of Marston as an expert using the tests than of the tests themselves in any hands"); English Bagby, University of North Carolina ("Should not be used in court or in testimony before court. Used by detectives to establish possible guilt"); Herman C. Stevens, M.D., Elyria, Ohio ("No. [1] Because of the possibility of voluntary substitution of a response-word by a clever criminal. [2] Respiratory and circulatory changes are too variable even within normal limits. This negative attitude does not mean that reliable methods may not eventually be achieved. But I think one ought to be perfectly frank as to the present status of this method"); William Healy, 40 Court Street, Boston ("Certainly not at present. Much more work in investigation needs to be done before such tests should be accepted"); John E. Anderson, Minneapolis, Minnesota ("I do not, not because the tests themselves are of no value, but because the situation in court is so complex as compared with a laboratory situation. The tests are measures of emotional responses. In court there are likely to be many emotions in addition to those connected with deception"); E. B. Skaggs, 16575 Lawton Avenue, Detroit ("Not at present—not optimistic as regards the future"); Morton Prince, Tufts Medical School ("No. All these tests only show an emotional reaction, and it is always a question of interpretation and inference. They justify suspicion of guilt, not evidence"); June E. Downey, University of Wyoming ("I believe the matter is still in the experimental stage"); Charles Bird, University of Minnesota ("I think the tests under rigid experimental conditions, and in one case, that of Larson at Berkeley, California, have yielded results which have been more accurate than those obtained from student juries. Yet I should hesitate to recommend their use to representatives of law because we actually need many more trials of the methods under law-court conditions. I think some research institute, co-operating with the police department, should make much more rigid tests under controlled conditions where the subjects are criminals. The results of Marston and those of Larson seem to supplement each other and psychologists who have used, in the psychological laboratories, the association tests have been successful in detecting simple deception to an extent far beyond that of a jury composed of students. Yet I think the time is not reached when these experiments warrant their use in the courts. If your report can stimulate the co-operation of the lawyers to institute an experimental investigation under actual court conditions, much of value would result").

And of the seven answers which were of doubtful classifications, we give the names and statements of the psychologists making these answers.

Drs. H. A. Carr, University of Chicago ("You raise the question of 'sufficient accuracy.' If this means 100 per cent accuracy, the answer is no. This raises the question of the degree of accuracy or rather the probability of accuracy in a given case that will justify their use, or rather the degree of credence given to them relative to other lines of testimony. This will always be a matter of good judgment, and indicates that any such tests would need to be employed as a supplementary device to other lines of evidence, rather than as a crucial bit of evidence"); Herbert S. Langfeld, Princeton University ("Although I have seen some excellent results with blood pressure tests, I should not advocate this use as yet before a jury, especially if the jury believed such tests entirely reliable"); J. B. Miner, University of Kentucky ("Positive responses would show that the witness was emotionally disturbed by certain facts. This might be useful if the witness had never heard of the facts. I believe that such tests are still in an experimental stage and that the opinion of an expert based on such an examination would be more useful to the court or jury than the test facts themselves"); W. V. Bingham, 39 West Fortieth Street, New York, New York (". . . . In my opinion, the deception tests which you mention are scientifically sound in theory. At the same time, it must be recalled that they require a great deal of ingenuity and insight on the part of the experimenter in preparing the list of association-words so that the findings will be clear-cut. Whether the time has arrived for their actual use in judicial procedure, I am in doubt. I do believe very firmly, however, that further experimentation in this direction on the part of courts and psychologists working in co-operation, should be strongly encouraged"); Carl E. Seashore, University of Iowa (". . . . It would seem to me that it could be made a very valuable tool for the purpose of gaining a lead in the prosecution or defense, rather than to use it as final testimony"); H. D. Kitson, Columbia University ("Possibly by the most enlightened judges, but surely not by judges of little intelligence. By the average jurors not at all. I cannot answer "yes," but I must admit that to a psychologist acquainted with the methods of psychoanalysis such tests as those you mention give significant indications of guilt. Since the mathematical demonstration is not perfect, however—by that I mean the probable error is large—I doubt if they could be considered as proof of the undeniable sort required by law"); Christian A. Ruckmick, University of Iowa ("I do not think they are all on the same level of accuracy. Those reflexes, like the psychogalvanic, which are least under voluntary control would be much more indicative. In the final analysis, no one but a competently trained psychologist should be called upon to interpret the results"); L. L. Thurston, University of Chicago ("I am favorably impressed by the experimental work on deception. I have not personally done such experimental work. If the validity of these procedures has not already been demonstrated with perfection they are pretty close to it. The Jung association test method has always been successful whenever I have seen it tried. The galvanic skin reflex [psychogalvanic reflex], the blood pres-

sure technique and the Jung association method are useful in bringing about confessions. The tests are not yet ready for adoption as legal procedure"); Warner Brown, University of California ("No. But a judge [not a jury] would be justified in considering the non-partisan opinion of an expert psychologist when the opinion is based on such tests").

The foregoing quotations are not complete or always representative of the entire view expressed, but selected as especially suggestive portions.

Deception tests as evidence.—The comments of some legal writers seem tacitly to assume that deception tests must be shown not only to be scientifically accepted as evidential or significant, but that they must be demonstrated to be error-proof. But it is apparent that no capacity for anything like a hundred per cent correctness of results is required. The emotional curve is to be admitted merely as circumstantial to a truthful intent or the reverse. If the test results are shown by scientific experience to render the inferences of consciousness of falsity or truth substantially more probable, then the courts should accept the evidence, though the possibility of error in the inference be recognized. The admission of evidence that bloodhounds have followed a trail from the crime to the whereabouts of the accused, of evidence of similarity of footprints, of conduct to show insanity, are all striking examples of the fact that conclusiveness in the inference called for by the evidence is not a requirement for admissibility.

From the standpoint of the jurist, conclusiveness in the inference may not be an absolute necessity, but we must take the attitude of the scientist, namely, that until the detection of deception technique has been tested beyond a shadow of doubt, inferences must not be drawn from it which would in any way affect the safety of the accused.

In our mind the technique must still remain a police tool—a very efficient police tool, to be sure, but one whose primary function is that of opening up leads to further investigation of information rather than that of being of itself prima facie evidence.

CHAPTER XIII

MARSTON AND BENUSSI

In addition to the very interesting and pertinent experiments with physiological tools, such as that of Benussi, and later of H. E. Burtt, who used respiratory changes as being diagnostic of deception, the work of Marston was very stimulating. Marston, a lawyer by training, prompted by the work of Münsterberg, began his studies in the use of the blood pressure in deception. Münsterberg had discussed the possibilities of physiological studies in reference to the uncovering of guilty complexes by measurements of the respiration with the automograph, of cardiac changes, etc. The experiments of Marston, Benussi, and Burtt gave a tremendous impetus to the studies of the last few years.

Marston worked chiefly with blood pressure, but unfortunately did most of his work with students in experimentally devised situations, and did but little with control experimentation in actual criminal investigation, where results could be checked by actual facts later ascertained. The method, too, used by Marston was discontinuous, and this could permit losing of many significant changes. And, again, it was based upon the assumption, not necessarily always true, that there is an increase of blood pressure during deception. Because of his legal training, Marston was peculiarly fitted, better than most of his laboratory colleagues, for attacking the problems presented. Today deception tests cannot be discussed without due credit being given to such men as Lombroso, Benussi, Marston, and Burtt.

Marston describes his work as follows:

Effect of intellectual work.—Binet found that intellectual work at high concentration increased the diastolic b.p. 20, 30, and even 40 mm. The explanation is clear when considered in a teleological light. All the blood is required by the brain, and consequently, through vaso-constrictions, it is driven away from almost all other parts of the body. Yet, ... the systolic b.p. is not increased, nor is it significantly modified by even 40 or 50 minutes of mental concentration on study.

The foregoing summary of the effects of minor affective elements and of intellectual work on systolic and diastolic b.p. will, I believe, justify the choice of the systolic in testing the deceptive consciousness. First, the use of the systolic eliminates the local effects of minor affection states; secondly, it eliminates the important and irrelevant factor of intellectual work; thirdly

it is less susceptible to modification by physical pain than is the diastolic; and fourthly, it tends to record only the unequivocal changes in the b.p. system brought about through increase of heartbeat unimpeded by inhibitory reflexes or antagonistic functioning of the vaso-motor apparatus.

This same article contains Marston's description of the physio-psychological factors involved.

Marston's technic.—The b.p. measurements were taken with a "Tycos" sphygmomanometer, an instrument substituting a spring for the mercury column of the older apparatus,[1] and having the rubber pressure bag contained in a silk envelope made to wrap conveniently around the arm of the subject. The pressure was taken in the left brachial artery, the arm being completely bared before adjusting the instrument. This method of measuring the systolic pressure depends, of course, upon detecting the pulse in the radial artery, either by the sphygmograph or by tactile sensations of the experimenter.[2] . . . . However, it may fairly be stated that mechanical detectors have scarcely greater sensitivity, and are, in the long run, vastly less reliable. . . . .

Before starting the experiment, the experimenter practiced the taking of b.p. daily, for several weeks. . . . .

Series A: stories 1–8.—The subject came to the experiment as to an examination by a prosecuting attorney, resolved to save a friend who was accused of a crime. He sat down at a table beside the experimenter (but protected by a screen) and found on the table two papers face down; one marked "L" (Lie) and the other marked "T" (Truth). If, in saving his friend, the subject chose to lie, he turned over and read the "L" paper. This was a story prepared by the experimenter relating simple events supposed to have been witnessed by the subject, and proving the friend guilty. At the end of the story were recorded certain facts, supposed to have been established by other witnesses, which the subject must admit in forging an alibi for his friend. He then proceeded, with these facts and the true story before him, to think out a consistent lying alibi. If the subject chose to tell the truth, he turned over the "T" paper, the contents of which were unknown to the experimenter, and found a consistent story, admitting the facts supposed to have been established, but completely exonerating his friend. This story was the *truth*, it was the only account he knew of the affair, and he told it as such. In either case the subject had ten minutes, or until he announced he was ready, thoroughly to familiarize himself with the story he was about to tell, but was free to refer to the chosen paper any time he wished. The experimenter had prepared ten questions covering the incidents of the "L" story and an assistant had prepared the "T" story successfully to cover the questions and the facts supposed to have been established. (After one "T" story had been told, of

[1] Not as accurate, unless calibrated at intervals.—AUTHOR'S NOTE.

[2] Neither method is as accurate as the auscultatory.—AUTHOR'S NOTE.

course, another was prepared by one of the assistants.) Thus it was impossible for the experimenter and the jury to know whether the subject was telling a story of his own, or the one composed by the assistant. The questions were then put to the subject, and the jury closely observed his manner while answering. The jury then returned a "verdict" as to whether he had lied or not, basing their judgment upon the internal consistency of the story as well as upon the subject's appearance while answering questions. These verdicts were written and passed in. The jury then left the room, and the experimenter recorded his own judgment, which was based entirely upon the b.p. record. The subject gave his introspection, a final reading was taken and the instrument was removed. The b.p. was recorded five times, in each experiment of Series A: (1) before the subject turned over the paper, (2) after he announced that he was ready, (3) after the 5th question, (4) after the last question, and (5) after his introspection. Complete notes of the subject's story were taken by the examiner.

Stories 9 and 10.—The method of preparing the stories, etc., was exactly the same as in Series A. . . . . The essential innovation in this series was taking pressure readings every 2 min.

Experiments 11 and 12.—In this series, the subject received an envelope with instructions sealed therein. He immediately left the room, and if he chose to lie he opened the envelope, obeyed the instructions, and came back and lied about what he had done. If he chose to tell the truth, he did whatever he liked for 10 min. and came back and gave an accurate and truthful account of his actions; . . . . during the actual mental concentration no uniform curve could be found either for all the men, or even for different records of one subject.[1] . . . . A rather surprising secondary result was the appearance of an almost equally definite Truth curve . . . . to note the two most general and plausible doubts which can be advanced concerning the possibilities of significant results under the conditions of this experiment. (1) Is the necessity for deceit sufficiently vital to furnish emotional stimuli for significant rises in b.p.? (2) If a sufficiently intense emotional situation is produced, will not the presence of witnesses, etc., cause exactly similar emotional influence while the subject is telling the truth? . . . . The two *most* extreme curves . . . . indicate that neither doubt invalidated all the records taken, and the curves representing *least* extreme b.p. differences for truth and lying establish the significance of the pressure modifications in all the tests taken.

[1] It is important to note that by *curve* in these experiments Marston refers to a curve obtained by the *plotting* of his blood-pressure measurements and then drawing the curve. This curve has more of a subjective element and is not the same as any graphic curve obtained by an objective method would be. By this latter method, the subject's blood pressure is adjusted to a certain point and then a curve obtained which depends in no way upon the experimenter's subsequent readings and interpretations, but is based upon the physiopsychological changes in the subject.—AUTHOR'S NOTE.

Experimental results of Marston.— . . . . This and similar records seem to indicate very clearly that, during the telling of a truthful story to a suspicious and critical audience, there is a more or less typical emotional (or other central) grouping of conscious factors which tend to inhibit any general emotional reactions to environment capable of increasing pressure, and which exert a positive influence over physiological conditions. . . . . But what constitutes the "significance" of a pressure curve symptomatic of deception? What differentiates such a curve from any chance rise of b.p. caused by the arousal of some incidental emotional complex? . . . .

1. The amount of the rise is, in all "L" curves, too great to be accounted for by moderate degrees of intensity of any emotions other than fear or rage, the minimum rise being 8 mm.

2. The duration of the rise is, in "L" curves, too long to be symptomatic of a sudden and transient emotional association, the minimum duration of any rise being 8 minutes.

3. The rise of an "L" curve occurs in regular, climatic manner. The pressure starts its rise close to the beginning of the recital in every record as in the typical curves above, climbs with varying abruptness but with great consistency of movement to a definite climax, and then recedes. Subsequent questions may cause secondary climaxes, but these are patently subsidiary to the steady, persistent climb and fall of the pressure curve taken as a whole.

4. The apex of each curve is correlated very closely with that point in the subject's testimony which makes the crisis, or climax, of the whole "job" before the subject. This was determined partly by introspection, but chiefly by observation on the manner and attitude of the subject, and by noting the whole construction and plan of the false "alibi." Thus, like the other element of "significance" in "L" curves, such correlation is capable of *objective* determination.

As a result of introspection, various feelings were noted. Thus one subject while lying had a feeling of "responsibility," a fear of coming questions. Some felt "restful" and amused while lying, in contrast to an "indifferent" feeling on telling the truth. Another reported a "relief and elation" at supposed success in fooling the jury, with a subsequent "worry" when he thought that he had not fooled them. Still another experienced a feeling of "disgust and shame with subsequent boredom." Several reported feeling "nervous like during an examination or tense." Others described their emotions as "like stage fright." Telling the truth was more difficult and less pleasant than lying to some. Some thought to beat the test by obtaining a "laxness of muscle and attention, etc.," but failed.

Again quoting from Marston:

Benussi's results.—Benussi . . . . made scarcely any attempt to analyze or to describe psychologically the deceptive consciousness. He does report, however, that his subjects found the work of lying hard, disquieting, and unpleasant; and that they introspected "tension of attention, excitement, and discomfort." As reported, this introspection does not seem illuminating, nor does it agree with the introspection of the subjects in this experiment.[1] Moreover, the pleasantness of the whole attitude, or consciousness, seems to depend upon the added interest of the whole proceeding, as an adventure is more pleasant than routine, and seems also to depend upon the success or failure of the attempt to deceive at any particular point. In this, the deceptive consciousness seems to resemble every other complex state of mind, and does not admit pleasant or unpleasant affective tone as a crucial criterion, or even as a consistent constituent. Nor does "tenseness" serve as any better indicator of deception.

Effect of attention.—The tension element really consists of what Benussi calls "tension of attention," or, as it would ordinarily be called, concentration of attention on the task before the subject. It has been made clear by experiment in other fields that concentration of attention involves a certain involuntary setting of the muscles, and very probably general contractions of large groups of these muscles . . . . exactly the same sort of concentration with a feeling of "tension" was introspected during several of the "T" records. It is significant that in these "T" records the b.p. did not fall, but remained on an almost exactly even level throughout. Thus we must recognize a certain tonicity of involuntary muscles due to concentrated attention as an almost constant, if not invariable, concomitant of deception; but we must also recognize that the utmost function of such tonicity is to keep the b.p. from falling (this has not always been observed to be the case in experiments conducted by the author, in which there were no determinative changes in the systolic level but the graphic records exhibited significant changes as due to deception) and that concentrated attention is by no means peculiar to deception. . . . .

Rôle of fear.—It will be noted, from the individual introspection given above, that every subject introspected some complex emotional state containing the element of fear, while many designated the feeling as simply fear. "Feeling of responsibility," "fear of awkward questions," "nervousness as in an exam," "worry," "sneaky feeling," and feeling "flustered" all point inevitably to fear as the common denominator and chief factor of all introspec-

[1] Of course, their introspective findings in Marston's experiments are not applicable in criminal cases, not the average case in which the introspective findings approximate more nearly those of Benussi; only more pronounced and characteristic of fear which Marston emphasizes; but certainly fear plays a minor rôle if the introspection is that of a "pleasantness."—AUTHOR'S NOTE.

tion during deception.[1] . . . . Anger when in immediate danger of detection . . . . (this agrees with the author's findings in which whenever *apparent* anger was present, it was a defensive mechanism and the suspect was usually guilty). . . . . Thus a significant lying curve is a function of the struggle between the involuntary impulse to express fear in response to awareness of danger and the voluntary focusing of attention to exclude the fear from consciousness. As the ideational elements of the deception become more and more complex, the awareness of danger becomes more and more firmly established in the foreground of consciousness, and, as the stimulus is thus enhanced, the "natural response" of fear becomes stronger and stronger. In some cases the fear impulse probably never entirely breaks away from the restraint imposed by voluntary inhibitions, but in other records we see evidence that at the *danger* climax, the fear impulse is wholly uncontrolled. The close correlation between the height of the "L" curve and the climax of the intellectual test of deception evidentially substantiates the nature of this danger climax, and points to exactly that gradual return to normal b.p. level which actually appears in the records.[2] This gradual decrease of fear symptoms is due not so much to strengthening of voluntary control as to decrease in the force of the fear stimulus, i.e., awareness of danger in the case of most subjects. The voluntary control seems to decrease with the necessity for such control and for this reason questions put at the very end of the cross-examination, or by the jury, may cause the fear impulse to run its momentary course unimpeded, betraying itself in short, pronounced b.p. increase. In the same way we may now explain the b.p. behavior when a subject comes to the experiment with the knowledge that he may be obliged to lie if certain crucial questions are asked concerning "guilty" acts. After the first question is safely past, the telling of the truthful story steadily removes the central stimulus to fear, and, correspondingly, the voluntary control is allowed to relax, with the result that if, later, the awareness of danger actually rises to the focus of attention, the resultant fear impulse is unchecked by volition. . . . . Exceptional subjects may, however, retain in consciousness their voluntary inhibitions to fear impulses despite the cessation of those impulses, and in such cases low, *significant* curves of deception take the place of short, sharp, isolated rises. . . . .

I would suggest that the collateral circumstance which always turns fear into rage is the occupation of the focus of attention by the awareness that there is no escape from the danger impending. This may occur, during deception, either by some sudden betrayal, or by the victory of fear in winning

[1] If so, this fear differs in degree from that of the subject during a criminal investigation. Often in the former case it may not cause any significant change in the graphic record but it usually does in deception of the guilty suspect.—AUTHOR'S NOTE.

[2] What probably corresponds to the so-termed "climax" is the often sudden evidence either of excitation, of increase in pressure, or of depression due to deception present in the graphic records.—AUTHOR'S NOTE.

its way to conscious motor expression and so betraying the lie. In either case, the anger impulse supersedes the central fear reflex, and rage is registered in consciousness. But, since both emotions are expressed through the sympathetic nervous system, the visceral changes which have been taking place during fear continue during rage, and the b.p. level will merely depend upon the strength of the anger impulse aroused. . . . . In a situation such as that produced by deception in real life, it is very probable that rage at detection or at self-betrayal would be far more intense and of much longer duration than under the artificial conditions of the laboratory. Finally, there is little possibility that in this experiment, emotions other than rage and fear were aroused to a sufficient degree of intensity during deception to break over into the sympathetic nerve channels and so affect the b.p., and probably in actual experience such contingencies as would be of almost equally rare occurrence. . . . . We have a seeming anomaly in the almost unanimous introspective report that deception was *pleasant*. But it was the *whole experience* of the deception that the subjects found pleasant, not the isolated fear.[1] . . . .

Marston's conclusions.—1. The behavior of the b.p. does not act as the least indicator of the objective validity of the story told by any witness, but it constitutes a practically infallible test of the *consciousness of an attitude of deception*. Mere awareness of a mistake, even if the mistake is uncorrected, or the mere addition of trifling details, even if the subject is conscious of such additions, will not constitute that mental situation which is the necessary stimulus to fear, and will not, therefore, cause the b.p. to rise.

2. The *significant* curve of deception differentiates a story the foundation of which is false from a story mostly true, but containing one or two substantial lies. The sudden sharp, short rises of b.p. betray the substantial lies in an otherwise true story. It seems probable that, if a truthful witness became violently angry at some chance question of the examiner, or if he suddenly saw his worst enemy glaring at him, gun in hand, in the courtroom, his b.p. would suffer a short, abrupt rise, but if such extreme outside influences are avoided, all major b.p. modifications would seem to depend upon the deception elements of the story itself.[2]

[1] In no case yet encountered in our deception tests has such a condition been reported. The procedure is more like a surgical operation so far as a guilty suspect is concerned, and it is not until the confession is made that a change, usually in the nature of a relief ("I feel like a weight had been lifted off my chest. . . . ."; "Get it off your chest"), is noted. Where, as in actual work, life and happiness hang on the success of a deception, it is much more doubtful whether the whole situation during deception would be more pleasant than while telling the truth. Probably in such cases both would be disagreeable. In many criminal cases the innocent suspects actually seem to enjoy the test, especially in some college girls examined, where the effect seemed due to actual interest, plus the excitement of the unusual, etc.—AUTHOR'S NOTE.

[2] Such an occurrence could not take place in actual criminal cases as spectators would be excluded.—AUTHOR'S NOTE.

3. The b.p. record during testimony might be made practical use of as an indicator of deception if the test embodied the following features:

a) Two records must be taken . . . . , the story told during one record being the truth within the knowledge of the examiner.

b) Examination shall be private, with carefully controlled conditions, and means at hand for recording involuntary movements, muscular contraction, and sudden suppressed laughter.[1] . . . .

c) The record should be interpreted by a psychologist experienced in this particular line. . . . .

In another article in the *Journal of the American Institute of Criminal Law and Criminology*, Marston describes a few court cases. The following sections are of interest:

Types of deception tests.—There are four types of psychophysiological deception tests known. First, there is the galvanometer tests. The string galvanometer measures the electrical body currents, which have been found to vary greatly with the varying emotions of the subject. This test is of very little value in detecting deception, because the instrument registers nearly every emotion experienced during the testimony of the subject, and so renders it nearly impossible to distinguish those emotions caused by deception.

Secondly, we have the association reaction-time test. . . . .

Thirdly, we have Benussi's breathing test for deception. . . . .

Fourthly, deception may be tested by means of the measurement of the systolic blood pressure of a suspect while he is testifying. The success of this method was reported by the writer, working under Prof. Münsterberg at the Harvard Laboratory in 1915. In October, 1917, at the request of the Psychological Committee of National Research Council, tests of this type were conducted in the Harvard Laboratory, with a view to determining their value in government service during the war, and were reported upon as having given 100 per cent accuracy of judgment under very difficult conditions (Psychology Committee files, under date of November 13, 1917). Finally, over 20 tests were given, ... As far as findings could be verified, all judgments based upon the b.p. records were correct; although equal accuracy did not attend either association or breathing tests which were simultaneously given.

Proper method of conducting deception tests.—It should be noted, however, that this blood pressure test . . . . was never alleged to be a simple cure-all or patent medicine automatically detecting every deception on the part of the subject, but rather, in the belief of the writer, the systolic blood pressure test is to be regarded as a psychologically complicated indicator of deception requiring expert knowledge and skill in its application and interpretation. Psychologically, however, it may be said to have the very important advantage over all other deception tests that the psychophysiological mechanism modifying the blood pressure is almost exclusively influenced by the emotions of fear and anger, which probably largely constitute the deceptive complex.

[1] Blood-pressure graphic record shows these changes, which may be easily indicated on the record.—WRITER'S NOTE.

. . . . The effectiveness of the test depends almost entirely upon the construction and arrangement of the cross-examination and its proper correlation with the blood pressure readings, a system of signals between the examiner and b.p. operator being necessary. Other tests of the nature of which the subject is ignorant, as well as periods of rest and series of questions upon irrelevant and indifferent subjects, are also interjected into the examination of the subject in such a way as may, in each particular case, best enable the operator to determine the normal blood pressure of the subject and also the normal blood pressure plus the fixed increase presumably present throughout the whole examination due to the excitement caused by the test or by court procedure.[1] The form of the blood pressure curve as correlated with the cross-examination is then carefully studied by the operators, and is found to indicate with surprising accuracy and minuteness the "fluctuation of the witness" emotions during the telling of his story. It was found that in the cases of actual defendants it was of great practical advantage to request the person to tell his entire story first in his own way without either prompting or questions from the examiner. Irrelevant matter was next interposed, and the cross-examination could then be built up with great effectiveness upon the elements of the defendant's own voluntary story.

Marston's court experiences.— . . . . First, three types of deception tests were tried out upon actual defendants in the criminal courts. These tests were performed, with the consent of each defendant, in connection with the psychiatric and medical examination of various individuals referred for this purpose to the probation officer; some before trial, and others at various points in the proceedings, with regard to continuance of probation, dismissal of the case, or recommendation of the probation office to the court. . . . . The resulting records, although not used in court and not taken official recognizance of, yet proved of such considerable value as embodied in the doctor's reports that the probation office was considerably interested in the continuance of the tests; . . . . The tests used were the Benussi test, the association reaction-time test, and the systolic blood pressure test.

Secondly, the blood pressure tests were tried out at Camp Greenleaf . . . . , where the attempt was made to train expert operators and examiners for the installation of these deception tests on a large scale. This work virtually constituted a trial of the practicability of training a corps of experts

[1] It seems unlikely that a suspect's real normal blood pressure can ever be ascertained safely until a confession has been obtained. In cases personally examined in which the suspect was guilty and had lied, all systolic readings, even without any questioning, were found to be higher than after a confession or a real normal had been secured. However, the readings obtained without and in answer to indifferent questions may be lower than those later obtained and thus serve as a normal for deception.—AUTHOR'S NOTE.

for the widespread use of the deception tests . . . . the results reported below serving to point the essential legal character, place, and possibility of deception tests, and the skill and training necessary for their operation.

The apparatus for all three of these tests was set up in a screened-off portion of the office. . . . . All the apparatus was hidden from the view of the subject, each defendant thrusting his left arm through a slit in a black curtain so that even the sphygmomanometer could not be seen. . . . . Twenty individual cases where the b.p. judgment as to deception could be thus verified were selected for report. . . . . In every one of the twenty cases where immediate determination of the accuracy of the b.p. judgments was possible, the judgments were found correct, and in at least five cases discoveries made by the examiner on the basis of his cross-examination, together with the b.p. behavior at these crucial points, were of assistance to the doctor and through him to the court and probation office in disposing of the cases. It may be said that the association and the breathing test data were so complicated and difficult of treatment that as a practical matter all the examiner's judgments were based upon the blood pressure alone.

The examiner made eight b.p. judgments of complete truth; . . . . eight b.p. judgments of consistent lying . . . . ; and in five cases the examiner was able to pick out points upon which defendant lied and other points upon which defendant was telling the truth, ...

Case No. 1.—Woman (white) age 42 years.

Several previous arrests for drinking; known to be an old drug user, arrested December 1st because hypodermic outfit was found in room where defendant spent the night. Defendant claims that she is not now using drugs.

B.p. judgment.—Innocent. Woman is not now using drugs.

Verification.—Medical examination showed increased weight, better all-round health, etc., which could not have existed were defendant now using drugs.

Case No. 2.—Woman (colored) age 31.

. . . . Colored woman . . . . arrested six months ago for larceny of a ring and placed on probation on the strength of the testimony of a colored man from whom a ring was alleged to have been stolen. . . . . Examination was to determine whether or not she stole the ring in the first place.

B.p. judgment.—Innocent. Woman telling the truth as to the ring having been given to her.

Verification.—The judge dismissed the case, ... New evidence had turned up indicating that the colored man who first alleged that the defendant stole the ring was a disreputable character, etc.

The remaining cases concern suspects of petty thievery, disorderly conduct, and those suspected of using drugs. It would be interesting and instructive if the curves indicating deception or truth could be given so that other investigators would have criteria to work with.

One advantage in the graphic method is that the curve (not one plotted) can be shown with the changes due to deception, if present. In passing final judgment on a curve or case, the author never states that deception or truth is indicated unless it is actually known, either by a checked confession or by fingerprint evidence. Other circumstantial evidence is ignored unless corroborated by different types of evidence. The observer indicates his opinion and recommendation upon the record but it is merely tentative, subject to the later checking. Thus, a graphic record contrasting truth and falsehood is very instructive and affords valuable criteria in the judging of other records.

Marston concludes:

1. The blood pressure deception test has demonstrable practical value in determining the truth or falsity of various elements in a witness' story, as well as of the story in its entirety; and also in determining the general attitude of innocence or guilt in a person accused of criminal acts.

2. The blood pressure deception test seems to have value as a substitute for the oath now used in court procedure in that confessions seem to occur under the conditions of the psychological test which it had been previously impossible to extract in court or under the examination of the probation officer.

3. By detecting guilty emotions focused upon hitherto unsuspected points of testimony the deception tests appear to open new and fruitful channels for police investigation.

Again Marston writes:

Military deception experiments: problem.—The problems contemplated by these tests were two-fold: first, the investigation of the value and the applicability of the systolic blood pressure deception test to military situations arising in connection with courts-martial, where psychological examiners might be called upon to testify as to truth or falsity of testimony, or as to the sincerity of the accused, or in connection with investigations of alleged enemy agents by the Military Intelligence Department, where psychological examiners might be required to test the truth of the story of the person under suspicion; and, secondly, to determine the extent to which these deception tests could be confided to non-expert operatives.

Method: A. *Crime.*—About 50 articles, each of some intrinsic value to a soldier, together with ten five-cent pieces, were disposed about a room. . . . . The men were then instructed to enter said room, examine contents, and if they so chose, to steal and conceal upon their person one or more of said articles. If they chose to steal they must hide the stolen articles within the Psychology Building within 5 minutes after taking same; and in 10 minutes thereafter, they must take the stolen article out of the building, convey it to their barracks, and there conceal it among their effects. When examined,

they were to do their utmost to convince their examiners of their innocence. If they stole and yet succeeded in deceiving the examiners, they could keep the article stolen; if detected they must return same.

B. *Examiners.*—Fourteen men, all of some legal training, were selected by the writer to act as agents for the procuring of evidence against the accused, and to act as examiners when the suspects were summoned to testify. These agents were allowed to question any suspect, and to watch his movements as closely as possible, after he emerged from the room where the articles were planted. Private Clifton Murphy (a member of the New York Bar) was placed in command of these agents, in order that they might be disposed effectively about the Psychology Building and barracks. All evidence was then sorted and distributed to those agents who were to examine the suspect involved thereby, the entire group of suspects having previously been divided and assigned among the agents for examination. The agents in seven groups, two agents to a group, then prepared general outlines for the cross-examination of each suspect on the basis of the evidence collected against him. A brief preliminary instruction in use of apparatus and interpretation of b.p. curves was then given the agents by the writer, but none of said agents had ever previously given a single deception test. Agents alternated within group as cross-examiner, the other agent recording the b.p.

C. *Apparatus.*—Three sphygmomanometers, Tycos type, were used. One instrument was very defective, as reported by the medical officer who used it; and one of the others was somewhat inaccurate.

D. *Results.*—Thirty-five men were examined. Nineteen men chose to steal, while sixteen men were innocent and told the truth under cross-examination. It will be noted that the choice between guilt and innocence was left wholly with the subjects, no check upon the proportion being retained by the experimenter. Twenty-six correct judgments, based solely upon the b.p. curves interpreted in light of the conditions of examination, were made by the agents and nine incorrect judgments were recorded. This gave a total percentage correct agents' judgments of 74.3.

In regard to pulse reactions as a measure of emotion, Coriat states:

Pulse changes with emotion.—A number of other conditions, particularly cases of recurrent sensory motor attacks, the psychasthenic fear neuroses, and psycho-epileptic attacks showed an increase of the pulse rate when the subject was asked to think of either the fear complex, words associated with the complex, or the particular emotional experience which caused the pathological condition. As these patients improved under treatment the pulse acceleration tended to become less and less, until finally a point was reached where the pulse rate was not affected. It would appear that in these pulse reaction phenomena we have one objective test of the progress of the patient's abnormal state.

In dementia praecox, the pulse reactions showed that the emotions were

in a certain sense active, and that the emotional apathy or inco-ordination was only superficial. This observation is at direct variance with the absence of psychogalvanic reactions found by some observers in some forms of this disease. In other words, the original unconscious experience which later gave rise to the various hallucinatory and delusional phenomena of both dementia praecox and certain paranoiac states still possesses an emotional activity as shown by the pulse reaction tests. The subjects, however, paid little or no attention to these unconscious residuals with their abnormal activities, and hence arose the emotional apathy or rather the inco-ordination between the emotions and the concepts.

Landis' negative results.—In a personal communication to the writer, Landis of Minnesota (a graduate student) stated that he had been unable to confirm H. Burtt's findings in regard to the inspiratory-expiratory ratio as being indicative of deception. He stated that he had worked with the same apparatus which Burtt used. However, Benussi's work should not be belittled, for even if the inspiratory-expiratory ratio does not come up to his expectation, yet the respiratory tracings form a very essential and important element in a deception test. Sometimes a change in the appearance of one portion of the curve alone may be significant of an emotional disturbance, although this change may not be recorded by any other indicators. Therefore, a respiratory curve, such as is obtained by the usual laboratory type of pneumograph, may furnish invaluable indications.

CHAPTER XIV

THE EXPERIMENTS OF DR. HOUSE

For years clinicians and criminologists have been familiar with the fact that under the influence of drugs there is a lessening of inhibition, and that an individual under such conditions will often talk very indiscreetly, frequently to his own detriment. *In vino veritas est* has a sound physiological basis. This is so well recognized that business men have been known to ply their rivals with liquor before attempting to extract formulas or other information, and members of the underworld who are really clever recidivists make it a practice never to drink when "on the prowl." Drinking would not only interfere with the muscular control which is very necessary to such activity as climbing porches, but would also take the keen edge off their planning ability and lessen their discretion if apprehended, with the result that they might forget to ask for their criminal lawyer. (Of course we are not considering here the chronic alcoholic or drug addict.) Under the influence of an anesthetic or sedative, such as nitrous oxide, ether, chloroform, sodium amytal, etc., a patient may talk freely with a resultant mixture of truth and falsehood from which valuable leads may be secured, although such gleanings have no legal significance.

Scopolamin experiments.—For many years a Texas obstetrician, Dr. R. E. House, performed many experiments, making use of scopolamin as a method for securing a true statement from a suspect. He presented his findings before many medical societies and criminological bodies, always offering his services without a fee, and always sincere in his beliefs and tireless in his endeavors. Altogether, throughout the United States and Canada he has probably conducted several hundred experiments. When considering his researches, too much credit cannot be given this energetic idealist who died in the midst of his work, firm in the conviction that there was something very worth while in his method. Regardless of what impression one may get from his writings, or of what mistaken conclusions may sometimes appear in them, in his personal contacts and conversations with the writer Dr. House always exhibited a real scientific attitude. As he often said, all that he desired was an opportunity to test out his method on a proper scale. He was unable to do this because of financial limitations. As it was, his practice must have suffered materially through his enthusiastic application to the service which was appreciated by only a few.

SCOPOLAMIN, "TRUTH SERUM"

During the last ten years there has been much publicity and sporadic demonstrations of what is termed by the reporters "truth serum." Unfortunately, many of the experiments, as pointed out by Dr. House

Photo by courtesy of "Fort Dearborn Independent"

FIG. 2.—The late R. E. House (right), of Ferris, Tex., explaining use of so-called "truth serum" to Chief August Vollmer, of Berkeley, Calif., after tests made at the San Quentin Penitentiary.

(Fig. 2), are carried out by unskilled operators who do not have medical training. Moreover, they have never read Dr. House's original reports. Rather than quote the reports found in current publications, the writer will describe the technique by citing excerpts from Dr. House's original papers.

Demonstrations at the Crime Detection Laboratory.—At the present time demonstrations of this method are being made in the police training school at the Scientific Crime Detection Laboratory, as described in the *Chicago Daily Tribune* of April 5, 1931.

Original work of Dr. House.—Experimentation with scopolamin in

the criminological field goes back prior to and following 1922, and is associated with the original work of Dr. R. E. House. Fortunately, the writer was able to observe his method at several demonstrations and also to hear his address before the section of American Association of Anesthetists, American Medical Association, at San Francisco in 1922. Following this, Dr. House gave a demonstration on one of the writer's cases at the Roosevelt Hospital, Berkeley, California, before a group consisting of Dr. R. Gault, Chief of Police August Vollmer, the writer, and others. Demonstrations were then given at the San Quentin Penitentiary in California. On another occasion the writer heard Dr. House lecture at Windsor, Canada.

Dr. House always stated that he was desirous of finding out the accuracy of the method by actual experimental work. The following sections, aside from numerous demonstrations with reporters and students as subjects, represent his own views as expressed in his writings. Dr. House in his Windsor address said:

I have selected to present for your consideration a picture of a Truth Serum test held recently in Dallas, Texas. I desire to show you the technique I follow, that you might more clearly appreciate the difficulty and uncertainty that must surely follow me. I also want to show why a beginner will have a high percentage of failures. I wish very much to impress upon you these facts: First, that I am not perfect nor will I ever be. Second, that skill in this work can only be acquired by hard study. Third, that a Truth Serum Third Degree is only a safe and humane method to obtain evidence. Such evidence is not intended for a Court until after it can be corroborated. Fourth, a reasonable person will admit that without some type of a Third Degree, peace officers would be helpless to protect society, and, lastly, that over-zealous friends have claimed too much for the tests, while the pessimist has underestimated its value in criminal analysis. The single cylinder car was not serviceable, but the principle of the four to twelve cylinder car was clearly established in the minds of Durant, Ford and others.

I have visited the four corners of the United States explaining the principles of the Truth Serum Test in the hopes that some organization would develop the idea to a high point of reliability. I fully realize that many improvements in my method are needed, and I am constantly making changes in my technique, but I am not, because of financial circumstances, permitted to devote my entire time to research work.

If the Truth Serum Third Degree is worth anything at all, its value to society is beyond computation. The welfare of society is the supreme law of the land. Man is a social animal. Therefore, to combat the law of the survival of the fittest, society could not exist without laws, yet all laws are worthless unless they are enforced.

Every criminal has a disordered mind, but he is intelligent enough to entertain fear of arrest. It is the certainty and not the severity of the punishment which most deters the criminal. It is a violation of the Divine Law, "As ye would that men should do to you, do you also to them likewise," that forced the creation of man-made laws. There is not one of God's laws of nature whose violation does not carry punishment, and the same rule should be adopted by society. If society is to exist, the criminal must be controlled, and it would behoove society to avail itself of every human and scientific measure for its protection to acquit the innocent and to convict the guilty. I invite your consideration of this statement. There is no class of men, be they ministers, lawyers, teachers, laymen or physicians who more sacredly and religiously appreciate their obligation to society than do the peace officers. Before I became a penologist I believed peace officers were a bunch of licensed crooks, but after three years of intimate relations I now intuitively bow with profound respect to every one I pass.

The day is not far distant when science will not only prevent seventy per cent of crime, but convict those apprehended who are guilty.

Today the education of the peace officer is far outstripping the training of the criminal. In the past the reverse has been the condition.

Criminals take to scientific training quicker than the peace officers, but they lack permanent organization. To illustrate, I received a clipping from Austria that criminals were using Truth Serum to make their victims tell where their valuables were concealed. Education and training are producing a class of detectives versed in the sciences of psychoanalysis and psychology. The fingerprint expert can produce data the character of which no one can offer grounds for dispute.

My friend Dr. Larson will, I hope, convince you that the polygraph machine can with positive certainty point out the guilty man from a group of innocent men.

There are, of course, other aids to peace officers unnecessary to mention.

I would most certainly overstep the bounds of reason if I were to maintain that I could solve every crime. That is impossible. First: I must have furnished me the guilty suspect, and, second: I must not make any mistakes.

Any problem which entails knowledge and acquired skill will never be perfect. Let me illustrate a hypothetical case of murder: A policeman arrests a suspect badly needed by his Chief. The detective will from his data be convinced the man is guilty of the murder of his wife, yet he fails to obtain from him where the body is concealed. The identification expert finds a print on the bloody handle of a hammer, which will corroborate the deduction of the detective, but such evidence will not convict if the dead body of his wife is not found.

The polygraph machine, with its reliable markings, might positively corroborate the findings of the detective and the identification expert, but all the machine can say is "That man is guilty."

In the above-mentioned case, where the other branches of the law were forced to stop, then Truth Serum should be permitted by society to be given to such a suspect. Not for the reason that it is infallible, but because it is worth a trial.

In the above-described case, if the correct dosage of the medicine has been given and the House Receptive Stage is correctly produced and recognized, then by a skillful manipulation of the questions the suspect will in his unconscious moments, when the will-power, the instinct of self-preservation and the power to reason are temporarily removed, disclose without evasiveness the whereabouts of the concealed body of his wife.

Principle of "Truth Serum" test.—The so-called Truth Serum test is the art of producing complete unconsciousness in a human being by the use of scopolamin and other synergistic drugs.

You can obtain the same effect upon the mind and do the same work with chloroform, gas or ether, but scopolamin is preferable because its effects wear off more slowly than any other anesthetic.

The object of the test is to extract from the subconscious mind, while the subject is asleep, the stored content of the mind called Memory.

The value of the test depends on the fact that Memory can be extracted, with or without the consent of the individual desired to be tested, due to the fact that there is no human mind capable of resisting the effect of scopolamin.

The principle of the test takes advantage of God's law of nature and the ordained function of the center of hearing. Here permit me to say that the only function of the center of hearing is to evoke memory. The center of hearing cannot see, feel, taste, or smell, but it so completely dominates the other four senses that it can make them work at its command. Being the most powerful it is the last of the five senses to succumb to any anesthetic and it is the first sense to function after the anesthetic is discontinued.

The skill required to make a successful test depends upon the ability to produce and recognize the Receptive Stage, and practice to make the deeply anesthetized individual correctly understand the import of the question propounded. The replies to questions are like the knee-jerk reflex in action.

Please remember that subjects do not talk at random, but you will obtain a reply to every question asked, and the answer will be as the question was understood, or as it stimulated that part of the brain where some other memory event was stored. In other words, it is difficult for the brain to function normally under the effects of large doses of the drugs.

If I could without error make the subject correctly interpret in the auditory center the meaning of a question, the answer would always come from that part of the brain where memory could be produced—hence, The Truth.

It requires some mental effort to tell the truth, but it requires more mental effort, plus caution, plus reason, plus imagination to tell a lie. It is, I assure you, difficult for a person to lie and to remember what he said, especially when he is rendered oblivious to his existence, has no appreciation of his environment and with the will-power temporarily non-existent.

My trouble is the same as Dr. Gauss of Germany said about Twilight Sleep: "The trouble is not Truth Serum but to the mistakes myself and others have made in its name."

The lie is the criminal's only weapon of defense. In America the lie wins nine legal battles out of every ten. The suspect knows whether he is innocent or guilty, and society should interest itself in any method that will evoke the truth from the consciousness of a suspect.

My technique, I will admit, is crude, but I have had enough good results to prove that the method is a workable one.

Result of demonstration.—At this same meeting Mr. Earl O. Stephens, chairman of the committee appointed to witness the semiprivate demonstration of "Truth Serum," stated his findings as follows:

Mr. President, Ladies and Members of the International Association for Identification:

Your committee of Police Officials, Doctors and Lawyers advertised in the newspapers for subjects for the Truth Serum test. About thirty persons reported; of this number three men were selected, three different degrees of mentality being represented.

A severe questioning was resorted to and all subjects instructed not to divulge any of the topics to any one under any circumstances; trick questioning was resorted to, all in the absence of Dr. House.

The Committee being satisfied with their examination requested Dr. House to proceed, which he did in the following manner. He likewise examined the subjects as to mentality and informed the Committee as to each and prophesied as to future conditions of each individual subject under scopolamin, which proved true in each instance.

At 10:45 P.M. the test started by administering the drug by hypodermic injection in the left arm, followed by two others at about ten-minute intervals.

One hour after the subject's first treatment he was unable to recognize the different familiar objects, such as a watch, bottle and knife.

Two hours after the first treatment the subject with the highest intellectual rating was questioned by the Doctor, in return receiving mumbling answers, but which could be understood; ten minutes later the answers were very clear. The questions being asked by the Doctor from a list submitted by the Committee, with the intent of testing the subject as to the truth, but in each instance the answer was correct with the previous examination by the Committee before Dr. House had seen the subject.

The lower the mentality, the more drug was administered; also more time being required for the examination but in each instance the results were identical.

After five hours' sleep the subjects were awakened and questioned by the Committee, who found that they did not remember a single instance of the test after the first treatment; all were able to eat a hearty breakfast and claimed no ill effects from the test—a doctor's examination proved the same.

The Committee endorses the Truth Serum as a valuable scientific means of obtaining the truth from persons under its influence, as it places the subject in a mental state unable mentally to divert his brain from what he knows to be true. A true knowledge of the subject's mind is revealed, leaving the examiner in a position of knowing what knowledge the subject possesses on any topic.

DR. J. G. DUNCAN: I would like to state in this connection that Dr. House, knowing I was formerly a practising physician, had me with him when he made certain tests on the patients; these tests showed conclusively that the patients were in a perfect state of coma.

MR. J. R. NUTTER: Mr. President, the Resolution Committee submits for the consideration of this Association the following resolution:

Be it resolved, That the International Association for Identification in regular session assembled do at this time extend to Dr. House their thanks and appreciation for the remarkable demonstration of his scientific research into the Truth-Getting Serum of Scopolamin. And it is the consensus of opinion that the tests made were highly satisfactory.

I recommend that this resolution be adopted.

SECRETARY ELLIS: I second that motion.

The motion, amid applause, was declared carried.

Dr. House further discusses the use of "Truth Serum" in a paper on "The Use of Scopolamin in Criminology":

In presenting my technic for the use of scopolamin in criminology, I do not desire to pose as a criminologist. . . . .

The first investigation, so far as I can learn, of the use of scopolamin in criminology, and its first test, were in the Dallas County Jail, Feb. 13, 1922. The test was conducted under the personal supervision of Dr. W. M. Hale, Dallas County Health Officer. The test was made possible by the agreement of District Attorney Maury Hughes. . . . .

I have demonstrated the function of scopolamin, upon which its use in criminology depends, in over four hundred cases of obstetrics, but I have made only the two tests referred to upon alleged criminals. Legal inhibitions have made it impossible to carry the record any further. In both tests my subjects were able to prove by corroboration that their convictions for certain crimes were in error. In one case, a very intelligent white man by the

name of Scrivener was the subject of the experiment, and in the other a negro of average intelligence was used. . . . .

The Scrivener case.—The set of questions to be asked were not known to Scrivener. Mr. Hughes, the District Attorney, stated that if I would obtain correct answers to them, he would be satisfied. They were as follows:

1. "What is your age?" "27" [correct].
2. "Where were you born?" "Laredo" [correct].
3. "Did you rob Guy's Pharmacy?" "No, I was picked up for it the night of the Sanger Bros. robbery, but I do not know where Guy's Pharmacy is." [This answer lost me support. He was sent to the penitentiary for fifteen years for this crime, hence it was believed that he lied and that the test was not reliable. I will try to show that he told the truth.]
4. "Who robbed the Hondo Bank?" [In reply he named five men, two of whom are now in the penitentiary for that offense, two are in Mexico, and one is at large. This question was valuable because of the fact that he would never before answer it, maintaining that he was only invited to participate.]
5. "What are you reading in jail?" "Mechanical books, about automobiles" [correct].
6. "Who gave you the books?" "Mrs. Hold" [correct].
7. "Where did she live?" "Austin" [correct].
8. "Is she dead or alive?" "Dead. She died last November" [correct].

It is a matter of court record that two officers testified that Scrivener was in their custody in Fort Worth the night of the robbery and dismissed him a few minutes after eleven o'clock. The drug store was held up at eleven-thirty. I suspect the jury might have felt as did the prosecuting attorney that it was possible for the officers to be mistaken in their dates. . . . .

The morning following the experiment, I went to see Scrivener and a negro who had been subjected to the same test at the same time to see how many memory islands each had retained. I asked Scrivener to write me a description of his experience. I desired to compare this letter with the conversation I had held with my obstetrical patients. Scrivener's letter follows:

"In compliance with your request to describe my experience, I wish to express my opinion, also. I am unable to remember all that occurred during the experiment, but speaking from the facts that I have knowledge of, it is my firm belief that scopolamin can be used in an effectual way. It was through curiosity to determine the possible strength of resistance that caused me to try and remember what did occur, but after the second administration of chloroform, my imagination seemed to be paralyzed and only at short intervals was I conscious of my surroundings, and during these times I remember being asked two questions. The first was, "Who robbed the Hondo Bank?" At the same time this question was asked, it seemed someone asked me, "Did you meet anyone in San Antonio?" and the names must have been intended for that question although I do not remember giving any names until they were repeated to me by a newspaper reporter. The other question was, "Who robbed Guy's Pharmacy?" I remember the question, but at the

same time I was unconscious of how I answered or all I said. After I had regained consciousness, I began to realize that at times during the experiment, I had a desire to answer any question that I could hear, and it seemed that when a question was asked, my mind would center upon the true facts of the answer. Well, doctor, I have not suffered any ill effects from the experiment and I feel grateful that I had the opportunity to be of some useful service. Knowing that you will be successful in using scopolamin to great advantage, I am, etc."

This letter shows a mass of irrelevant ideas. There is no relationship between his letter and the actual routine of the case. It deals with his mind going under the influence of the drug and to his coming out. The San Antonio question was asked by someone while I was questioning the negro before I placed Scrivener under chloroform the second time. The part of the letter about his mind centering on questions referred also to incidents happening before I placed him under chloroform the second time. Scrivener would answer the negro's questions as if I were presenting them to him. I asked the negro how long he stayed in New York. Scrivener spoke out and said, "I never was in New York." While Scrivener was across the room, he could hear because he was in a conditions of semi-narcosis.

The negro had no memory islands. He went to sleep after the second administration of scopolamin and slept from 3:00 P.M. until 8:00 P.M. The negro answered every question. Mr. Hughes was never able to obtain a contradiction to the first story given, and he stated that the negro made a better witness under the drug than he did when sober. This negro had been sentenced to a term of fifteen years in the penitentiary. The evidence thus obtained enabled his lawyer to prove a case of mistaken identity.

House's explanation of scopolamin's action.—Scopolamin will depress the cerebrum to such a degree as to destroy the power of reasoning. Events stored in the cerebrum as memory can be obtained by direct stimulation of the centers of hearing.

My attention was first attracted to this peculiar phenomenon September 7, 1916, while conducting a case of labor under the influence of scopolamin. We desired to weigh the baby, and inquired for the scales. The husband stated that he could not find them. The wife, apparently sound asleep, spoke up and said, "They are in the kitchen on a nail behind the picture." The fact that this woman suffered no pain and did not remember when her child was delivered, yet could answer correctly a question she had overheard, appealed to me so strongly that I decided to ascertain if that in reality were another function of scopolamin. In a confinement case you find the dosage by engaging the patient in conversation to note the memory test. Hence, my investigation was a simple matter. I observed that without exception the patient always replied with the truth. The uniqueness of the results obtained from a large number of cases examined was sufficient to prove to me that I could make anyone tell the truth on any question.

There is positively no harm in the drug if the laws governing its action are understood. Scopolamin depresses the cerebrum and interrupts the connection between the cerebral cortex and the spinal cord. In old age the cortical cells of the cerebrum are inhibited in their functions because the dendrites, with their synapses, shrink. The cortical cells do not then readily transmit thought to their neighboring thought cells to complete what is called memory. That is why old people apparently live in the past and do not remember recent events with ease. A similar condition will be found in the brain of a person under the influence of scopolamin except that instead of shrinkage of the synapses there is a temporary contraction.

Scarcely any two patients are alike, or require the same amount of medicine. I am not always sure that I can differentiate correctly the conversation due to scopolamin from the conversation of normalcy. . . . .

Memory islands of Gauss.—A characteristic of scopolamin is that patients under its influence will awaken of themselves for brief intervals, and retain what they observe. What they do remember is called by Dr. Gauss memory islands (meaning, I presume, in the sea of unconsciousness). For that reason I advise that in a criminal study the eyes be covered. Under the influence of the drug, there is no imagination. They can not create a lie because they have no power to think or reason any more than if under the influence of gas, chloroform or ether.

The criminal test requires in my opinion a condition of analgesia. This is not the state in which to conduct an investigation, but it guarantees a depressed cerebrum to start with. The patient gradually comes from under the influence of the drug and reaches the stage of hypoalgesia. As the patient progresses further towards consciousness the before-consciousness is restored. The patient should be engaged in conversation just the moment there is intelligence enough to understand the question.

The cerebrum is that part of the brain which receives sensation and sends out the motor impulses. The nerve cells behind the fissure of Rolando form the area of intelligence. There is no center of speech and no center of memory, but the cells of all the five senses are connected by short-cut passages making a symbolic mechanism for the integration of the sensori-memorial images.

The "House receptive stage."—The seat of reciprocal innervation is at the synapses, hence impulses can only travel by contact. A nerve will carry only one impulse at a time and it transmits the strongest first. Were it not for this function and that mechanism, scopolamin in criminology would be valueless. My investigation revealed that scopolamin will violate the Bell-Magendie law of conduction. The "receptive stage" is the moment the reflex arc is established.

The precentral region contains the cells of highest thought, yet the cells of hearing make the cells of the other four senses subservient.

The successful use of scopolamin in criminology is based on the fact that a feeble stimulus is capable of setting in operation nerve impulses that are as potent as those produced by strong stimulants just as a small percussion cap can set in motion the potential energy of a ton of dynamite. The stimulus of a question can only go to the hearing cells. In pursuance of their functions, the answer is automatically sent back because the power of reason is inhibited more than the power of hearing. This stage of the mind I was unable to find a name for or a description of, so I have named it "House's Receptive Stage." It is that condition of the mind found midway between hypoalgesia and amnesia.

In the stage of amnesia some patients talk at random. This condition is not for use in criminology. They will talk in hypoalgesia following questions propounded in a loud voice, but the association centers do not function sufficiently to return sensible answers. Every "Keeley" man understands the receptive stage. Several of them have told me that they had observed but never appreciated its value in this connection.

Description of the House technic.—In conclusion, the following advice is offered to anyone who may conclude to test this matter:

Fresh tablets of the levo-rotatory variety should be procured direct from the manufacturer. Old tablets or poor tablets produce the therapeutic effect of atropin.

If the patient is asleep, it is necessary to talk in a loud voice, but if the patient is awake, a low tone should be employed to avoid inducing a state of excitement.

Questions to which the answers are known should first be used; if the patient can not understand, the question should be repeated every ten minutes, but a different one used each time. Impressions made under scopolamin are likely to be remembered while the effects of the drug persist, to be forgotten when the effects of the medicine pass away.

Chloroform, by investigations in Europe and America, has been shown to act in a physiological manner similar to scopolamin. This fact has been utilized in all of my work. The small amount required for this purpose is harmless. In this work scopolamin and chloroform should be made equal partners. Each drug performs work the other can not do, the same as morphin and atropin. Ether will not do the work of chloroform.

In September, 1922, the following editorial, entitled "Truth Serum," appeared in the *Texas State Journal of Medicine:*[1]

Our readers will recall some recent and very unfortunate publicity attending the efforts of one of our Texas doctors to test out an idea he had evolved in the course of his private practice and relating to a state of mind which he claimed he could secure by the use of scopolamin and from which the truth, the whole truth, and nothing but the truth so far as the memory of

[1] XVIII, No. 5.

the individual might go would invariably come upon proper questioning. The designation, "Truth Serum," is the usual misfit newspaper appellation, arising from the desire of the reporter to please the careless-minded, sensation lover rather than to appeal to the thoughtful reader. There was no serum, and likewise there was no desire on the part of the author of the experiments for the publicity he received. In fact every effort was made to conduct the experiments secretly, not alone out of consideration for medical ethics, but in order to avoid public prejudice usually to be expected under the circumstances. This was made clear to the reporters and some respected the desire of those in charge not to be hindered by publicity, but most of them did not. Also it goes without the saying that the information carried by these articles was of little value to anyone.

In this number of the *Journal* appears Dr. House's discussion of the use of scopolamin in this manner and for this purpose from which the intelligent reader may gain a fair idea of his claims and the results of his experiments to date. We trust the reader will lay aside any prejudice engendered by the sensational discussion of the problem in the lay press, and give careful thought to the explanation of the author and his plea for support in the development of the idea. The primary announcement of his discovery was made by the author in a paper read before the Ellis County Medical Society, June, 1921, and published in *Medical Insurance and Health Conservation*, July, 1921.

We feel that there will be no difference of opinion as to the desirability of any safe and humane procedure which will enable proper authorities to elicit the truth in their examinations of those believed to know of criminal transactions. This as much in the interest of the accused as of law and order. We take it both are sacred from the viewpoint of democratic government. Of course, we would find a wide divergence of opinion on the problem, should it be proposed to utilize information secured in this manner as evidence in any case before the courts or perhaps even to require individuals to submit to such a test. At best, evidence secured in this manner, as pointed out by Dr. House, could be used only as indicating profitable lines of investigation much as the so-called and often inhuman "third degree" methods are now used, often with the acquiescence if not actual approval of public sentiment. If it can be shown that the proper use of scopolamin is without danger to the individual, certainly the method is to be preferred over the usual browbeating, the whipping, and the other large variety of methods usually used to break the will of a suspect. And it occurs to us that the experiments recited by Dr. House, and other experiments he has made and which are not referred to in his article, would, beyond any doubt, demonstrate the superiority of the scopolamin method of third degree over any other heretofore in use. While the drug is rather uncertain as to its physiologic effect as ordinarily administered, those who have had extended experience in its use in the treatment of drug addicts and likewise in producing the so-called "Twilight Sleep" in

obstetrics are able to secure almost any state of narcosis they desire and without untoward incident. Probably the use of the drug in criminal investigations would require the development of special skill in its administration, which is a problem easily met. Physicians are trained in lines of effort requiring almost any amount of expert judgment and of the highest degree of technical skill. If the method is worth anything, it is worth much.

Whether Dr. House has hit upon the proper scientific explanation of the state of mind to which he refers and which he claims to be able to secure will probably have to be determined by further investigation at the hands of those who are more at home in the field of investigation than probably the author is. If there is a condition of mind midway between "hypoalgesia" and "amnesia," as claimed by the author and which he has named "House's Receptive Stage," which is of sufficient degree and extent to prove workable, and which may be recognized by those skilled in looking for it, the proposition is practicable. If the individual in this state can not reason but can remember, he will not be in a position to protect himself by fabricating a reply, which will come automatically and in accordance with memory. The claim of the author that the reasoning centers are paralyzed while the reflex centers are not will be borne in mind in this connection. Much will depend upon the ability of the individual to store away knowledge of events, of course.

The point to be considered in the whole question will probably be, if what is found leads to provable conclusions, all good and well; if not, the situation is where it was at the beginning of the experiment. Whatever else may be said, there certainly is room here for interesting study and experimentation. . . . .

Again Dr. House wrote:

New technic.—The process by which memory can be extracted against the will, from an individual's subconscious mind is by injecting under the skin a sufficient amount of those drugs which tend to destroy temporarily all the functions of the brain except the activity of the center of hearing.

The technic I now use is as follows: To attempt to obviate excitement if possible, I give first scopolamin gr. 1/100. In ten minutes more, I administer scopolamin gr. 1/100. In another ten minutes, I inject scopolamin gr. 1/200 *plus* apomorphia gr. 1/40. Emesis rarely follows apomorphia gr. 1/40, but will with few exceptions accompany gr. 1/30. This method is often too large a dosage for a person under eighteen years of age as it will likely produce convulsions, which, however, can be controlled with chloroform.

Twenty minutes later I run the memory test by showing them some article every three minutes until four articles are shown. Then in five minutes I request the names of the articles in the order shown. If they remember three of the four, unless their articulation is interfered with, I give another injection of scopolamin gr. 1/200, or anesthetize again with chloroform.

The next stage of the technic is to save all the scopolamin possible, and

also to avoid giving large doess of scopolamin. To do this I contract the synapses with chloroform.

For absolute perfection I carry the administration to complete surgical anesthesia, thereby destroying temporarily all the functions of the five senses as well as every other function of the brain except the centers of circulation and respiration.

When the discovery was made that the center of hearing could function normally while the other four centers were artificially asleep, this condition was named, by the advice of interested friends, *The House Receptive Stage* or *The Examination Stage*. By observation, I noted that the center of hearing would function from ten to thirty minutes before the next center could normally function, and by the administration of scopolamin gr. 1/200 every twenty to thirty minutes the *Receptive Stage* could be maintained for an indefinite period. The longest I have maintained this condition of the mind was when I held four murder suspects for four hours. I have held morphine addicts under the influence of hyoscin for two weeks, and, therefore, I would not hesitate to hold a criminal suspect in the *examination stage* as long as might be necessary.

Precautions.—In this work you will obtain wrong answers if insufficient amounts of the drugs are given; or if the center of hearing is too deeply anesthetized to function normally; or when by asking too many questions the brain becomes tired. Any physician can readily understand the strain such work must entail upon the depressed brain. Questions asked in too loud a voice are liable to bring on convulsions, and it is not uncommon to note muscular tremors run the entire length of the body after a question. So powerful is the center of hearing that overstimulation can produce instant death and that is why aviators must protect their ear drums. All questions must be short and plain; long questions must be subdivided. Quite often it follows that I ask a question and note wrong answers by the twitching of the face and the slowness of the replies, yet by changing the wording of a question, immediately receive a convincing reply.

Every time you ask a question you will receive some kind of a reply, for all of your answers are automatic, and the answer will be in accordance with understanding. Forgetfulness is a characteristic effect of the drug, and in long questions they will forget the first part of the question and will only answer the last part of it. Wrong answers only mean that the impulse was directed to wrong channels because the receptive stage had not fully arrived or the question was not presented in a form to be easily understood.

Experience will teach any one how to note wrong answers. It will also teach you to build up your evidence by piecing together your short replies. Any reply that does not come quickly should not be accepted. The brain might be compared to a telephone system, the receivers the ear drums, the wires the nerves, the switchboard the brain, and the operator the soul or life. Scopolamin intoxicates the operator, and if such an operator plugs a

wrong number, it would not mean the telephone exchange was not built right. Hence, wrong answers only mean the suspect has not *reached the examination stage*, or *has passed unsuspected through the receptive stage.*

Discussion by Larson.—These opinions represent also Dr. House's views and his alleged statements. As the writer was present at the San Quentin and at other demonstrations and lectures of Dr. House, the following brief discussion seems relevant:

First of all, shortly after his address in 1922 before a section of the American Association of Anesthetists of the American Medical Association in San Francisco, many leading scientists were quoted. The bulk of the opinion of the better-trained psychiatrists, neurologists, and pharmacologists was very adverse to Dr. House's views. Among these were such men as Dr. Jelleffe; J. Kirby, director of the Psychiatric Clinic in New York, etc. My own reviews will be based entirely on personal observation as I arranged one test for Dr. House and was with Chief Vollmer and Dr. House at the San Quentin demonstration.

Regarding the latter, Dr. House remarked to me personally that the demonstration, so far as being determinative of the facts in the case, was a failure. Thus, within a few seconds of the statements made by Carver, Farrar accused one of us standing by his side of having been implicated, and he went on making many rambling and contradictory remarks. Dr. House himself conducted the entire examination, giving the drugs, questions, etc. According to the accounts of the theories Dr. House has elaborated, as noted in the foregoing excerpts and in his own writing, from which some of the foregoing statements are exact copies, the suspect cannot lie if the technique is accurate.

Only a medical man should administer scopolamin. Many medical men dislike the drug because of its possible complications. T. Sollmann writes about this drug as follows:

> However, there are great individual variations in the response to scopolamin, and, therefore, in its toxicity. The variable toxicity is due mainly to idiosyncrasy, for it occurs with the purest samples; although the uncertain composition of the commercial samples probably plays a part.

In reference to the use of scopolamin in obstetrics, W. A. Bastado writes:

> Furthermore the mother requires constant watching for there may be nausea, vomiting, headache, great mental excitement or delirium, or collapse. A few maternal deaths and quite a number of infant deaths are reported.

In two of my own cases there was marked motor and respiratory spasms and in one much delirium and the subject had hallucinations.

The theory that the subject cannot lie does not bear up under experimental testing. However, during the period of intoxication the subject does talk at random and will respond to short stimuli.

Leads may be secured, but no differently than with the use of other drugs such as alcohol, nitrous oxide, sodium amytal, ether, chloroform, etc. The substitution of morphine for chloroform, as used by House, makes no essential difference so far as success, accuracy, or principle is involved.

Sodium amytal.—Dr. William F. Lorenz, director of the Psychiatric Institute, Madison, Wisconsin, read a paper, "Confession Obtained during Narcosis," at the March, 1932, meeting of the Chicago Neurological Association. Although some of the paper was a discussion of the use of sodium amytal dealing with psychiatric material used in the case of catatonic stupors, a considerable part of the paper was devoted to criminological application.

His attitude was quite conservative. He was rather enthusiastic about the use of this method in the elimination of innocent men accused of crime. He said that he did not have much experience in the case of guilty ones. He stated that this is a problem for the legal profession to decide upon as far as the manner of usage is concerned. He did not mention that if this were an efficacious method it could be used in the preliminary investigation to secure leads, even if much of the material was irrelevant.

He discussed in a general fashion the work in which scopolamin is used, and spoke of the publicity of the "truth serum," saying that he did not understand the origin of the term, but he did not mention any of the work of Dr. House in the medical literature.

It was chiefly by statements made by Dr. House himself that the newspapers spoke of the "truth serum."

At the conclusion of the paper the writer asked Dr. Lorenz for the number of cases in which the test had cleared innocent men, and in which there was a confirmation of the results of the test based not upon the opinion of the district attorney or police investigators but upon authoritative evidence. The writer had also mentioned that on one occasion he had seen Dr. House test a subject under narcosis in which case the subject was lying about the matter under discussion. Dr. Lorenz then replied that he was not interested in the criminological side of the problem, in which he has had very little experience. He did not cite the number of cases requested but did cite the case of a man who was guilty and lied about it under sodium amytal narcosis.

Dr. Lorenz' attitude is very commendable and no harm can be done by such investigators.

Dr. Meyer Solomon suggested that it might be a good idea for all prison physicians to inject all inmates who deny their guilt without telling them the purpose of the injection. Naturally, such procedure should not be found in criminological investigation regardless of the accuracy of the method.

CHAPTER XV

MISCELLANEOUS EXPERIMENTS

Many experiments have been performed in the classroom laboratories in the attempt to determine a technique to detect dishonesty and lying. As representative of some of this work the book by Hartshorne and May should be consulted. Unfortunately, too often such experiments throw but little light on instances where the actual human being is being considered under life-situations where the real defensive mechanism is involved.

In order to cover as completely as possible all work in the general field of deception study, the studies on deceit carried on at the Institute of Social and Religious Research will be reviewed.

To the executive secretary of the Institute of Social and Religious Research came requests for research on the evaluation of the results in moral education; these from three different sources: first, from the Religious Education Association; second, from the Committee on Curriculum of International Lessons Committee; third, from the Bureau of the Research Service of the International Council of Religious Education. Acting on these three requests, the executive secretary of the Institute called a meeting of the petitioning agencies. As a result of this meeting came a larger meeting of experts in New York on January 6, 1923, under the chairmanship of the late President Ernest D. Burton. The following recommendations were adopted:

1. Study the actual experience of children which have moral and religious significance and the effects for periods of time of the moral and religious influences to which children, youth and adults have been exposed.
2. Apply the objective methods of the laboratory to the measurement of conduct under controlled conditions.
3. Engage one or more full time investigators and associate with them advisers and assistants.
4. Secure collaboration by various institutions in groups.
5. Make the results of the study available in both technical and popular forms.

As originally planned, the research was to run for a period of three years, subsequently it was extended to five years.

The Institute's staff reviewed the various methods of detecting and

measuring deception that had been devised by others. Finding much of the material inadaptable to the needs of the research as outlined, they concluded that many new tests and techniques must be devised.

They formulated the following ten criteria as a possible guide to the formation of tests and techniques.

1. The test situation should be as far as possible a natural situation. It should also be a controlled situation. The response should, as far as possible, be natural, even when directed.
2. The test situation in the response should be of such nature as to allow all subjects equal opportunity to exhibit the behavior which is being tested. That is, there should be nothing about the test itself which would prevent anyone who desired to deceive from so doing; on the other hand, there should be nothing about it to trick an honest subject into an act he would repudiate if he were aware of its import.
3. No test should subject the child to any moral strain beyond that to which he is subjected in the natural course of his actual life situations.
4. The test should not put the subject and the examiner in false social relations to one another. The examiner should guard against being deceptive himself in order to test the subject.
5. The test should have a "low visibility"; that is, it should be of such a nature as not to arouse the suspicions of the subject. . . . .
6. The activity demanded of the subject in taking the test should have real value for him whether he is aware of these values or not.
7. The test should be of such a nature as not to be spoiled by publicity.
8. If tests are to be used in statistical studies, they should be group tests. . . . .
9. The test results should be clear and unambiguous. . . . .
10. The scores should be quantitative, showing the amount as well as the fact of deception.

The following is their outline for methods of measuring the different types of deceptive behavior.

A. As exhibited in classroom situations
   1. The copying technique
   2. The duplicating technique
   3. The improbable achievement technique
      a) Puzzle performance test
      b) Paper-and-pencil test
   4. The double testing technique
      a) IER achievement tests
      b) Speed tests
B. As exhibited in work done at home
C. As exhibited in athletic contests
D. As exhibited in parlor games

I. Methods for measuring the stealing type of deception
   A. In party or play situations
   B. In classroom situations
II. Methods for measuring the lying type of deception
   A. To escape disapproval
   B. To gain approval

A (as exhibited in classroom situations), of the copying technique, is described in the following manner. Two sets of apparently similar examination papers are distributed to students who are seated in such a way as to "stagger" the order of the distribution of the papers. The copying is discovered by simply comparing the student's answers to his own set of questions.

The duplicating technique permits the student the illegitimate use of a key or answer sheet. Any sort of test is used, preferably the short-answer type.

The improbable achievement tests involve two types: first, the puzzle performance; and, second, the paper-and-pencil tests.

Under the first type of test came those of mechanical puzzles which were too difficult to solve within the limited amount of time allowed. Evidence of cheating came when the pupil reported correct solution.

The paper-and-pencil tests involved a similar situation; that is, the puzzle being too difficult for any individual to solve within a limited time, a score beyond a certain experimentally established one being evidence that the individual had cheated. Involved in this series is also a test of the weight discrimination in which the seven weighted blocks to be arranged in the proper order were of imperceptible weight differences. Cheating was possible by the subject noting the serial numbers on the bottoms of the blocks, these numbers from one to seven being in proper weight order. Further paper-and-pencil tests used were the squares puzzle, the circles puzzle and the mazes puzzle. The last three involve drawing lines or making crosses in the proper places with the eyes closed. This involved peeping technique; that is, the subject cheating by opening his eyes.

The double testing technique.—When this method was used the pupils were tested twice. On one of these tests there were strict supervision and no opportunity to deceive. On the other occasion, the conditions were such as to permit deception. The only resistance to the tendency to cheat was the individual's habits and attitudes. The differences between the scores made on the two occasions is roughly a measure of the

tendency to deceive. Cheating consists in either copying answers from the key or changing answers to match the key. The chief requirements of the material are that it be available in two equivalent forms and that these forms all have the same degree of difficulty at all levels. As to evidence of cheating, if a pupil scores say thirty on Monday with a key and twenty on Tuesday without one, then the presumption is that he made illegitimate use of the key on Monday. The authors used the double testing technique with two kinds of material. The first kind was intelligence-testing material developed by the Institute of Educational Research in connection with a series of studies made on levels of intelligence. These are the IER tests. The second type of material was developed out of stock varieties of psychological speed tests. The IER achievement tests were arithmetic problems, mutilated sentences for sentence-completion tests, information-test elements, and word-knowledge or vocabulary-test elements.

As to speed tests, the following were chosen: the first, a simple test of addition requiring the rapid summing of two digit combinations; the second, number checking tests similar to the one in Army Beta; the third, cancellation of *a*'s; the fourth, digit symbol substitution tests; the fifth, making dots in small squares; and the sixth, cancellation of single digits as in the Woodworth-Wells series. The essential feature in the administration of the tests is that each child takes each test three times and is allowed one-minute trial on each test. The first two times the tests are given under honesty conditions. After these are completed they are called "practice" trials. On the third trial the pupils are allowed to score their own papers. Time is allowed for those who are inclined to be dishonest to add on more to their papers and thereby increase their scores unfairly. This, therefore, is really a triple testing technique using the same material each time. It may be noted here that this is quite a different kind of deception from that exhibited on the IER test where the dishonest pupils copied from a key or made illegitimate use of it. In this he improves his score by adding on more marks after the time is called.

Under the general heading of "The Measurement of Deceptive Type of Behavior as Exhibited in Work Done at Home," the authors used the IER Word Knowledge Test. One form was handed the pupils at the close of the first testing period with instructions for him to take the test home, do it there, and bring it back the next day. They were told twice not to get any help on the test either from a dictionary or from a person. When the second testing period came, the equivalent form of

this test was given along with the other three with no answer sheet available. Cheating, of course, consists in getting the forbidden help.

Under the general head of "Deceptive Technique as Exhibited in Athletic Contests" they selected four testing situations from the Rogers "Physical Capacity Tests in the Administration of Physical Education." The first was the dynamometer, the second the sphygmomanometer test, the third the Pull-A or chinning tests, and the fourth the standing broad-jump test. A regular contest was arranged with appropriate medals to be given to those excelling. They eliminated the factor of social inhibition by making the tests entirely individual. The pupil was first shown by the examiner how to read the instruments and how to record his performance and then left entirely alone. The examiner noted the performance on three test trials made by the subject. He, however, did not allow the subject to suspect that he was making a note of these performances. Deception came as a result of the subject reporting a better score than was possible for him to achieve under the situation.

D (*as exhibited in parlor games*).—Several games were arranged such as pinning the tail on a donkey or the arrow on the target. The technique here is of the improbable-achievement type. The likelihood that the child would be able to get the tail or arrow in the exact spot without peeping is remote. The bandage is so adjusted as to allow him to use his eyes in following the lines on the floor board and by tilting his head to get a look at the problem situation. The second test used was that known as the "bean relay." In this the subject carries beans back and forth between rows of boxes. The time element is thirty seconds, which is time enough for eight or more runs; that is, eight or more chances to cheat. The rule is to pick one bean at a time, and each runner has an observer who has a counter and records his runs. At the end of each thirty-second interval the beans in each child's box are counted and the sum is score for the game. Since he is only supposed to take one bean at a time, the number of beans in his box should be just equal to his number of runs. A third test involved is that called the "mystery man." It may be regarded as either a cheating test or a stealing test. The children are in a circle facing in. The mystery man passes around in back and places in each child's hands an object which the child is to identify without looking at it. Every other child receives a ten-cent piece, and at the close of the game all the children are asked to take the object they received to another room where they are to be collected and used again. It is perfectly possible for the child not to show up

with the object at all. Some of course will not do this, so the box is so arranged that even if he comes to it there is no apparent way in which anyone will know whether he drops in the object. However, a helper sits near the box with a sheet of paper on which he checks or records the number or name of each child as he comes to the box. The box is open on the side toward the helper so that he can see what is dropped in.

METHODS FOR MEASURING THE STEALING TYPE OF DECEPTION

The "mystery man" test already described under the cheating type of deception might also be used as a test of the stealing type of deception. The first test described by the authors is known as the planting-design test. In connection with the administration of the puzzle tests in one puzzle a little box was given to each pupil containing several puzzles, not all of which were used. In each box was a dime, ostensibly belonging to another puzzle, which the examiner showed to the pupils but did not ask them to solve. Each pupil returned his own box to a large receptacle in the front of the room. The purpose of this test was to see which children would take the dime before returning the box. The second test used was used as the magic-square test. This was a puzzle and was given along with the other puzzle tests previously described. In this case, contrary to the other, there was no possibility of seeking a solution to the puzzle. The only deception involved was in not returning any or all of the coins that made up the puzzle. The third test described is the coin-counting test. Each child was given a sheet of paper on which were printed some arithmetic problems involving the counting of money. Each box contained just the same coins as the magic square box except for the omission of the Chinese coins. The pupils were told that it was a money-counting test and that, in order to make it a real test, the coins were to be used to count with instead of counting on the paper.

METHODS FOR MEASURING THE LYING TYPE OF DECEPTION

A. *Lying to escape disapproval.*—The first method which the authors used to detect lying was employed in connection with the IER tests. A week or more after these tests were given in any group, the examiner returned with a set of general questions of a more or less personal nature. This was called the Pupil Data Sheet. Some of the questions had but general significance, whereas some others were entirely specific. There were two ways of handling the results of these questions.

First, the authors recorded the admissions of those who said that they cheated on the IER tests. Each pupil was then given an honesty score. The second way of handling the answers to the Pupil Data Sheet was to secure the lie index or dishonesty score. As this was based on the cheating tests, it is no more reliable than they. Furthermore, only the cheaters are included, as the others have nothing to lie about.

B. *Lying to win approval.*—This second method is like the first in that it consists of a series of rather personal questions. There are many specific acts of conduct which on the whole have rather widespread social approval, but which at the same time are rarely done. There were two forms of this test, called respectively the "CEI Attitudes SA." It may be noted, however, that many children could answer quite truthfully some of these questions as the authors have scored them, but the child who would answer the thirty-six truthfully and as the authors have scored them would be a pious fraud. The test is scored in such a way as to give one-point credit for each question answered in the approved manner. This gives the highest score to the greatest amount of falsification. The question here is how big a score should any pupil have before he is credited with having lied. This, of course, is a matter of probabilities.

It must be pointed out again that those working in the psychological laboratory do not have conditions comparable to those working with subjects who are examined because they are suspected of a crime. In the laboratory set-up the examination resolves itself into a game between the experimenter and the subject; in the police examination set-up there is the actual fear on the part of the subject that the lie may be detected and that the results of detection may deprive him, the subject, of life, liberty, or property. The two situations, then, are totally incomparable. We have again and again emphasized that point when we have said that the apparatus will not function as a detector of deception except when tension of the subject can be secured.

Results that bear out this conclusion were obtained by Landis, working in a laboratory, when he reported inability to detect deception in a subject under similar set-up.

It is of the utmost desirability that the physiological method of detection of deception be tested, and its reliability and validity as a method be questioned only after great care has been taken that the experimental set-up of the "control" experiment is as nearly identical with that of police set-ups as possible.

In one such set of experiments performed by the writer, when the

subject lied about the card it was not possible to make a correct interpretation, as in twenty-five subjects there were no objective changes occurring with deception. Haney secured similar results. Keeler in similar experiments has admitted that his success in the detection of the card was due to subjective cues secured from the audience and not from any changes in the record. Haney reports negative results in similar laboratory experiments.

Of the workers who have performed experiments in emotional studies the work of Landis must not be ignored, although most of his work consisted of the repetition of the experiments of others and he did no original work with deception factors involved with criminal investigation.

Landis, in his several papers describing what might be termed "laboratory emotions," has published some accounts of his results with deception experiments in the laboratory. The following excerpts are from one of his papers published in *Industrial Psychology:*

Consciousness of deception.—Most of us have some notion of what is meant by consciousness of deception, but when we try to describe it more adequately we are at a loss.

If we recall our feelings during the perpetration of some "whopper," we realize that there seemed to be an increased heart action, a tendency to gasp in breathing, an increased perspiration, a dryness of the mouth, a delay in our replies while we invented plausible answers to the questions, and finally a more or less repressed sigh of relief when our tale seemed to carry conviction. Such pronounced reactions occur only when we feel that our story is a whopper and when there seems reason to believe that we may be caught while telling it.

The ordinary falsehood seems to call out few of these marked reactions. Further recollection usually indicates that few of these variations in behavior occur in every situation, or always in the same relationship. It is nevertheless possible that some one of these changes might accompany to some extent every consciousness of deception. . . . .

Larson, while working in the research laboratory of the Berkeley School for Police, assembled a device which he called a cardio-pneumo-psychograph. With this he was able to secure continuous records of breathing and blood pressure during the testimony of a suspect.

Larson has reported practically all of his findings by the case method. That is, he has described the use of his method in many specific cases, making but little effort to summarize or to objectify his procedure. His reports are uniformly positive as to the diagnostic value of blood pressure changes in deception. If he has encountered negative instances, he has failed to report them.

These findings being so uniformly positive certainly lead one to believe that there is "something in it"; that the inspiration-expiration ratio and the change in the level of the systolic blood pressure are somehow symptomatic of falsehood. . . . .

Questioning the suspects presents more marked difficulties. If the cross-examination be carried on in a calm, unemotional, matter-of-fact manner, will one obtain diagnostic results? Is it necessary to cross-examine with all the arts and wiles of an expert trial attorney? How much of a falsehood must be uttered in order to disturb the regular heart activity?

Are there some individuals who are impervious to the effects of a lie and who show neither breathing nor heart changes? If so, how may they be distinguished from veracious individuals? Is there any quantitative relationship between the amount of blood pressure change and the degree of clearness of realization of the falsehood? Can one distinguish one lie intermingled with many truths; a half-lie from a truth?

All of these and many more similar questions must be answered before more than the most modest claims for the method will be justified.

The most urgent need is to establish an exact and reproducible procedure in the conduct of the seance. Obviously, it would be easiest if the subject could be questioned in a routine, dispassionate manner in which the questions could be put in writing to the suspect and his responses noted by a dictaphone. It is equally of interest to find how mild a falsehood will create a symptomatic reaction. . . . .

Dealing with what he calls "critical experiments," we quote:

To meet such questions I have, with the collaboration of Miss R. Gullette and of Mr. L. E. Wiley, conducted several experimental studies of deception. The methods used were those of Benussi, Marston, and Burtt. In one type of experiment the subject is handed two folders, one marked "truth" and the other "lie." The subject chooses one or the other. If "truth" is chosen he finds himself provided with a story or alibi which will cover all points which will be urged against him on cross-examination. If he chooses "lie" he finds points of circumstantial evidence presumably connecting him with an imaginary crime and which he is to lie out of with some plausible story during cross-examination.

In another experiment the subject when questioned, either lied or told the truth concerning the figures and letters on a card. The situations were quite artificial; the cross-examination equally so. In fact, no particular effort was made to attain a semblance of reality. If the reactions are so uniformly present as some previous investigators have claimed, they should appear even in these artificial situations.

In the first experiment, we made use of the first situation described above, namely, questioning the supposed connection of the subject with an imaginary crime. Records of inspiration-expiration ratios were taken with a spe-

cial device which gave the ratios direct. Blood pressure records were obtained at intervals of 15 to 30 seconds. From the records of blood pressure we found we were able to diagnose correctly in only 12 out of 22 cases.

The failure to obtain diagnostic results was not due to inability to arouse the consciousness of deception, for ten individuals gave verbal reports after the experiment saying that they had experienced this feeling; six were not sure whether they had experienced it or not, while six failed to experience it. Five of the ten who experienced deception gave diagnostic blood pressure reactions, five did not, while five of these who did not experience deception gave positive blood pressure reactions. We could only conclude, "For this group and with this technique, blood pressure reactions were an untrustworthy criteria of consciousness of deception."

The inspiration-expiration ratios were not analyzed as to individuals, but when the average of all ratios taken during truth were compared to the average of all taken during falsehood, a difference, which had 98 chances out of 100 of being statistically significant, was found.

Feeling that this last finding together with the claims of Larson for his superior technique deserved further experimentation, Mr. Wiley and myself undertook a further study of the same problem. Our experimental situation was the same as in the previous work except that we added the experiment of either truthfully or falsely describing the figures on cards when questioned. In this experiment we took blood pressure records both by the method of Larson and by the method of Marston. Respiration records were obtained by direct graphic recording and the ratios worked out by the laborious but objection-proof method of actual measurement and mathematical treatment.

The inspiration-expiration ratios gave diagnostic results in 63 per cent of the cases when the subject was questioned concerning the figures on a card and in 50 per cent of the cases which were questioned concerning an imaginary crime. The graphic records of blood pressure which were obtained in the experiment were submitted to twelve individuals of scientific training. The form and changes which Larson has listed as diagnostic criteria were carefully described to each juror, who then passed judgment on each curve as to whether or not it bore indications of deception. For the curves obtained during the examination concerning the imaginary crime 50 per cent were judged correctly, while in the description of cards 40 per cent were judged correctly. The judgments of myself and Mr. Wiley based on the records obtained by Marston's method were no more accurate than those of the jury.

Which method is best?—Such is the objective evidence concerning the diagnosis of falsehood on the basis of blood pressure and respiration. Other methods such as the changed electrical conductivity of the skin (psychogalvanic reflex), hypnosis, drugs such as scopolamine, and reaction time have been tried, but the results with these methods have been found to be even more unreliable than the blood pressure and respiratory reactions. There is evidence, especially in the work of Larson, that the changes in blood pressure

are of real, practical use in criminal court work, in the penitentiary, and particularly when used as a mild third degree by the police.

If, however, one is to use the cardio-pneumo-psychograph to the best advantage, it is important to know more of its limitations and possibilities. The most favorable conditions for obtaining significant results depend upon the mechanical perfection of the recording instruments (this seems to have been met by Edwards) and the method of cross-examination. If the questions are put in an unexpected, direct, fear-producing manner in an environment which is itself emotion-producing, as in a police court or a third degree chamber, and if the subject has not been accustomed to the procedure and is not apathetic or overly stolid, then the maximum effectiveness should exhibit itself. The experiments of the writer have shown that cardiac or respiratory responses do not uniformly accompany deception, especially when deception is of a mild artificial variety. There is urgent need of experimental evidence pointing to the mildest situation which will variably produce the cardiac and respiratory responses.

Next of importance seems to be the critical evaluation of the bodily responses themselves. What is the value of a systolic rise of 20 as compared to a rise of 10 millimeters? Is a diastolic rise more or less significant than a systolic rise? When is a falling curve diagnostic of complete inhibition during falsehood and when of relaxation during truth?

The method of questioning is also an unknown factor. Should the examiner go at the suspect "hammer and tongs," piling up leading questions in rapid sequence? Should he rely on the surprise effect of unexpected questions at intervals between neutral questions? Or should the examination be dramatically planned to lead to a climax? These are only a few of the methods which might be employed concerning which we have no evidence.

There is good experimental evidence that deception can be detected by heart and breathing changes. Just at present, and probably for several years to come, the practical significance of this evidence will be of somewhat questionable importance.

A large amount of carefully controlled experimentation must be done before even the most skilled operator will be justified in basing a judgment concerning the guilt of a suspect on the basis of these responses alone. They are, however, valuable aids even at present to the police, the examining magistrate, or prison authorities when used by one skilled in the methods and when their significance is properly evaluated.

Rôle of respiration in emotional studies.—The following section summarizes the work relevant to respiration in Jung's book on *Studies in Word Association* in the study of emotional situations:

1. With complexes the respiration is inhibited as compared with the respiration with indifferent associations.

2. Unconscious and conscious complexes differ from one another in their type of respiration; unconscious complexes show strong inhibition of respira-

tion, whilst with conscious complexes there is excitation in addition to the inhibition.

3. In an affect not directly related to the experiment the conscious complexes seem only to be able to gain expression through increase in the respiration.

4. Respiration becomes deeper under stronger experimental excitation.

5. There are two types of complex respiration. The one shows itself by labored breathing. The inspiration is more difficult, there is a kind of dyspnea and a feeling of oppression which is probably a partial manifestation of the feeling of anxious dread. The causes of this oppression are not known. Such respiration almost corresponds to the respiration type of unconscious complex associations. In the other type, the respiration is irregular, alternately deep and superficial, quasi-sighing. The sighs either occur spontaneously or when a complex is aroused during conversation. When asked the reason for the sighing one is often told that an emotional-toned event has been stirred up. This second kind of breathing corresponds to our respiratory type with conscious complexes. Further investigation must be made to decide the question whether these two types can be separated.

Use of the galvanometer and ergograph.—Jung devoted a section of his book to the use of the galvanometer (he used a Deprez-D'Arsonvals mirror galvanometer) with a discussion of the literature in the study of emotions. He says: "Conscious complex associations result, as a rule, in a greater galvanic deviation than do unconscious complex associations."

As to the use of ergographs or studying movements of hands, arms, or legs (such as the study of the knee-jerk by a suitable technique), Jung quotes Dr. K. Nürnberg upon the use of Sommer's apparatus for recording movements as follows:

1. The relationship between arm movements and the thoracic oscillations is increased with complexes.

2. The movements of the hand are stronger (with one exception) with complex than with indifferent stimuli.

3. The frequency of the individual involuntary oscillations is sometimes less with complexes, sometimes greater. . . . .

Work of Luria.—After the section containing the survey of the literature had been written, the very extensive and interesting work of Dr. Luria, of Leningrad, came to the attention of the writer. He recently sent us some reprints, and in his letter stated that most of his results would be described in a book to be published some time in June. His work is mentioned by Dean Wigmore in his latest edition. By the use of what corresponds to an automograph, principally, Luria has made a very interesting study of the emotions.

CHAPTER XVI

ARMCHAIR CRITICISM

In the foregoing pages of this section accounts have been given which represent or discuss actual experimental data based upon researches of investigators. Whenever such material contains criticism of the work of others, it is because it seems justified in view of the worker's own experimental data in which he sought to test a given theory or conclusion. The following excerpts are of interest because they represent more or less a destructive type of criticism in that the work of another is attacked, or a view discredited merely because the critic in his cloistered armchair thinks that an idea is untenable, but he makes no attempt to support his criticism by experimental data. Workers who spend their time accumulating experimental data from which they derive their conclusions, which, whether right or wrong, because of faulty technique, etc., represent real contributions, are entitled to more consideration than commonly shown by the *theorist* or *editorial writer*. Apparently, one reason for this sort of criticism is that an author in his attempt to be comprehensive and in the fear of omitting any topic which may seem relevant to his subject feels obligated to make a comment. It would be much better if the possible "compulsion neurosis" responsible for his wandering in strange territory had compelled him to present the views as originally given by the worker, adding that he was in no position to criticize them or else to keep to his own safe academic circle.

In the last two pages of his book, *Modern Theories of Criminality*, Dequiros treats of "How To Procure the Confession of Crime from the Accused."

Use of torture and psychological methods.—The ancients employed torture in order to procure the confession of crime from the accused. Can we procure it by kinder and more humanitarian methods? Münsterberg (*McClure's Magazine*, 1907) thinks to have succeeded, and defends the advantages and results of a method based on the principle of association of ideas, as employed in the psychological laboratory. . . . .

It seems to us that this substitute for torture would lead to the same errors that accompanied the barbarous practice. It is well known, in fact, that at times torture was unable to draw a confession on account of that invulnerability possessed by the malefactors mentioned by Lombroso, or on account of

their presence of mind; while, at other times, it caused innocent persons, overcome by pain, to declare themselves guilty. Thus, the born criminal, the cold-blooded assassin of Lauvergne, may succeed in not compromising himself by answering to the revealing topics; while the innocent man, troubled by the weight of evidence, will often be disturbed and appear self-convicted.

The same can be said of the graphic method of the respiratory and circulatory movements.

In the same vein Münsterberg wrote describing methods of recording the emotions of guilt by the pneumograph, plethysmograph, sphygmograph, galvanometer, kneejerk, etc.:

Physiological criteria of deception.—But the unintentional movements may become symptoms of feelings in still a different way. The thing which awakes our feelings starts our actions towards the interesting object. All muscle reading or thought reading works by means of such a principle. The ouija-board of the spiritualists is a familiar instrument for the indication of such impulses, and if we want a careful registering of the unnoticeable movement, we may use an automatograph—a plate which lies on metal balls and thus follows every impulse of the hand which lies flat on it; the plate has an attachment by which the slightest movements are registered on a slowly moving surface. If the arm is held in a loop which hangs from the ceiling, the hand will still more easily follow the weakest impulse without our knowledge. Ask your subject to think attentively of a special letter in the alphabet and then spread twenty-five cards with the letters in a half-circle about him; his arm on the automatograph will quickly show the faint impulse towards the letter of which he thought, although he remains entirely unaware of it. And if a witness or a criminal in front of a row of a dozen men claims that he does not know any of them, he will point on the automatograph, nevertheless, towards the man whom he really knows and whose face brings him thus into emotional excitement. Still easier may be the graphic record, if it is not necessary to show a definite direction but simply a sudden reaction. The hand may lie on a rubber bulb or on a capsule covered with very elastic rubber and the slightest movement of the fingers will press the air in the capsule which, through a rubber tube, is conducted to a little bill that pushes a lever and the lever registers its up and down motions. The accused may believe himself to be motionless, and yet when he hears the dangerous name of the place of his crime or of an accomplice, his unintentional muscle contraction will be registered. It is only a question of technique thus to take exact record of the faintest trembling when a little cap is attached to the finger.

Again Münsterberg writes:

There is thus really no doubt that experimental psychology can furnish amply everything which the court demands: it can register objectively the symptoms of the emotions and make the observations thus independent of chance judgment, and, moreover, it can trace emotions through involuntary movements, breathing, pulse, and so on, where ordinary observation fails entirely. And yet, it seems to me that a great reluctance and even a certain scepticism as to the practical application of these methods is still in order. Firstly, the studies in this field of the bodily registration of emotion are still in their beginnings and so far many difficulties are not overcome. There are still contradictions in the results of various scholars. Especially we know too little yet about the evident individual differences to make, for instance, a breathing and pulse curve today a basis for a legal condemnation or acquittal. The facts themselves are so complicated that much further work must be done before we can disentangle the practical situations.

Secondly, experiment gives us so far not sufficient hold for the discrimination of the guilty conscience and the emotional excitement of the innocent. The innocent man, especially the nervous man, may grow as much excited on the witness stand as the criminal when the victim and the means of the crime are mentioned; his fear that he may be condemned unjustly may influence his muscles, glands, and blood vessels as strongly as if he were guilty. Experimental psychology cannot wish to imitate with its subtle methods the injustice of barbarous police methods. The real use of the experimental emotion-method is therefore so far probably confined to those cases in which it is found out whether a suspected person knows anything about a certain place or man or thing. . . . . And yet it may be rash to propose narrow limits for the practical use, as the rapid progress of experimental, criminopsychology may solve tomorrow those difficulties which seem still to stand in the way today.

Of course, the foregoing statements merely represent his opinion and are not corroborated by any proof. As a matter of fact, it was through Münsterberg's influence that Marston (as a research student) started his investigations in which he reported very practical results. Therefore, Münsterberg's criticism differs from that of a certain type of critic in that he endeavored to test his views even though he published his opinions first.

Poffenberger's discussion.—The following type of comment represents the sort which, instead of attempting to stimulate the collecting of experimental data, to test the accuracy of a given method in actual criminal investigation is not only discouraging to some workers, but is spoken as though it were the final word. Thus, Professor A. T. Poffenberger wrote the following relevant to deception:

Respiration.—Some years ago an Austrian who was an expert at cards declared that he could, by watching a player, tell whether or not he was telling the truth. He was so certain of this, and his success was so great, that the

matter was investigated. It was discovered that he observed the rising and falling of the player's chest as he breathed. The character of the breathing varied according to whether he was lying or telling the truth. Careful measurements of breathing were made and showed that the relation of inspiration time to expiration time varied in the two conditions, the expiration being more rapid than the inspiration after one had told a lie. Laboratory experiments were devised to test the matter further, and in such an artificial situation, it seemed that a lie could thus be detected. These experiments have been made in several laboratories and the results subjected to critical examination. The conclusion is that instead of a lie being detected, it is simply a tense state of mind that is detected, and this tense state of mind may be due to a variety of causes other than deception.

For example, one may be taking an oral examination for a job, and while thinking about the answer, one is in a very tense state. After the answer has been given, he heaves a sigh of relief, that is, he expels the air rather violently from his lungs. This sort of breathing reaction can sometimes be noticed in a large audience which is being held in a state of high tension and then suddenly relieved. A sigh of relief may usually be heard. In such a reaction, expiration is more rapid than inspiration. So, altogether it is true that this breathing reaction occurs when one is telling a lie; it also occurs for many other reasons and cannot, therefore, be used as an indicator of lying or deception. The device is inadequate as a lie detector.

Unfortunately, Poffenberger gives no references to where respiratory tracings were obtained during lying in criminal investigation, whereas the protocols which are given in the literature seem to indicate their value. Experimental workers who have studied the problem of a deception technique will agree that fear plays an important factor in deception in criminal investigation and the problem then becomes one of ascertaining whether this fear as expressed in terms of varying states of physical tension is the fear of an innocent suspect or the fear of the guilty one. This can be studied directly, especially in criminal investigation in cases where there are several or even a hundred or more suspects in the same investigation. Here each one can be given the same experimental stimuli and the problem becomes that of selecting the record of the innocent from that of the guilty. Again the respiratory and pulse-pressure record can be shown to differ in the same individual when he is lying or telling the truth.[1]

Poffenberger continues:

Blood-pressure test.—Another test which is frequently described is the blood-pressure test. One's state of mind is reflected in his blood pressure to a

[1] See Part IV.

certain extent and when the name "sphygmomanometer test" is used, it would seem as though something really important ought to be measured. Now any sort of excitement, if intense enough, will make the blood pressure rise, and the more intense the excitement, the higher it will rise. It happens when one is accused of a crime and is guilty of it, he is in a highly excited state. If guilt were the only cause of a high degree of excitement, the blood-pressure test would be a measure of guilt, but that is not the case. Being accused, though innocent, is enough to create a state of great excitement in most law-abiding citizens. The test is like one described many, many years ago. The accused person would have his mouth filled with dry sand. The sand was then removed, and if found to be still dry, he was pronounced guilty. Guilt plus the excitement of being accused will stop the flow of saliva and leave the mouth dry. But so will innocence plus excitement of being accused. It is great excitement, however caused, that makes the blood pressure rise.[1]

Psychogalvanic test.—The "Psychogalvanic Reflex Test" is another which is frequently described. This test is used to measure small amounts of electricity which are generated in the skin whenever the sweat glands begin to secrete. The device is simple and consists of an electricity measuring instrument (galvanometer), objects which shall readily carry the electricity away from the skin (electrodes), and wires connecting the electrodes with the galvanometer. When one is guilty and is accused, sweat will break out upon the skin,—"cold sweat" we call it. This reaction occurs even when the quantity of sweat secreted is too small to be seen with the unaided eye. But innocence plus being accused will cause cold sweat. Surely anyone's experience will show him that cold sweat is not always due to guilt, although that will cause it. In the laboratory, the test will often work because the conditions are such that there is no cause for excitement except the guilt, but in practical life, conditions are usually not so favorable.[2]

The association test.—There are other tests which are ineffective, not so much because they do not measure what we wish to measure, but because we cannot control the conditions sufficiently to make the test satisfactory. The "Association Test" is one of the most promising of this group. Here also the procedure is very simple. A list of about one hundred words is prepared and read to the person or persons suspected of a given crime. These words are

[1] However, Marston reports that he has been able to secure great accuracy merely by the study of the increase in systolic blood pressure during deception. By a series of controls, not utilized in the ancient method cited, it has been possible to show blood-pressure changes which differ in the innocent suspect as compared with the guilty. The method and representative records will be shown later.—WRITER'S NOTE.

[2] As a matter of fact, better and more decisive results have been obtained by the writer in actual criminal investigation than in the university laboratory.—WRITER'S NOTE.

of two sorts. Some of them are just ordinary words, that is, they have no particular significance in connection with the crime. Scattered among these are words which are very significant, that is, they refer to matters intimately associated with the crime in the mind of the guilty person. When such a list has been prepared, it is read, one word at a time, to the suspected person, and he is told to answer with the first idea that comes into his head. To the ordinary words, he may give ordinary answers, but when a significant word is read, he must incriminate himself either by giving a telltale answer or by delaying long enough to find another answer. In either case, the nature of the answer or the time taken to give it will serve as a clue to guilt. This test is sound enough. It is based upon the fact that ideas come into people's minds, not in a haphazard manner, but according to certain definite laws. Ideas which are most firmly connected with the words used in the list are ones which will come to mind first and most readily.

There are two important conditions for firmly fixing ideas in mind. One of these is the frequency with which they have been experienced, and it is this condition which determines primarily what answers may be given to the ordinary words. The other condition is the vividness of the experience, and it is this condition which is supposed to determine the answers to the significant words. The experiences attending the commission of the crime have "burned themselves into the mind," and they are the most readily remembered; in fact, they cannot be kept out of the mind. This test is successful, almost without exception, in the laboratory where all of the conditions are under control. But there is great difficulty facing one who would use it for solving practical problems. This difficulty lies in the construction of the list of words.

Conclusions unsafe.—First of all, the significant words must be significant to the guilty person and to no other. They must refer to circumstances of the crime which can be known only to the person who committed the crime. In this day of great newspaper publicity, it is difficult to keep the circumstances of the crime from the public. Again, it is difficult to select words which shall be significant for the particular crime and no other. For instance, for a person who is suspected of a crime, such words as pistol, rope, blood, etc., are out of the question, because they would have significance for anyone, guilty or innocent.[1]

[1] In the method described later, the writer (Larson) abandoned the use of words, as simple direct questions which involved either truth or deception were found to be conducive to very satisfactory results. In this work, knowledge of the case and even of the questions asked did not vitiate in any way the securing of results. In fact, in some cases the suspect was shown his questions in advance. This has the added advantage of helping to eliminate from the mind of the suspect any associations connected with crimes other than that being investigated and serves to increase the tension and resultant effect.—WRITER'S NOTE.

A further difficulty is created because one cannot tell what circumstances of a crime have impressed themselves most firmly in the mind of the guilty person. For a hardened criminal, much of the detail of a crime might create no emotion whatever, while other unsuspected circumstances might. The writer has tried the method under real conditions, and has had these difficulties clearly emphasized. The suspected person was apprehended about eighteen months after the crime was committed. The circumstances of the crime from which the list of words was prepared had to be gleaned from police reports and from photographs of the scene of the crime. In most cases the words chosen were found to be too general in their significance to be serviceable. The additional probability that the circumstances of the crime were known to many persons through newspaper reports and conversations made the conclusions from the experiment unsafe.

Effect of repetition.—As a third degree device for providing basis for the accumulation of further evidence against a suspected person, the method has possibilities and might well be experimented with.

There is still another method much simpler than the "Association Test," but subject to somewhat similar difficulties. This method is, I believe, a refinement of methods now in actual use. A story of a crime is prepared complete in some details and lacking in certain other important details which can only be known to the guilty person. This story is read to suspected persons and they are asked to pay very careful attention to it. After a length of time which is long enough to guarantee the forgetting of some of the story, the suspected persons are asked to repeat the story from memory. The actual story, as read, is then carefully compared with the story repeated by the suspect, to see if any details not in the original story have been added. Where items which can be known only to the guilty person have been added to the original story, there would be grounds for suspicion. The principle underlying this method is that one cannot distinguish between what he has heard and what he thinks he has heard.[1] This is true when one is at the time in a state of excitement. Difficulty lies in the construction of the story and in deciding what significant and incriminating details have been added. From this brief survey of psychological methods of detecting crime I hope I have made clear the fact that psychology offers no "royal road" to the solution of crime mysteries. It has no ready-made methods for reading the thoughts of the guilty, or of distinguishing the guilty from the innocent. There are certain methods which work under scientific laboratory conditions, and which might, through

[1] A more practical modification of this method has been used by detectives for years. The suspect when first apprehended is told to write in detail all that he has done or seen within a certain length of time and then some time later is told to write the same thing, when discrepancies may occur in the case of the guilty.—WRITER'S NOTE.

study and experiment, be made applicable to practical work. Such studies should be made in criminological laboratories, if there are such laboratories.[1]

In the meantime, newspaper accounts of spectacular psychological tests for detecting crime should be looked upon with the cold eye of suspicion. The greatest service that psychology can render is in furnishing knowledge of human nature which will enable everyone to understand himself and his neighbor better, and thereby make it possible to reduce crime to a minimum through prevention of conditions favorable for its growth.

Relevant to the investigation of deception, the following account was published some years ago in the *California State Medical Journal:*

"*California Medical Journal*" *editorial.*—Recently in reporting a medical congress for public press, a reporter "discovered the ophthalmoscope." He told in fine headlines how, with this new instrument, the physician could look into the eye and could see many things, including the brain. The article inferred that this instrument was a recent discovery and physicians were urged to adopt it as one of their important instruments of precision. Of course, every physician knows that the principle of the ophthalmoscope has been in use for hundreds of years and the instrument was made practically seventy-one years ago.

California is seeing much of the same sort of publicity regarding the sphygmomanometer. Here also the principle involved has been used by physicians almost since the discovery of the circulation of the blood. It has been a recognized instrument of precision in diagnosis for about a quarter of a century.

There is also nothing new in using the principle to detect feigning or suppressed and masked emotion. It is, of course, well known that disturbances of the emotions, from whatever cause, produce fluctuations in blood pressure, respiratory control and many other functions. That the sphygmomanometer, or any modification of it, will distinguish between types of emotion or physical being accurately enough to be accepted as evidence in murder trials certainly remains to be proved. Many physicians who use the sphygmomanometer frequently in their daily work will pronounce the "lie detector" a liar.

The foregoing type of criticism is especially unfortunate, not because it belittles a given problem of research, but because it represents a very unscientific attitude in a supposedly scientific journal.[2] The word "scientific" is used in this connection for the following reasons:

[1] And yet in the *Journal of the American Institute of Criminal Law and Criminology* for November, 1921, there was a description of a deception test conducted in a police laboratory under the direction of one of the most scientific police chiefs in the world. In this article references were made to the work of Marston which was performed by an expert.—WRITER'S NOTE.

[2] The writer is only referring to that section of the account which treats of the work with the sphygmomanometer. At that time he was doing the work at Berkeley, California, which formed a theme for discussion by newspapers.

1. The article in the *California State Medical Journal* was apparently written and based entirely upon newspaper accounts without any attempt made to investigate the actual facts. In no case yet where medical men have examined the technique and experimental protocols during the last three years has there been any destructive or, for that matter, constructive criticism. That, however, does not mean that a final or near-final study has been made of the practicability of a given deception technique.

2. That the editorial in this medical journal was not based upon a knowledge of scientific literature may be evidenced by the fact that in the *Journal of the American Institute of Criminal Law and Criminology* in 1921 an account was published of the method used by the California worker. In this account it will be seen that no claim is made to any discovery and also a description of the technique is given which differs from that intimated in this editorial. "Many physicians who use the sphygmomanometer frequently in their daily work will pronounce the 'lie detector' a liar" is an absurd statement, for it is doubtful if five physicians in the state of California were using the type of sphygmomanometer used in the deception technique under discussion. As a matter of fact, the city of Berkeley was obliged to have the apparatus made by a technician as it was unable to buy one at that time.

The reason, referred to above, for the utilization of the Erlanger or recording type of sphygmomanometer was that it was thought that the discontinuous method as used by the clinicians in their practice (and not studies in deception), which permits quantitative readings as in the case of the Tycos, Faught, and similar types of sphygmomanometers, was unsuitable. Incidentally, however, the writer would like to see in the literature any graphic records, secured by a recording type of blood-pressure apparatus, in which disturbances due to deception are shown prior to 1922. This type of work is described and experimental protocols exhibited in the following chapter. No claim is made for anything new. The purpose of the work was to attempt to ascertain by actual research in criminal investigation and not theoretical speculation whether a deception test was practical and if so to what extent.

Similar to the editorial from the *California State Medical Journal* is the following criticism of the lie detector taken from the *Texas Medical Journal:*

"*Texas Medical Journal*" *editorial.*—The disposition of the lay press to deal in sensational matter is demonstrated thoroughly in recent newspaper references to the so-called "lie detector," much as it was in the matter of

handling "truth serum." The element of mystery was involved and in both instances the problems were resolved to very simple, well-understood principles in the practice of medicine. In the first instance we had to deal with a state of narcosis induced by a well-known drug, and in this instance, the use of a well-known instrument and along ordinary lines. In other words, the "lie detector" is nothing more nor less than a sphygmomanometer and the reaction which is supposed to indicate the lie is a disturbance in blood pressure incident to mental disturbance. It may or may not function in this meaning in accordance with the disposition of the individual and his ability to control his mental processes. . . . . Newspaper dispatches recently announced that an accused was released from arrest under the charge of forgery made by his father because of the fact that the sphygmomanometer failed to record any differences in blood pressure where the direct question was asked him whether or not he committed the crime. If that was so, somebody has been derelict in his duty. However, if the *presumption* of innocence in this individual was used in an investigation which resulted in the proof of innocence, then the use of this instrument was justified, and certainly no harm could come of its use for this purpose. As in the case of scopolamine, or in third degree methods of investigation, what is learned is valuable in corroboration or as indicating channels for successful investigation.

The same objection applies to this editorial as to all similar ones, that is, that we are dealing with armchair criticism and not first-hand knowledge of the subject. However, we would expect better of medical editorial writers than of newspaper reporters, since the editorial reviewer of a technical journal should at least be familiar with the field if he is to make criticism in a given field of research. At the time these discussions appeared there had already been papers by the writer published in psychological and criminological journals. If the writer is not mistaken, the case referred to in the foregoing editorial was examined by the writer, and involved the testing of a known forger, and the interpretation of the test was corroborated by handwriting experts, *modus operandi* data, etc., with the result that a man who had been previously disinherited by his father was reinstated. The writer constantly states in his writings that no legal action should ever be based upon the results of deception tests alone.

Thompson's opinion.—The foregoing criticisms have been selected from the medical and psychological field while the following are by police officials, jurists, or laymen, but the common denominator is that the criticism is apparently founded upon hearsay and no attempt seems to have been made to read scientific literature or to investigate the technique attacked. The following discussion by Sir Cecil Thomson,

K.C.B., used by courtesy of the Curtis Publishing Company, is interesting as he was formerly an assistant commissioner of the metropolitan police, London, and should voice the opinion of the trained official:

In real life the detective is a methodical, hard-working person, with a vast dormant reserve of experience of men. He would have ignored the sawdust, or if he felt the need of a laboratory he would have taken the dust to a microscopist of his acquaintance. He would have put the pipestem into his pocket, after recording the exact spot where he found it, and set to work to find its owner, beginning with men in the neighborhood who were smoking new pipes. But he would proceed by the process of elimination, beginning with those who might have a motive in removing the victim. There is nothing flashy about him; he is not a romantic figure; but generally he is successful; and this, without the manifest advantage of having the crime created in such a way that he can discover it with the talents that God gave him.

A growing popular fallacy is that the modern detective has taken advantage of scientific instruments such as the listening device and the machine for recording emotions. Whenever we read that a detective used a listening-in apparatus at any stage of his investigations, we may safely dismiss his conclusions. During the war the latest forms of amplifiers were put to the test in criminal matters and found wanting. In practice it was found that when a crook is imparting secret information to a fellow conspirator, he is not obliging enough to speak in an ordinary conversational tone. The two will converse in whispers or sink their voices, and the most delicate diaphragm refuses to record a single vibration.

The psychological machine, of which the newspapers have been full, is thirty years old. Undoubtedly, under the favoring circumstances of a student submitting to having his arms encased in a water tube, it will record on a dial the additional mental effort when he turns from reading English to reading Greek; but if instead of the student you were to take a suspect and forcibly imprison his arm in the apparatus, you would record emotions, no doubt, but not those you were in search of. He would be speculating more upon what fresh outrage he was to be subjected to than upon the crime he was suspected of having committed.

A comment upon this description is hardly necessary, for the fact that the official is referring to the plethysmograph and not the technique actually used shows clearly that he was familiar only with newspaper accounts and that he did not understand even these thoroughly, for they speak of a sphygmomanometer, which is not a plethysmograph. Prior to this statement there were accounts of the method (described in the next chapter) by Marston and others in the *Journal of the American Institute of Criminal Law and Criminology* as well as in the *Journal of Experimental Psychology*. Actual introspections from

guilty as well as innocent suspects have revealed that they usually think differently than mentioned by Thomson. This will be treated at a later point.

Police-committee opinions.—At this point it might be well to mention that at the convention of chiefs of police held at San Francisco in 1922 it was recommended that the adoption of a deception test was illegal. Evidently this referred to the compelling of a suspect to take the test, for if the suspect volunteers, there can be no objection on the part of those hostile to, or acquainted with, laboratory methods of investigation. In actual police procedure, the author has experienced no difficulty in securing the voluntary consent and co-operation of the suspect whether innocent or guilty with the exception of three individuals who were guilty and were advised by their attorneys not to submit.

Similar criticism in that the critic has had no first-hand experience with the investigation concerned is the following:

A religious opinion.—Another individual, a pastor in his early days, in a personal communication to the writer said that deception tests should not be used and were unnecessary. He further vouchsafed the statement that he had never yet seen an individual from whom he could not get the truth because of his knowledge of human nature. If this were true, this individual would indeed be versatile and possessed of phenomenal attributes. An analysis of this individual's remarks later led to the discovery that he entertained an animus toward not only the police but anything which savored of police investigation.

Legal opinion.—The following incident presents interest. At the conclusion of a demonstration and description of methods of testing deception, in which typical cases such as might occur in any criminal investigation were given, Judge Bruce was expected to discuss psychological and psychiatric methods from the viewpoint of a jurist. The following description was taken from *The Reports of the American Bar Association:*

> At the conclusion of his most interesting talk, Hon. Andrew A. Bruce, Professor of Law of the University of Minnesota, spoke on the "Possibilities and Limitations of Modern Medico-psychiatric Methods." He compared the lie detector as a wonderful thing for the probation officer or a man in a penitentiary to experiment with, but was a little doubtful as to its efficiency in a court of law as a positive basis for conviction or acquittal. He very much doubted if a jury could be gotten to pay any attention to a lie detector, and spoke of such a trial as similar to the old time "trial by ordeal."

Sometime ago, a scientific reader stated that although the criminal investigator and the clinical psychologist would be interested in deception research, he doubted whether the "academic" psychologist would be interested. To see the absurdity of his statement all that is necessary is a perusal of the association literature. As indicative that academic interest exists, the following illustration is offered and should not be omitted although it is somewhat personal in nature:

Recently an instructor in a summer-school class in psychology in one of the middle-western universities one morning suddenly launched forth into a violent tirade against the work on deception.[1]

After treating of the ancient method of detection of the guilty suspect by giving him flour to swallow, the instructor then added that a still more ridiculous method was being employed in California (neglecting to add, although he was aware of the fact, that the same method was being employed in his own city and state penitentiary). It happened that a former chief of police was taking the course and had examined the method in use on the coast. As the police chief afterward remarked, he did not object to the criticism but to the unfair personal attack and manner of presentation. He therefore objected to the statements of the instructor, who had not only attacked the method but also the worker, mentioning his name and even adding that he doubted if this worker had any degree or training. When the former police executive informed him that he had seen the method used successfully, the instructor shouted that "it couldn't be, etc."

That which irritated the student most was the unfair and one-sided way in which the teacher had delivered his attack. Instead of discussing the preliminary work of such men as Münsterberg and Marston and stating that the work begun in California was an attempt to apply these methods with modifications as indicated in the literature, he accused the worker of attempting to proclaim himself as the inventor of this and that.[2]

Again, the allegation was made by the instructor that this experimenter secured his material in the antechamber of the courtroom and used the findings of the jury by which to check his interpretation of a given record. The instructor either did not hear correctly or read inaccurately or he would have seen how careful the worker has been in warning against premature courtroom use. As to checking the record by jury findings, in no case has that been done as yet, that is, it has

[1] Described in the following chapter.

[2] The objections mentioned here are given in some detail as this sort of criticism by the disgruntled or those who lack the inclination to read original references is likely to be encountered.

never been said that a given disturbance is significant merely because the jury said that the defendant was guilty. In the first article published, in every record shown, proof was obtained by the worker, such as confession and restoration of the stolen property, etc. (except in one case), and here the proof was furnished by the police and this was not given as it had no bearing on the discussion.

Following the statement by the police official that he thought that the method was practical, the instructor countered with the remark that the success was due not to the ability to interpret the record correctly, but because of the skill and experience of the detectives working on the case. It should be borne in mind that there are certain individuals (termed by Marston the "negative type") who will always give the detective or jurist the impression of their innocence when cross-examined. However, this same suspect may exhibit marked disturbance in the record. The instructor apparently forgot the objective nature of the test, for many of the records in actual cases were examined and correctly interpreted by individuals who know nothing about the case whatever, but were merely requested to interpret the record. One of the collaborators, at that time a student just from high school, carried out similar investigation for the police of Los Angeles and neighboring counties, using a similar technique, and as yet has not reported a single failure in the interpretation although he was compelled to interpret often when the real facts were unknown. This collaborator and his co-worker in one case were required to test everyone dwelling in the vicinity of the crime.

It certainly seems a hopeful sign when any research becomes a "sore point," for the aforementioned instructor admitted his error the next day when he apologized to the class and added that he had viewed the matter from the standpoint of the academician. He also added that men working in the practical field dealing with the actual variables and conditions present were better qualified to give an opinion than he.

The following article which appears in the *Police Magazine*,[1] is quoted next as it is ordinarily from such material as this that the public or police officer may draw his conclusions as to the efficacy of the procedure under discussion. No comment is made by the writer except that the experimental evidence with which to support the various opinions vouchsafed seems wanting, and that the following statement would tend to speak for itself:

[1] III, No. 5 (September, 1925).

Faurot's opinion of scientific methods.—"Are new scientific methods of getting truth out of suspected criminals taking the place of older methods?" I asked Faurot. Fifty thousand arrests are made in New York City each year, and he ought to know.

"The methods adopted," he answered, "all depend upon the type of prisoner. It all rests on a study of human nature."

Faurot's method.—"My usual method is to take down the prisoner's statement when he is first brought in, in just the form he is willing to make it. The next day, when we have gathered additional information, we question him again, pointing our questions from the light of this information. We then analyze the discrepancies between his first statement and the second one. Then we examine him again the next day, and again analyze the discrepancies, and draw the net closer around him, if the facts assembled point more surely to his guilt. We get him to talk again and again, day after day, and at last, if he is guilty or has a guilty knowledge of the crime, he is bound to break down and come out with the whole story.

"In the case of a suave, adroit, well-educated criminal who is able to present smooth answers to almost any questioning, we keep at him until we discover his weak spot. Then we concentrate our questions on the spot. His first story he tells glibly. In fact, he is glib on each and every occasion following. But the discrepancy begins to appear more and more clearly each time. Go at him again, and he'll break.

"Of course, if he's telling the truth, he will tell the same story each time. But if he is lying he will slip at some time. The liar can't remember everything. He's bound to forget something he said before.

"There never was such a thing as the 'Third Degree.' You simply get a man into a mental corner, provided he is really guilty, and then he will wilt every time. That is, if you can get a wedge in as a start. It's pretty hard to get a confession unless you have some little clue to start with on your line of questioning. But, having found that weak spot, the discrepancies in the man's story begin to widen until finally he becomes so confused and befuddled that he sees the game is up. All his defences have been beaten down. He's cornered, trapped. That's when he bursts into tears. The torture comes from his own mind, not from outside.

"As I say, you have to study human nature. In the case of a 'suspect' who isn't hard and crafty, but of childish intelligence and soft, other methods may be effective. For instance, I remember a big negro who was suspected of having murdered a woman, a waitress in a cheap restaurant. Detectives had been questioning him for three or four days, and in no gentle way, since they were sure he had committed this frightful murder. But he had stubbornly refused to admit any knowledge of the crime.

"Then I had him brought in, to have his Bertillon measurements taken. I talked to him kindly, offered him a cigar, chatted with him without even mentioning the crime, inquired sympathetically about his home and his

mother. As he stepped upon the weighing-machine, I saw tears in his eyes. And suddenly, with no warning at all, he broke down and confessed the whole gruesome story!"

"Is that device, then," I said, "the sudden substitution of kind treatment for rough treatment, a common device? Do you have several detectives pretend to bulldoze the prisoner, and then suddenly turn him over to another detective, who, by kindness, catches him off his guard and surprises him into a confession?"

"Yes, sometimes," said Faurot.

He went on to describe the use of the word-association test [Galton's] in the New York Police Department. Deputy Commissioner Faurot said he had used this in perhaps a hundred cases, out of thousands.

"I have found," said he, "that the association of words in any man's mind is almost a certain index to his occupation, his character, and the events which have left a deep impression upon him, even if he has never admitted to himself the importance of those events. Amuse yourself some evening in a party of friends, among whom is a stranger, by determining a man's occupation by this test. Ask him to name the objects or places that come most readily to his mind. Anyone will begin usually by naming the objects in the room where you are sitting. Then, when these are exhausted, he will name things connected with his work. I once mystified a company of friends by saying to a stranger who was present:

" 'You are a tobacco salesman, you visit such and such cities on your route, you stop in such and such a hotel in each one,' and so on, classifying him exactly, though I had never seen or heard of him before. It was simple. When asked to name words coming most easily to his mind, he, after naming objects in the room, had begun reeling off names of various tobaccos and cigars, then the names of various cities, and the names of hotels in those cities. Yet he thought it miraculous!

"Then there was the German we once arrested on suspicion of having burglarized a store. He had taken a number of articles, among them an umbrella, though we were not sure at all that it was he who had been the burglar. We tried the word-association test on him. He answered swimmingly until we came to the word 'umbrella.' For some reason or other, that simple word swamped him. He couldn't answer. Finally, red with rage, he shouted, 'Some beoples asks udder beoples questions vat's none of dere damt business!' And he confessed.

"But to get down to more serious examples. I remember a man we had arrested on suspicion of having murdered an old man, in a most horrible way. He had strangled the old man with a rope and had then hacked open his body and pulled the windpipe out, so that it lay along his chest! A horrible crime! The murderer robbed the old man of his savings, even of the coat he had on, and got away. It was not until two years afterwards that we got him. We used the word-association test on him.

"Among the words I pronounced, asking him to say some other word which the first suggested, was 'coat.' Now, when you say 'coat,' most people think next to 'vest' or 'pants' or some such word. But this man didn't. He said 'hock.' We found out afterwards that he had pawned the coat he took from the dead man's body! Another word in the list was 'rope.' To that word a farmer would probably reply, 'cow.' A sailor might reply, 'cable.' But this man's answer was 'choke 'em!'

"We kept on questioning him and he confessed, telling us, what had not been known before, that the mutilation of the man's body had been done with a knife which he had hidden behind a shelf in the building. The knife, covered with blood, was found there.

"And remember that this was two years after the murder was committed that these ordinary words still called up out of his mind their terrible associations!"

Scientific apparatus designed to elicit the truth from a reluctant witness seems to carry little weight with Commissioner Faurot, even though he approves of the word-association test on occasion. After describing various types of "lie-detector" apparatus which had been submitted to the police during the past decade, he observed:

"Yes, we get one submitted to us almost every day. But even if they are good, they are too expensive to make them worth while. Take the galvanometer we had in here seven or eight years ago, with which a man's mental reactions were registered electrically. It's all good enough, but if I hit you a sudden slap on the back, or give you a poke in the nose, the effect is the same, isn't it? It provides the shock that brings on the confession. So we dropped the apparatus.

"The best way in which to get the truth out of a suspected criminal is to study him, and find out his individual peculiarities. Every human being is different. Each needs questioning in a different way."

This in its last analysis is the answer. As shown above, numerous scientific or pseudoscientific devices have been tried and found wanting. Each has been loudly proclaimed by its progenitors to be the infallible means of bringing truth to the surface from the bottom of the dark, deep well of human deceit.

But then the man who can cause all humanity to react identically to the same reagent will get the award for the solution of the problem. Just as sure as there are no two identical individualities, so surely will there never be any one method infallibly applicable to all human kind. Deputy Commissioner Faurot has given the answer to the unanswerable "human nature." A complete knowledge thereof would insure 100 per cent results, and the extent of the success of each seeker after truth will be in direct proportion to his understanding of his fellow-man.

In *Psychology and Crime* G. Holmes wrote:

Destructive type of criticism.—But is it possible to explore the innermost recesses of a criminal's mind, or to follow the workings of passion, instinct, mania, or whim in any selected person?

With all respect I venture to say it is not possible. The pretension to such knowledge is at once dangerous and misleading; . . . . So far as my experience goes, no two criminals are alike; but while they vary as ordinary people vary, they are far more careful than ordinary people to conceal their thoughts . . . . they are far more successful. . . . .

As a matter of fact, the criminal, especially the habitual criminal, lives in a world of self-repression. . . . .

He is cute enough to know what the investigator is after, and clever enough to give answers that will please his questioner and confirm him in judgments that he has already formed: though probably there is not more than a grain of truth in the whole of the answers he will give. . . . .

Another school will tell us how to detect the criminal by his behavior while undergoing interrogation or standing his trial, when, not only his appearance, but his actions also are to be closely observed by judge and jury.

Should the accused smooth the hair upon his head with his hand, it is a sign of fear, for he feels a sensation at the roots of his hair as though each particular hair was standing on its end. He therefore involuntarily attempts to smooth it down. Now all this may be true, but it conveys nothing, and to take it as a sign of guilt is childishly absurd.

A perfectly innocent person may have a greater sense of fear than the most guilty criminal, for certainly the ultimate consequences of the trial are to him of far greater importance, and more likely to produce the sensation of fear. . . . .

I can imagine nothing more disastrous to the administration of justice than a course of study of what is called criminal psychology. Students of human nature I would have them all be, for such study is essential and leads to nothing but good. But to issue "manuals" that profess to instruct them upon the mysterious workings of the human mind; to teach them to weigh the relative worth of provincial mannerism and individual characteristics; to tell the value of the look of the eyes, the smile of the face, and the movement of the hands; to teach them to notice all of these things, and then by a process of inductive reasoning to decide upon the guilt or innocence of the individual may be criminal psychology, but it is rubbish none the less, and dangerous rubbish too.

A comment upon this type of criticism is scarcely necessary, for the subjective nature is evident and the speaker himself characterizes it when he states to himself, "For let me say at once that I am not the least bit scientific."

PART IV

CARDIO-PNEUMO-PYSCHOGRAPH EXPERIMENTS

INTRODUCTION

Unfortunately, because of the frequent sensational nature of the investigation when the question of a deception test arises, much misinformation is disseminated. Much harm has been done by workers experienced only in a given field who have performed but one or two tests for the police and upon the basis of these and their academic training alone have drawn sweeping conclusions which they have applied not only to their own procedure but have used to include all other work. Fortunately, except in the case of a few lured by publicity, the sporadic worker soon tires and leaves his abortive attempts as a criminologist. Just as in the study of psychopathology, and in personality studies as taught by Dr. Adolf Meyer, the integration of the various psychobiological levels is very important, so in criminal investigation and in the study of the offender all levels or resources of investigation and behavior are important.

First, in criminal investigation in order to find the one responsible for the crime, the well-trained criminologist may have to make use of one or all of the following fields or methods: Familiarity with personality leads or clues as made use of in the *modus operandi* method of investigation where the behavior of the offender may influence the carrying-out of a crime, as, for example: cases of drug addicts, low-grade defectives, some of the psychotic and organic reactions, etc.; chemistry; physics, as in ballistics, traffic studies, etc.; microscopy, photography; moulage; ultra-violet ray; handwriting; fingerprint studies; special method of investigation used by the skilled detective; geologic or climatic factors, etc.; methods of cross-examination in testing of the witness as to deception, etc.

Having correctly located and determined the facts concerning the crime and the identity of the offender, all disciplines, or, better, all integrative levels in the study of personality, must be used impartially and according to the individual case.

In one individual the sociologic data may furnish the motivating factors, in another the psychologic, physical disease, psychogenic factors, etc., may be involved. More than once the psychiatrist or alienist is seriously misled, owing to his lack of training in other criminological fields, as he ignores obvious facts important in the case, and he seeks

only to determine the presence or absence of psychopathology. Only too often being unable to evaluate correctly the personality data, he takes refuge in a hypothetical question which has no scientific value and only tends to create a further smokescreen for the bewildered jurors. Not infrequently the alienist's opinion has an undue value and may often result in a total miscarriage of justice in a given case, and may even result in a loss of life when it is not justified.

A criminologist, therefore, if he pretends to be a sole authority, must be versed not in ballistics alone, in police or administration work alone, or in legal, laboratory, or medical work, but must have a working knowledge, at least, of all the techniques recognized so that he can make his own evaluation including a personality study of the witness. Such training cannot be secured solely by reading the literature but must involve first-hand experience. In the entire criminological field there are probably not over five or six men, among whom we may cite Hans Gross, Lombroso, Vollmer, and Wigmore, who have had either the necessary scope of training or vision enough to know when to require and call in the services of others. Since there are only a few men who are willing to devote their lives to the diverse fields of training, various leaders should be stimulated to excel in the matter of making their field available in criminology. These various leaders, then, can co-operate and form a sort of staff directed by the investigating officer or jurist who can unite the contributions of the practical detective with the advice of the laboratory men, social workers, sociologists, psychiatrists, etc. All this material should then be used in a dignified fashion without confusing the present-day type of jury, or if we must have a jury, present such accumulated facts before a jury of experts or leaders in that field.

The scientist, whether laboratory worker or professor, must devote all his energies to his own special study, and cannot hope to acquire the skill necessary in investigation, but, as Al Dunlap made clear at the last Convention of the International Association for Identification, the two methods must go hand in hand and are indispensable to each other. The statistical slide rule and correlation studies based on classroom experimentation using artificial stimuli will not alone give the decisive data. In addition, we must take into consideration the clinical studies of the hospitals, penal institutions, police, and courtroom, as well as those of the laboratory, and respect each individual case.

In sporadic instances scientific workers have made extravagant claims as to the value of deception tests. Attempts have been made to

include deception tests, or the results of such tests, as evidence in courtroom procedure. This is certainly inexcusable at the present state of investigation in this field, and the writer feels that he is not wrong when he states that such material should never be used in court for evidence. The writer and associates trained by him have been working with deception tests for the past ten years, and have had definite failures in the interpretation of test material. So long as any of the cases are not actually cleared up, the exact error of interpretation cannot be estimated.

Again, even in a special procedure made use of by the writer and his colleagues, not infrequently no two would agree as to the interpretation of a given record, and the writer does not consider more than a half-dozen men in the country at the present time qualified to carry on an investigation and evaluate a deception test of this type. Moreover, since we are always dealing with clinical material, the human organism at a period of stress will present such a variation of reactions that absolute accuracy, or 100 per cent success, can perhaps never be anticipated. Regardless of statistical studies, and however small the error of interpretation may be, so long as there is the possibility of an error if such evidence is used as a determinative factor, just so long will neither the examiners, investigators, court, nor jury be able to tell whether or not the case under discussion is going to be one of the mistakes and thus result in the miscarriage of justice. There need not be too much concern as to the question of the introduction of deception-test procedure in the courtroom, for, as the science of criminal investigation develops and as politics are taken out of the courts and criminal investigation, and as investigating officers become the professional type of men, deception tests will be used only in the preliminary investigations to furnish a "lead," together with skilled investigation of all factors. A suspect should never be booked, convicted, or released from detention upon the interpretation of a deception test alone. Working first in the police field and for the courts, and later in the penitentiaries, the writer has never seen an occasion to take exception to such a procedure. In his experience in police work, and this has been repeatedly confirmed by Chief Vollmer, the introduction of a deception test has materially increased the efficiency of the police and officials with reference to investigation. Repeatedly the police have been confronted with the problem of a group of individuals (from two to one hundred or more) living in the same house and all potentially suspected of the given crime. Repeatedly have the usual methods of investiga-

tion proved sterile. But, by means of a deception test, with all suspects voluntarily submitting to the same test set of questions, certain individuals have been selected because of their records, and the names of these turned over to the detectives. Thus the detectives may then concentrate on one or two individuals and begin the procedure which involves checking pawnshops, roping and shadowing, etc., with the result that stolen property may be recovered and evidence secured which is admissible as legal evidence. On the other hand, innocent suspects have often through circumstantial evidence been involved in a mesh with apparently unbreakable links, from which they have been extricated primarily by the use of deception techniques. Of course, we are now referring to those cases where the facts have been positively determined following the interpretation given from a deception test.

No difficulty need be observed in the legal phases since no one should ever be compelled to take a test, and it is astounding with how little effort the cleverest recidivist can be persuaded to co-operate. Of course, against such, deception-test material should never be used in court.

During the past year the writer has been especially interested in the foregoing questions and in addition to this, in the examination, when possible, of all suspects in criminal cases for the police, court, and penitentiary. Two of the writer's associates have been assigned the problem of special investigation of laboratory situations, and are, in fact, making such research the basis for their Doctor's degrees. These researches are well under way and include not only classroom investigation, such as cases of cheating where the use of controls is possible, but a study of clinical factors. It is only by a combined attack that the final limitations of deception tests may be ascertained.

CHAPTER XVII

THE CARDIO-PNEUMO-PSYCHOGRAPH

Stimulated by the success of Marston who used a *discontinuous* method of estimation of the blood-pressure changes and who studied only the changes in the systolic blood pressure during a cross-examination, the writer decided to attempt to use a deception test in actual criminal investigation. The purpose of the study was to attempt to evaluate and check those methods which seemed most promising and to see how far the following objections actually interfered with the selection of a suitable deception technique.:

OBJECTIONS TO A DECEPTION TEST

1. *Fear.—The fear of the innocent suspect, who may be, according to the evidence accumulated, apparently guilty.* Can the record of such an individual be differentiated from that of the guilty suspect? If not, this is a very important objection, for fear certainly plays an important rôle in the deception syndrome during actual criminal investigation where the life of the individual may depend upon his ability to fool the examiner successfully. Ordinarily, as indicated in the foregoing pages, this question is raised and answered negatively by the theorist or editorial writer. Obviously, the correct way to evaluate the validity of this objection is to *examine suspects in actual investigation where* the life or liberty of the suspect is involved and to single out the guilty suspect from a group all of whom are equally under suspicion. The fear of the innocent has not proved a vitiating factor in deception technique. Even if it became possible to select the guilty individual in but 50 per cent of the cases tested, such results would be well worth while.

2. *Anger.—The anger of the innocent suspect, who may feel resentment because he learns that he is suspected of the crime.* Can such a resentment of an innocent person, if it is actually present during the deception test, be of sufficient emotional intensity to interfere with the elimination of the innocent suspect? Again, if such a resentment actually does constitute a variable, can this be controlled in any way? The acid test is to ascertain experimentally the rôle of this factor. If it should be possible to select the thief from a group of thirty or forty girls, as in one case examined, all of whom are subjected to the same experimental

procedure, one can safely conclude that resentment or anger, if present, did not interfere with the test. In such a case, it is possible, by having the girls introspect at the conclusion of the test, to derive an approximate idea as to the extent anger was present, if at all.

3. *Effect of recidivism.*—Assuming that a given deception technique would afford practical results, the query has been voiced as to *whether such technique*, although successful in the case of first offenders or college students, *would prove satisfactory when used in testing clever recidivists* or such criminals as those who play the "confidence game."

4. *General nature of response.*—A more theoretical type of objection is that offered by certain academicians who say that physical criteria are too empirical to be of use for the purpose of constituting a deception technique. Thus, while they grant that there may be physical disturbances which are recordable, yet they maintain that the same sort of disturbances occur as a result of any emotional excitement. Even assuming that the physical recording of the emotions will never afford results which are specific for a given emotional syndrome (although some workers have alleged that the response as recorded by the pneumograph and galvanometer may be used to differentiate various emotional states), yet, where it is possible to show graphically a difference between truth and falsehood, or, rather, the state of mind during truth and falsehood, something has been gained. If it becomes possible to control the test so that an innocent suspect does not exhibit any graphic disturbances while the guilty will almost invariably do so, then a deception technique becomes of practical significance. If in a number of cases deemed requisite to establish critical data—be that number one hundred or one hundred thousand—it is found that disturbances are associated with deception but not with truth records, then surely under properly controlled conditions a deception test is possible.

Again, let it be emphasized that, in our present state of knowledge, the deception syndrome, so far as its physical manifestations are concerned, seems no different than when any painful complex or series of associations is suddenly touched upon and, therefore, to interpret the nature of the complex indicated by the disturbances in the record, it is necessary to examine the experimental stimuli. As a result of the examinations of hundreds of individuals during a deception test, it has been found that disturbances present during deception seem to indicate the presence of a strictly defense mechanism of the nature of an attempt to suppress that which may result in injury. In all cases checked, such disturbances that may have occurred in answer to such

questions as "Are you guilty?" and "Have you lied?" when answered falsely are due to factors involved in the deception syndrome, such as the fear of discovery or the attempts made to concentrate the attention upon some harmless subject—in a word, a defense mechanism. Under properly controlled experimental conditions, that is, the subject is requested to co-operate and is not forced or abused when undergoing the test, these do not tend to occur when the truth is told. The conscientious objector again remonstrates, saying that the deception syndrome is of too complex a nature to be so superficially studied as by the recording of respiratory and cardiac action. He then speaks of the rôles played by the endocrine glands as a result of sympathetic innervation with the resultant liberation of adrenalin and final formation of more sugar and, therefore, a greater metabolic rate, etc., forgetting that as these vary so will the cardiac and respiratory rhythms. If during deception there are greater cardiac and respiratory disturbances, there is, of necessity, a greater oxygen metabolism, etc. One would also expect to find an increased amount of adrenalin present. This could be easily ascertained by testing samples of the blood by the standard methods.

One medical man, discussing the recording of the graphic disturbances, complained because measurements had not been taken of the ratio of oxygen intake to carbon dioxide output. As much confirmatory data can be accumulated as desired. The writer has been merely attempting to see how far certain physical criteria were useful and which were most convenient for everyday practical use.

5. *Question of subjective cues.*—Another objection is that the practical results obtained by the use of deception technique is not to be taken as indicative of the effectiveness of the technique but of the practical skill of the detective. Thus, the detective has decided whether or not deception was present not by his interpretation of the record but by his ability to evaluate the possibilities of the suspect's connection with the crime, his outward physical manifestations, which he has learned to read with some degree of skill as a result of years of experience, etc. However, although this objection sounds valid, it has practically no foundation. During the last few years in which a deception test has been used by the writer in criminal investigation, the objective nature of the records obtained has rendered possible interpretations although the examiner was not present at the test, or, if so, was only given a series of questions and was told nothing as to the nature of the case. Again, the results of the writer in police investiga-

tion have been confirmed not by skilled detectives but by a boy of twenty, a premedical student who knows nothing of the practical field of investigation but who from a study of the records secured was able to interpret correctly records as checked by subsequent findings.

6. *Anticipation and confession.*—Other variables which may be present are the possible effects of anticipation and confession. These, however, need not vitiate a deception test. In the first place, the effect of anticipation, if present, is of a general nature and rather uniformly distributed throughout the record. This, when present, seems to be more pronounced in the case of the guilty suspect than in the nervous, innocent individual. As to the effect of confession, this may vary from none whatever to rather extreme disturbances (as in the case of a child or adult who may even weep during the confession). Again, the guilty suspect may, after a crucial question is given, spend a few seconds in which he is in a dilemma as to whether he should confess. He suddenly confesses (while the record is being taken). Following the confession, the record remains clear while he answers correctly the remaining questions. Of course, a false confession may cause a disturbance, but the disturbance due to a true confession need not interfere with the correct interpretation so long as the questions and answers are available. Practically, however, the percentage of disturbances which result from confession is relatively low and has in no way interfered with the practical working of the deception test.

Value of a deception test.—From a standpoint of criminal procedure, a practical deception test, if such exists, would be of universal value. If it could be shown that it is possible to secure an objective record and from it to differentiate the record of an individual who is lying from one who is telling the truth, then such a test would possess practical significance. If any type of practical test can be devised, it would have a twofold utility. The many accruing results of the test's ability to differentiate the innocent from the guilty, and of the proper evaluation of conflicting evidence, are obvious in the criminological field; such a test would aid in the prevention of miscarriage of justice and would place criminal procedure upon a scientific basis. But the detection of deception has a further value—a value to the psychiatrist. Quite aside from the cases lost or improperly diagnosed because of the failure of the psychiatrist to discover deception or a complex, much time is wasted which could be saved by a practical deception technique. In cases where subjects have denied any sexual experiences and all previous findings by psychiatric examination have been negative (although in some instances the subjects had been examined for months), deception and complexes have been found and unraveled during one examination by the present technique, that is, by the use of a general questionnaire and the polygraph. In addition, *rapport* has often been secured during this same examination, and it has been possible to get as efficacious results during this one interview as had been obtained by psychiatrists using psychoanalytical technique over a period of several interviews. Thus in one interview it is possible to obtain data such that subsequent treatment and adjustment may occur in a very few interviews.

In addition to the detecting of malingering, often important where compensation or crime may be involved, the psychiatrist may use the deception technique not only to study the individual who is attempting to deceive others, but also to treat the individual who is attempting to deceive himself, such as in the case of the psychoneurotic. Of course, such technique will only be of service when there is an emotional content present, that is, when the factors underlying the apparent deception are sufficiently probable and recognizable by the subject as to be of a painful nature. Theoretically, there will be certain individuals such as those suffering from psychotic traumatic factors, in whom there may be no emotional content during deception, although the immediate well-being of the individual is involved. A deception test of any kind will be applicable to those subjects in whom there are emotional elements accompanying deception. Practically, in actual criminal procedure, barring certain psychotic conditions (criminal insane individuals will be tested and the records segregated according to types so that if possible such types and their reactions may be recognized in field work), sufficient emotional content is present for purposes of differentiation.

PROCEDURE, TECHNIQUE, AND METHODS

Procedure.—Having decided to study deception technique in the police laboratory, the first question was what procedure should be utilized. Since favorable claims had been made by workers using the reaction time, respiratory, and blood-pressure techniques, it was necessary to include these factors. This was done so as to secure confirmatory results if possible, and to select those factors which seem to give the most determinative results for practical procedure. Since Marston reported very favorable results with his discontinuous blood-pressure technique, in which he utilized the systolic pressure as his criterion, it was decided to check the method against a continuous blood-pressure method. In the first place, it was felt that the method of discontinu-

ous determinations of systolic blood pressure and the plotting of a curve therefrom was subjective, and that the ultimate and desirable technique could be made more objective. Second, it was felt that many significant changes would be overlooked and missed entirely by the experimenter using the discontinuous technique. That this actually occurs can be seen by the specific disturbances of very short deviation following deception or painful complex, as is illustrated in the records. Often the change may last only a very few seconds, and the direction of this disturbance will vary according to the temperament of the individual. Third, it was felt that by arbitrarily selecting the systolic blood pressure and by accepting an arbitrary increase of this as criteria for the presence of deception, many significant disturbances would be overlooked. Deception might easily, in some persons, cause a lowering of pressure instead of an increase. Again, the pressure of the guilty suspect when first determined might be easily already at its maximum. In such cases, there would be either no significant increase in the systolic blood pressure during the cross-examination or it would fall. Consideration of the systolic pressures of guilty suspects before and during deception, and after confession have shown that this may actually occur. Such systolic readings as these have been obtained during a deception test:

155–150–158–151–156–149–155–152.

After confession the readings secured while the same questions were answered truthfully were:

125–130–124–128–122–126–119–116.

Another reason for the selection of a continuous cardiac curve was that this curve seemed the most practical of all curves for the registration of the emotional changes. The plethysmographic and galvanometric curves are much more variable and difficult to interpret than the blood-pressure curve. The pulse curve as obtained by the various polygraphs, Thomas or Jaquet, Sanborn, McKenzie, or the various forms of sphygmograph such as the Dedgeon, etc., are not variable enough, although useful.

Practically, in this preliminary work and in the attempts to devise and standardize deception technique, all that is necessary is the interpretation of any change which occurs in the cardiac pressure curve. Quantitative relations, if desired, can be obtained by the use of the Faught sphygmomanometer, or the methods of Erlanger, Fantus, Halles, Blankenhorn, etc. The apparatus can be adjusted at a point

between diastolic and systolic pressures and then no further adjustments made by the examiner. Any changes then in the record are due to the subject and the experimental stimuli introduced. Of course, from the viewpoint of securing a practical deception technique, the important point was not an academic discussion of the label of the given curve so much as the fact that this curve served more satisfactorily as a deception procedure than any other yet utilized.

Of course, the desideratum would be to be able to evaluate every possible fact. Thus, it would be desirable to interpret the changes in terms of systolic and diastolic blood pressures in millimeters of mercury. In addition to the pulse and pressure curve with all of its changes, a quantitative curve obtained synchronously and continuously is desirable. If this is not possible or convenient, of course the systolic and diastolic readings can be obtained graphically as by the method of Erlanger, Dressler, or by the discontinuous technique using the Tycos, Faught, etc., types of sphygmomanometers. Any errors present due to the question as to what represents the exact systolic or diastolic pressure are relative and in no way interfere with the graphic study of the emotions or deception syndrome.

Controversy as to technique.—Recently there appeared in the literature a discussion between Chappell and Landis, in which there seems to be some misconception as to the statements and opinions of the writer.[1] The following excerpts from the articles of Landis and Chappell are of interest.

Landis states:

It seems peculiar to me that Dr. Chappell did not consider in detail the findings of Larson as well as my own later papers on the subject. It is true that the methodology of these additional papers is different from that of his own but his findings are more understandable when viewed in the light of these experiments.

Chappell wrote:

Larson (7, 8) used an Erlanger sphygmomanometer with the cuff pressure about constant at 90 m.m. Hg. Larson thought that, among other things,

[1] See Carney Landis, *Blood Pressure Changes in Deception* (Wesleyan University, Middletown, Conn.), p. 439; Matthew N. Chappell, "A Comparison of Blood-Pressure Methods," *Journal of Genetic Psychology*, pp. 399–400, 402, 403; "In Reply to Landis," *Journal of Comparative Psychology*, pp. 291, 292; John A. Larson, "The Cardio-pneumo-psychogram in Deception," *Institution Quarterly*, XIV, No. 4 (December, 1923), 49; John A. Larson and Herman M. Adler, *A Study of Deception in the Penitentiary* (Department of Public Welfare), p. 7; John A. Larson, "The Polygraph and Deception," *Welfare Magazine*, May, 1927, p. 648.

this use of Erlanger's instrument gave him a measure of systolic blood pressure. Both he and Landis, who subsequently used the Erlanger instrument in a similar fashion, refer to this as "the Erlanger '04 method." As I have pointed out elsewhere (2), it is difficult to understand how these investigators came by this erroneous conception, as Erlanger's papers for that year are quite devoid of any such suggestion. Erlanger, as every physiologist knows, designed the instrument for intermittent use. He was interested in obtaining a measure of the maximum and minimum pressures as near simultaneously as possible. Its use was not unlike that of the new Tycos Recording Instrument. The cuff pressure was made great enough to stop the arterial flow from which it was decreased in regular intervals to a point below the minimum arterial pressure. The maximum pressure measured by the instrument Erlanger found to be the lateral pressure of the aorta and the minimum, diastolic or resistance pressure. Erlanger did not intend that his instrument should be used continuously, and physiologists appear never to have so used it. Psychologists, however, have been more optimistic, if less cautious, in its use. Thus we find Landis maintaining that the method records "change of systolic pressure, diastolic pressure, pulse pressure and the like." I see no good basis for this optimism. To check the method against the intermittent method is the purpose of this investigation.

From these data it is quite apparent that there is no very great correlation between the records obtained from the two methods, and we feel justified in concluding that the continuous method does not measure lateral pressure (or systolic) as Larson and Landis have assumed that it did. Nor is it evident that the method records any other known vascular pressure. Without doubt, the record is subject to changes of "systolic pressure, diastolic pressure and pulse pressure," as well as to other factors, but it must be pointed out that in both my own records and those taken with the Erlanger instrument, it is utterly impossible to tell what factors are the cause of any given change in the record.

The present findings may be summed up as follows: (1) The continuous method developed by Larson and later used by Landis does not record or indicate any known blood pressure. (2) The apparatus is a high pressure plethysmograph and as such may cause venous rupture. (3) The volume and the pressure changes in the arm are relatively independent, and one may not be used as an index of the other.

Later Chappell wrote:

Landis feels that I had no right to omit "to consider in detail the findings of Larson as well as my own later papers on the subject," since the difference between these and my work was a mere matter of methodology. The belief that the difference between these investigations and mine is only one of methodology is quite fallacious. Both Larson and Landis assumed that the perverted use to which they put Erlanger's sphygmomanometer gave them

a measure of blood pressure. Thus Landis states "Graphic records of blood pressure were made by use of the Erlanger ('04) method." No such method will be found in Erlanger's 1904 or in any other paper of his with which I am familiar. Erlanger designed his instrument to show maximum and minimum arterial pressures as near simultaneously as possible. He used it for intermittent readings and concluded that the maximum pressure which it recorded when used on the brachial artery was the lateral pressure of the aorta. It was not designed for the use to which Landis and Larson put it and under those conditions it does not measure blood pressure but resolves itself into a high pressure plethysmograph. The change recorded is not necessarily proportional to lateral pressure and may, therefore, not be used as an index of pressure.

Because I dealt with blood pressure and because I did not know what phenomena were recorded by the "continuous" method of Larson and Landis, I omitted to mention it in my paper. For the latter reason I did not publish my own results with this procedure obtained from some hundred and fifty subjects. One part of my unpublished work which may have some slight value in its relation to the present controversy is the comparison of the "continuous" with the "intermittent" recording method, obtained by using them simultaneously on either arm of the subject. These data show that the changes measured by the two methods are independent of each other.

With the additional background of these remarks my commissions and omissions may seem less unjustified.

In 1929 Chappell devised an experiment involving a hypothetical crime situation. The subjects were to assume themselves either innocent or guilty: if the latter, they were to frame an alibi for themselves; if the former, they were to accept an alibi prepared for them by the experimenter. He used both the Tycos indicating and recording instruments and was able to detect deception in 87 per cent of the times, when the experimental situation was the one before described. He states that his average pressure rise was 5.1 mm. for questions answered truthfully and 20.8 mm. for those untruthfully answered. As a conjecture we would say that it is possible that the 5.1-mm. rise which he found when his subjects were answering truthfully might have been due to the manner in which the subjects were forced to answer the questions. Many of his questions were so stated as to preclude any possibility of a simple "yes" or "no" answer. It has been the experience of Larson and other experimenters using the continuously registering method that prolonged speech even on topics other than those having a tendency to arouse emotional tension produces disturbances in the polygraph record. For this reason it is considered best to follow

the experimental procedure of so phrasing questions as to enable the subject to make a simple "yes" or "no" answer.

As a further criticism we might add that his method, using the recording and indicating sphygmomanometer, is so different from that in which the continuous recording polygraph is used that few or no comparisons can be made.

Apparently Chappell is unfamiliar with the ideas held by the writer both in the past and at the present time. First of all, this technique was chosen not because we are especially dealing with a continuous blood pressure curve devised to record quantitative changes, but because practical experience in working with the deception test shows that this type of technique is more satisfactory than the physiological methods used heretofore in the study of emotion or of deception.

If Chappell had read carefully any of the publications of the writer, he would have seen no claim made that by this method one could record quantitative changes, but to the contrary would have seen that the writer stated that in order to record quantitative changes of systolic or diastolic blood pressure one should use independent quantitative methods, preferably ausculatory in character, making use of the Tycos or baumanometer. Since Chappell did not use this technique in deception study, naturally his work has no critical bearing on the results of this method in its use in deception tests, or in its use in the study of complexes of the personality as described elsewhere by the writer and his associates.

The following paragraphs are those published by the writer in a communication. It will be noted that no claim was made as to a quantitative continuous blood pressure curve.

The success of Marston's investigations with blood pressure, although recorded quantitatively and intermittently led the writer to the assumption that greater success and still more positive evidence might be obtained by securing a graphic record of the blood pressure curve, with all of its fluctuations. Although the pressure may be increased in an examination for some types of guilty individuals, yet in others, there may be a depression. Again, in a phlegmatic type of individual the effect of repression may be manifested merely by a single irregular pulsation or slight inhibition in the respiratory curve (Marston preferred the blood pressure measurements to respiratory tracings), not sufficient to cause a significant increase in blood pressure. In addition to the records of blood pressure and those of respiratory changes, quantitative blood pressure determinations are made on the arm according to Marston's technique. As a check the reaction time (elapsed time between

the question and the answer) is measured by a signal magnet and Jacquet chronometer, recording fifths of seconds.

Over two years ago the writer and his associates started to use a deception test based upon the correlation between the physiological and emotional activities. In brief, the technique consists of securing a continuous blood pressure curve (secured by an Erlanger sphygmomanometer or more preferably by a modification of the McKenzie or the Jacquet polygraphs) taken synchronously with a respiratory and a timing curve.

Briefly, the technique consists of the securing of a graphic record of heart and respiratory action to secure an objective record as far as possible, as the present reported experiments of listening to the hearts of subjects while being questioned by an electrically amplified stethoscope is too subjective and affords no contrast while experimental psychic stimuli are given. The most practical and convenient cardiac technique seems to be that obtained by a modified Erlanger sphygmomanometer combined with some form of polygraph such as the Jacquet and MacKenzie. The Erlanger apparatus is adjusted so that the reading is equal to that of the diastolic blood pressure plus one-third of the difference between systolic and diastolic pressures or at, say, 100 for adults and 80 for juveniles. The readings may be determined by the use of a Faught or Tycos sphygmomanometer by the ausculatory method. If possible a quantitative cure might be recorded simultaneously by another pen connected with a rider to a mercury column or by other means.

The records as secured do not show the tremendous variations as seen by any ordinary plethysmographic record, but do show general changes in pressure, not quantitative, as far as being able to make quantitative measurements. For instance, experimenters may take a quantitative record from the carotid of an animal in addition to the blood pressure curve on the Keeler polygraph or the Erlanger modification, which shows similar changes in the curve during the stimulation of the vagi administration of adrenalin, amylnitrate, etc. In fact, Chappell has ignored the article by a former pupil of Erlanger, Gazell, now Professor of Physiology at the University of Michigan, in the *American Journal of Psychology*, LX, 500, Robert T. Trotter, Philip Edson and Robert Gazell, making use of the Erlanger technique in securing a "comparison of cases of blood pressure in slow and rapid breathing." They thought among other things "it has long been known that synchronously with the changes in normal respiration, changes in blood pressure occur. In continuous blood pressure records these changes appear as waves. . . . .

Some seven or eight years ago Keeler, now working independently, asked the writer what would be a profitable field of research in connection with this deception-test procedure as used by Larson. He was told that it would seem worth while to experiment along lines of modification with special emphasis on the possibility, if any, of securing

quantitative methods. The first results of Keeler along research was a modification of a type of tambour and used with the result that he devised the polygraph now being manufactured as the "Keeler polygraph." However, as far as quantitative termination goes, there are no essential changes. Darrow, of this laboratory, has been working for some time with a different method to use in connection with this method whereby he thinks measurements can be read at a given point of systolic or diastolic methods. Darrow, in addition, is combining psychogalvanic curves.

A few references and contributions will be mentioned here so that those who have overlooked these may possibly be stimulated to go farther, beginning where others have left off. The first and most noteworthy is the contribution of Erlanger. In a contribution made by Trotter, Edson, and Gesell, in which the securing of a continuous blood-pressure curve was essential to the problem (physiologically), reference was made to Erlanger for the authority to term this "a continuous blood-pressure curve."

In an article by Erlanger and Festerling the following paragraphs seem suggestive:

Continuous blood pressure.—Mosso and his pupil Kiesow have employed the Mosso sphygmomanometer for the purpose of making continuous records of blood pressure changes. With this instrument, a pressure about equal to the arterial mean is put upon the fingers. The base line of the oscillations thus obtained shows fluctuations synchronous with the respirations. It was assumed that the elevation and depression of the base line indicate a rise and fall, respectively, of the blood pressure. Interpreted in this way, the record, according to Mosso, proves that the blood pressure rises in inspiration and falls in the expiration. This criterion is, however, open to the same objections that apply to the sphygmograph as a blood pressure indicator. However this may be, when the criterion described and used in the present research is employed in the interpretation of Mosso's curves, careful mensuration shows that the blood pressure in Mosso's experiments falls during the inspiration and rises during expiration. What the changes in the level of the base line indicate can not be determined with any degree of certainty, and a discussion of the possibilities, whether muscular movement, active or passive changes of the caliber of the blood vessels, etc., would carry us too far afield.

That there are objections to the use of the sphygmograph for the purpose of recording blood pressure changes is generally admitted. The level of the record is altered not only by changing arterial pressure, but also by changing venous pressure, by the changing tension of the band holding the instrument

to the arm, produced by muscular movements and alternations in the vascularity of the part (plethysmographic effect), and by the changing fullness of the artery. It is possible that with the suspended sphygmograph, as employed recently by Lewis, some of these objections are eliminated, but the principle of the suspended sphygmograph is not entirely clear to us. It would seem that the position of the body of the instrument with respect to the spring (it is this, mainly, that determines the position of the writing point) is determined by the weight suspended from the instrument. With the same weight, their relative positions, barring the effects of friction and inertia, must always be the same, irrespective of the level of the pad resting on the artery. For instance, should the caliber of the artery increase, as a result either of a rise of the arterial pressure or of an increase in the fullness of the artery, the instrument would rise just as far as the pad, thus leaving the position of the writing lever as it was. That the suspended sphygmograph shows pulsations at all, and waves simulating those produced by arterial pressure changes, can be explained, it seems to us, only upon the assumption that, in the first case, its inertia is sufficient to permit of the recording of some of the pulse, and that, in the second place, recovery of the tissues from deformation is sufficiently slow to permit of the recording of some of the slower changes in arterial volume. . . . .

Still another method has been employed for the purpose of making continuous observations of blood pressure variations in man. If a pressure lying anywhere between systolic and diastolic be applied to an artery through a recording sphygmomanometer adapted to employ the principle of Marey, an oscillation is recorded whose amplitude is larger than that obtained at systolic pressure, and smaller than that obtained at diastolic pressure. If, while this pressure on the artery is maintained, the arterial pressure should rise, that is, if the intra-arterial minimum pressure should approach the extra-arterial pressure, the amplitude of the recorded waves should, as a result, increase; and *vice versa*, should the intra-arterial pressure fall, the amplitude of the recorded waves should decrease. Thus it should be possible to make continuous records of blood pressure variations. This principle, as far as we are aware, was first used by one of us in a study of blood pressure fluctuations in a case of Stokes-Adams disease. Later it was employed by Eyster in connection with his research on Cheyne-Stokes respiration. . . . .

Groedel's method.— . . . . Groedel employed the Uskoff sphygmotonograph for the purpose of measuring the blood pressure, using the changes in amplitude of oscillation under continuous pressure as a guide to blood pressure changes. Groedel did not find respiratory waves of blood pressure in all subjects, but only in those that showed no respiratory alterations in heart rate,—in cases of what Groedel terms "labile hearts." . . . .

Uskoff's method.—The Uskoff sphygmotonograph, as has been shown elsewhere, is not equally sensitive at all pressures; at average diastolic pressures

(70 to 80 millimeters of mercury), it is more than twice as delicate as at normal systolic pressures (110 to 120 millimeters of mercury), and consequently all variations of arterial pressure are magnified more at low than at high sphygmomanometric pressures.

The following excerpt is from an article[1] by R. H. Halsey:

Halsey's method.—For the recording of events in the cardiac cycle two types of instruments have been devised: one, for recording the ventricular contraction, depends on the application to the artery at the wrist of a metal piece or knob of a tambour; the other depends on the application of a rubber cuff or armlet encircling the arm, attached to which is a hollow rubber ball of sufficient resilience to transmit variations of pressure to the air within a surrounding glass sphere connected with a writing tambour. By this latter method, and a careful regulation of the pressure within the closed system so that it shall be maintained at a constant level between the diastolic and systolic pressures, a graphic record can be obtained, not only of the heart rate and rhythm, but also, within limits, of the variation of the intra-arterial pressure. This method becomes particularly valuable when clear, accurate records are desired of the pulse in conditions associated with pulsus alternans, or the vasomotor variations of pressure occurring with periodic breathing of the Cheyne-Stokes type.

Of the instruments using this closed air pressure system, that devised by Erlanger ("A Criticism of the Uskoff Sphygmotonograph," *Archives of Internal Medicine*, IX [1912], 22; "Proceedings American Physiological Society," *American Journal of Physiology*, VI [1901–2], xxii; *Johns Hopkins Hospital Report*, XII [1904], 52; Roy and Adami, *Practitioner*, Vols. XLIV and XLV [1890]) records the variations with least instrumental variation. . . . . There is, therefore, a place for a device which can be readily applied, which will remain adjusted with the least attention, which will record variations of intra-arterial pressure, and which can be employed with every other form of graphic machine. These advantages seem to be obtained in the capsule of the Erlanger instrument, ... (See Fig. 3.)

The sphygmomanometer is necessary to learn the systolic and diastolic pressure, so that the pressure in the recording system may be maintained at a constant point when recording, and that the changes in arterial pressure may be registered. When recording, a constant point above the diastolic, usually at a point about one-third of the difference between systolic and diastolic pressure, should be maintained. The instrument renders it easy to apply to an artery and retain in adjustment all polygraphs, makes it possible to take records with known pressure, and to obtain records showing maximum variations due to pulsus alternans and vasomotor changes.

[1] "An Adaption of the Erlanger Capsule to Any Polygraph for Obtaining Arterial Pulse Records," *Archives of Internal Medicine*, XVII (1916), 540.

The following description is taken from the A. H. Thomas *Catalogue* in reference to the Jacquet polygraph and Erlanger capsule:

Jacquet polygraph.—Jacquet Portable Polygraph, New Model, an instrument of great precision and convenience, by many considered the most sensitive mechanical device for the graphic study of the circulation. The clockwork runs for 25 minutes at the lowest speed of 1 cm. per second. Tracings

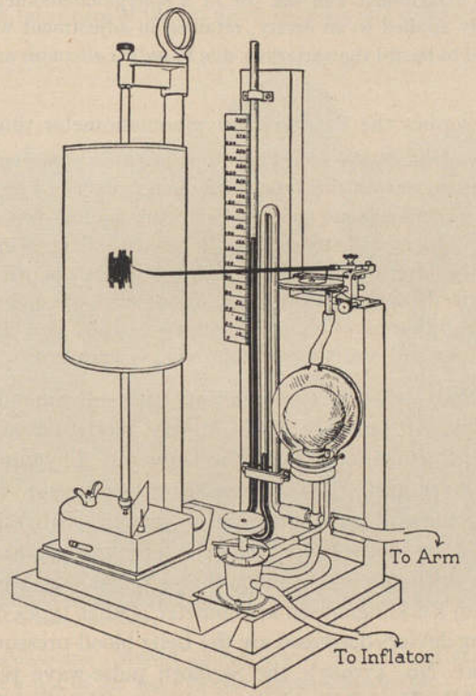


FIG. 3.—Diagram of the Erlanger sphygmomanometer. After figure on page 97 in Norris' *Blood Pressure, Its Clinical Implications.*

can be made of any desired length from a continuous roll of paper, and at any speed from 2 mm. to 50 mm. per second. The clockwork is of the highest precision, marking time in either one or one-fifth second. A recent improvement in the sphygmograph attachment for radial pulse permits the attachment of the wrist-band with the receiving tambour removed in order conveniently to locate the radial pulse exactly in the open space of the wrist-band, after which the receiving tambour of the sphygmograph can be quickly attached in exactly the correct position. The workmanship and finish are such as are embodied in no other instrument for similar purposes.

. . . . It is necessary to use the sphygmomanometer in order to determine the systolic and diastolic pressure, which must be known if it is desired to obtain tracings indicating variations in the arterial pressure, for the pressure in the recording system should be maintained at a constant point above the diastolic, usually at a point about one-third of the difference between systolic and diastolic pressure.

With this attachment and the use of a sphygmomanometer any polygraph is easily applied to an artery, retained in adjustment without attention, and used to record the variations due to *pulsus alternans* and vasomotor changes.

Norris describes the Erlanger sphygmomanometer thus:

Erlanger method.—While somewhat complicated in construction it differs from other instruments of this type chiefly in its method of recording pulsation. A U-shaped manometer connects by means of a four-way tube with (1) the arm cuff; (2) a special stopcock; (3) a rubber bulb enclosed in an outer glass bulb. The latter is interposed in order to reduce the pressure between the cuff and the delicate tambour. Records are made on smoked paper on a kymographion by means of an aluminum needle (Fig. 4). The pump consists of a Politzer bag, and heavy, rigid tubing is employed.

Other methods.—Norris also describes the sphygmomanometer of Nicholson, Faught, Janeway, Cook, Mercer, Hertz, Gibson, Bing, Tycos; also the Gartner tonometer; the Universal sphygmomanometroscope; the Oliver mercurial compressed-air monometer; the Benedict instruments; the sphygmotonograph of Jacquet, Brugsch, Muenzer, Bussenius; Silbermann's tonograph; the turgotonograph; Wybus' apparatus; the oscillometers of Fedd, Widmer, Pachon; Vaqez's sphygmosignal; von Recklinghausen's tonometer. Other types of polygraph and recording devices described are the Leitz blood-pressure apparatus (Dressler Pat. No. 472067), the Sanborn pulse-wave recorder (No. 494868), and the Roesch blood-pressure gauge (U.S. Pat. No. 1282632 of New York).

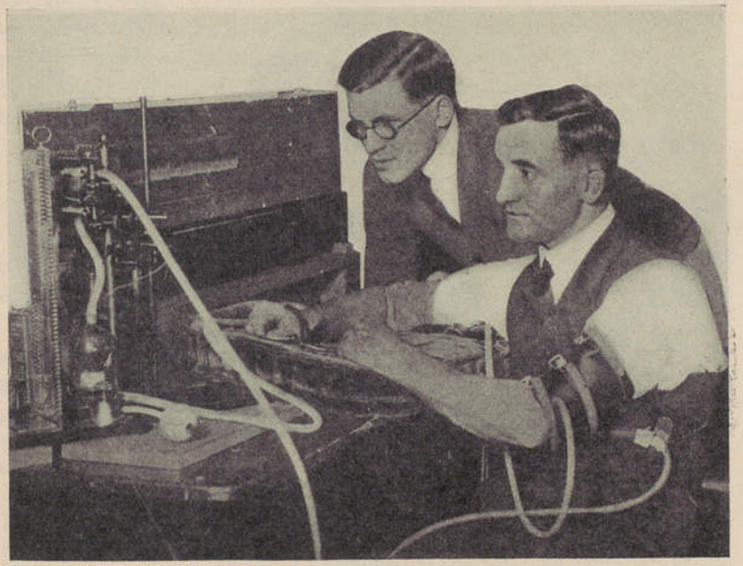
Dr. Pollock's experiments.—Dr. Pollock, of Chicago, used the continuous blood-pressure method of Erlanger in a study of dementia praecox and other mental states. He also refers to a case of deception in a hysterical patient in which the deception had no apparent effect upon the record.

Holles method.—Holles of St. Louis, now at Johns Hopkins, has devised a method of obtaining a continuous blood-pressure tracing of use in physiological or psychological research. He makes use of an electro-

magnetic valve, but a very essential feature is the "sphygmoscope," or Erlanger's capsule.

Bernard Fantus described a further modification of Erlanger's technique before the Society of Internal Medicine on March 26, 1917. He described some of his technique as follows:

Fantus method.— . . . . The essential portion of the apparatus is a rotary valve, which takes care of the rhythmic inflation and deflation of the sphygmomanometer cuff, while it simultaneously opens the tambour space of an Erlanger arrangement during the inflation and deflation, and closes it during the time of recording.



Courtesy of International News Reel

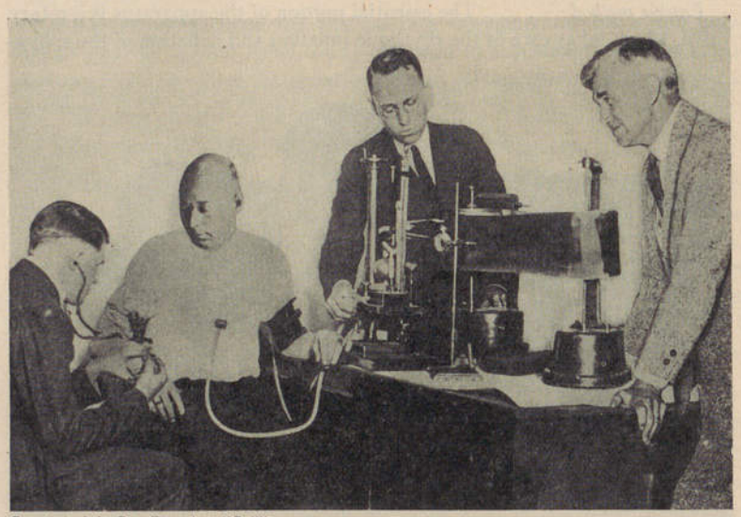
FIG. 4.—Police case: Murder suspect, Henry Wilkins, and the author at the conclusion of a test in the San Francisco Police Department.

He then described his technique and method for the graphic recording and determination of the systolic and diastolic pressure. He concluded:

An apparatus having been devised whereby it is possible to obtain graphic records of human blood pressure for considerable periods of time, it will probably be found useful not only in psychologic, physiologic, and pharmo-

cologic research, but also in clinical medicine, in diagnosis as well as in treatment. . . . . In critical operative cases, the continuous recording of blood pressure during the anaesthesis might be of help to the surgeon.

This technique could be used in addition to the method actually used in deception technique by the writer.



Courtesy of the San Francisco "Call"

FIG. 5.—Composite photograph to give reporter's conception of test of William Hightower, in Redwood County Jail, California, alleged killer of Father Heslin, being questioned by District Attorney Swart. (Apparatus is author's original set-up, borrowed from the University of California.)

M. A. Blankenhorn describes a method for the registration of the systolic and diastolic blood pressure as follows:

Blankenhorn method.—Ordinary methods have been attempted for the serial measurements of blood pressure, but the amount of labor involved and the ever present psychic factors have interfered with successful series. . . . . With the idea of overcoming all these difficulties at one stroke, I have devised an apparatus which automatically makes oscillometer tracings, from which the systolic and diastolic blood pressure can be measured directly with a workable degree of accuracy. No satisfactory apparatus of this sort has been in use; in fact, only one has been described. Fantus, in 1917, devised a method by modifying the Erlanger oscillometer with the addition of a recording mercury manometer, but apparently no further use of this device has been made. . . . . The tracing, when studied, gives the systolic and diastolic blood pressure as measured by a millimeter scale from the base line to characteristic points on the tracing and if the patient is intelligent, the tracing would also show when he is awake. . . . .

The first apparatus, as used by the writer in the Hightower murder case (Fig. 5), consisted of a modification of the Erlanger sphygmomanometer made by Earl Bryant for Robert Gesell, department of physiology, University of California. The apparatus was borrowed from the university. Later Bryant made a modification for one of us (Larson) which was used in the Berkeley Police Department (see Fig. 4). All the records shown as black and white were secured by this apparatus. Later on in Chicago a still further modification was made of the Erlanger sphygmomanometer combined with the Jacquet polygraph for Larson (by Bryant), as shown in Figure 6; with the exception of three or four cuts, most of the records shown were obtained by this apparatus.

The following description[1] was written by Professor H. W. Edwards, a physicist in the University of Southern California, who became interested in Keeler's work and assisted him:

Certain experimental tests in psychology and physiology require a record of the variation of the blood pressure. The usual method requires a kymograph with a smoked paper for the recording mechanism. While the smoked paper offers very little friction to the stylus, so that good records are obtained, it is disagreeable to handle. An improvement in this regard may be obtained by employing light inking pens with smooth white paper but the forces moving the pens must then be increased because of the greater friction. The present article contains the description of an inking mechanism which is driven by larger forces, and gives neater records with large amplitudes.

The apparatus consists of the rubber sleeve, a pressure reducing device, Marey's tambour, a light glass lever and stylus, a roll of smooth paper and a kymograph or a motor driven drum for winding up the paper. The new feature is the pressure reducing device. The instrument is so designed that it is peculiarly sensitive to small changes of pressure. A circular piece of sheet rubber is fastened in the pressure reducer so that it separates the two masses of air which are at different pressures, and transmits the impulses due to variation of blood pressure from the high pressure chamber to the low pressure chamber leading to the tambour. When air is pumped into the high pressure chamber of the pressure reducer, the volume of the confined air increases as the pressure increases, up to a certain amount at which the pressure decreases even though more air is introduced. The volume increases as the pressure increases up to a critical pressure; beyond this point the pressure diminishes. This is noticeable on each of the four curves given. Each curve

[1] From a communication to the writer.

has its own critical pressure which differs from the others only in the magnitude of the pressure. It is obvious that a small change of pressure on the nearly straight portion of the curve produces a correspondingly small change of volume. But if the small change of pressure occurs near the crest of the curve, a very much larger change in volume is produced. Such a characteristic feature is especially useful when this critically adjusted pressure reducer causes a larger and stronger movement of the diaphragm in the tambour.

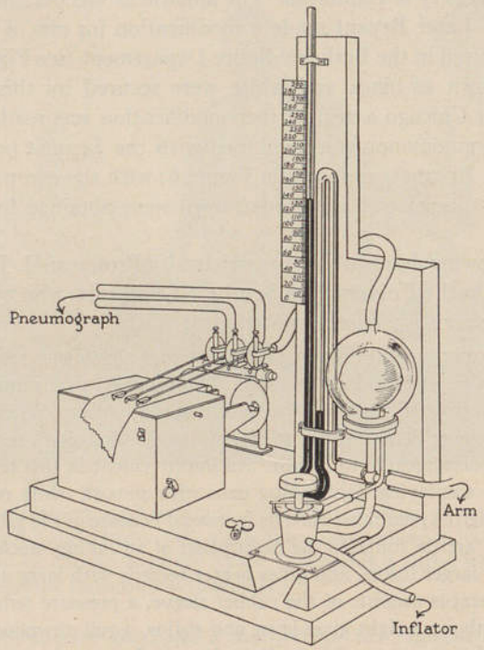


FIG. 6.—Drawing of first apparatus made and used by author. (The essential parts are a Jacquet polygraph and Erlanger capsule with modifications.)

The crest of the pressure volume curve may be made to occur at any desirable pressure by properly limiting the expanding portion of the rubber. In the instrument for this study, the sheet rubber was one-thirty-second of an inch thick. Thin metal discs having holes varying in diameter from $2\frac{1}{4}$ to $2\frac{1}{2}$ inches were made to fit into the pressure reducer as shown in the cut. Critical pressures were thereby obtained which varied from 95 mm. to 150 mm. of mercury. This range might be extended if desired.

In obtaining a blood pressure time curve, the air pressure in the sleeve should be but two or three mm. below the critical pressure of the disc used. The blood pressure of the individual may be first determined and then the proper disc inserted in the pressure reducer. It was found more practical to use a disc which had a critical pressure of some 15 or 30 mm. below the blood pressure of the subject, thereby causing less discomfort and permitting longer records without any sacrifice of amplitude. Larger changes of pressure were obtained by putting the sleeve just below the knee on the upper calf of the leg, but in some cases the sleeve was used on the upper arm with equally satisfactory records. . . . .

The glass lever pen was drawn from $\frac{1}{4}$ inch glass tubing so that the smaller end was about 0.25 mm. in diameter. It was fastened to a steel pivot near the larger end. Motion was in a horizontal plane. To the smaller end was fastened a fine pointed piece of bamboo which served as the inking point. Adjusting screws served to control the pressure of the pen point upon the paper. Any good fountain pen ink was found to be satisfactory. Very thin rubber was used on the tambour and this was allowed to be somewhat loose, not tightly stretched. The moment of inertia of the whole inking system was as small as could be easily made so that a more exact record of the pressure variation could be made than is possible with the heavier steel levers.

One very commendable feature of the apparatus was the fact that the time record was not limited to a few minutes. Records were made continuously for 20 minutes or more if desired. With the apparatus constructed for experimental work in this laboratory, it was found convenient to make simultaneous records of the blood pressure, respiration, time, and signal, upon the strip of four inch paper. . . . .

Early techniques.—Other workers are using galvanometric curves as well as pulse curves, etc. All the records secured by the writer contain a cardiac curve obtained by the Erlanger sphygmomanometer, or some modification. The earlier work was laborious and inconvenient in that the long-roll kymograph (Fig. 7) and smoked-paper method was used. It is much simpler to use any of the polygraphs now on the market, provided that a blood-pressure curve be obtained. The writer made use of the Jacquet polygraph, changing the recording system so that the pens write horizontally and possess a greater modification. The Thomas pen was increased to twice its length and used for the blood-pressure tracing. For the reading of the respiration, a tambour-pen adjustment from the MacKenzie polygraph was used. A mercury manometer with connections to an Erlanger capsule was fastened to a base holding the Thomas polygraph in place. The cardiac curve, pulse, and pressure are obtained by the use of the sphygmomanometer method, Erlanger, or modified methods. Although the present method of registration must cope with many variables, some of which are purely mechanical and easily noted, the records obtained were definite enough to

allow interpretations which were in no way vitiated by the variables present, which are relative and fairly uniformly distributed.

The following description of Keeler's apparatus is taken from his article:

Keeler apparatus.—More than 500 criminal suspects were tested with a similar instrument, using a modified pressure reducer designed by Edwards.[1]

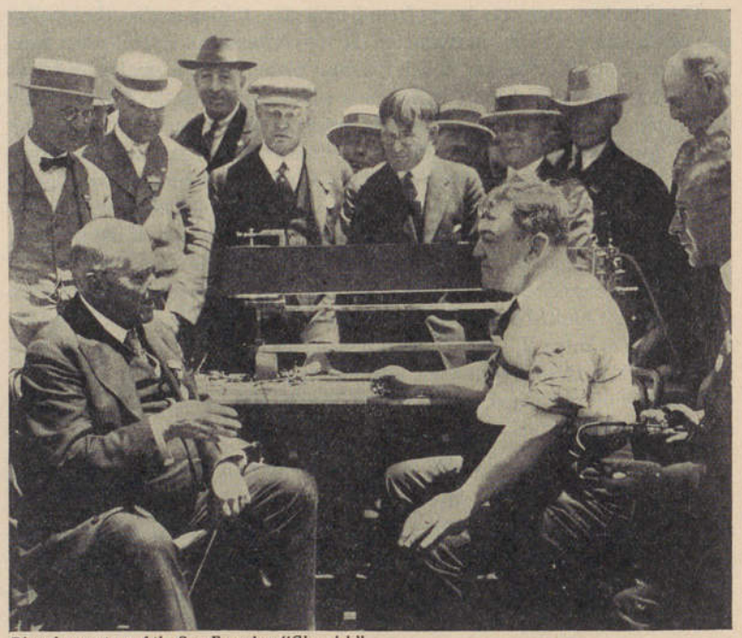


Photo by courtesy of the San Francisco "Chronicle"

FIG. 7.—Demonstration before a committee of the international chiefs of police at their convention in San Francisco, July, 1922. In the foreground are William Pinkerton, deceased, cross-examining Chief Daniel O'Brien of the San Francisco police.

(This type of reducer is far superior to the Erlanger reducer in that it permits the blood-pressure changes to be recorded over a far greater range.) The results were as gratifying as those obtained by Larson in the Berkeley Police Department. During this period, and later at Stanford University with Dr. Walter Miles, the author devised an instrument eliminating the rubber pressure reducer and rubber tambours. Briefly, the apparatus consists of three units, one recording continuously and quantitatively the blood pressure and

[1] Hiram W. Edwards, University of California at Los Angeles (1924).

pulse; another giving a duplicate blood pressure pulse curve taken from some other part of the subject's body or maybe utilized for recording muscular reflexes of the arm or leg; the third unit recording respiration. The paper, perforated on its edges, is drawn by a sprocket feeder roll which is driven by a synchronous motor similar to that used in electric clocks. A differential gear train provides for three speeds and is easily shifted by the movement of a small lever. A ninety-foot roll of paper supplies the recording chart, and the curves are recorded by means of combined lever arm and fountain pen.

A sphygmomanometer of the usual dial type is mounted on the panel and connected through a three-way valve to either of the blood pressure systems, providing a means for determining the actual pressure in either system. The metal bellows or tambour stack, which constitutes the reproducing element of each unit, is mounted in a horizontal position below the panel on sliding runs, and is moved forwards or backwards (toward or away from the pivot shaft to which is attached the lever arm pen) by means of a rack and pinion, which is controlled by a convenient knob on the panel. The position of the tambour unit in relation to the pivot shaft must be changed according to the pressure utilized in the system. The closed end of the tambour unit is kept at a constant distance from the pivot shaft. A signal magnet actuated by a push button at the end of a convenient length cord is mounted below the recording panel and the connected pen marks on the recording chart. The whole is contained in a carrying case measuring 16×8×9 inches. All accessories, the lead to the 110-v. outlet, signal magnet cord, blood pressure cuffs and tubing, and pneumograph are carried in a compartment below the mechanism compartment. The instrument is portable and always ready for immediate use (Fig. 8).

From calibrations made on this apparatus it has been found to give a continuous, quantitative differential blood pressure and pulse curve. The actual systolic or diastolic pressures are not recorded, but the deviations from a known pressure are recorded in mm. Hg. Therefore if the subject's systolic pressure is known to be 135 mm. Hg, then any change in that pressure can be determined from the recorded curves. There is a slight variation according to subject tested, but is constant for any one particular subject.

Mr. Keeler worked at the University of Southern California with Drs. Sloan and Edwards and later with Dr. Miles at Stanford, using an improved polygraph of his own (see Fig. 8). The curves obtained and principles involved in the Keeler polygraph do not differ essentially from those in use previously. Keeler's polygraph has many mechanical imperfections, including those of the driving mechanism. E. Maybem, mechanic of the City Department, Berkeley, California, working with the Berkeley Police Department, made further improvements. As

yet, no one apparatus is satisfactory or differs particularly from the old principles used for years.

Darrow apparatus.—Chester W. Darrow, of the Institute for Juvenile Research, further modified the apparatus used by the writer,

FIG. 8.—Apparatus with modifications by Leonarde Keeler at a demonstration by the writer.

adding apparatus for securing skin resistance (see Fig. 9). Darrow has been working consistently on improvements of the apparatus. His new apparatus will include a psycho-galvanometric record, electrodes on the palm and back of the same hand, a continuous blood-pressure record, and a pneumograph tracing. Dr. Darrow is attempting to work out a

method whereby a continuous quantitative as well as qualitative blood-pressure record may be had.

Several workers have for years studied emotions by the use of galvanometric technique. Detailed results of some of these investigations may be found in Jung's book, *Studies in Word Association*. Richter and Syz, working in Adolf Meyer's laboratory, have used changes in

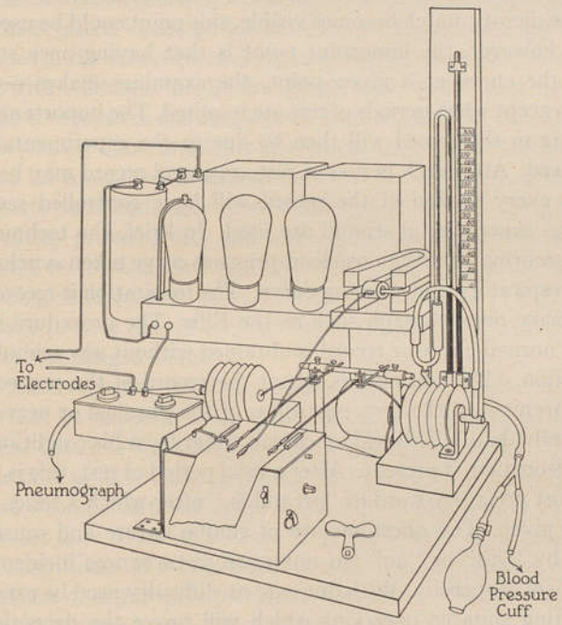


FIG. 9.—Drawing of apparatus with modifications and additions by Dr. Chester W. Darrow.

skin resistance in the study of mental patients as well as of normal individuals.

Wechsler has marketed a device for electrical recording, the chief virtue of which is that the apparatus is portable.

Briefly, our own experimental procedure is as follows:

Experimental procedure.—Having determined the systolic blood pressure either by the graphic method of Erlanger or by the auscultatory and discontinuous estimation, using the Tycos, Faught, Taylor, or other forms of sphygmomanometer, the Erlanger recording device

was adjusted at some points below systolic. As suggested by Halsey and others, a convenient point is at the diastolic plus one-third of the difference of the pulse pressure, the systolic and diastolic pressures having been estimated. For the purpose of comparison, it is convenient to use the same starting-point. Thus, if the systolic pressure were 140 and the diastolic pressure 80, then the initial point would be 100. Or if the pressure, which had been higher than the systolic, be released until the dicrotic notch becomes visible, this point could be used. Practically, however, the important point is that having once started to obtain the curve at a given point, the examiner makes no further change except when periods of rest are required. The important changes occurring in the record will then be due to the experimental stimuli introduced. After each period of rest, a control record may be secured so that every section of the record will have controlled sections in which no experimental stimuli are used. In brief, the technique consists of securing a continuous blood-pressure curve taken synchronously with a respiratory and a timing curve. The respiration is recorded with an ordinary pneumograph such as the Ellis. The procedure is as follows: a normal curve or record is obtained without any stimulus word or question. (By "normal" is meant the record of the suspect at the commencement of the test, regardless of the physical or nervous type of the individual.) This will, of course, differ from his condition during actual deception, if present. After a brief period of rest, this is followed by a short prefatory word or "preamble," after which a series of questions is given. The questions are of simple nature and must be answered by "yes" or "no" (to minimize disturbances incident to the mechanism of speech). With due care no difficulty need be experienced in selecting suitable questions which will prove the deception complexes, if present. After a few questions of an indifferent nature and a suitable period of rest, the questions bearing upon the alleged crime are given.

At first, stimuli were in the form of association words, the list being selected from the Kent-Rosanoff series with the exception that every third word concerned a possible crime.

As a result of experimentation it was found that for a deception test better and more practical results were obtained when the stimuli were in the form of direct questions and the suspect was requested to affirm or deny all questions. In the hundreds of cases examined, there has not been a single instance in which the desired results could not be obtained by direct questions. The suspect may be placed either in the

same room with the apparatus (if so, the drums are rotated so that the record cannot be seen by the suspect) or in an adjoining room. The questions may be given periodically and automatically on a revolving drum or else be spoken, provided the examiner be trained to give all questions in the same monotonous tone of voice.

Co-operation.—The question of co-operation is important and will be emphasized here because this investigation concerns actual police and court cases tested in the police laboratory. These cases present more difficulties in the detection of deception than in experimental lying conducted with students. In the first place, there is the question of legality. The consensus of the opinion of a convention of the chiefs of police in 1922 seemed unfavorable to any deception test. Of course, no suspect can be compelled to submit to the test, but of the thousands of individuals examined, only three refused, and each of these three was subsequently proved guilty and was following legal advice. These suspects were tested and then told that their tests were unfavorable, and upon being requested to submit to a second test, they refused. It is significant to note that in each of these cases the suspect lied and was guilty of the alleged crime.

It is relatively easy to elicit the requisite co-operation. The suspect is told that he happens to be under suspicion in regard to an alleged crime and that it is our desire to eliminate him, if possible. The suspect is often glad to have such an opportunity (for in many cases suspicion has been wrongly fastened upon an innocent individual), and if guilty, he does not dare to refuse because he is afraid that such a refusal may appear suspicious. It is important to note that in every case examined the emotion of anger did not vitiate the test in any manner. In fact, if the proper procedure is followed, there not only is no anger, but, if reported, the suspect is open to suspicion. In only two cases have the suspects alleged that anger was present, and each subsequently confessed guilt. As a result of the introspection of all the other individuals, in no one case was there sufficient resentment present to be termed "anger." In several university students (girls) there was a certain feeling of resentment, but the feeling was generally directed at the entire situation and in no way interfered with the records. Therefore, if the proper procedure is followed, the result is that the reaction of the suspect, if guilty, becomes defensive and his fear increases, instead of diminishes, with the progression of the test; whereas if innocent, he becomes reassured as the test proceeds, and fear diminishes, although he may be under considerable tension at first. In the case of minors,

the consent of the parents is easily obtained. In the same individual, any level of blood pressure which would permit a record might be used, provided no further adjustments are made when the experimental tension occurs. Deception, if present, will cause changes in the record. Since all changes and comparisons are relative, there are several checks available. Several individuals may have different systolic levels at the outset. These differences may be due to physiological or pathological differences, on the one hand, and, on the other, to differences in tension between an innocent man and one who is guilty. The record of the innocent suspect will usually vary but slightly, if at all, from its normal. The record of the individual who lies, on the other hand, is not only different from that of an innocent person, but shows changes with the attempt at deception. In any attempt to study systolic pressure alone, many significant fluctuations would be lost. The record may be begun with any pressure over the diastolic limit, provided it is not too high. The systolic readings may be obtained independently on the other arm. These variations due to changes in pressure need not vitiate the record, since these are essential with changes in emotional level and no difficulty need be encountered in the interpretation of the records.

In one case the initial systolic blood pressure was 180 mm. Hg. and 175 mm. at the finish, with no increase over five points during deception, whereas after a subsequent confession, the readings were 140–46 mm. In the case of innocent and nervous suspects who may be frightened and under considerable tension owing to having been identified and even arrested for murder (as in some cases examined), it has been possible to control the record so that it differed from that of the guilty individual. Whatever emotional disturbance due to the fear of the apparatus, technique, etc., may be present quickly subsides. Actual experiences will soon show that often a few inches of record of so-termed controls may be as typical as hundreds of feet secured over long periods of time. Whether the suspect be of a highly excitable temperament, such as the individual suffering from hyperthyroid condition, or the extreme opposite, or whether he be afflicted with functional cardiac irregularities, these will not interfere with the test. Whatever the individual's peculiarities may be, these usually can be found during the first "control" test and are to be considered when evaluating the remainder of the record. Of course, when there is more than one suspect to be tested in reference to alleged complicity for the same crime, the complete record of one individual with its various phases may be compared with that of the other, since the external stimuli can be made identical.

The question now arises as to how it is best to give the experimental stimuli. Should the indifferent and specific questions be alternated? It seems to make but little difference in most cases, for if a sufficiently long period be allowed to elapse, whatever effect is aroused by emotional reactions in response to the important stimuli may have disappeared. This has actually happened in many cases. On the other hand, there are certain effects that, with the present technique, we have no certain means of evaluating. The most important is the duration of the effect. Thus in some individuals of a sluggish and phlegmatic temperament, the train of associations stimulated may not show the effect of an emotional content for some time. Just how long it may take this type of an individual to react there is no absolute method of determining. That is, once stimulated, one association may arouse another so that during the remainder of the test there may be reactions which were really determined by an early stimulus. For comparative purposes, it seems best to divide the stimuli into the two groups mentioned, the indifferent preceding. In this way often a cumulative effect may be produced so that the third record may be sharply differentiated from the other two. Of course, another record could be secured in which the stimuli were alternated.

Anticipation.—Another question is that of anticipation. Our work has indicated it to be more important in the case of the guilty suspect who comes prepared to lie. Not knowing exactly which question will be a decisive one, there may be some reaction as each stimuli is given. However, in these cases such reactions may be differentiated by the intensification of the emotional distribution following the deception. Again, it seems highly probable that in some individuals there might be such a "mass action," as it were, that one stimulus could not be differentiated from another, or one part of the record from the other. Such a clear-cut case has not been encountered. But in some cases it was impossible to differentiate one type of stimulus from another (this was true in every case in persons who were guilty and confessed later). The final record with the same questions showed marked differences from that prior to confession.

CHAPTER XVIII

POLICE, PENITENTIARY, AND OTHER CASES

All the cases to be discussed will have as their common denominator the question of deception or truth. Classification of cases according to crime or legal definition in this work is of an artificial nature and need not be used. A student arrested for stealing a book and knowing that he may be expelled is as good a subject from the viewpoint of a deception test as is a murder suspect. Of course, there may be the question of difference of degree, but exposure may mean disgrace and the ruin of the student's career. The only requisite in the criminal investigation where deception is involved is that the investigation be real in contradistinction to the deception-test experiment arranged in the laboratory. To secure this type of material recourse was had first to the police laboratory, then to the penitentiary, and also to the Institute for Juvenile Research. In the latter institution only juveniles were examined. On account of the expense of publication only a few representative records can be shown.

In this chapter an attempt is made to describe a few representative police cases which have been investigated, using the method described in chapter xix. However, additional police cases will be discussed in following chapters where they have been grouped to illustrate other points. Of course, nothing is gained in this type of investigation by grouping these according to crime. This might be a little different if we were making a personality survey of prisoners, since the interesting deviates are shown in sex offenders and certain types of murderers. Psychotic reactions or abnormal reactions of prisoners are discussed in a paper read at the American Psychiatric Convention in June, 1931.

As the cases are described the various variables will be discussed. Since only a very limited portion of the material can be published, only representative and contrasting portions of the record can be shown. Thus, an inch or two of the normal (at rest) will be contrasted with a short length of the record obtained during the experimental stimuli although several feet of each may have been obtained.

The material will be presented by citing typical cases.

BURGLARY CASE

Case 1.—A woman reported that a twenty-dollar bill had been taken from her house and from the survey of the premises it was thought that the theft had been committed by a burglar as the window had apparently been jimmied. For elimination purposes, a friend of the family was brought in as he was the last person in the house. He could hardly be said to have been under suspicion. In fact, this individual was engaged to a girl living in the house and was brought in more to discuss the case than as a suspect. He volunteered to be tested, and the ten questions shown in Table II were the first ones asked.

TABLE II

	Tests		
	First	Second	Third
1. Do you object to this test?	No	No	No
2. Do you smoke?	Yes	Yes	Yes
3. Do you like your position?	Yes	Yes	Yes
4. Do you like the movies?	Yes	Yes	Yes
5. Do you like to dance?	Yes	Yes	Yes
6. Did you take a $20 bill from the house?	No	No	Yes
7. Did you just lie?	No	No	No
8. Do you gamble?	No	No	No
9. Have you ever been arrested?	No	No	Yes
10. Did you take the $20 bill?	No	No	Yes

Aside from the sullen demeanor of the suspect, nothing definite had been secured from him until the test. During the first portion of the test, his record seemed indicative of some tension. No significant change occurred in response to questions up to the sixth question, but marked changes were noted following the sixth question, the changes being significant in both the respiratory and the cardiac curves. As a result of the first test, he was held twenty-four hours for investigation, during which time his record was investigated, as the test indicated that he had lied with reference to his contact with the police. The officer in charge of the case spent the day following the test in checking up alleged alibis and was so convinced of the suspect's innocence that he wanted to release him. The writer requested that another record with the same questions be obtained. This was done and again the same type of reaction occurred, with the result that the suspect confessed. This record was then followed by another using the same questions, but here there were no disturbances in the tracings.

The suspect afterward stated that while he was in the penitentiary such deception tests had been discussed and most of the crooks thought that detection was impossible and that the test was mostly bluff with the use of strange apparatus. However, after he was shown the records, he stated: "The record has the goods on me." In the two records before the repression had been removed, changes were discernible in the heart and respiratory curves, but not in the reaction time, nor yet were there any determinative increases in the systolic blood pressure. Often in this type of case the systolic blood pressure does not increase more than five or six points during deception, but if the suspect confesses, the pressure is usually lower because of the removal of the repression. The systolic pressure varied from 124 to 130 mm. Hg during deception, but after confession the beginning and terminal pressures were 104 and 107 mm., respectively. However, before this increased tension due to deception is detected, the deception itself must be determined, and this is obviously impossible in the foregoing type of cases, since the suspect's pressure was at a guilty level to begin with—that is, as compared with his level after confession.[1]

The procedure in the present research is to use as specific stimuli under as controlled conditions as possible. In the deception test this attempt is made so that the reactions obtained will be the result of such processes involved in the deception syndrome, if present. Of course, if careless technique is used, other complexes may be evoked than those due to the fear assumed to be present in deception. Thus, in the interpretation of the record shown in Figure 10, and also in other records made under the existing conditions, we can definitely say that during deception there were marked disturbances which were not present in the individual in response to indifferent stimuli, to which he answered truthfully while at rest. The question of a possible emotional reaction during a confession will be considered later.

Specificity of reaction.—Of course, the moment it becomes possible, if ever, to attribute a given disturbance to a given emotional stimulus, such as fear or anger, then further interpretation of the records will become possible. (Graduate students are now attacking such problems throughout the country; studying reactions supposedly to fear, anger, disgust, etc.) In this work, one must be careful, however, in assuming that a given stimulus, such as falling out of a chair or shocking an

[1] The cut shown in Fig. 10 was published in the *Journal of Experimental Psychology*, VI, No. 6 (December, 1923), and is described here through the kindness of the editor, Professor Watson, and the Department of Public Welfare.

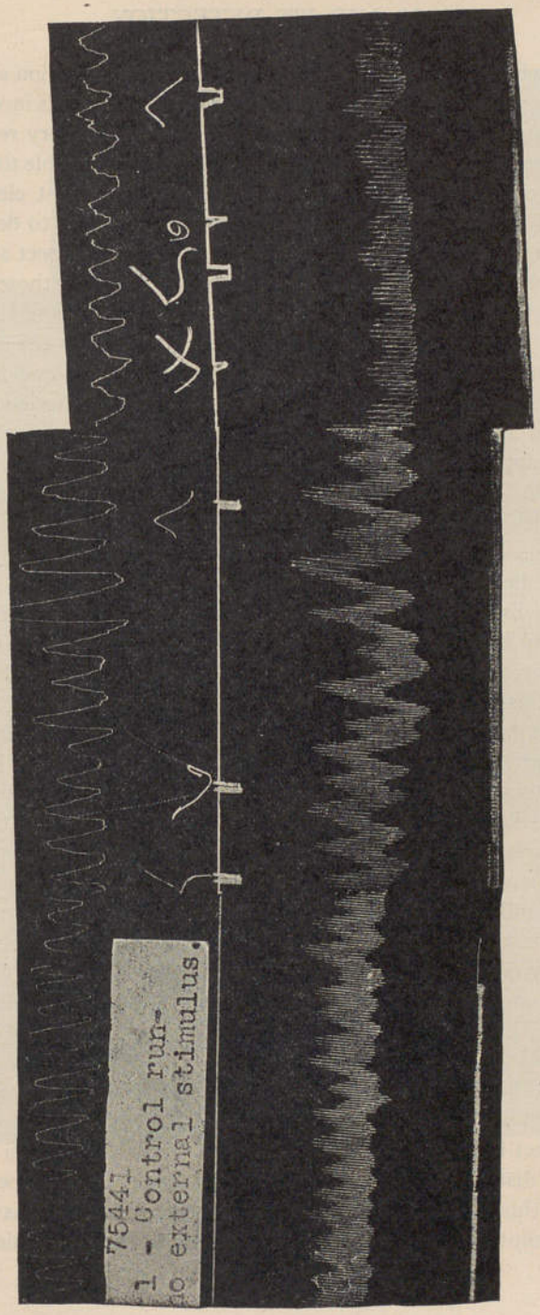


FIG. 10.—Police case: Record of a burglar suspect, lying about alleged crime. Compare lies at questions 6 and 7, and later truthful answers to same questions after confessions.

individual with an electrical current, evokes a specific emotion such as fear. To say that fear, anger, etc., evoke a definite reaction is incorrect, as, for instance, an acceleration followed by a compensatory retardation or the converse. If this is possible, then it may be possible to interpret the records during deception as to the exact component elements involved. The practical problem involved in the attempt to devise a deception test is that of controlling the reactions of a suspect so that the reactions during deception may be differentiated from those while telling the truth. Of course, in actual criminal investigation, the records may differ during deception from those coming from the university laboratory, where the stimuli used are artificial, and seldom, if ever, involve a real emotional content. Considering the emotional content aroused in the artificial laboratory set-up, it is doubtful whether a direct comparison with the emotional content in the criminal case can be made. This question as well as that of the anticipation will be discussed with the records in which they appear.

Controls.—As to the question of control, we must emphasize the necessity of being as careful as possible, and must state that in our set-up the individual is his own control. Thus, every record of the suspect obtained before any questioning is begun is assumed to represent the true normal of the individual. Whatever irregularity or tension there is in this portion of the record should be deducted from the remainder and assumed to be due to the nervousness of an innocent suspect. Of course, if the suspect is guilty, the true normal can seldom, if ever, be obtained before a confession is elicited. Here it may be seen that the true normal differs markedly from that obtained prior to confession. However, if the suspect does not confess in spite of repeated tests, similar results are obtained from each testing if care is used to keep the conditions as constant as possible for the different tests. Knowing the questions and nature of the investigation beforehand should not vitiate the test. In no case yet has this happened. On the contrary, if anything, the disturbances during deception become intensified.

SEX PERVERT CASE

Case 2.—This is a typical case in which a sex pervert is brought in for investigation and vehemently protests his innocence. The record of the suspect is shown in Figure 11. In this record he is seen to be emotionally disturbed before the questions are given. It might be mentioned that this suspect was suffering from a badly dislocated jaw and at first attempted to attribute his nervousness to that. A typical re-

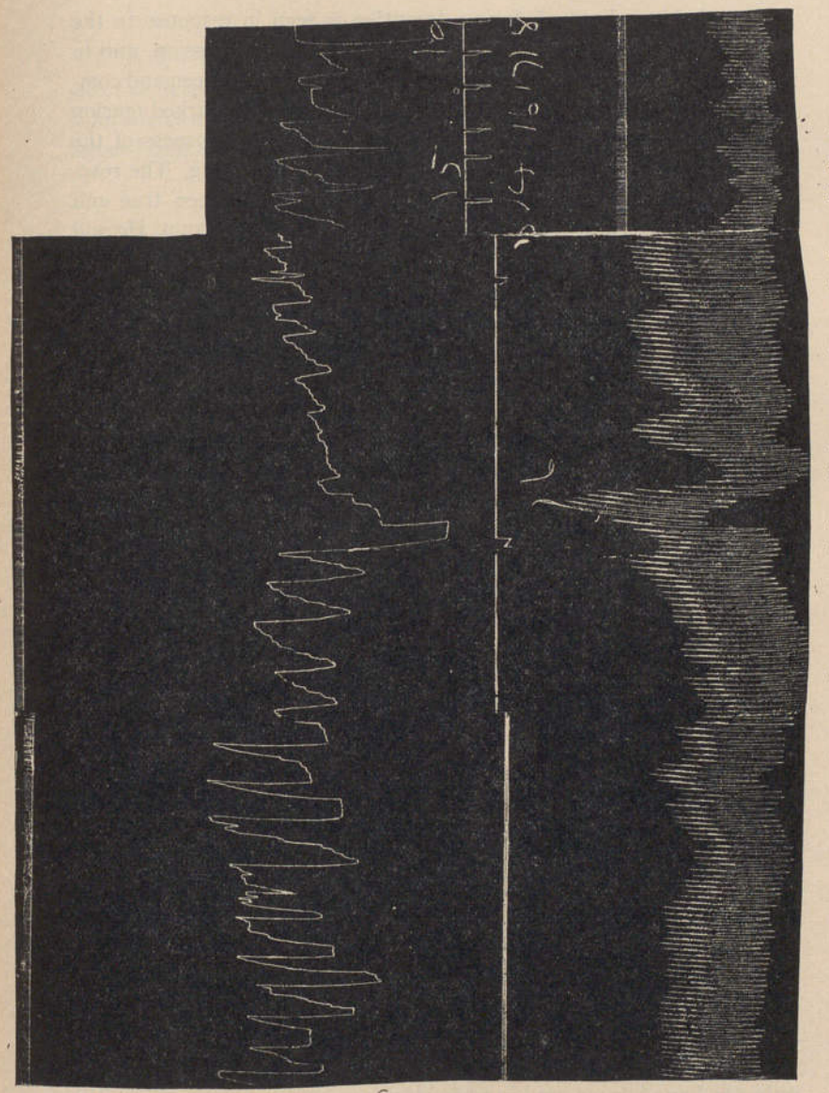


FIG. 11.—Police case: Homosexual negro. Compare record of truthful answers after confession, with lies to same questions given previously.

action of this individual during deception is seen in response to the sixteenth question. This record was followed by a confession, and in this later record the real normal of the individual may be seen and compared with the first portion of the tracing. In this case marked tension may be seen in the respiratory tracing, in the tremulousness of the waves in addition to the inhibitory effect caused by lying. The reaction-time curve did not show marked differences between true and false answers. The initial systolic blood pressure was 166 mm. Hg and 156 mm. at the conclusion of the test in which deception was present. However, after confession, the beginning and terminal pressures were 120 and 110 mm., respectively. As in the previous case, the individual's level was much higher during deception than after confession.

Although in many cases there is a specific reaction, usually in the form of a sudden increase in tension, increased frequency or amplitude following the deceptive answer, it does not follow that this will always be the case. Even if the stimuli evoked fear alone, it does not seem safe at this stage of our knowledge arbitrarily to say that all such stimuli will produce a given effect. Thus, in some cases an initial depression may be first noted. The resulting effect may vary with the temperament. Sometimes the same type of stimulus will produce different effects in the same individual. Thus, in this case the deceptive reaction is in the form of a pronounced increase in amplitude and pressure with a simultaneous respiratory inhibition in answer to question 16. In some cases the inhibiting effect is much more pronounced in both the cardiac and respiratory curves.

JUVENILE CASE

Case 4.—A boy of sixteen had been suspected of stealing from the coin box of a gas meter and was brought to the station by his brother to be tested. In answer to the tenth question—"Did you steal the money?"—the suspect said, "No," and then fainted. As he had been sitting with closed eyes, in order, as he afterward confessed, to keep the examiner from seeing his "guilty look," the first intimation of the faint was obtained by seeing the sudden drop in the pulsations. The first words spoken upon a return to consciousness were in the nature of a confession. Of all the hundreds of suspects who have been examined only two have fainted, and in each case it was in the nature of a guilty reaction of the weakling. According to many criminologists, a guilty suspect often uses this method deliberately, as a way out of a difficult situation. Fainting often occurs in the courtroom.

CARDIAC PATHOLOGY CASE

Case 6.—The record of this case is merely of interest to show the effect of deception upon a poorly functioning heart. In this case there is an increased frequency and irregularity—the case is one of a bootlegger lying on questions about the sale of alcohol.

INDECENT LIBERTY CASE

Case 9.—A pervert was caught and shot by the relatives of a small girl of six years. He was a stranger, forty years of age. He had taken the child down to the railroad tracks and had handled her genitals. This man was identified by other witnesses who had seen him attack an eight-year-old girl down by the water front. He was also wanted on other charges, and had previously been arrested by the San Francisco police for the same offense. During the test the suspect lied about his identity and his previous record although shown his photograph and fingerprints from San Francisco (Fig. 12).

HOLDUP CASE

Case 12.—Two suspects were tested for complicity in shielding an escaped holdup and auto bandit. The suspect who lied showed disturbances, as indicated by his record, in contrast to the record of H—— who confessed and answered truthfully. The effect of removal of deception in M—— with the same stimuli is represented by the range of systolic blood pressure, which was 130, initial, 118 (for lying), and 158–248.

Case 13.—The records of two suspects were obtained, one was eliminated and the other was adjudged guilty of deception and, therefore, of the crime, and a confession was later obtained.

VIOLATION OF PROBATION CASE

Case 14.—A young man, recently divorced, seduced a young girl. Both were released on probation on the condition that they would not see each other. Suspecting that they had violated probation, they were again questioned but protested their innocence. They were tested and the records showed the effects of deception as proved by the confession.

ARSON CASE

Case 16.—BERKELEY, August 14, 1923: On the foregoing date, three suspects were brought in to be tested. It seems that M—— was suspected of burning his saloon and J—— and T—— were supposed to

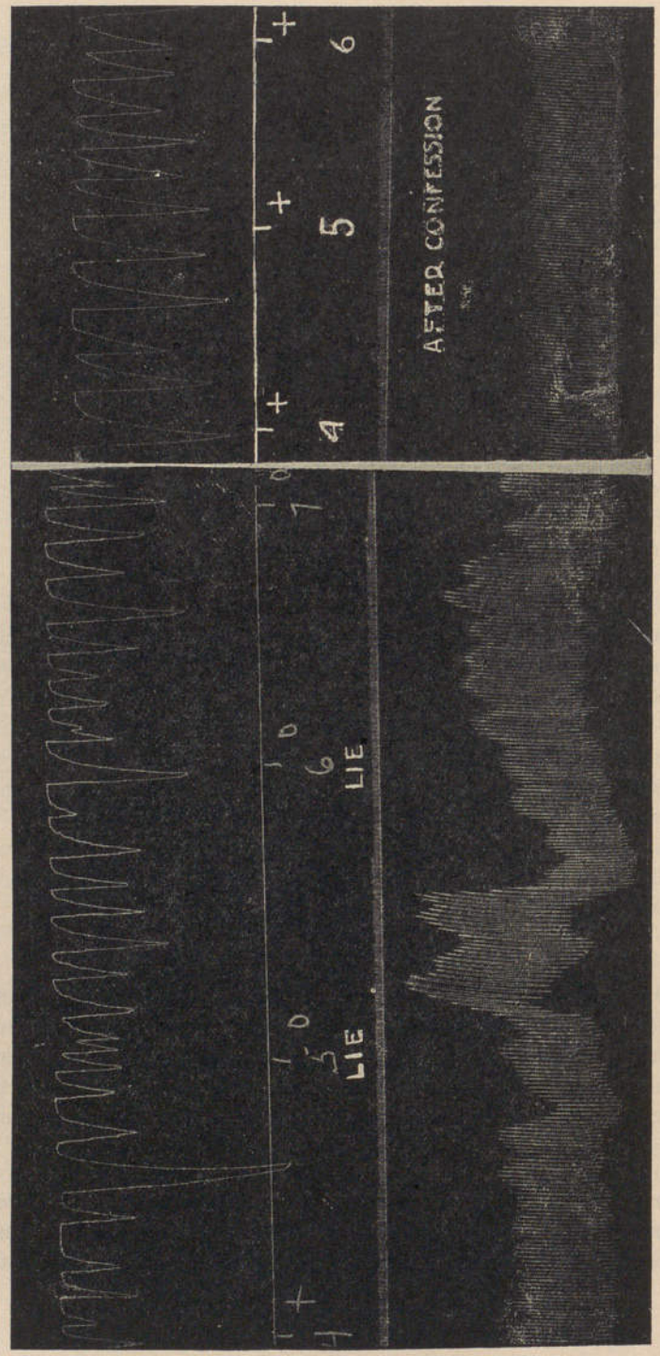


FIG. 12.—Police case: Record of a suspect who lied about sex crime. See record at points 5 and 6. Later confessed. (See p. 293.)

be accomplices. After two days of investigation, they still professed ignorance of the origin of the fire.

The questions used for J—— and T—— were as follows:

1. Do you smoke?
2. Have you had a smoke today?
3. Have you had your supper tonight?
4. Do you chew tobacco?
5. Do you know who set fire to the building?
6. Did you just lie?
7. Did M—— tell you to get the gasolene for him?
8. Do you know who poured the gasolene around the building?
9. Did J—— pour the gasolene around the building?
10. Did M—— pour the gasolene around the building?
11. Did you pour the gasolene around the building?
12. Do you know who moved the shoes and blanket around the corner?
13. Have you lied so far during this test?
14. Did you ask T—— to go to S—— in advance?
15. Did M—— consult you about starting the fire?
16. Did you tell Mrs. M—— about a watchman being in the building?
17. Do you think that you are being made the goat in this matter?
18. Did you lie to the girl that you got the gasolene from?
19. Did anyone offer to pay you to start the fire?
20. Did you drive up to the fire at the time?
21. Did you look up the car with the fire numbers on when the whistle blew?
22. Do you know who did move the clothes and blanket?
23. How do you know that M—— started the fire?

J—— answered all the questions truthfully. There was a slight disturbance with the initial confession—5. In brief, his answers indicated that M—— had requested him to aid him in burning the building, and when he refused, asked his help in removing some barrels. M—— even offered him money. According to his story, M—— plugged up all the holes in the floor and sprinkled gasolene about. M—— had told the others of his plans weeks in advance. After the building was burned Mrs. M—— gave the two boys some shoes which had been saturated with gasolene to dispose of in order to cover up her husband.

On the other hand, T——, although he told the truth on questions 5 and 6, implicating M——, lied on all the other questions which would implicate himself or J——. He was afterward confronted with his record and told that he had lied on questions 8, 10, 12, 13, 15, 16, 19, 22, 23. He was questioned for over an hour but persisted that he had told all of the truth. He merely accused M—— of starting the fire because

he was suspicious of the latter. However, the record here was very clear, indicating that he knew the true state of affairs.

After J—— had confessed during the test, T—— was given the following set of questions. He lied on questions 3–14, whereupon he confessed as he naïvely stated: "I knew that it was all up when you mentioned the shoes."

1. Have you smoked today?
2. Did you have supper today?
3. Do you know who set fire to the building?
4. Do you know who poured gasolene on the building?
5. Do you know who moved your blankets and shoes across the street?
6. Have you lied so far?
7. Did M—— consult you about setting the fire?
8. Did anyone offer to pay you to start the fire?
9. Did M—— ask you to meet him by the Sante Fe Sunday night?
10. Did M—— talk to you and J—— Sunday P.M. about setting the fire?
11. Did J—— offer to take your clothes out for you?
12. Did M—— cement the trap door and plug up the holes?
13. Did M—— offer to make it right with you and J——?
14. Did Mrs. M—— give you the gasolene-soaked shoes to hide away?
15. Do you know who threw the gasolene-soaked shoes away?
16. Did M—— cement up the trap door and holes?

J——, M——:

1. Do you smoke?
2. Have you had a smoke today?
3. Do you chew tobacco?
4. Have you had supper tonight?
5. Did you set fire to your place?
6. Did you just lie?
7. Did you give the money to T—— to buy the gasolene?
8. Did you ever tell anyone that you were going to set fire to the place?
9. Did you ask anyone to help you set your place on fire?
10. Did you plug up the trap door and holes in the floor so that the house would burn better?
11. Did you have J—— move out the beer cases?
12. Did you offer J—— and T—— any money to help you?
13. Did you say that you would make it right with them if they would help you set fire to the place?
14. Have you lied yet?
15. Did you ever say to J—— and T—— that you were going to burn the building?

16. Did you ask J—— and T—— to go down by the Sante Fe and meet you after the fire?
17. Does your wife know that you set fire to the place?
18. Did you give T—— the cans to carry the gasolene in?

In answer to the foregoing questions M—— lied on all but the first four questions. His record was very good and his behavior calm until the fifth question was reached when he started to shiver and finally became very much upset. No attempt was made to elicit a confession. The effect of deception by M—— is shown in his record in contrast to the record of T——, who confessed to guilty knowledge at 5 and answered truthfully at question 6.

DRUG ADDICT

Case 19.—The following article describes some of the activities of the suspect examined. At the time of apprehension and immediately before being tested the subject had taken two grains of morphine hypodermically. In spite of the apparent absence of any external emotional manifestation, the effects of deception may be seen. Although he confessed at question 4, there was some disturbance because, as he said, he was "now good for a stretch across the bay." When questioned as to other activities, he lied. After a removal of the fear of detection and other possible factors, his normal was obtained. This compared with the increased frequency before, which was not due to morphine, as this factor remained relatively constant during the few minutes of the examination. The varying intensity of the disturbance due to deception is shown in his record. The following newspaper account, from the *San Francisco Examiner*, "tells the story" of this subject:

With three escapes from officers already on his record, U—— alias V. V——, a young burglar, boasts from a cell at B—— police station that he will outrival Roy Gardner, notorious bandit, before he finishes his career.

U—— was captured by Officer W—— of the B—— police department in an attempt to rob the home of Mrs. R——. Taken to the police station and placed on the lie detector, U—— was discovered to have a long record as a burglar and jailbreaker.

At the time of his arrest in B—— he was being sought by officers in all parts of the state for escaping from a deputy sheriff on March 10, when he was being taken from San B—— to F—— after having escaped from the R—— jail in the northern part of the state. Although his hands and feet were heavily manacled and he was clad only in underclothes, U—— made his escape from a speeding train. Nothing more was heard of him until he was captured in B——.

At the time of his get-away in San B——, U—— was being returned to jail following a spectacular escape at R——, where he, with other prisoners, was working on a road gang. He locked guards and prisoners in the R—— jail and successfully eluded posses and officers organized to capture him. His first escape, according to his confession and police records, was in 1918, when he jumped on the running board of an automobile as it was passing through the gates at San Quentin and under threats of death forced the autoist to drive him to safety.

Although declaring he is only twenty-three years of age, U—— has a criminal career dating back to 1915, when he was sent to the P—— Reform School at —— for burglary. In 1917 he was sentenced to San Quentin on another burglary charge and since that time, according to his own statements and those of officers, he has led the police of the state a merry chase not only for the crimes he has committed but by his ability to escape his captors.

U—— was captured in T—— after Mrs. —— had informed the police that she had seen a man enter the R—— residence. Although the capture took place last Friday night, B—— police have been keeping the incident secret in an effort to get a co-worker with U—— who is declared to have escaped from the R—— home. U—— effected entrance to the R—— home by climbing a tree and jumping to a sleeping porch. He secured $200 in jewelry, which was found on his person.

LARCENY CASE

Case 21.—Two five-dollar bills had been stolen, and the first girl tested was one who could have had access to the money. Although her father was a wealthy banker, this girl happened to have needed the money and had stolen it. After lying on the first test, she confessed when shown her record. Between the deception record and the last one she cried bitterly. In this and similar cases the final and true normal cannot be obtained until the suspect feels more at ease.

RECIDIVIST BURGLAR CASE

Case 25.—Eight inspectors from a neighboring city brought in a suspect in whom they were very much interested. It seems that two stores had been burglarized and some $1,500 of jewelry had been stolen. Two nights later the suspect, a negro, was picked up in the same vicinity and brought in for investigation. He denied complicity in the burglaries and refused to implicate himself. He was fingerprinted, and the following record was revealed:

1. O—— 7063—investigation, later admitted burglary.
2. Nebraska, penitentiary, $3\frac{3}{4}$ years for felony.
3. Los Angeles—burglary, 1–15 years, San Quentin.

4. San Quentin, served 9 years.
5. San Francisco, concealed weapons, 6 months, county jail.
6. Los Angeles, 1918, wanted for felony.
7. O—— assault to kill, 1–5 years San Quentin.
8. San Quentin Folsom.
9. Folsom, 3 years.

When he was shown the apparatus, he thought that he was to be treated roughly and threatened to fight the entire group. The following list of questions was used:

1. Do you object to this test? No.
2. Do you smoke? Yes.
3. Do you like music? No.
4. Were you ever arrested? Yes.
5. Did you burglarize the secondhand store Sunday night by getting through the side window? No [lie].
6. Did you just lie? No [lie].
7. Did you steal watches and a diamond ring on the burglary Sunday night? No [lie].
8. Did you just lie? No [lie].
9. Did you sell the jewelry? No.
10. Did you just lie? No [lie].
11. Was anyone with you when you committed the burglary? No.
12. Have you the jewelry planted? No [lie].
13. Did you just lie? No [lie].
14. Did you burglarize the ——— store a few weeks ago? No [lie].
15. Did you just lie? No [lie].
16. Did you pawn or sell the jewelry to a fence? No.
17. Were you ever in the prison at San Quentin? Yes.
18. Did you burglarize a house in this city this January? No.
19. Did you burglarize a house on M. Street here this year? No.
20. Did you burglarize a house on B. Street here? No.
21. Did you carry a revolver when you committed these burglaries? No [lie].
22. How many times have you lied during this test? None [lie].
23. Did you give a colored girl the jewelry you got Sunday? No.
24. Did you just lie? No.
25. Do you know any colored people here? No.
26. Do you use drugs? No.
27. Did you ever commit robbery? No.
28. Did you ever burglarize any homes in ———? No.
29. Do you know ———, the colored burglar? No.
30. Do you wish to change any of your answers? No.
31. Did you ever commit murder? No.

The record was so indicative of a disturbance that the inspectors went away satisfied of the Negro's guilt. After attempting for two days to elicit a confession, they released him. He, however, was shadowed to his room, and there the missing jewelry was recovered.

After the confession was obtained, he was asked to come back, as he was to be examined for other crimes. He not only refused, but threatened to smash the apparatus, if he ever came near enough to do so.

His record, Figure 13, shows interesting sections. A good normal, in contrast to the following sections, was secured. The anticipatory effect is manifested with the indifferent stimuli 1 and 2; but a rather uniform reaction was obtained, for with the perception of the nature of the stimulus the tension subsides instead of increases. This is another case in which the experience of the suspect, a many-time recidivist, did not vitiate the test, as two visitors from a psychology laboratory once suggested might be the case. They felt that a deception test which might work with students and first-offenders would fail with recidivists. The only way in which to answer this, as well as other objections, is to try the cases and not to theorize. The answer thus far is that the records of recidivists, if anything, are easier to interpret and that the disturbances are as marked, if not even more marked, during deception than in the case of students. Even in the penitentiary the recidivist will show marked emotional disturbances when examined, although there may be nothing important at stake.

BANDIT CASE

Case 26.—For months the police of several cities had been searching for a youthful bandit gang. The *modus operandi* consisted in stealing Marmon automobiles for "joy ride" purposes and then abandoning them in a very poor condition. Later they stole the Marmons and used them to escape in after committing a burglary or holdup. This becoming too tame, they planned one night to abduct some girl. Going to the scene of a dance in a stolen Marmon, they held up a young couple at the point of a gun and taking the girl into a woods near by, undressed and raped her. They then planned to release the girl but partially dressed and allow her to find her way home through the woods. A latent spark of decency in one of the youngsters caused some dissension with the result that she was taken within a block of her home and released. In the Marmon car, when it was recovered, was found a frag-

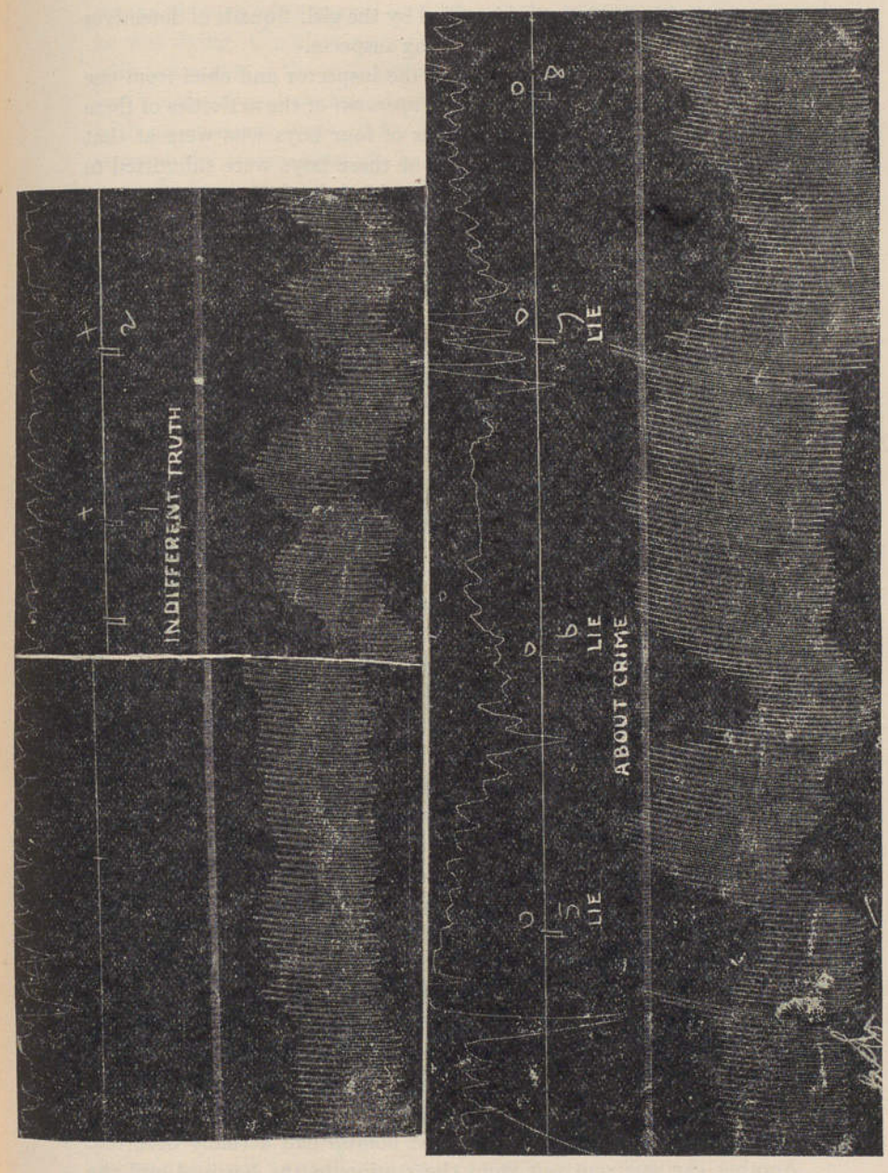


FIG. 13.—Police case: Record of a burglar recidivist who lied about his crime. See record at points 5, 6, 7, and 8. (See p. 300.)

ment of clothing which was identified by the girl. Squads of detectives working on the case began questioning suspects.

At this stage of the investigation the inspector and chief from one department, by a chart of the *modus operandi* of the activities of these youngsters, selected the photographs of four boys who were at that time out on probation. The names of these boys were submitted to the city inspectors in whose jurisdiction the abduction occurred and the boys were brought in for questioning and were later released. The chief and inspector from the other city then began to set traps for the youngsters, using only Marmon cars, for by this time the youngster's technique had become a settled routine. Following the rape episode, say on a Saturday night or a holiday, they would steal a Marmon and use it to commit burglaries or holdups. Instead of blowing safes they would select a portable one and would carry it in the stolen automobile to some place in the woods and there blow off the door. Evidence in the nature of a piece of the safe door was left in the abandoned Marmon. The following Saturday night, just as an officer on the special detail to watch a Marmon car was about to leave, a hurry-up call came in. The report was that a Ford car containing four men had followed a Marmon car into the city and that the driver had left it to make but a five-minute call when it was stolen. Three of the men (this was learned afterward) had transferred to the Marmon while the other drove the Ford. The officer on special duty at once notified the ——— Bureau of the theft and warned the Bureau that within a short time there would probably be a holdup or burglary in the eastern part of the county. (This was the part of the county in which the depredations most frequently occurred.) A special detail was promptly posted, and a portion of the detail was headed through the woods toward ——— to watch all exits. Meanwhile, the youngsters had gone through ——— (as predicted) into ——— and had held up a store. During the holdup a patrolman had crawled through the back door and had engaged in a gun duel with them and had severely injured one. They, however, escaped and went directly to the county hospital where the wounded member of the gang was left. Leaving the city again, they speeded to San Diego, abandoned the car, and enlisted in the army in order, as they later said, "to go to the Philippines." Meanwhile, the squad that had set out across the hills arrived on the highway shortly after the holdup but missed the Marmon car by but a short few minutes, the men still unaware that the predicted holdup had actually occurred. Another car was sent out from the station to the hospital and the

wounded boy made a partial confession, as he was made to believe that he was dying. Circulars were then broadcasted throughout the state with the names of the youngsters, the same names whom the inspector had previously selected as those of the guilty parties. The inspector with an assistant went to San Diego searching for the bandits, recovered the stolen Marmon in San Diego and returned home. The boys, finding army life too monotonous, stole a Chandler auto, held up a gas station, and were caught. They were then turned over to the chief of ——— who held a warrant for them because of the store holdup. As the boys had not confessed, they were brought to ——— to be tested for complicity in all the outrages which had been committed. Denying their guilt, two of the boys maintained smiling faces during the examination, while one exhibited considerable nervousness. The boys were separated and were taken to different towns, and each confessed to all the crimes within approximately two hours after the test. Two of them seemed proud of their exploits and especially so of their gun duel with the officer. It seems that on this occasion they had planned the store holdup so as to secure money with which to buy gas and oil for their car. They were then going to hold up the T. and D. Theater within four blocks of the city police station. Although given two consecutive sentences of fifty years, each of the two ringleaders smiled and later attempted a jail break. One of them requested that he be locked in the cell with the other as he expressed the desire to "beat the life out of him." All told, these boys had stolen ninety machines in addition to their other depredations.

The foregoing details are instructive in showing the nature of the suspects who were tested, and yet their records were as suggestive of guilt and tension during deception as the records of first offenders. The record shown in Figure 14 illustrates what might be termed a "mass or maximum action" secured by the proper stimuli. Here fear or whatever other factors are involved show up plainly in the deception record of the guilty suspect. This tension is general throughout the record. In such records it is difficult to differentiate, that is, to secure the clear-cut and specific effects of the individual stimuli obtained in many individuals. This is especially true when the time intervals are short. Of course, with longer periods intervening between stimuli, a differentiation becomes easier. Even with these records the effects of the removal of the suppression or fear of the guilty is seen after the confession. In the nervous innocent suspect, on the other hand, instead of the tension increasing it will normally decrease or maintain a constant level.

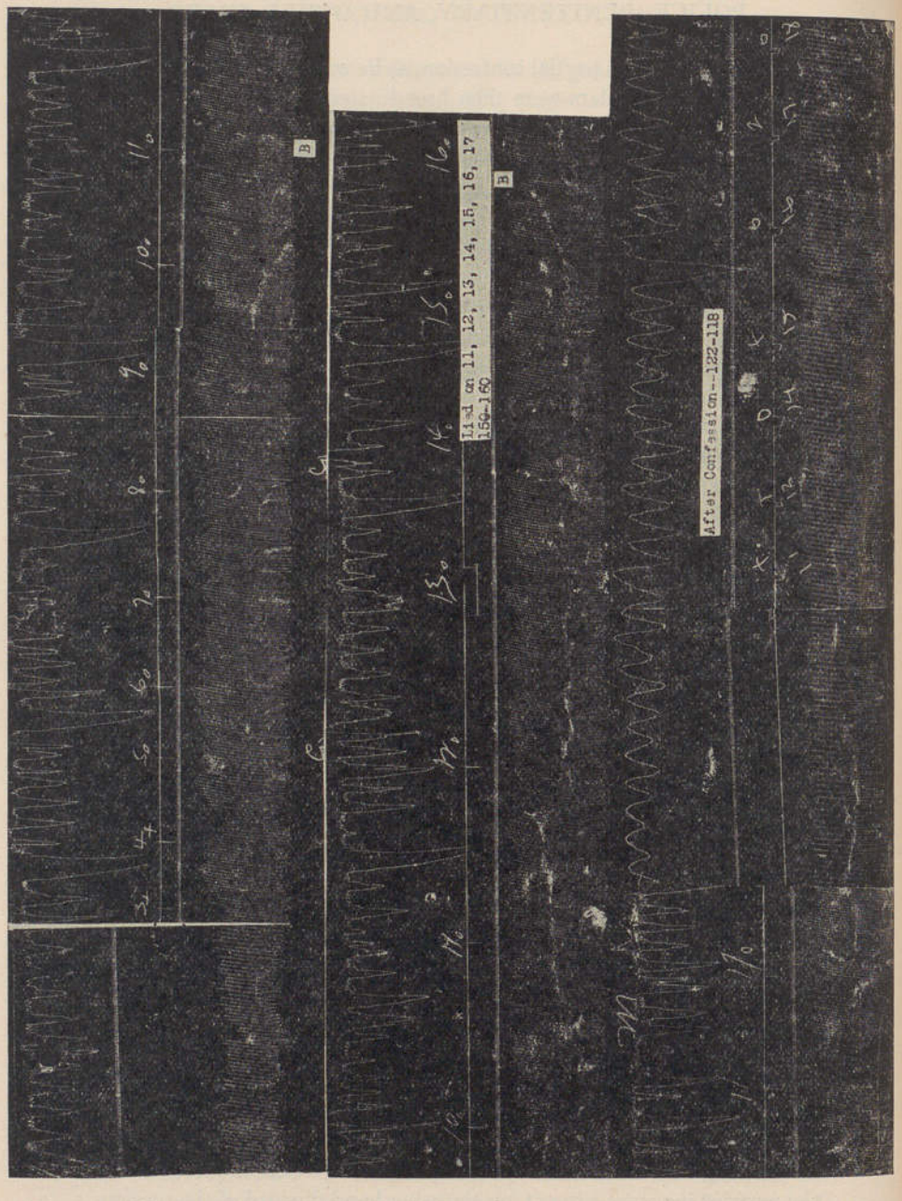


FIG. 14.—Police case: Record of a burglar showing mass type of reaction with much respiratory tension, which disappeared after confession.

FAKE HOLDUP CASES

Case 28.—A young man of twenty-three came to the police with a story of being held, bound, and gagged by two masked men while his employer's money was taken away from him. According to routine procedure, he was tested as to the veracity of his story with the result that his record showed disturbances and seemed indicative of deception. He later confessed that he had gambled and lost the money and was afraid to tell the truth.

Case 29.—A somewhat similar case was that of a soldier who reported that two auto bandits had held him up. After vainly pursuing the hypothetical robbers, the police brought in the victim and preparations were made to test him. He insisted that he had not lied, but during the test, just following his first lie which produced a disturbance on the record, he jumped to his feet screaming, "You go to ———! This is an outrage on an American soldier!" Upon his release he borrowed a uniform overcoat and money from the examiner, both of which he failed to return. Months afterward the coat was recovered and a confession secured. The soldier had spent all his money upon a girl and had no carfare with which to cross the bay. He attempted to secure it by begging, but up to the time he met the police was unsuccessful.

BURGLARY CASE

Case 31.—One evening the officer on the water-front beat discovered a mulatto in the act of jimmying the back door of a drug store. The burglar was using a two-foot crowbar as a jimmy and on being apprehended attempted to strike the officer with it.

After the suspect had been fingerprinted and searched, it was learned that he was out on probation for burglary. He consistently denied any further burglaries and readily submitted to a deception test. He exhibited marked nervousness and was questioned regarding other possible burglaries. Whenever he was questioned on these points the record exhibited marked disturbances. He was especially upset in reference to a question concerning drug stores.

As a result of the test it was decided that he was responsible for more than he had confessed, and naturally it was thought that he might have robbed some drug store. The officer and the inspector were told that in the opinion of the examiner he was lying. The inspector was successful in learning of a drug store in a neighboring town that had been burglarized. Here a number of pennies had been stolen from the register and the suspect had an unusual number of pennies

when apprehended. He finally admitted that he had committed this burglary and thus enabled us to check the record.

Throughout the test the subject exhibited marked fear symptoms such as tremors, peculiar inflection of voice, etc.

"FISHING" TYPE OF CASE

Case 32.—One Sunday evening an elderly man was found begging in a church in the wealthiest section of the city. Upon his arrival at the station he was at once recognized as a former convict with a long criminal record and was addressed by his correct name. The man not only denied his identity but also denied having been in the city before. It was decided to attempt to ascertain what crime, if any, he was responsible for in this city. With that end in view, some forty questions were prepared, some of which concerned his record, while the remaining ones were to furnish an insight into his criminal activities in the immediate vicinity. Some of these latter questions dealt with forgery, others with highway robbery, and some with burglary. After some hesitation the suspect submitted to the test and the record showed disturbances. Shortly after the instructions, which were in the form of a preamble, had been given, he refused to answer any questions which involved his various names. Even without a record, such a refusal would be suggestive. However, although no answer was obtained, the effect of the painful complex was manifest. Since the examiner knew from experience that this disturbance could be intensified by actual deception, he stopped the test and persuaded the suspect to answer the remaining questions by "yes" or "no," on the provision that the questions were to be confined to this city alone. He agreed. After proceeding with the test, the examiner found evidence of deception only when reference was made to the crimes of burglary. A search was then made in the files for burglaries which had been committed since the time the suspect left prison. Questions were formulated with reference to these crimes and evidence of deception appeared only in reference to one burglary. This man refused to discuss the test or the questions, and accordingly instructions were left for the inspector to investigate this burglary. The investigating inspector encountered no difficulty in eliciting a confession after the suspect had been confronted with conclusive evidence of his guilt.

ADDITIONAL CONFESSIONS CASE

Case 33.—Two San Francisco detectives had a warrant for a boy who had spent most of his life in institutions. His institutionalization

ranged from reform school to the penitentiary, and he had been committed for crimes of every type—arson, robbery, worthless checks, etc. They had failed to secure a confession and he was tested. Although very cool and quite a clever recidivist, his tension was not only visible in the record, but in his voice and in every action. At the conclusion of the test he confessed to a series of crimes committed in San Francisco with which the detectives had not thought of connecting him.

SHOPLIFTING CASE

Case 36.—An elderly man was accused by the Red Cross Shop of stealing a coat. He strenuously protested and readily consented to be tested. He was not only questioned in regard to the coat but in respect to shoplifting in general. He lied consistently throughout the test, and a search of his room revealed many articles that he had stolen. In addition to the marked disturbances, the suspect showed external manifestations of fear. He continually sucked his lips as though his mouth were dry, occasionally shivered, and seemed very nervous. This man's room was filled with many valueless objects such as newspapers, hairpins, and every type of object which had for the moment attracted his attention. He had accumulated these as the result of years of searching garbage cans and streets. He later admitted lying during the test.

ELIMINATION CASES

Case 37.—Four hobos had been brought in and questioned. The results of the examination as well as the search of fingerprint records were negative. They were then tested with a general questionnaire, the purpose of which was to determine whether they had committed any crime in the immediate vicinity, or were wanted by the police anywhere for any serious crime. The records of three of the men were free from any significant disturbances. Officer Waterbury, not being satisfied with the record of the fourth man, kept him overnight and tested him again. This record was likewise poor, and in a subsequent conversation the man admitted having recently deserted the navy.

NEGRO BURGLAR CASE

Case 42.—S. J. A., a Negro, was brought in for investigation in respect to burglary. Someone had entered a garage by means of a passkey, and, having jacked up the wheels of an automobile, removed two tires. Although the suspect denied his guilt, his record when tested exhibited disturbances whenever crime was mentioned. Deciding from

his record that he was guilty, Officer Waterbury investigated the case and later secured a confession and recovered the tires.

LUMBER THIEF CASE

Case 43.—For several months there had been a series of nocturnal burglaries of newly built houses. In all cases the property missing consisted of miscellaneous articles used in the construction of the houses, such articles as shingles, windows, doors, etc. On one occasion the burglar was seen leaving a house, was pursued and caught by a citizen, but managed to get away by slipping out of his overcoat. The episode was reported, and some weeks later the informer recognized the prowler (whom he also recognized as a well-known real estate man) going into an office. The recognition was mutual, for the suspect suddenly disappeared downstairs where he was later apprehended by ——— and a police officer who happened to be on traffic duty near at hand. At the station the suspect not only denied the charges but also denied ownership of the overcoat, and likewise denied attempting to escape at any time. He protested at the outrage of his arrest and wanted to retain an attorney at once (incidentally the first move of any crook in trouble). He was perfectly willing to vindicate himself by any test. When questioned about the bungalows, the overcoat, and the attempts at escape, there were significant disturbances as well as quantitative increase in systolic blood pressure, 150–66 mm. However, the suspect persisted in his denial until a search of his home revealed the stolen property and his wife unwittingly identified his coat. He then confessed to the series of burglaries. This same individual was known as a confidence man and had previously been arrested upon an embezzlement charge.

SEX CASE

Case 44.—An opened letter was found upon the university campus. It contained a photograph of male genitalia, showing an erect penis, and contained also an obscene note. As the writer had signed himself "a Senior," his subsequent selection was simple although hundreds of Seniors attended the university. The sergeant reviewed the cases of students who had come in contact with the department as the result of sexual acts and by a process of elimination selected a medical student, at that time a Senior. His room was searched and a notebook brought to the station; a comparison of examples of handwriting seemed to indicate that he was the author of the letter found. This same student had previously been arrested and tried for indecent exposure to children, but on a plea of psychic epilepsy was released for treatment. A

short time prior to the identification of the note two girls had seen him expose himself to them, but they did not report the same as they did not wish to go to court. This student, when arrested, became very arrogant toward the police and all who questioned him and vociferously demanded an attorney. However, he consented to be tested as he said that the results would not be accepted as evidence. During the test he tried several subterfuges to spoil his record. He kept moving and coughing, but in spite of this his record showed considerable tension and seemed indicative of deception. He later confessed, but told his medical associations that he had beaten the test. However, when it was desirable before his release to test him for further offenses, he refused to submit to the test. This case is interesting since this individual was the most unco-operative of any who have ever submitted to the examination.

WOMAN BURGLAR CASE

Case 45.—The suspect, a middle-aged woman, was believed to be implicated in a series of burglaries involving the loss of considerable property. When apprehended she steadfastly denied her guilt and willingly submitted to the test. An examination of her record convinced the officer that she was lying. He tested her again with the same result. She subsequently confessed.

DIAMOND THIEF CASE

Case 46.—A burglary had been committed in which two diamond rings and a purse aggregating in value $1,050 had been stolen. Feeling that this was "inside" work, Officer Waterbury had the owner of the lost property bring in a lodger for investigation. At first ——— did not want his friend tested, as he said that he had sailed with him and he was positive of the lad's integrity and above all that the youth would not steal from him. A study of the record of the suspect, however, seemed to indicate that he had lied and was the thief. The officer then showed him his record and secured a confession within five minutes. During the test the suspect showed outward indications of fear. He lowered his head, perspired, and his face was continually flushed. The following day he took the inspector to a pawnshop in San Francisco where the rings were recovered.

RUG THIEF CASE

Case 48.—M. P. was arrested while attempting to pawn a rug. The suspect, a Negro, denied stealing the rug but said that he had received

it in payment for some work at San Jose. When tested the graphic disturbances (the systolic pressure ranging from 110 to 124) seemed to indicate guilt and deception. When the examiner prepared to take him to San Jose for a verification of the story, the Negro confessed to the theft and was again tested with the same questions. His record this time was clear, in contradiction to his former one.

PROHIBITION CASE

Case 49.—Two men were arrested in a bootlegging joint following the sale of some liquor to an officer in plain clothes. In spite of this fact, both men denied having ever sold any liquor in the city. Their records when tested showed pronounced disturbances, and that they had lied during the examination was confirmed by their confession given later.

Case 50.—Two suspects were brought in from an adjoining county for examination. One confessed during the test while the record of the other showed disturbances, although twice tested. This man later confessed, and a third record was obtained which exhibited no changes on questions to which he had previously lied but to which he later told the truth.

LYING IN A FEEBLE-MINDED CASE

Case 51.—While securing a series of records from different types in an institution for the feeble-minded, it became necessary to test two subjects. In this case considerable quantities of alcohol had disappeared from the pharmacy. One boy was under suspicion. This boy, a low-grade moron, when tested confessed at once.

The other subject was a high-grade moron, the champion liar of the institution, supposedly a pathological liar.[1] This patient apparently was unable to speak with anyone for any length of time without confabulating, romancing, or lying for a purpose. As it happened, on the day in question he had stolen a silk shirt which he was wearing. In addition to questioning him about the shirt, as he was aware of the discovery of the theft, he was questioned about some of the impossible tales he had told the examiner. In response to all these questions there were specific and marked reactions. At the conclusion of the test, when taxed with deception, he became angry and would say nothing at all. When alone with the examiner he confessed, saying that he did not

[1] The term "pathological" is a poor one in this connection because the meaning varies with the user. In this work the term will connote that type of deception in which there seems to be no emotional content as manifested in the record, and the individual is not aware of the deception. Thus, the paretic may speak of his millions or another patient call herself the "queen of England," etc.

want to admit anything in front of Miss ———, who was young and attractive.

Pathology, as, for example, mental retardation, may interfere. We have had at least five failures in one series—one a child with mental deficiency.

FORGERY CASE

Case 52.—In answer to a complaint from a storekeeper that a man had just attempted to cash a check and on failing had left hurriedly, the police went out to locate the suspect. As they overtook him, he threw away some paper. This, when gathered up, proved to be checks already filled out, as well as blank checkbooks from banks in various counties. He not only denied having attempted to cash the check in question, but would not admit ever having passed any "bum paper."

After some hesitation he submitted to the test. An inspection of the record showed disturbances which seemed to indicate a guilty or deceptive reaction. When shown his record, he unlaced one shoe, taking from it twenty dollars which he handed to the examiner. He said that he had just received the twenty dollars in return for a forged check with which he had purchased some groceries. He later threw the groceries away. He then confessed to a series of crimes, telling a pathetic story about these being his first attempts and that he had attempted them because of the need of money for a pregnant wife.

As the *modus operandi* of this man seemed identical with that of a forger who had previously operated in the southern part of the state, he was tested again. This was done in spite of the strenuous objections of the inspector who believed the story of the youth and was about to release him, and help him make good. The record of the second test seemed much worse and showed that the suspect was under as great tension as when first tested. The conclusion was that he was still lying and was responsible for the forgeries. Before beginning the test the subject was informed that he was to be tested in regard to further forgeries. In spite of the fact that the examiner advised the inspector to make further investigation before releasing the prisoner, the kind-hearted inspector let him go. A week later it was learned that he was wanted in ——— for forging checks, but by that time he was away from the vicinity.

NEGRO FORGER CASE

Case 53.—A Negro was arrested on the charge of forging checks. As he was being brought into the station he broke away and ran into a

coal yard. Here he threw coal at the chief and others so that he would be shot, as he afterward explained it. Upon his return to the station he denied his guilt and also lied about his age. During his test marked disturbances were noted. The range of systolic pressure showed a significant increase, 122–44 mm.

WATCHMAN THIEF CASE

Case 54.—An elderly watchman was brought in for investigation with respect to the theft of some supplies. During this test there were disturbances whenever he was questioned about the thefts and the judgment after studying the record was that he had lied. This was later verified by a confession and in a subsequent test his record was cleared of disturbances.

DEMONSTRATION CASE

Case 71.—The following excerpts from the *Martinez Daily Standard* (June 11, 1922), California, describe a test conducted under very unfavorable conditions. The validity of this type of experimentation cannot be determined by isolated instances or demonstrations, and undue emphasis and value are likely to be attributed to these successes or failures.

The lie detecting machine of John A. Larson, Berkeley officer, was tested here today at the convention of police officers and made good. Test of the machine was made on Ralph Jones, colored, who yesterday with two companions was held to answer to the Superior Court on a charge of robbing Chinese on Jersey Island, April 23. When the test was concluded, it was stated that Jones had truthfully answered questions that had been put to him but that his answers were the opposite to replies to queries of the same nature when first questioned by local authorities.

Effect of confession.—The question of the effect of confession upon the physical reaction is of interest. The following effects have been obtained.

1. Confession with no attendant disturbances. This has occurred in most cases and usually occurs in the individual who may have previously lied but suddenly decides to confess. Sometimes such an individual may say suddenly, "Just a minute, officer; I have something I want to tell you before going on with this." He will usually give a clear record although he may not be allowed to confess before the test begins.

2. The individual, especially if juvenile, may become emotionally disturbed with the confession and may cry. However, the effects of the stimuli from then on are usually undifferentiated, whereas in the crying suspect who is lying the disturbance due to deception may be differentiated.

3. There may be some disturbances when the suspect at the first confesses, that is, when the first questions upon the crime are answered truthfully, but from then on the record is usually smooth.

4. In some cases, there may be a long reaction period followed by a confession. During this time the graphic disturbances may be rather marked. Again from the confession on the record is usually uniformly free from disturbances.

Can graphic disturbances due to a *true* confession be differentiated from the disturbances due to deception? No more than any one emotion can be differentiated from another, according to our present knowledge. But this does not interfere with the practical application of a deception test. Of course, this is undoubtedly because the question and answers are known and a comparison can be made. During an investigation if a complex is revealed as indicative of deception, and there is no confession in reference to the crime, it is usually due to deception. Practically, however, a disturbance with confession is not as frequent as those with deception. No accurate interpretation of any physical reactions as indicative of emotional disturbances seems possible unless all the stimuli and experimental factors are known.

BOOTLEGGING CASE

Case 77.—Although this case concerns a simple bootlegging accusation, there are several points of interest. The suspect had been arrested on different occasions by local authorities on the charge of bootlegging. Everyone knew him for what he was, but each time he had managed to beat the case upon some technicality. On the night in question, he preceded several men into the office, his face covered with blood, and, to state the case mildly, seemed to show the results of a fight. Seeing the examiner, he offered his hand and was very cordial. When asked what was the matter, he replied, "These fellows have arrested me for bootlegging." The leader of the revenue men requested us to hold L—— overnight as they were afraid that if they locked him up elsewhere his friends would get him out on some technicality. One of the officers asked the examiner to show the men something of the operation of the "lie detector." As they had caught L—— with the goods, and as he had broken one bottle over the arresting officer's head, it was decided to test him. The correct answers were known be-

forehand. The subject was brought into the room and upon seeing the apparatus screamed, "I did not kill anyone," and he fell into an apparent epileptic seizure. On recovering he was told that he was to be questioned as to his bootlegging activities.

The subsequent conduct of this individual was interesting. As soon as the revenue men had left, he told the examiner that he was very sick and thought that he was going to die. He then dictated what he termed a "dying statement." He constantly complained of pains in his chest, and to make sure that there were no internal injuries, he was taken to the hospital and examined, but the findings, including the X-ray, were all negative. While there he attempted to simulate an epileptic seizure.

Some months later the examiner was subpoenaed to a trial in the federal court. It seems that the defendant and his attorney had alleged that the police at ——— had beaten the defendant severely and had subjected him to added torture on a machine known as the "lie detector." Following the conclusion of the testimony of the examiner and the police officer who was acting sergeant of the station on the night in question, the defendant's attorney in his final exhortation to the jury said that the poor defendant had been so beaten by the federal officers that he became confused in regard to subsequent happenings. This case is of interest as it shows some of the gross subterfuges a guilty defendant will use. Thus, at first he claimed that he was beaten and forced to submit to the test of torture. When it was proved that he submitted voluntarily, his perjuries were not recognized as such but were attributed to alleged injuries at the hands of the federal officers. When this evidence seemed flimsy, a love motive was inserted. The defendant's attorney also attempted to force the examiner to describe the questions and his interpretation of them. This was prevented by the federal attorney and by the verdict of the court, as the examiner had always stipulated prior to any test that he would not offer or discuss results obtained. The law does not compel such testimony, for the expert can merely say that the results obtained by his test are of scientific interest only, and that he does not know positively how to interpret them. It is interesting to note that any attempt to introduce material obtained from a deception test has been made by the attorney for the defendant. That is, although no mention was made of any deception test, the attorney would attempt to throw out confessions submitted on the grounds that they were obtained by force, machine, etc. In no case has this been accomplished. Of course, no reference is here made to Marston or his adherents in their attempts to introduce their

technique into judicial procedure. In one case, previously described (case of the eight boy bandits), one boy was tested and confessed. A confirmation of his confession was secured not only by the subsequent confessions of seven other boys, but stolen property and identifications by the victims were secured. Yet the attorney attempted to free the boy on the ground that unconstitutional methods were used. Unfortunately, instead of seeking in a scientific manner for the real facts involved, too many attorneys seek easy money at the expense of justice, deliberately advising their client to perjure himself. One of the leading criminal attorneys of Alameda County, California, interviewed the writer one day in reference to a client and prefaced his remarks by the following: "I want to see just how drunk ——— was so that I will know how big a fee to charge him. So let us see how the evidence stands and who the witnesses are. We know that he was drunk while driving the car but I want to know how much to ask."

Of course, he had already advised his client, who had admitted to several officers that he was guilty of the charges against him, to plead "not guilty."

BLACKMAIL CASE

Case 79.—A woman had received a note stating that if she and her husband did not move at once their house would be blown up. A senile dement living in the neighborhood was brought in for investigation. In answer to the questions there was marked disturbances from question 5 on. The significant questions were:

5. Did you write a note threatening to blow up a house if the people did not move?
6. Did you just lie?
7. Did you write a note telling the people to get out?
8. Did you just lie?
9. Have you lied during this test?

The interpretation was that this man had lied and was, therefore, guilty or at least had guilty knowledge.[1]

EXHIBITION CASE

Case 80.—The suspect, W——, was accused of having exhibited himself. He was tested and there were marked disturbances whenever he was questioned upon the charge. It was inferred that he had lied

[1] The mental deterioration had not progressed to such an extent that there was an absence of emotional content concerning a crime. This inference was subsequently verified by further investigation.

and was guilty. Although he was tested twice with the same results, he refused to confess and was released. His guilt, however, was confirmed by reputable adults who had seen him in the act, and had so described him as to appearance that he was at once located and later admitted having been at the scene of the incident at the time in question. As these witnesses did not wish to go to court, the case was dropped.

GAMBLING CASE

Case 81.—Two "bunco men" had been observed "fleecing" a victim in a poker game on a western train. Fearing capture, they left the train before the end of the line was reached. The train crew had wired ahead so that all car lines might be watched. The two crooks were arrested after having attempted to escape by separating and running in opposite directions. Arriving at the station, they refused to talk. The record of their fingerprints showed them to be confidence men with long records. After some persuasion, a test was given to one of them. Although the suspect maintained an impassive "poker" face during the test, the increase in tension is seen in the record. Following the test, the two wrote parodies on the "rube detectives and judge with their lie detector" and drew some clever cartoons upon the cell wall. They were released on a bond and disappeared without serving their sentence.

SHINGLE THIEVES CASE

Case 82.—Two men and a woman were apprehended in the act of stealing some bundles of shingles. While the arresting officer was attempting to handcuff one of the men, the other dumped the shingles from their car. Each denied his guilt when later questioned. The one who attempted to get rid of the stolen property practically confessed and was willing to tell everything if they were all guaranteed immunity. The two men not only lied about stealing the shingles, but also lied about knowledge of a still which was found operating full blast in the home of one. The woman had been instructed by a friend not to answer anything, yet she answered the indifferent questions and then suddenly refused to answer the others with the effect that her record showed marked disturbances.

OVERCOAT THIEF CASE

Case 83.—A man was arrested because he was wearing a stolen overcoat. At the time of the arrest he was under the influence of liquor. He

protested that the coat was his. The disturbances during deception are recorded in ———. The coat was later identified by the rightful owner.

SEX PERVERT CASE

Case 84.—A probation officer brought in an elderly artist for investigation. The artist had been accused of fondling a ten-year-old girl, and it was said that he had finally attempted to have intercourse with her. His record showed a rather progressive increase in tension and seemed suggestive of deception. His behavior was interesting. At the beginning of the test he was smiling and talked spontaneously. Toward the end he seemed on the verge of collapse and the test was discontinued. This man was convicted but never confessed. He was later released on probation.

NEGRO ROBBERY CASE

Case 85.—This is an interesting case of a Negro thrice convicted who was accused of a holdup. In addition to denying his guilt, he stated that he had never been in the city before. He exhibited great tension during the test. In addition to the disturbance which occurred during deception, there were pronounced reactions when the man he had robbed came into the room. These reactions occurred only when this man came in. Several other persons were used as controls. With the entrance of each individual he was asked "Did you ever see this person before?" and he replied "No" to all. After the trial an attempt was made to secure another test. He had gotten as far as the table which held the apparatus before he knew exactly what was wanted. Upon seeing the apparatus he refused to go farther and could not be persuaded to have a second test, saying, "Lord, man, that was too much of an ordeal for an innocent man to try twice!" His systolic blood-pressure readings ranged from 100 to 152 mm.

CHAPTER XIX

LYING AND CONFESSION, INCLUDING A FORCED CONFESSION

In this chapter a few police cases and other cases are discussed in which the suspect lied and confessed. Usually there is no effect through confession. Thus, in a group of 57 prisoners who confessed to a crime, only 7 records showed any disturbance, whereas in a group of 334 records of recidivists who confessed their guilt, over 95 per cent showed disturbances often associated with deception and guilt complexes.

WATCH THEFT CASE

Case 7.—A watch had been stolen and the *modus operandi* seemed to indicate that it was an "inside job." The only man who could have had access to the room was brought in. His manner was sullen and, although unco-operative, he submitted to the test. The results are shown in Figure 15. The extreme specificity which the disturbances may assume can be seen by noting the effect of lying on the fifth question, upper section. When necessary, by the proper lengthening of the interval the disturbances may disappear in many individuals. In practical testing of suspects the results may be equally well obtained by shorter intervals. In this individual the character of the disturbance changes from the sudden increase in force, amplitude, and pressure, as at 5, to a decrease in height, but some increase in frequency, after 6, due either to compensation or to a guilty knowledge; with further increase in amplitude at 9. The effect of the removal of the tension involved in the suppression is seen in Figure 15, lower section, where the same stimuli are used but no deception is employed, the fear having been removed.

In answer to all of the questions concerning the watch, he not only lied but laughed and ridiculed the test and the notion that he was under suspicion.

He was given the list of questions shown in Table III.

At the end of the first test, this boy still protested his innocence, but when shown his record confessed.

LYING AND CONFESSING CASE

Case 8.—The record in Figure 16 is that of a guilty suspect who first lied but later demanded to see his record and confessed. A section

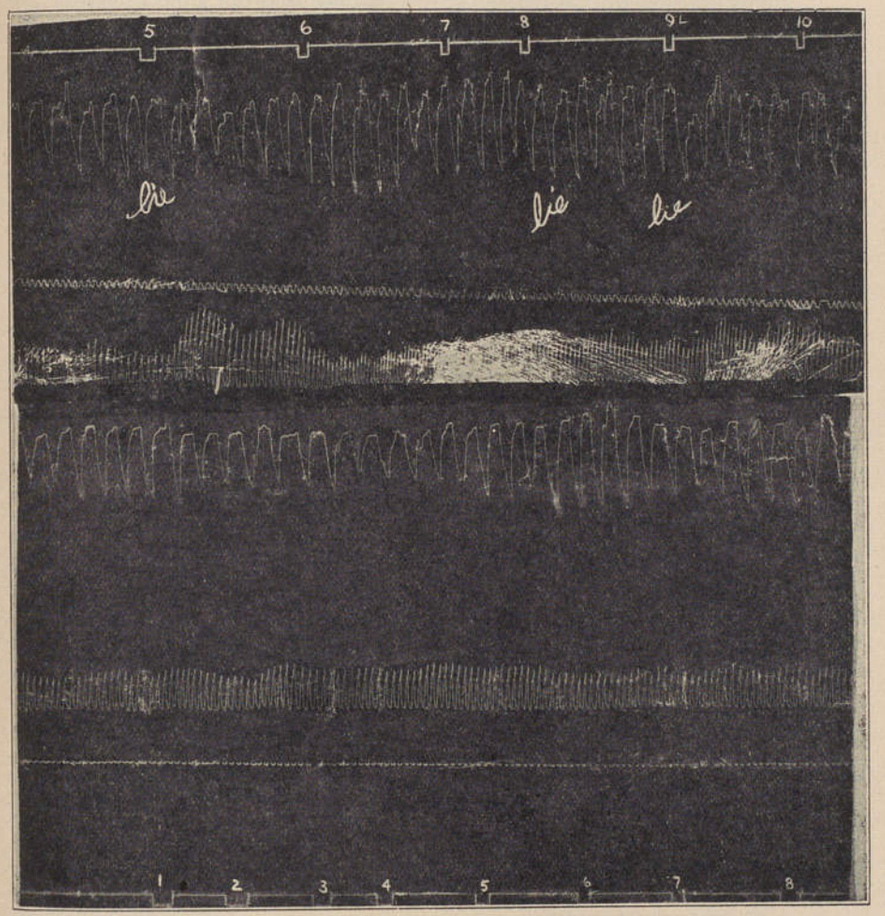


FIG. 15.—Police case: Record of a Mexican suspect who lied about the theft of a watch and then confessed. Compare record at points 5, 6, 7, 8, and 9, where he lied, with subsequent part of record after confession. (See p. 318.)

shows considerable tension, but it was assumed that the subject might be a nervous but innocent suspect. However, the tension increased with the indifferent questions and finally reached a maximum with actual deception. The release from tension following the confession is seen. This represents the true normal taken at rest. The effect of anticipation usually occurs in the records of the guilty, but even here these effects can be differentiated from the effects of deception. Any such effects in the innocent are more diffuse, and the section with the crucial stimuli is usually no different than that with the indifferent stimuli. This effect can be minimized somewhat by lengthening the interval between stimuli. The same sort of effect is described by other workers using the galvanometer in studying emotional reactions of guilty or lying subjects, the effect being elicited by merely picking up a list of questions, etc.

TABLE III*

	Tests	
	First	Second
1. Do you like the movies?	Yes	Yes
2. Do you like to swim?	Yes	Yes
3. Do you like to work?	Yes	Yes
4. Do you like to dance?	Yes	Yes
5. Did you take the watch from the top of the towel rack?	No	Yes
6. Did you sell the watch belonging to ———?	No	No
7. Have you ever been arrested?	No	No, I lied
8. Have you lied yet?	No [lie]	No
9. Did you take the watch because you needed the money?	No	Yes
10. Did you pawn or sell the watch?	No	No
11. Have you pawned or sold anything to the secondhand shops?	Yes	No
12. Have you lied to us?	No [lie]	No
13. Have you the watch in your room?	No	Yes
14. Did you sell the watch and buy a stick-pin with the money?	No	No
15. Did you ever steal anything before from anyone?	No	No
16. Have you ever been before the Juvenile Court?	Yes	Yes
17. Do you wish to change any of your answers?	No	No
18. Do you gamble?	No	No
19. Did you take the watch from the top of the towel rack?	No	Yes
20. Do you know where the watch is now?	No	Yes
21. Did you steal three billiard balls out of the poolroom?	No	.....
22. What was your business in Oakland?	Haircut	.....
23. Where did you get the golf clubs?	Brother	.....
24. Did you steal anything in Martinez?	No	.....
25. Did you file any keys?	No	.....
26. Where did you get the keys?	Found them	.....
27. Did you ever steal a bike?	No	.....

* Lied and confessed on 7, 5, 8, 9, 12, 13, 20.

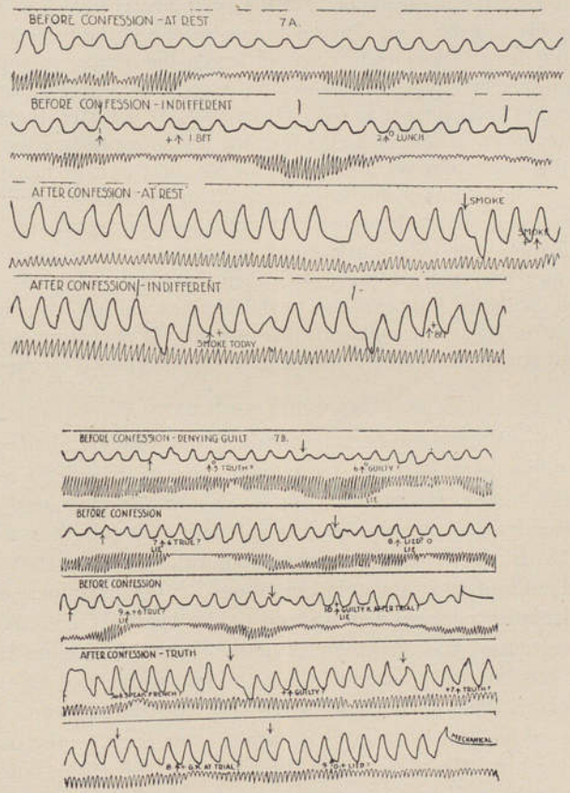


FIG. 16.—Record of an inmate of a southern Illinois penitentiary lying and later confessing his crime.

The anticipatory effect has been noted by Dr. L. Binsmanger and cited by Jung:

Expectation.—A further reason for not waiting too long between the single reactions is the occurrence of oscillations due to *expectation*. If there is no stimulus-word for a longish time, there suddenly occurs, quite regularly, with some subjects, an oscillation when the subject believes the next stimulus-word is about to be given. These expectation-oscillations can be beautifully exhibited on the kymograph, and they show that these occur as a rule just

before pronouncing the new stimulus word. Several such expectation-waves can be obtained one after another if one waits long enough. Raising one's eyes from the association formula and looking at the scale often suffices to obtain an expectation-oscillation. For the experimenter to look at the scale generally means calling out a new stimulus-word, and the subject then becomes disposed to concentrate his attention on the coming stimulus-word. In other words, he is in a state of "strained expectancy"—a concentration of the attention upon what is to come (Lehmann). It is better, therefore, for the subject not to observe the experimenter. By an approximation uniform tempo, the expectation-oscillations are for the most part excluded. Where they occur, they can generally be separated from the fluctuations due to the stimulus-word itself, for there is a slight pause between the two; the expectation-oscillation often falls a little so that an interval may be noted between the two on the kymograph curve. It is then that we must separate this expectation-oscillation from that due to the stimulus which follows, for it has nothing to do with the stimulus-word in question. It only gives us information about the degree of attention which the subject is giving the experiment.

PARTIAL CONFESSION CASE

Case 10.—A store had been burglarized and a fireman had seen two boys running away late that same night. One of these boys was later found and tested. His record (Fig. 17) shows the increased tension augmented by deception. The next record is that following a confession. That is, the suspect described the burglary, saying that another boy had committed it and told him about it. The examiner then told him that another record was wanted to check up his first. The same stimuli were used and disturbances again occurred from question 5 onward; it was inferred that he had lied and had actively participated in the burglary. This he later admitted. He said that he thought that we believed his first story until we again came back to the questions concerning him. He then became "frightened." Here the tension did not seem to be as much as in the first test, but this may have been due to the fact that he had been promised immunity following the first test if he would clear up the case.

HOMOSEXUALITY CASE

Case 11.—One evening an officer was sent on a hurry call to a local theater. Here he found a boy accusing a well-dressed man of making advances to him and attempting to fondle him. The man accused denied the allegation in apparent righteous indignation and volunteered to undergo any test which might unravel the case and determine which of the two was lying.

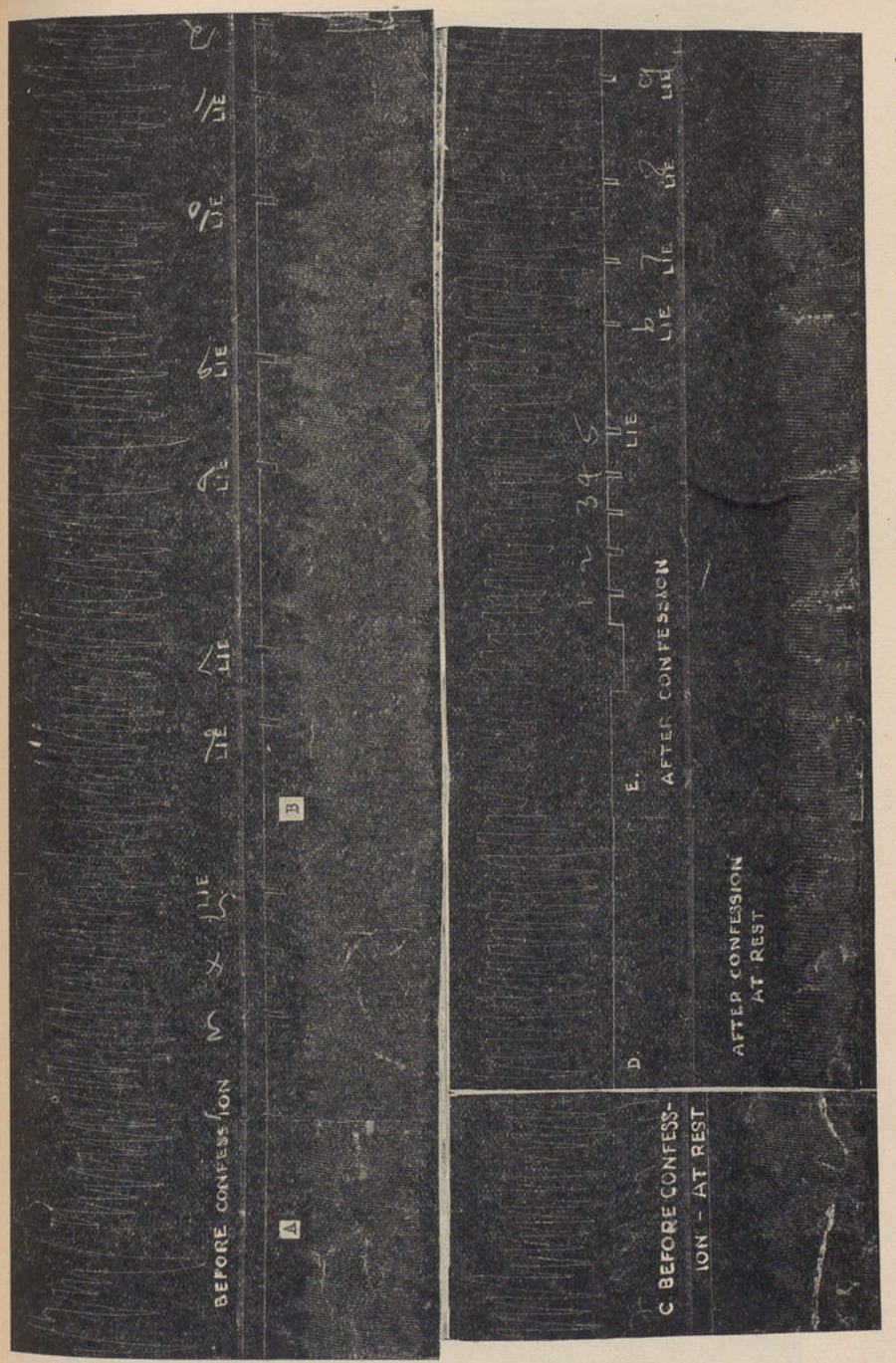


FIG. 17.—Record shows effect of deception of a burglar who made partial confession. Note the release from tension after confession; also note later disturbances when lying. (See p. 322.)

As the record of the accused was so obviously indicative of guilt, the boy was allowed to go home and the man was persuaded to confess, following which he was again tested and a clear record was obtained. The behavior of the suspect during the first test was in marked contrast to his apparently calm and unruffled exterior presented previous to it. It was only with considerable difficulty that a normal record was secured.

The following questions were used:

1. Do you object to this test? No. [He was very thirsty during the test and asked for water repeatedly.]
2. Have you suffered from heart trouble? No.
3. Have you ever had a nervous breakdown? No.
4. Are you satisfied with life? Yes.
5. Has the world got it in for you? No.
6. Did you place your hand upon that of the boy who accused you? No. Yes.
7. Did you just lie? No [lie]. No.
8. Did you place your hand at any time upon that boy's leg? No. Yes.
9. Did you just lie? No [lie].
10. Did you hold conversation of any sort with the boy? Yes.
11. Did you address any indecent remarks to him? No. Yes.
12. Did you place your hands upon the leg of any other young boy in the same theater about two years ago? No.
13. Were you ever questioned in regard to a similar affair before? No. Yes.
14. Have you ever been arrested? No. Yes.
15. Have you ever committed ———? No.
16.
17. Have you lied since you were asked before? No [lie].
18.
19. Have you assaulted any women? No.
20. Have you ever taken little girls out? No.
21. Have you ever placed your hands upon little boys in any public places? No.
22. Do you wish to change any of your answers? No.
23. Have you lied during this test? No [lie].
24. Were you in that theater before? Yes.

Section A, Figure 18, shows the tension at rest before confession in contrast to Section C, Figure 19, following confession.

LARCENY CASE

Case 15.—A larceny suspect lied and confessed when shown his record. The range of his systolic blood pressure was from 160 to 150

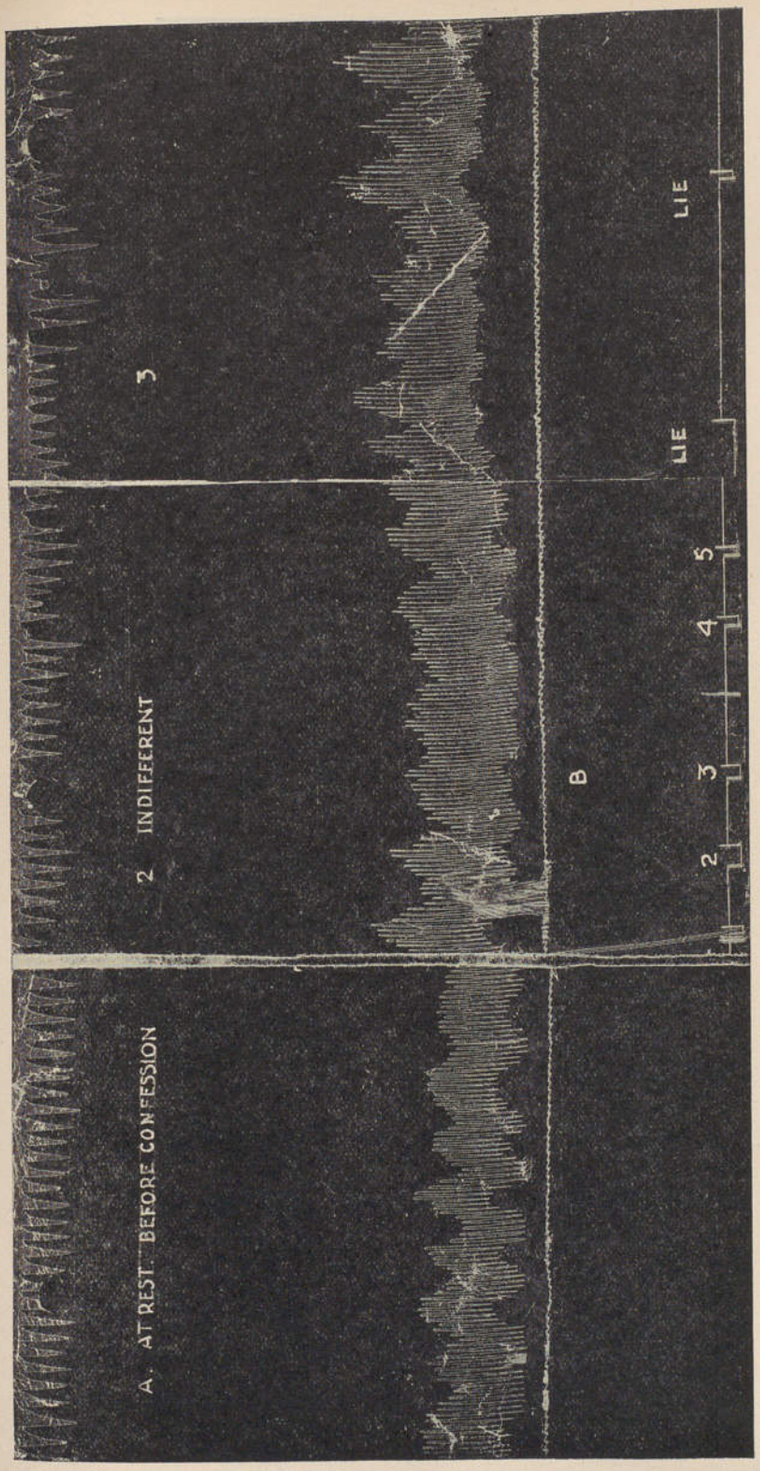


FIG. 18.—Police case: Record of a homosexual suspect lying about his guilt

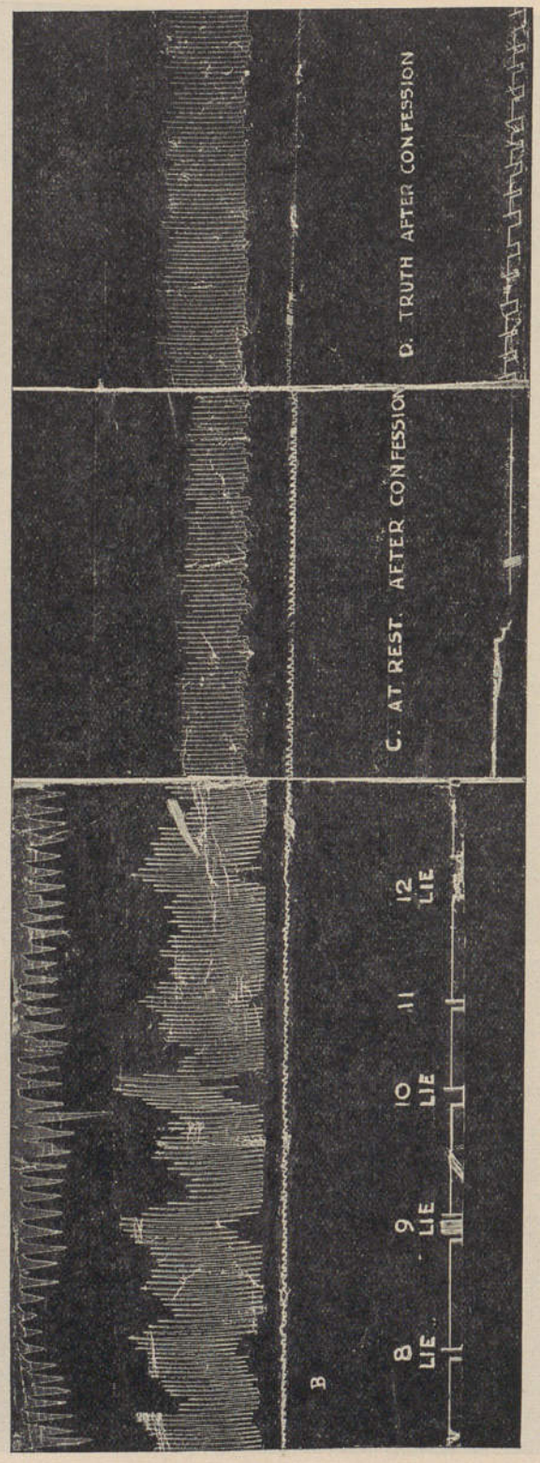


FIG. 19.—Record of the suspect referred to in Figure 18 lying about guilt. Later confessed. (See p. 324.)

mm. before confession in comparison to 130–130 mm. following the removal of the suppression.

FORGERY CASE

Case 17.—A boy of twenty-two had been brought in for investigation as a forgery suspect. This youth had a long record of sentences served, as well as escapes from various institutions. His manner was very unco-operative, but he submitted with the understanding that the record itself was not to be used in court as evidence. He was shown his record and then confessed. The range of systolic blood pressure during and subsequent to deception was 112–28 mm. and 120–30 mm. After the suspect had been returned to his cell it was found that the list of questions and answers had disappeared. Although the record was not to be used as evidence, G. G., fearing that the questions and answers could be used as evidence, had stolen them. When accused he denied but refused to be tested regarding them, saying he could remember the questions and had written a list. The original list he had destroyed before we reached his cell.

GANG CASE

Case 18.—The following article, taken from the *Berkeley* [*California*] *Gazette*, gives a brief description of this case:

How a gang of eight youths, ranging in age from 18 to 20, started playing holdup man to frighten auto spooners in the vicinity of McIver Hill, Albany, found how easy it was to scare persons by flourishing revolvers and then developed into a gang of highwaymen, burglars and auto thieves, was revealed to the local police yesterday. "The Lie Detector" brought forth confessions after two of the alleged ringleaders were taken into custody. Six other youths were arrested.

According to the police, the youths have confessed to numerous robberies and burglaries, several of which had never been reported by the victims. In one holdup on December 9, in Richmond, they clubbed ———, proprietor of the ——— Grocery into unconsciousness and left him for dead. Several hundred dollars' worth of loot was recovered and pistols, rifles, bludgeons and gas pipes loaded with lead shot were found. . . . .

———, university student and son of Professor ———, was one of the many victims of the gang. He was held up and robbed in El—— on December first. The most recent holdup staged by members of the gang occurred last Wednesday night when ——— was held up and robbed of his watch and roll at C—— and E—— Avenues.

Here is a partial list of the crimes to which the youths have confessed, according to the police:

December 1.—Holdup of auto party on El——, Albany.
December 9.—Attempted holdup of J. G.; escaped without looting till, after severely injuring ———.
December 11.—Burglarized residence of ———, taking small amount of money, canned goods and camera. Later burned camera.
December 14.—Took automobile of ———.
January 10.—Held up W—— at ——— and took $25 watch and $2.50 in money.
January 11.—Took automobile from ——— in front of ———. Car driven to C—— by three of the boys who were heavily armed. Said they were stopped by a deputy sheriff near C—— and became frightened, threw away bludgeons and drove the machine to V—— Avenue, where they abandoned it.
January 14.—Took automobile tire from the car of ——— but later, being afraid they would be caught, dropped it into a nearby creek.

In addition, the youths have confessed, according to the police, that they looted a barge on Sheep Island from which they took several tools. Several other thefts are laid to the boys and it is believed further confessions will be forthcoming today.

The police say the boy-bandits' gang had headquarters in the basement of the X—— residence at Y——. The boys are said to have lost much of the loot gambling. Confessions from the gang were obtained on the police lie-detector by Dr. John Larson, assisted by Police Officer Frank Waterbury.

According to the police, the first records made indicated that they were lying and, when informed that they were not telling the truth, one by one the boys admitted their guilt. For several weeks the police of A—— and B—— have been suspicious of the gang and have been watching them closely since last Friday. W—— of A—— assisted the local police in rounding up the gang.

The records taken of these boys showed the effects of lying in contrast to telling the truth after confession. Table IV gives examples of the pressures found.

TABLE IV

Suspect	Systolic Blood Pressure during Deception	Systolic Blood Pressure after Confession
V. C.....	132–140	104–108
J. V.....	131–104	110–114
R.....	166–146	108–104

BURGLARY CASE

Case 20.—One hundred and fifty dollars had been taken from a hardware store and the two inspectors detailed for the investigation suspected X——, an employee. Although they watched and questioned him for some time, he did not confess. When about to be tested he protested, saying that he had studied law and demanded an attorney. He stated that the record secured by such a test was not acceptable as evidence and that he had read the statement of some psychologist who branded the test as a fake and a waste of time. However, his protests finally subsided and he submitted to the examination. Sections of his record show the disturbances and the effects of deception as contrasted with the results secured after confession.

MEDICAL STUDENT THIEF CASE

Case 22.—The suspect involved in this case was a clever medical student who stole a bicycle and sold it to a boy. The latter was apprehended with the stolen property and referred the police to the student. The student told the investigating officer an improbable story of buying the wheel from someone who had told him that he would find the bicycle at a certain place. Accordingly, he went there and secured the wheel. Sections of his record showed disturbances due to a guilty complex. He was released and told to return the following Sunday.

The suspect then went to ——— and consulted with his father and an attorney, telling them the truth of the whole story. They advised him to return and to confess to the officer. This he did, saying that he had taken the wheel and framed a story.

After his confession he stated that his professor in the medical school had told the class that the test was not satisfactory or practical and instructed them how to defeat the aim of the test. It is interesting to mention here that several members of this class have been tested in police cases and all were successfully detected in their lies.

He stated that after the test was concluded he slipped back to where the record was and studied it. He also admitted spending an hour or more attempting to concentrate his attention upon anatomical tables. As a matter of fact, his record was rather difficult to interpret, in the case of most of the questions, but in one the effect of the deception complex is very marked.

The following is a statement secured from this student which is of interest in several particulars, especially since it shows how confessions may not be obtained through improper treatment in the investigation.

Officer A—— calls at the house to see me and I was horrified, stricken with fear.

"Are you Mr. Doe? I am officer A—— and I called to see you about a little affair that occurred a short time ago. Would you have the time to come to the station with me? We will be back in a few moments."

I rushed upstairs and tell all the fellows that I am in trouble and have a bad case against me but must go down to the station. While riding to the station the officer says:

"You see it is like this, quite a few bikes have been stolen lately and we want to find out who is doing it and we think that you may be able to help us out a lot."

Officer A—— was a pleasant chap indeed, had a pleasing personality and met me on even terms and not on the basis of the pursuer after the pursued. This officer made so light of the matter and seemed to think me innocent and at the time I was tempted to tell him the entire story but at the station it was different.

Officer B—— asked me my name and how I acquired the article and when I told my story asked me to step into the room and it was at this state that I became conscious of the fact that I would have to stick with the former story if I was to get by until Officer B——, in an easy, fatherly manner, said that the story I was telling was as old as the hills. At the start of the conversation he assumed that I was lying and said that he would tell me in a minute if I was lying because his machine would tell me in a minute that my story was untrue. Even up to this stage I was not antagonistic, but merely fighting to save myself. Officer B—— told me to write my story and then went away for about an hour. With his return comes Officer C—— who started off with a roar and a bang that not only made me feel that I was halfway to Folsom but aroused my fighting spirit to the highest pitch and from now on I was determined to foil him as well as clear myself. I was seated before the machine and told to answer questions.

I was well prepared for this because while I was left alone I drew a chart of the branches of the aorta to calm my irregular and uncontrollable nervous impulses and to myself I made up half of the questions that were asked of me. At the same time I was thinking of all of the ways that I knew of to fool their instrument so I went to the test fully prepared to match my skill against that of Officer C——. At the very start I tried to increase my tidal air through forced inspiration but was harshly told to stop. Then I tried moving my fifth finger and to take care of the reaction time. I allowed a certain time to elapse before answering questions. Officer B——, who manipulated the machine, detected my finger movement and told me that if I made any more moves he would have to run me through again. After the ordeal was over, Officers B—— and C—— again bawled me out and from the way they acted I was certain that they did not have any definite, concrete evidence against me because they didn't accuse me directly but tried to talk me out hoping that I would tell a conflicting story but when I would not, he blew up in smoke and one of them said, "Throw this guy in jail and lock him up."

Thus the emotional states were: first, fear and then a desire to tell the truth and when the station man made so much of it I saw that the only way to save myself was to go to the bat and stick to the original story. But later

when the third officer appears on the scene and starts calling me such names that I do not desire to repeat, then antagonistic methods were used to defeat him.

"FENCE" CASE

Case 30.—Outside deputies brought in a man who was suspected of being a "fence" for a gang of thieves. He was tested and during the test lied and later confessed to a series of crimes extending over a long period of time. Disturbances in his record during deception were evident. Following the confession, and with the use of the same stimuli, a clear record was obtained. The systolic blood pressure, 138 mm. at first, dropped to 130 mm. at the conclusion of the test.

BOARDING-HOUSE THEFT CASE

Case 86.—There had been a series of petty larcenies, including the theft of some clothing from a boarding-house for university girls. Some of the girls demanded that all those living in the house be tested as the investigating officer had reported that the *modus operandi* indicated the thefts to be "inside." The record of the landlady's daughter was selected as that of the individual who seemed responsible for at least some of the thefts. She was shown her record and questioned by an officer who was an old friend of the family. She confessed in the presence of her father and this officer. She stated as a reason for the thefts that she was in love with a boy and lacked the finery she needed. She also mentioned stores from which she had purchased other articles of wearing apparel with stolen money.

That evening the examiner and the officer conducting the examination, in a demonstration of the apparatus to some representatives from the editorial staff of a newspaper, used this case as an illustration. This was done only under the strict promise of "no publicity," as such publicity would be disastrous for the girl. The next day the case with all details was "splashed" over the front page as a "scoop," with the result that the girl's mother came down to start a lawsuit. The editor, or person responsible, had taken pains to emphasize that the mother of the girl was under suspicion of another theft designed to divert suspicion from her daughter and that she was to be tested again. Obviously, if that had been the case no further testing or clearing-up of the case would have been accomplished. Instead, the mother brought in her daughter, who had in the meantime withdrawn her confession, saying that the confession was forced from her by brutal officers. This was obviously a falsehood since her father was present. She was tested

again and her records showed disturbances as before. The case was further complicated by the story told one of the officers. The girl had explained that the disturbances in her record were due to previous thefts of money from her mother. This officer openly sided with the girl, thus preventing a clearing-up of the case at that time.

POKER GAME CASE

Case 24.—An officer had observed a considerable sum of money displayed upon the table during a poker game. As he rushed through the door to raid the place the money disappeared into the pockets of one of the two men. Both were brought at once to the station and tested. One suspect at once confessed, answering the questions truthfully, and the effect is seen in his record in contrast to the disturbances in the record of the other subject during deception. At the conclusion of the test, B, who had confessed gambling and who had been tested previously because of a burglary charge, told his friend G that he was foolish to "try to beat the machine as it can't be done. Tell 'em the truth and get it over." G thereupon confessed.

CHAPTER XX

THE FEAR OF THE INNOCENT: REPRESENTATIVE "INSIDE" CASES

The objections to this type of investigation have been mentioned in chapter xvii, and of these objections the fear of the innocent is the most important. This is again discussed in chapter xxi in one of the murder cases. Naturally, if one is able to take a group of suspects and to eliminate the innocent and select the guilty, then the fear of the innocent does not play an important rôle.

GROUP CASE

Case 3.—The records shown in Figure 20 were taken in the examination of a group of thirty-eight girls. According to information received from a clerk, someone in this group of thirty-eight college girls was a shoplifter. The members of this group were tested, all at the laboratory within a sixteen-hour period, and, of course, all were given the same questions. The record in Figure 20 B is that of the girl who was selected because of her record, and after two tests given several days apart, in which similar records were obtained, she confessed. It seems that she had stolen so many books and fancy trinkets that the girls considered her wealthy. She admitted having sold in various places over five hundred dollars' worth of books, as well as articles from the stores and clothing taken from her roommate and others. Each set of records is divided into three divisions. The first of these is termed the "normal," although this may not represent the real normal condition, since there may be an increased tension due to the nature of the test. One has always to remember that the nervousness of an innocent suspect may cause changes as well as the fear of the guilty. It has been found from experience that in the case of the innocent the tension usually remains at about the same level, decreases, or else fluctuates very slightly, whereas in the guilty suspect the tension is increased by deception and the record changes very markedly. The record which is typical of the innocent girl shows no significant changes throughout the test. On the other hand, the record of the girl who was guilty of the shoplifting is different from the very beginning. In the so-termed "at rest" portion of the record, she is seen to be under considerable

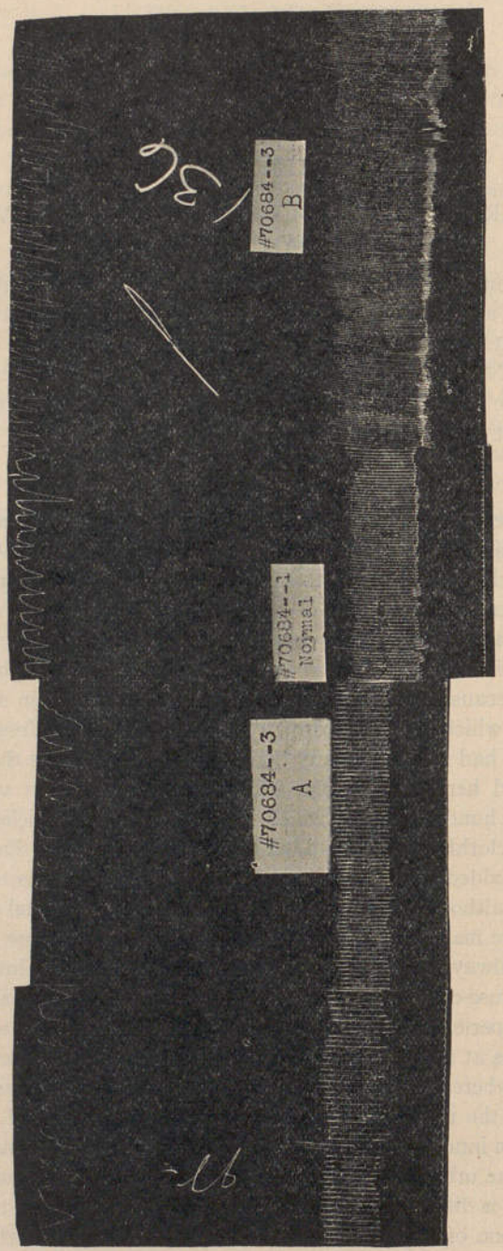


FIG. 20.—These records are representative of "inside jobs" where someone living in the group is responsible for the crime. Record of a shoplifter who was picked out of thirty-eight girls as compared with a typical innocent record, no deception present. Reaction-time line omitted by photographer.

tension as compared with the "at rest" portion of the others. In this record the changes of the cardiac curve are more significant than the respiratory ones, and we find this to be usually the case. In spite of this, however, this girl is assumed to be innocent and is classed as merely of a more nervous temperament than the others. This assumption would hold unless the changes become more pronounced. (In such cases the increase is usually due to deception.) As a matter of fact, the tension did become markedly increased with the result depicted in the record. The question arises here as to how absolutely one can draw a defining line between what are termed indifferent questions and those questions relevant to the alleged crime. Too distinct a line cannot be drawn, for in most cases the suspect does not know when the crucial questions are forthcoming. This feeling of unpreparedness may cause emotional disturbances in some individuals. This is often marked in the guilty, but absent in the innocent. Such an effect may be termed an "anticipatory." It is interesting to note that the shoplifter (foregoing case) afterward admitted that she had stayed up playing cards the night preceding the test that she might have a good alibi, saying that her record, if poor, was due to fatigue, etc. The systolic pressure of this girl fluctuated between 136 and 130 mm.

Rôle of anger and fear.—Case 3 is instructive from the standpoint of the relative rôle played by anger and fear in the innocent suspect in its relation to the interpretation of the records. Here all the girls were examined in an unusual environment and all were under suspicion, but only the record of the shoplifter was selected. Thus the fear of the innocent, when questioned in regard to the alleged crime, need not invalidate the test, nor need it interfere with the interpretation of the records. As to the presence of anger, the result of the introspections of all the girls involved show that anger was vouchsafed only in the case of the girl who had lied.

INNOCENT AND GUILTY REACTIONS

Case 5.—A long series of "daylight" burglaries had been committed and special cordons of police were on duty throughout California for some months. Finally, one afternoon one of the inspectors brought in a suspect found in the vicinity of the district in which the burglaries were being committed. The description of this man tallied exactly with that of the burglar, and the suspect admitted that he had been in the vicinity when the last series of burglaries were committed. He also admitted that he went from house to house seeking employment, as

did the man wanted. In addition, his entire manner seemed indicative of guilt. He was confused and contradictory in his statements and could not give satisfactory explanations for his actions.

He readily submitted to the test, ran a remarkably clear record, and was at once released by the inspector who cleared him in his report. Figure 21, lower cut, shows no differentiation between indifferent and pertinent questions.

Some two months later, another suspect was brought up from Pasadena who had been picked up on suspicion and whose fingerprint had been obtained at one of the burglaries. It was ascertained upon looking up this man's fingerprint record that he had been arrested on suspicion as a burglar in many cities but that he had always succeeded in evading conviction. In fact, he was so clever in this respect that he had acquired the sobriquet of the "Eel." In addition, he possessed considerable legal acumen and on being first brought into the station demanded to be booked, so that his attorneys would be able to find him. He mentioned with considerable pride that he had been twice deported as a German spy (during the war).

This man consented to the test with the understanding that the records obtained would not be submitted as court evidence. He was a little apprehensive at first, saying that the last time he was interviewed he had been treated rather roughly. He mentioned in particular that an intense light had been directed into his eyes and that he had been compelled to look directly at it.

In spite of the fact that this man rated as a clever crook, his entire behavior was indicative of fear. His eyes constantly avoided those of the examiner, his voice was tremulous. His record was fairly smooth up to a certain point when a sudden inhibitory effect became very noticeable (Fig. 21, upper cut). At this point he requested that we stop the test as he was too upset to continue. It was interesting to note that aside from the disturbances in his record, his answers of themselves put him in the city on the days in question (when he had previously told the inspector that he had not been in the city at all) and also in the actual vicinity of the crimes, and he later admitted soliciting work at the houses in question. A short time afterward he confessed to a series of burglaries. His burglaries in this city alone aggregated thirty. He stated afterward that he was firmly convinced as to the accuracy of the test and that as a procedure it unnerved him and he gave up hope.

In the foregoing cases the test acquitted an innocent man and selected the man who lied or was guilty.

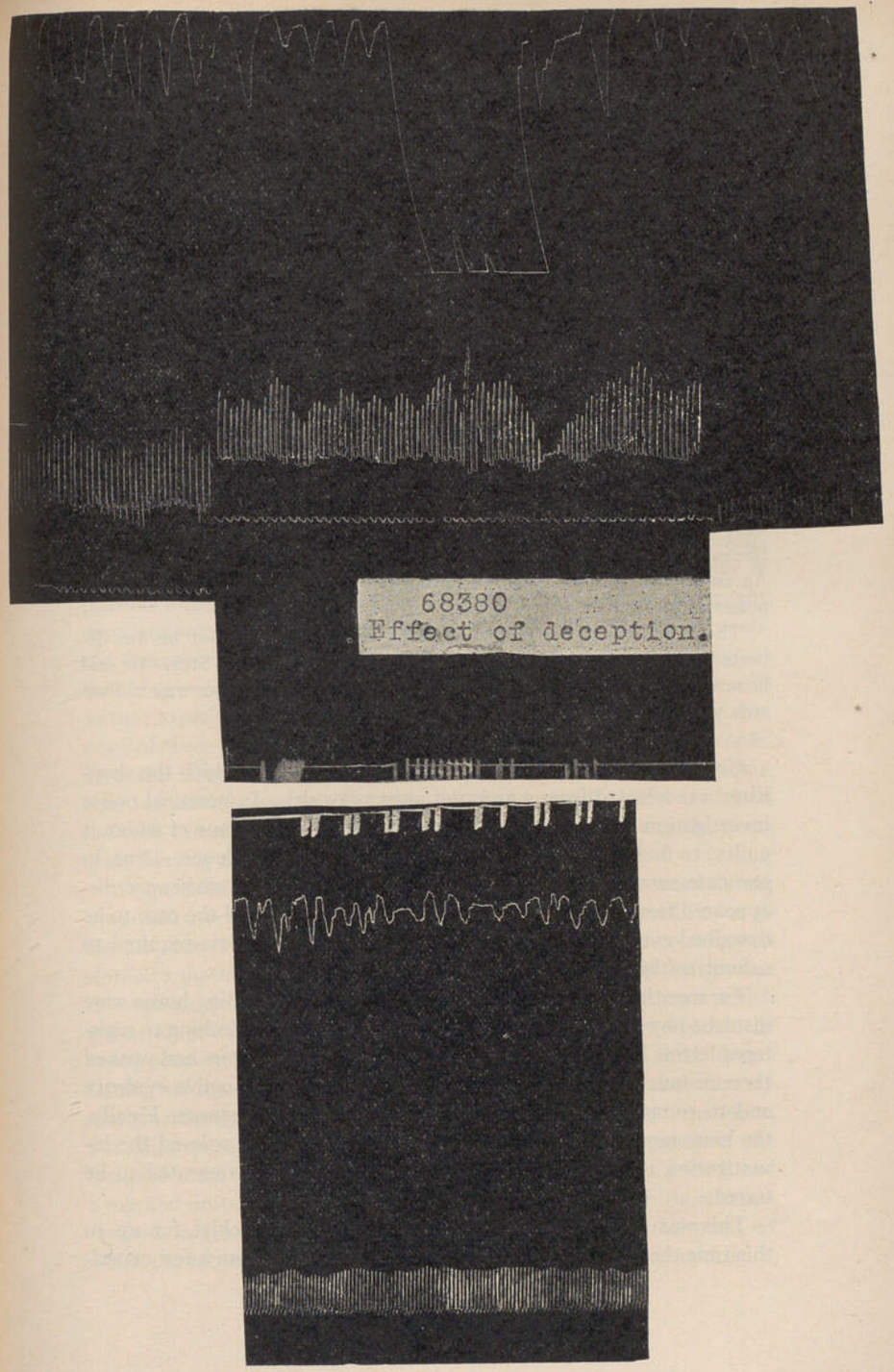


FIG. 21.—Police case: Comparison of records of two men suspected of same burglary. Lower cut is record of innocent man. At top is record of guilty criminal. (See p. 336.)

The following is a reliable account of some of the "Eel's" activities (used through the courtesy of the *San Francisco Examiner*):

"The Eel," slippery daylight burglar, registered in the Berkeley jail as Harry Hintze, age 25, confessed yesterday to a large number of robberies in California.

He is alleged to have obtained $20,000 in less than a year."

Hintze was captured in Pasadena upon information supplied by the Berkeley police. In addition to the Berkeley crimes, he is said to have admitted several burglaries in Palo Alto and San Jose. An investigation of several other crimes in Berkeley, Woodland, San Diego, and Pasadena is being carried on.

"Check it up to wild women" was Hintze's explanation of the motive which led him into crime.

When taken into custody in the South, he admitted having been associated with a woman, but denied that she had any connection with his burglaries. She is sought, having evaded custody through a warning sent her by Hintze. An automobile and an elaborate wardrobe were found as part of Hintze's possessions.

The prisoner told the police yesterday that during the war he was deported to Germany as an undesirable alien under the name of Stein. He said he returned by taking passage on an American ship making his way to Panama.

HOTEL THEFT AND COLLEGE CASE

Case 23.—This case is similar to that of the one in which the shoplifter was selected from a group of university girls. In practical police investigation the problem is, given a group of suspects one of whom is guilty, to find that one, though there may be little evidence. Thus, in one case some one hundred and twenty-five pieces of silverware disappeared from a hotel during a dance. In both this and the case to be described everyone present at the scene of the crime was required to submit to the test.

For months some ninety girls living in a college boarding-house were disturbed by a series of thefts, ranging from silk underclothing to registered letters and a diamond ring. The police investigators had worked three or four months without success. There was no tangible evidence and to complicate matters there were some dozen suspects. Finally, the housemother, becoming alarmed at the publicity, ordered the investigation terminated but not before the girls had consented to be tested.

This was to be the "acid" test, according to the chief, for up to this time the test had merely been discussed. Aside from a few experimental tests, no real cases had been run, that is, cases in which the suspect repressed the truth through fear of the consequences.

It might be mentioned at this point that the questions should be simple and not too involved. When there are several individuals, the effects are not so difficult of interpretation. It is always well to put the accusations in the form of simple questions and never to accuse directly, as "Did you do this?" instead of "You did this and now tell us where the money is," etc. Also, the first few control questions should be such that a definite check is possible, for sometimes an innocent suspect lies on some of the indifferent questions merely to see if they are detected and, of course, the effect of such deception is not analogous to the repression of the guilty. Again, the preamble is usually more concise and the questions should require but a "yes" or "no" answer.

After the test was over the girls were asked to introspect carefully and to tell us their real feelings, analyzing their emotions as far as possible during the test. The chief feelings of all concerned, when any emotions were experienced, were those of anger at the thought of possible detection; in the girl who later confessed, a slight resentment at the thought of possible suspicion and worry or fear ("nervous feeling") as that experienced during an examination. But it is noteworthy that none of these emotions was intense enough to show upon the records. Both the respiratory curve and that of the blood pressure in the innocent subjects showed marked regularity, and no difference was found between the effect produced by the irrelevant questions and the questions bearing upon the investigations.

All questions were asked of every girl and the time consumed during the entire investigation was made as nearly the same as possbile for all the subjects. With one exception the records of all the girls investigated showed a marked uniformity and, except for the rhythmic changes due to respiratory effects and one or two involuntary movements which were duly noted and indicated on the drum, no differences could be noted between the effects of the indifferent questions and those appertaining to the thefts. However, in one case the record showed very marked effects, both in the respiratory rate and in the blood pressure, but this record was not completed as the subject "blew up." In one instance there seemed to be an involuntary holding of the breath and a marked drop in the height of the beats, following which there was a marked increase in rate, pressure, and amplitude. At the point at which the subject forced us to discontinue the experiment, the pressure,

rate, and force were steadily increasing. In addition to the ordinary respiratory effects upon blood pressure, etc., marked irregularities were noted. These were chiefly inhibitions in breathing and apparent slowing or skipping of heartbeats. Thus, it is to be noted that a quantitative increase in pressure is by no means the only significant factor in the determination of deception.

As the Tycos reading was being taken, the subject jumped to her feet and ran over to the drums and while protesting vehemently at the questions asked and stating that the entire performance was an outrage of the worst sort, she kept looking over the record. She then went out of the room and told one girl that she wanted to tear the paper record in pieces and informed another girl that she wanted to "smash the officer's face." She then went directly to her roommate and asked her if she had told us anything in the last few hours, for she was the only one who could have known the things about which we asked her. Here she was referring to the talking in her sleep. A few days later, under investigation, she admitted committing the thefts and paid for the property stolen.

Previous to the test of this girl the records of several other girls were eliminated although they were suspects. Such suspects are usually innocent, for they are selected because of personal idiosyncrasies or dislikes. With this girl's confession, further investigation was prevented by the summer vacation, although several other interesting possibilities had developed. Thus, while testing the group of girls several peculiar occurrences took place with the apparent purpose of distracting the attention of the examiner. Other thefts were brought to light, extending back into the previous semester and suggestive of the fact that others were involved. Articles of clothing had been disappearing for some time, but this frequently happens in large boarding-houses, as one student borrows from another, wears the article, and forgets to discuss the matter. If time had permitted, the chambermaids, the housemother along with her family, should have been tested. However, the immediate problem of the test was to recover the sums of money and the ring, or their equivalent.

The girl who confessed possessed a very unstable personality. Thus, after replacing the property she had admitted stealing and after returning home, she wrote a letter saying that she had been told that she was a fool for confessing. She even denied her guilt and intimated that she had been tricked into a confession.

The conduct of the girl following her second test is interesting. First,

it should be mentioned that this girl was the favorite of the housemother. One girl had been accused by the housemother in a house meeting. The day after the test the girl selected by her record came to the office and demanded to see her record. She then explained the disturbances present as being due to anger at suddenly realizing that she was under suspicion (the procedure had been no different in her case than in that of the others). She was then told that if she was not guilty the police could go no farther in inconveniencing her. Then orders were left that none, including the chief, was to see the girl. The result was that within a few days she commenced calling up at frequent intervals asking for an appointment. At first, no attention was paid to these calls until she left a message that if Officer ——— did not see her at once something would happen. During the interview she threatened suicide unless the case was cleared up at once. She then offered to replace the ring which had been stolen if by so doing further investigation would be stopped. She was shadowed as she went to various pawnshops looking for a "suitable ring." Finally, she secured one from a jeweler's store but it was not the missing one. A few days later she offered to confess if she were guaranteed immunity from prosecution and exemption from publicity as far as possible. She also insisted upon a signed statement from the girl who had reported the loss of the ring that she would not prosecute.[1]

CHEATING CASE

Case 27.—Two men were suspected by the Men's Students' Affairs Committee of the university of cheating. One submitted to the test but the other refused. The Committee was convinced that the first told the truth when he said that the similarity in the pages, even to the mistake, was accidental and that he neither cheated nor saw anyone cheat. However, it was inferred by the examiner that he had lied but nothing was said to him at the time. A student assistant of the examiner was secreted in a certain locality in which students No. 1 and No. 2 were accustomed to meet. He overheard No. 2 asking, "Did they get anything on you in that test? That thing is the bunk and they will never catch us as we have the Committee fooled. If they did not get anything on you, I will take their test and then they will be satisfied." Number 2 then arranged for a test and disturbances due to deception were obtained, some anticipatory effect also being shown in his record.

[1] Due credit should be given to Officers Fisher and Wiltberger who conducted this investigation.

The students were then separately questioned and No. 1 confessed to lying to the Committee and also to lying during the test, but No. 2 refused to make a statement.

ELIMINATION CASE

Case 38.—Some weeks following the burglary of the home of Sergeant ——— one of the burglars was apprehended as the result of a trap set in a pawnshop in San Francisco. This man maintained his innocence and readily explained his possession of the stolen property. When tested upon two different occasions, the disturbances present seemed indicative of guilt. He later confessed in order to secure a lighter sentence. The interpretation of the record was confirmed.

A man, later apprehended, was accused by a "stool pigeon" of being implicated in the same case. He protested his innocence and was tested. The record cleared him. It was later conclusively shown that the suspect indicated by the test as innocent was actually innocent.

DISCRIMINATION OF GUILT

Case 40.—In some cases it has not only been possible to determine the guilt or guilty knowledge of a given suspect in respect to one crime, but the examiner, by a study of the record, has often been able to clear the same suspect from complicity in another crime. In the following case an even finer distinction was drawn. As a result of the test of a drug addict, it was decided (and later confirmed) that this man had never actually "cracked" any safes himself, but that he knew of men who were "safe-crackers." Of course, whenever a suspect is to be examined in connection with different crimes, care should be taken to separate the questions from one another as much as possible. In this case the questions were separated by quite long intervals. Often a record of a suspect does not clear him because of the fact that one of the stimulus words contained in the question recalls to his mind another crime. In such a case, prior to a second test the suspect is informed that he is to be tested in respect to one crime only, or he is told of the exact crime of which he is suspected, or, having told the examiner of his previous crimes, he may then give a clear record on the new examination.

OVERCOAT THIEVES CASE

Case 41.—Following a series of overcoat thefts from a university library, two suspects were brought in for investigation. The attitude of each stood in marked contrast: one seemed to be on the defensive,

while the other was loudly demanding his rights and apparently scornful of the entire procedure. During the test the latter sat smiling while the former was manifestly under considerable tension. The records of both seemed indicative of guilt, and this inference was later corroborated by the confession of each.

LIQUOR THIEF CASE

Case 47.—Inspectors from a neighboring city brought in two men suspected of the theft of some cases of whiskey from a house. One of the suspects had been employed at this house. One of these men was under suspicion as he was a burglar on parole from the penitentiary. This one admitted taking a couple of bottles but denied taking more. His record on being tested seemed to clear him. The principal suspect lied throughout the test, denying that he took anything at all, but later confessed. The systolic blood pressure of the former convict was 144, 148, 168, 142, 162, although there was no deception. However, the graphic record showed no significant disturbances. The systolic blood pressure of the one who lied ranged from 142 to 158.

MICROSCOPE CASE

Case 68.—This case represents a rather involved and yet interesting tangle. A microscope was reported stolen from a university and the case was referred to the police. Prior to this theft a platinum crucible had been stolen from another part of the campus. Since the same professional class of students had access to each of the buildings, it was at first assumed that whoever stole the crucible had also taken the microscope. As there were some two hundred teachers and students who had access to the rooms, permission was obtained to test the entire group. Before testing the group, preliminary investigation revealed that a certain medical student was suspected of the theft and the persons interviewed were emphatic in their assertions that he was guilty. Before testing this suspect, it was found that all remarks derogatory to this individual seemed to come from one other medical student. It was then discovered that this student was suing the "suspect" for some money and that they had formerly lived together, but had quarreled and separated. Since the second student was a sales agent selling instruments, he seemed a good candidate for the theft of the microscope. He was at the same time circulating rumors accusing the other student in order to shield himself. It was accordingly decided to test these two and also to test the student who reported the loss of the microscope

before considering testing the entire group. The girl reporting the loss was sent for, tested, and at once eliminated. The following evening the student supposed to be the thief came in to be tested. He brought a friend. Permission for his friend to be present at the test was refused, and the suspect was in such a fighting frame of mind upon entering the room that he and the desk sergeant nearly came to blows. In spite of this, he was at once eliminated by his record. He was also tested with regard to the other accusations by the other student and was likewise eliminated. Some evenings later the other student reported for the test, bringing a friend. Upon being told that he could not bring his friend, they both insisted upon coming in together, but he was requested to come alone. This he refused to do. His reactions were those of a guilty suspect who was much terrified. His friend, a Freshman medical student apparently old in years and experience, warned him not to come alone as he would be beaten up, and, further, that the test was worthless and that the police were going to "frame" him, etc.[1] They then left the building and a few days later the suspect called up, saying that his attorney advised him not to submit to the test.

The professor in charge of the investigation for the university was asked to send down the students in groups. As the result of the examination it was found that the microscope had been borrowed, not stolen. However, since the original suspect had been likewise accused and eliminated of the charge of stealing and selling alcohol from the university, it was later found that the suspect who had refused to come for the test was alleged to have done the bootlegging. Evidence was accumulated to show that the latter, while acting as an assistant in the department, had stolen alcohol and sold it to fraternity brothers and others as synthetic gin. Owing to some pressure apparently brought to bear by his fraternity brothers, for both suspects were members of the same organization, the second medical student went to the chief and complained that members of the department entertained animosity toward him. The chief quickly persuaded him to take the test as the other boy had. His record was interesting, for he had told friends that he knew of a method whereby he could prevent a correct interpretation. The section of his record while at rest shows marked uniformity with no apparent tension. From the moment that the subject saw it was time for the questions, irregularities appeared in the cardiac record. These were not due to any cardiac insufficiency, for the normal, during

[1] The latter's antipathy to the police was well founded. Once while drunk he is alleged to have struck an officer and had been locked up and fined.

all the time taken at rest, showed no such deviations. These are plainly discernible at questions 4 and 5. In spite of his attempt, the effect of deception is very apparent, as seen at questions 7, 8, 9, and 27.

ELIMINATION CASE

Case 69.—A man was brought in as a burglar suspect. This man, in spite of the fact that he had been previously identified by a woman as the alleged burglar, ran a clear record and was eliminated. The subject had previous records and everything seemed against him.

ELIMINATION CASE

Case 70.—Following a series of early morning burglaries, a special cordon of police had been detailed to the threatened section. Within a few minutes after a series of four burglaries, an inspector picked up the driver of a machine in the same vicinity. This man had asked him "how to get out of the town." He was brought in for investigation and a search for his fingerprints showed him to be a "three-time loser" (three terms in the state penitentiary) and burglar. He seemed very confused and frightened, and yet he was straightway eliminated by his record (questions 6 and 7) of complicity in the burglaries in question. His record from question 3 onward seemed to indicate guilt in regard to burglaries in other cities. It was later found that he was in bed at the time of the burglaries. The suspect later confessed to deception in the questions involving other crimes. He refused to be tested again, saying, "You have enough on me now to bury me."

POLICE CASE

Case 72.—The chief of police at the station reported that someone had forced the door within the office safe. Six men who could have had access to the safe volunteered as subjects and were eliminated. At this time the sergeant returned from a vacation and reported that none of the men was responsible as he himself had accidentally broken the piece from the door. On the other hand, the record of a drug addict working around the station showed some disturbances. This was due to his anger at some of the officers who were always accusing him.

ELIMINATION CASE

Case 73.—A sum of money had disappeared from a rooming-house. Suspicion was strongly directed at the landlord's son and a friend. They were tested and at once eliminated. This was contrary to the expectations of the investigating officer since one of the suspects had a very

bad character and had admitted being in the room shortly before the theft. He was also the only one who had known that ——— had the money. The range of systolic pressure here was 115–18 mm. A few days later the one who lost the money reported that a friend of his had taken the money, intending to frighten, him but had been unable to see him before the police had been notified.

DISCRIMINATION CASE

Case 75.—A burglary had been committed in the home of A——. One of the neighbors remembered having seen B—— in the vicinity on the day of the burglary. This individual was brought in but denied having been in the house or knowing about the stolen jewelry. He gave his permission to be tested. His record was very interesting in that every time he was asked "Did you take the jewels?" or "Have you lied about taking the jewels?" his record was clear; but marked disturbances appeared in answer to the question "Do you know who did take the jewels?" and "Did your brother take the jewels?" As a result of a study of his record, it was inferred that he had lied but did not commit the crime himself and that he was shielding his brother. This man was detained until his brother was located. The latter in turn denied any knowledge of the crime and was tested. His record showed marked disturbances which seemed to involve a direct participation in the crime. It was inferred that the disturbances were indicative to deception and guilt. He subsequently confessed, saying that he alone had committed the burglary, but that his brother had knowledge of it as he had seen the jewels in his possession and had questioned him about them. The range of systolic blood pressure in the case of the thief was 104–8 mm. before confession and 100–100 mm. after confession. In spite of lack of quantitative changes in the systolic blood pressure, the record showed marked disturbances during the first test as contrasted with the clear record following the confession.

FORGERY CASE

Case 76.—The following case is of interest because of its ramifications. A confession was not secured from the suspect. The interpretation of the disturbances shown in the record (Fig. 22) suggests deception and also that the suspect was guilty. However, this interpretation may be incorrect. This case is described, as was that of the Hightower murder case, to show the proper procedure in such cases. The record should not at this stage of our knowledge be used to commit the sus-

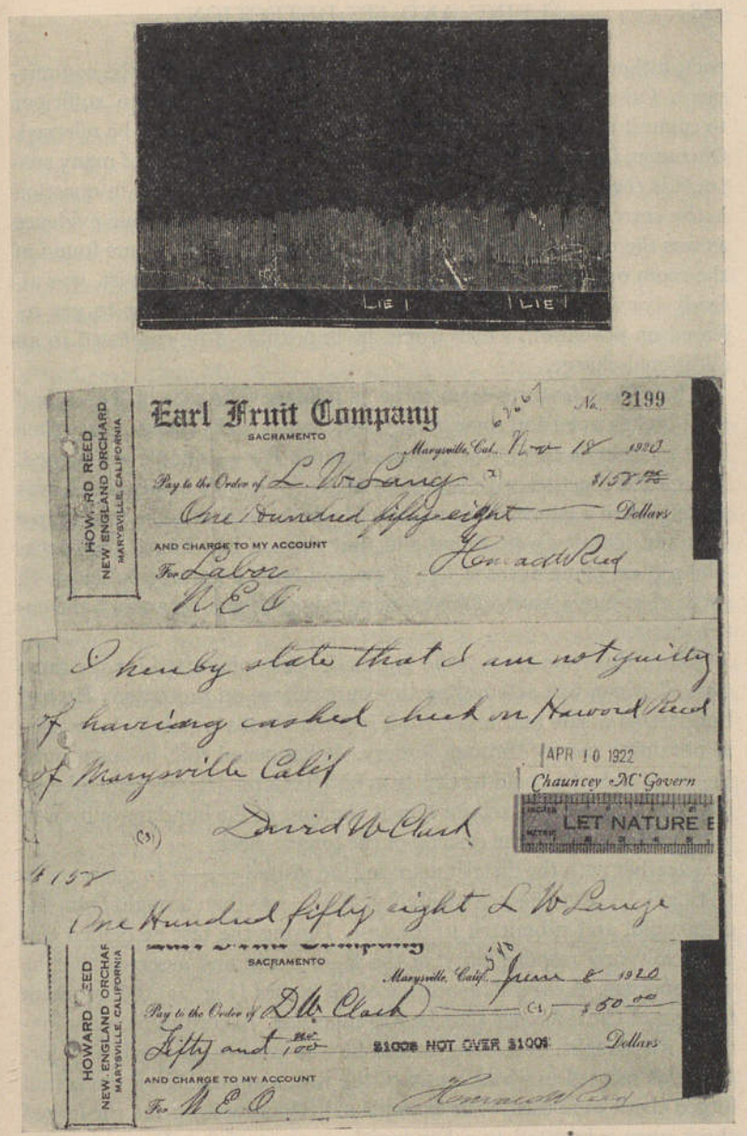


FIG. 22.—The upper cut shows cardiac disturbance of a burglar denying his guilt of a forgery. (See p. 348.) The lower cut shows the handwriting evidence which implicated suspect as a forger, thus verifying interpretation of author's record.

pect, although the interpretation might seem to warrant the commitment. Other evidence should be obtained. If such evidence, sufficient to commit the suspect, cannot be obtained, then he should be released. Of course, the value of a deception test is to suggest which of many suspects is the most likely candidate, or whether the suspect in question is the correct one. The police can then secure corroborative evidence as was the case in the burglary cited in which the jewels were found in the room of the suspect. In this case the suspect, a recidivist, was already convicted on a similar offense and was attempting to get released on probation, which would be impossible if he confessed to an additional charge.

The salient features seem to be as follows: The safe of R—— had been broken open and some money and blank checks taken. Some time later a facsimile check was passed on which R——'s name was signed. The check, together with examples of R——'s son's handwriting, was submitted to a handwriting expert. He declared that some forty-three points of identity were found and that the son had forged the check. The son on being accused left home and later became troubled with spells of amnesia and suffered a mental breakdown because of the entire affair.

About this time S——, who had once been committed for the same type of crime, was attempting to secure release on probation. He had burglarized a safe and taken from it some blanks which he later used in obtaining money through forgery. It happened that he mentioned R—— as one who could testify as to his character. R—— remembered that this man had worked for him at the time of the burglary of his safe and had left prior to the cashing of the forged check.

Together with the district attorney, he visited ——— in reference to testing S—— as to his responsibility. S—— was then brought from the county jail and submitted to the test. During the test he denied emphatically any responsibility in the R—— case and asserted that he was innocent. A careful inspection of his record (Fig. 22) did not seem to warrant the inference that he was innocent. Accordingly, other evidence was sought. A statement that he was innocent of the R—— forgery was secured in which many of the words appearing on the actual forged check were used. The example of his handwriting and the forged check were submitted to a handwriting expert of San Francisco. Arranging them for the purpose of comparison as shown in Figure 22, he photographed them and declared that S—— was responsible for the forgery of the check (shown at the top). The check at the bottom is an

original one signed by R—— himself. The reader, as well as the expert, can make his own comparisons and then examine the graphic record again and decide whether or not S—— seems to be the guilty party.

In this case the handwriting evidence and the *modus operandi* seemed to select S—— as the guilty one, although, of course, it need not be assumed that either is absolute evidence, especially the *modus operandi*. Here, however, is a man who opens safes, steals blank checks, and then uses the same to secure money; his handwriting seems to be identical with that on the checks. And if the fact that the interpretation of the record indicated deception be added to these two factors, it would seem that Mr. R—— did not make a mistake when he apologized to and reinstated his son.

In many cases the changes during deception are so marked that no difficulty is experienced in the differentiation. In some cases, however, it is necessary to watch the base of the record, or to watch what corresponds to the dicrotic notch in the ordinary pulse curve. These notches, or "feet" (so termed because of the analogy to the notch of a foot), may show many significant changes. Of course, these could be more easily observed by using a higher-speed driving mechanism. In studying the records not only changes in cardiac and respiratory rhythm should be noted but also their interrelation. These, as well as frequent amplitude and pressure changes, may show significant points of differentiation.

ELIMINATION CASE

Case 78.—Over a period of several weeks, a series of larcenies had occurred in a boarding-house at ———. The routine investigation of the officer led to the conclusion that this was an "inside job." Accordingly, those who were in the house were requested to co-operate by submitting to the test. Everyone consented and the records of the first five suspects were clear and they were eliminated. The one remaining suspect disappeared on the morning that she was to come to the station. It subsequently developed that the girl was wanted in several cities for the same type of crime and was also wanted in the North on a murder charge.

THE WISCONSIN BANK ROBBERY CASE

Case 88.—In this case Mr. Keeler had written the writer to the effect that he had tested two bank-robbery suspects whom he cleared, and that the defense was anxious to have the writer and himself appear in court. The writer agreed to do this, for he had confirmed the opinion

of Keeler following an examination of the records, although in this case he had never seen the suspects.[1]

After much work, the defense attorneys (in the aforementioned case) secured the permission of the judge to call a night-court session with the jury absent, in order to have a demonstration of the test and to receive the testimony of the two deception-test experts. Following a short description of the test came the testimony that in our opinion the defendants were innocent. The district attorney and his deputy then cross-examined. They appeared quite bewildered and time and again appealed to the experts for suggestions as to how to frame their questions. Finally, a demonstration with cards was agreed upon with the district attorney's deputy as subject, in order to show the court the mechanics of the test procedure. The writer pointed out that a good and scientific demonstration was impossible under the conditions since the factors would be different. However, the subject's deception in regard to the card situation was very apparent to everyone present. The judge made no unfavorable comment and the court adjourned. The next morning the district attorney refused to have this sort of evidence brought into court on the grounds that it was usurping the functions of the jury. He then placed three witnesses on the stand who testified that they saw the defendants commit the holdup. Some two days later the real bank robbers were apprehended elsewhere and confessed to this Appleton robbery, adding that the woman who was the main witness for the prosecution was in a hysterical fit during the actual robbery. Naturally, the innocent defendants were released. The last the

[1] Such is the objective nature of the test when properly carried through and further shows the objections of certain critics to be groundless when they state that the interpretations of the writer are based upon subjective cues received during the course of the examination. As a matter of fact, the more the writer interrogates suspects the more he agrees with his tenet, i.e., that the subjective cues are too often misleading. At the present time whenever it is possible Mr. Haney occupies a position where he cannot see the record but can watch the suspect. He then makes a list of the standard cues or criteria which he uses as a means of judging the man's innocence or guilt. In other words, he uses the same means that the experienced jurist or skilled cross-examiner uses. We then correlate his interpretation of innocence or guilt with the changes in the graphic record and the interpretation based upon these changes alone and later with the true facts in the case. The correlation between the interpretation of the examiner, who makes use of the changes on the record, with the actual facts as to whether the man is innocent or guilty is much higher than in the case of the observer who uses subjective cues alone. Thus, the poker-player, the confidence man, or skilled liar finds it much easier to fool the observer who does not use the test as a basis of his judgments.

writer has heard of them they were suing the prosecuting attorney and the witnesses. On the other hand, this same prosecuting attorney has, in other cases, requested the use of the apparatus and Mr. Keeler has told the writer that at one time he was successful in securing a confession in a murder case for him. In the foregoing case we certainly had to deal with the fear of innocent suspects, for in this case they had been positively identified by three reputable witnesses and their futures were very much at stake as their work depended upon selling bonds to banks. In addition to this, it was difficult for them to give a positive alibi. One of the suspects was so apprehensive that the examiners and attorneys feared that he would go to pieces on the stand. Yet during the actual test procedure these men were eliminated so far as having any guilty complex concerning the bank robbery was concerned.

PENITENTIARY CASES

The records and the cases 89 through 97 are described elsewhere.[1] The figures are of interest as showing numerous reactions of recidivists in the penitentiaries.

The utilization of this veracity test seems to form a general topic of conversation for the prisoners. As a result, during the last few visits the fear reactions shown by some individuals toward the test were very pronounced; as soon as they stepped into the room and saw the apparatus they showed extreme manifestations of fear, such as trembling and pallor, and, though no word had yet been spoken to them, they vehemently declared that they would never submit to a test on the instrument.

The record shown in Figure 24 was produced under somewhat unusual circumstances, arising during a discussion of the test. It seems that in a spirit of fun some of the inmates told an ignorant, superstitious colored prisoner that he was to be tested during the next visit of the examiner. He at once became very much perturbed and wanted to know by what means he might "beat" the test. The men then told him that if he would wear a bottle filled with a certain liquid over his heart any disturbances in heart action would not register on the apparatus. When the examiner heard about this he called the man into the office to see what sort of record he might get. Since the suspect believed in the efficacy of this method of deceiving the examiner, it was thought that a true emotional content might be elicited during de-

[1] "A Study of Deception in the Penitentiary" and "The Use of the Polygraph in the Study of Deception."

ception about the bottle. After a good normal was secured, some irregularity, interpreted as due to anticipation, appeared after the answers to the indifferent questions. Extreme reactions, however, were secured when the subject answered "no" to such questions as the following: "Are you trying to deceive me in any way today?" "Did you take any steps to prevent this test from working?" "Did you try to prevent your heart from being affected in any way, such as placing a bottle of liquid over it?" In fact, the test had to be discontinued temporarily at one point on account of the tremendous excitement. During one of the rest periods while the examiner listened to the subject's heart he succeeded in extracting the bottle of liquid from the breast pocket of the man's shirt and returned it without his knowledge.

In a subsequent test this same man was again tested on the question of whether or not he was deceiving the examiner. He again wore the bottle and again a record similar in pronounced reactions to that secured in the first interview was obtained.

This man was also questioned as to his innocence or guilt of the crime for which he was in prison, and in response to this question very pronounced changes in the curves resulted. Whenever this man sees the examiner now he runs to get the bottle.

Figures 23–28 represent at least twenty feet of record and the captions are self-explanatory. Figures 29 through 32 are sufficiently explained by the captions.

Figures 33 and 34 are of interest as indicating some pathological reactions. Other records, including those of schizophrenics, were shown by the writer at the meeting of the American Psychiatric Association held at Toronto on June 1–5, 1931.

Figures 35, 36, and 37 require no further explanation.

Tables V–VIII represent a few of the results secured from the police laboratory. Of course the material considered here represents only a portion of the data. Since these figures were taken, records have accumulated daily in the Berkeley Police Department where the work is being carried on under the guidance of Officer Waterbury, in the Los Angeles Police Department, in the Institute for Juvenile Research, in the Detention Home, and in the Joliet Penitentiary.

The tables are of interest merely to show the heterogenous material encountered in routine police investigation. Of course, no case can be cleared unless the right suspect is brought in. Often the suspect selected by those at the scene of the crime is the wrong one. Again, a

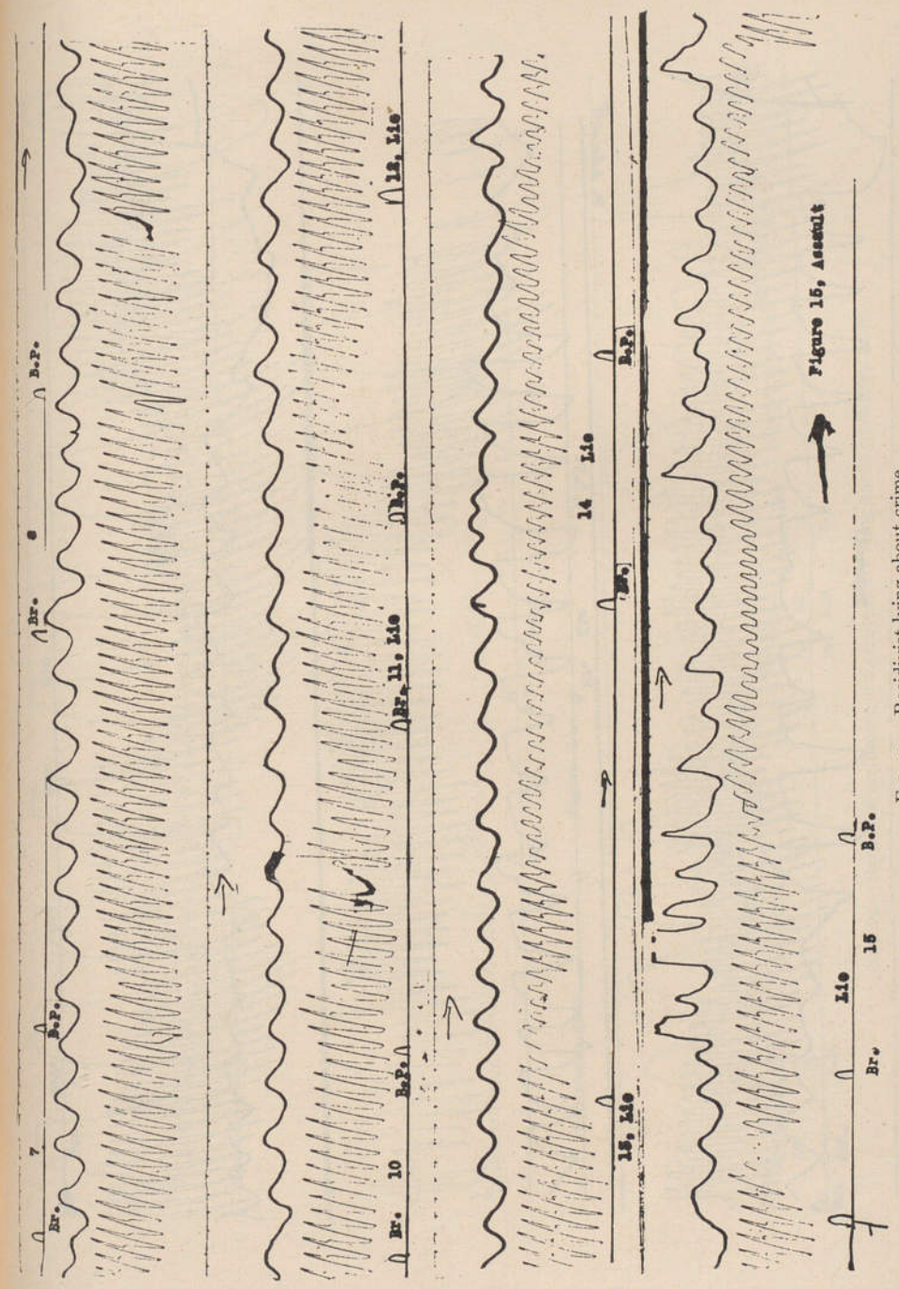


FIG. 23.—Recidivist lying about crime

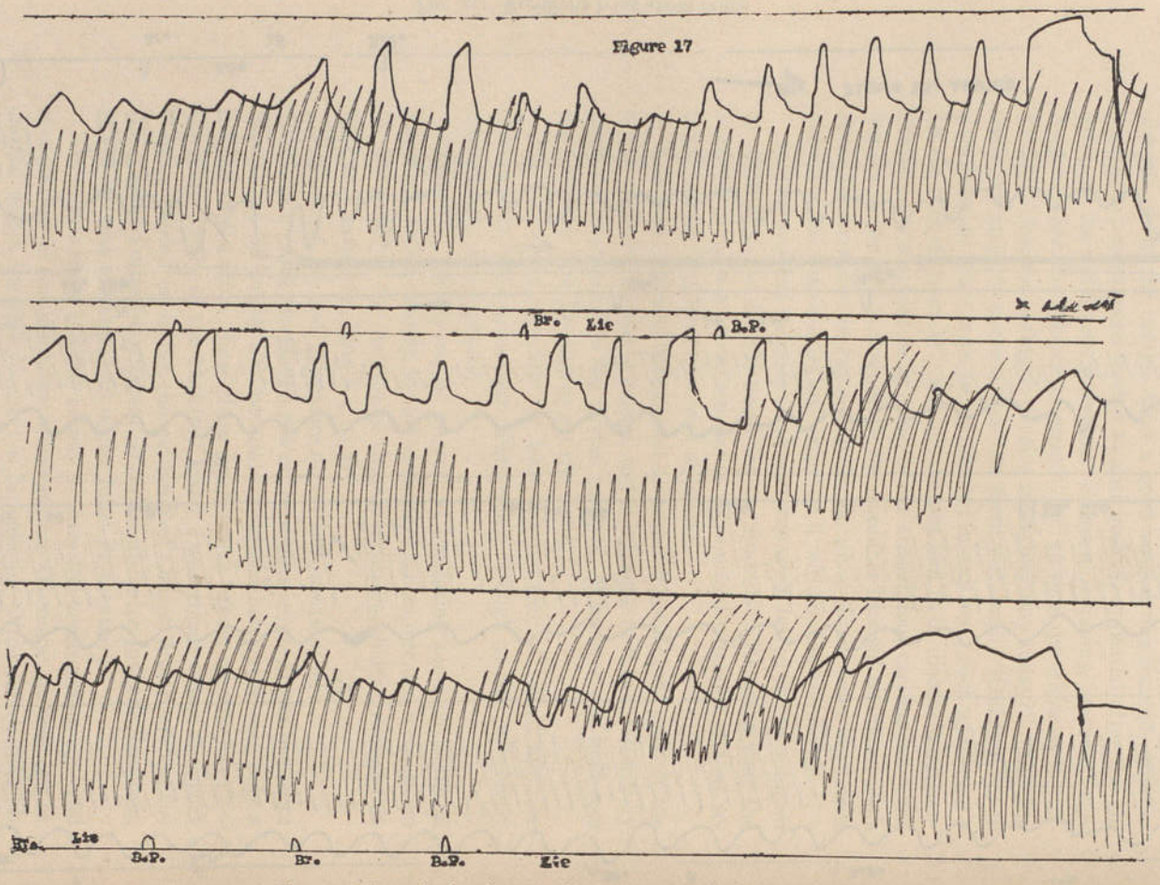


FIG. 24.—Record of an inmate of a penitentiary lying about robbery

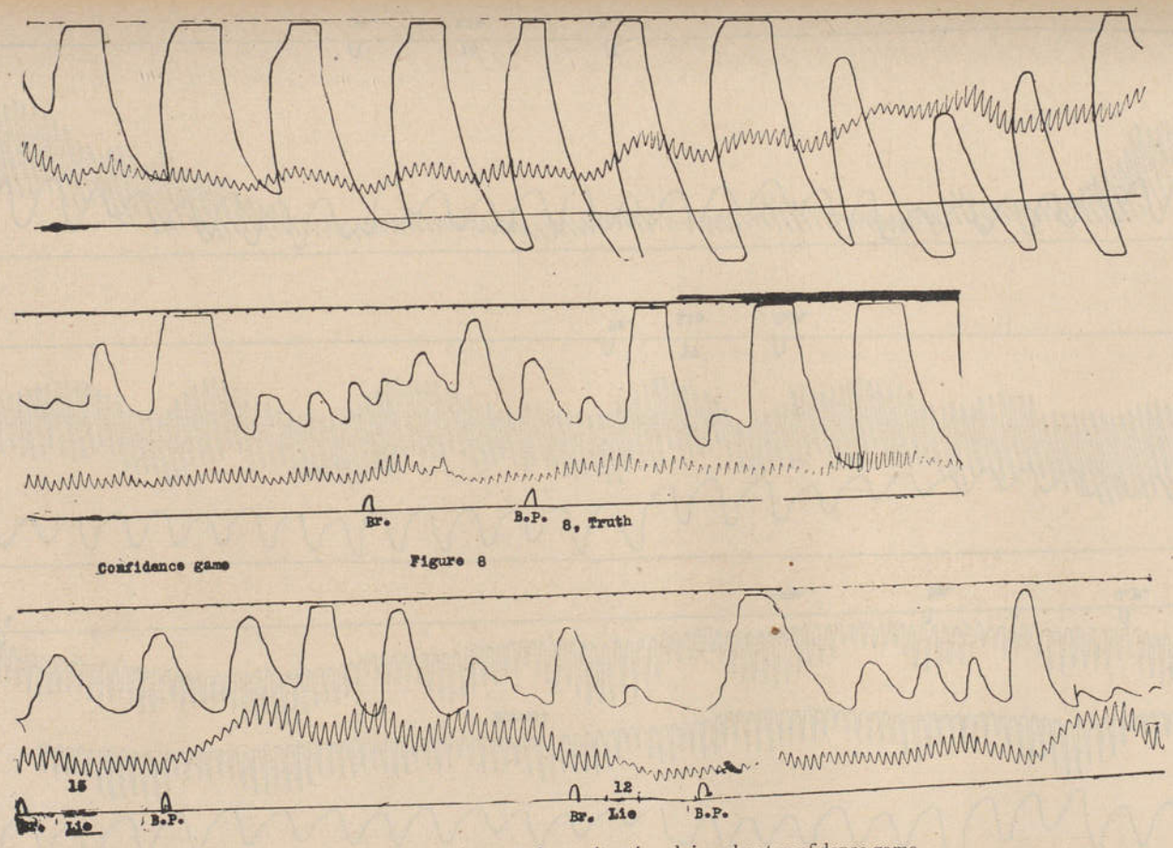


FIG. 25.—Record of an inmate of a penitentiary lying about confidence game

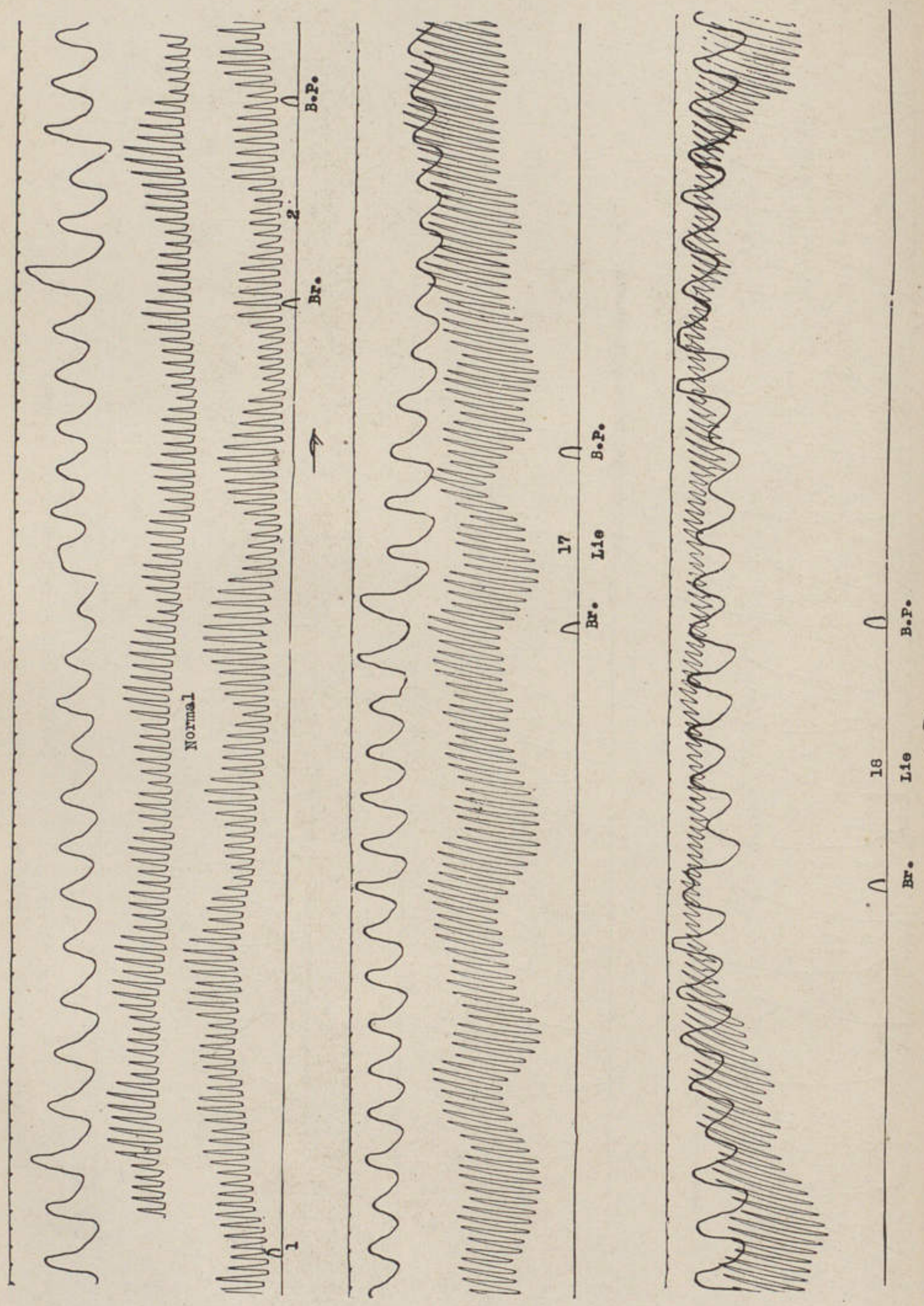


Fig. 26.—Record of inmate lying about assault

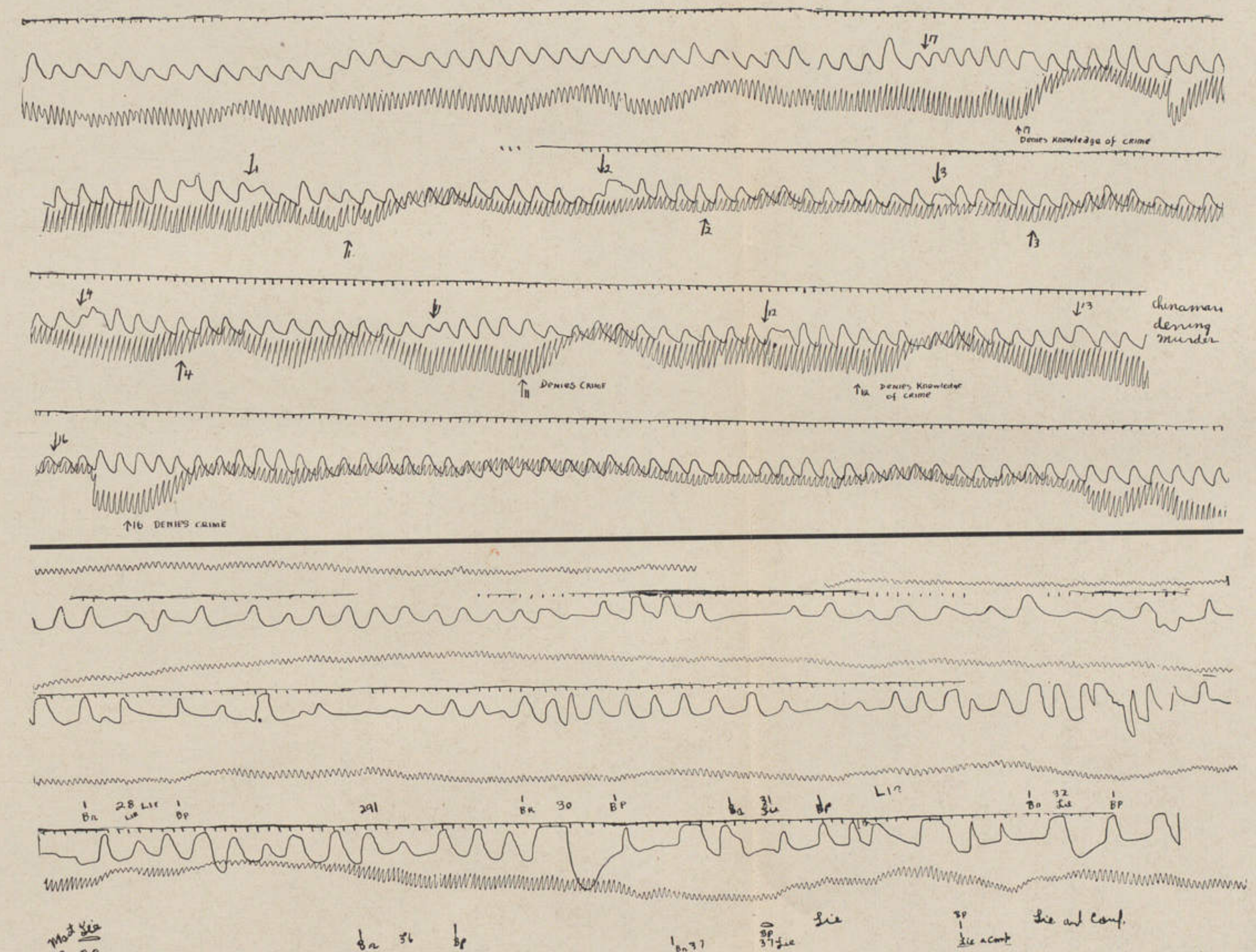


Fig. 27.—Upper record, Chinese murderer lying about guilt; said he could not speak English. Lower record shows thief lying about crime. Cut is reduced to about one-fifth original record.

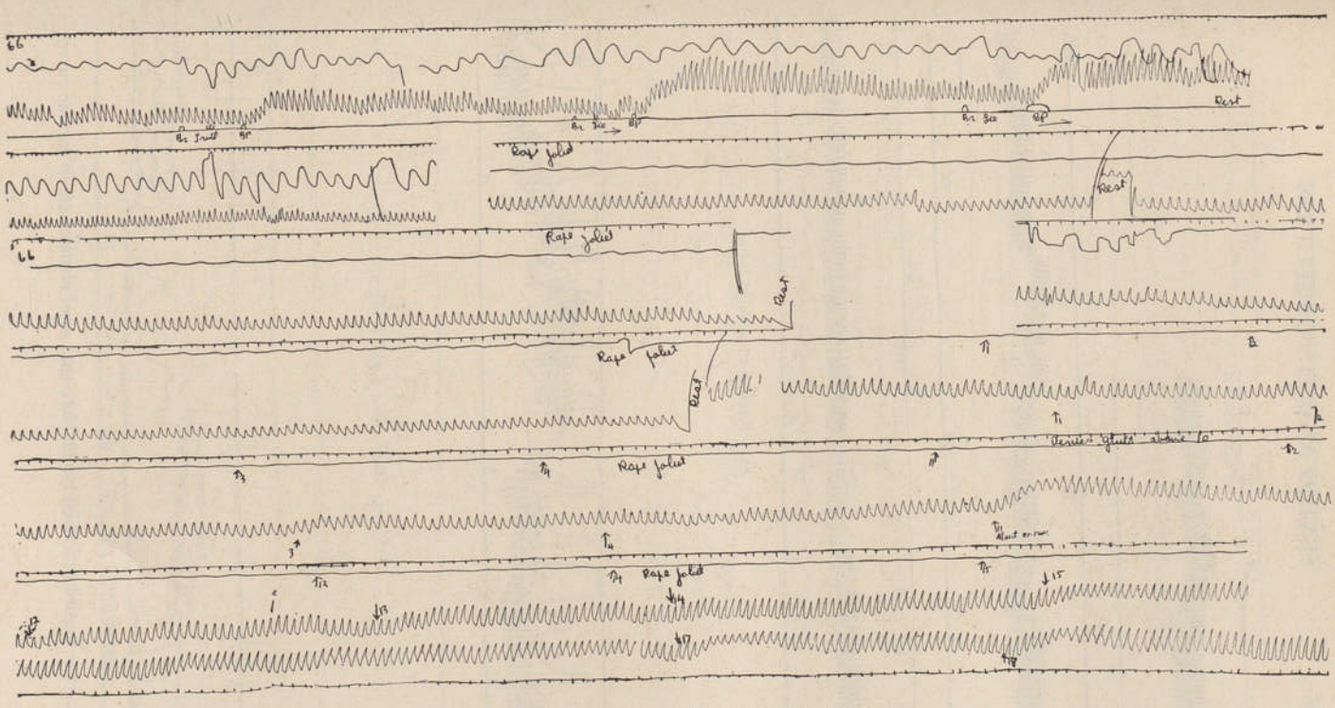


FIG. 28.—Record of a recidivist lying about crime

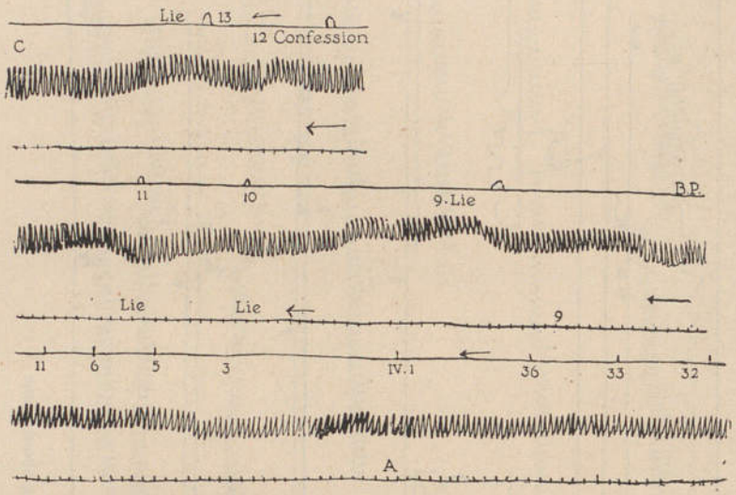


FIG. 29.—Record of a child lying

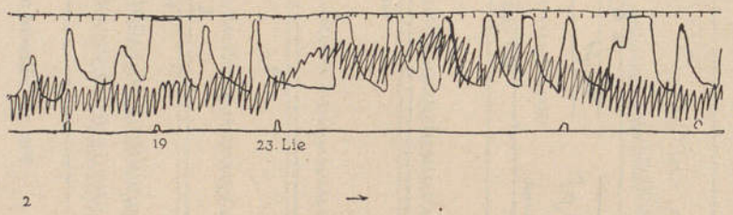


FIG. 30.—Record of a girl lying about sex

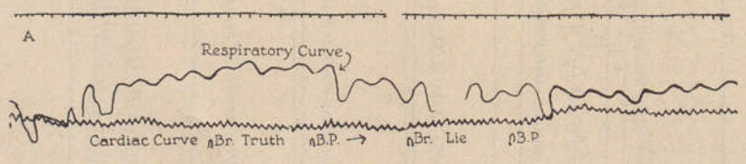


FIG. 31.—Record of a child lying. Note that most changes are in cardiac curve

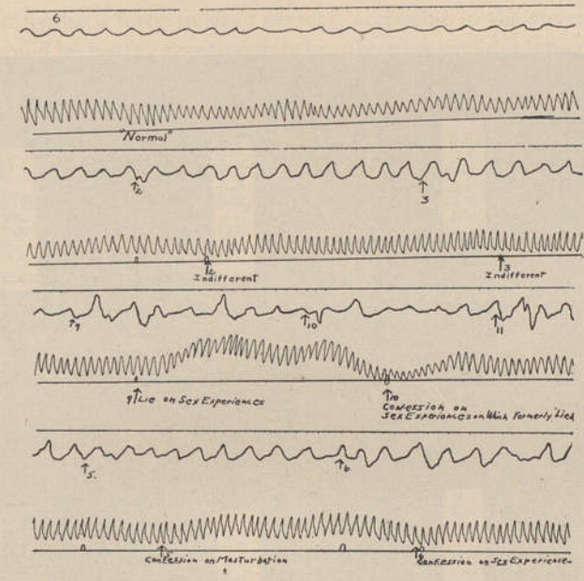


FIG. 32.—Record of a boy lying about sex to the psychiatrist during test

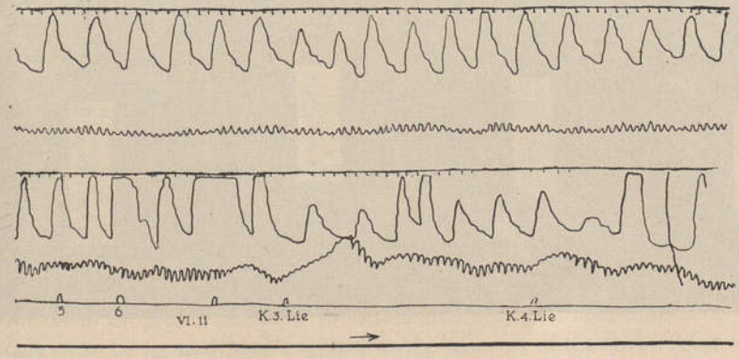


FIG. 33.—Record of a boy lying about his delinquency

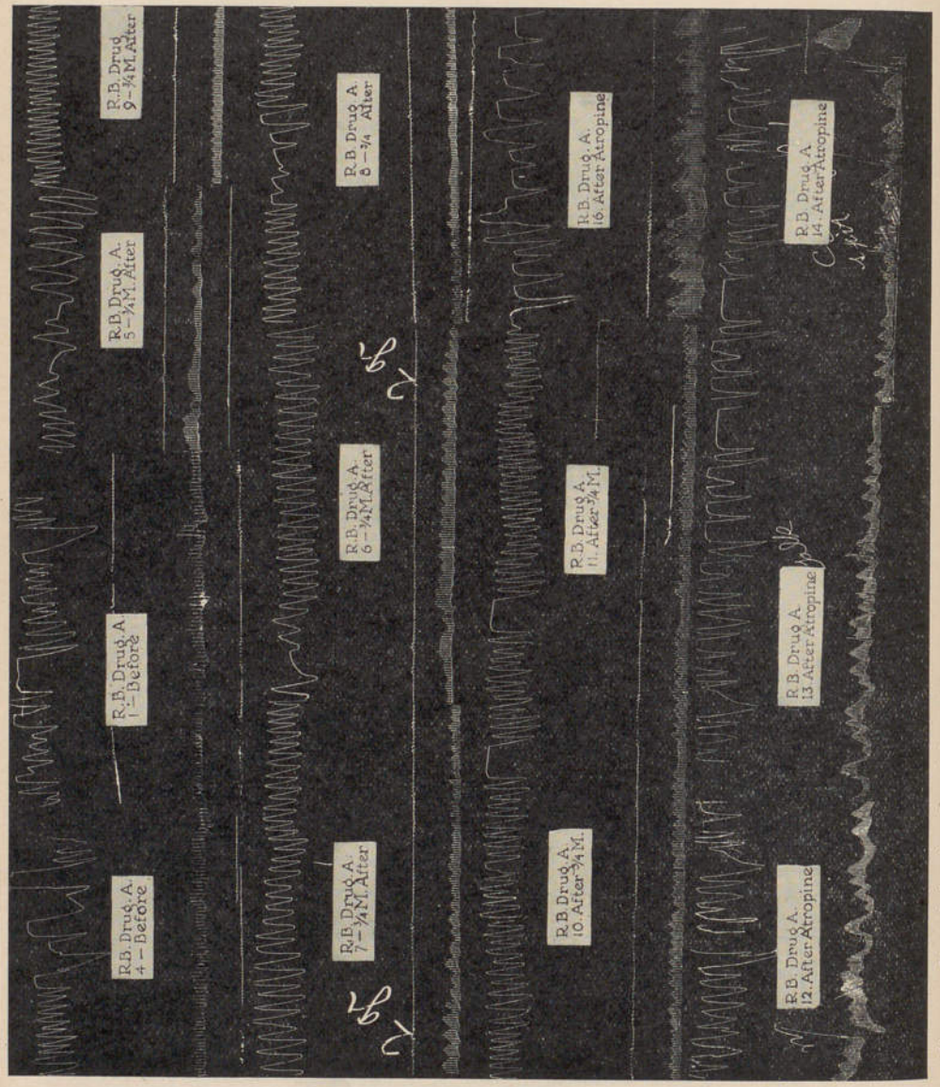


FIG. 34.—Record showing effects of morphine administered to a drug addict deprived of morphine who stole and swallowed fifteen tablets of atropin sulphate, thinking it was morphine. After first aid was administered, life was saved.

group of perhaps forty to sixty persons, accessible to the stolen property, would be tested, vacation or other absences would intervene, and the suspects would never be seen again.

Reference to court procedure.—During the last ten years the writer has discouraged his colleagues from using the deception-test procedure in court. He has been successful in never having had a man booked or taken into court when the sole evidence consisted of the interpretation of test records. He has insisted that the test be used in securing "leads"

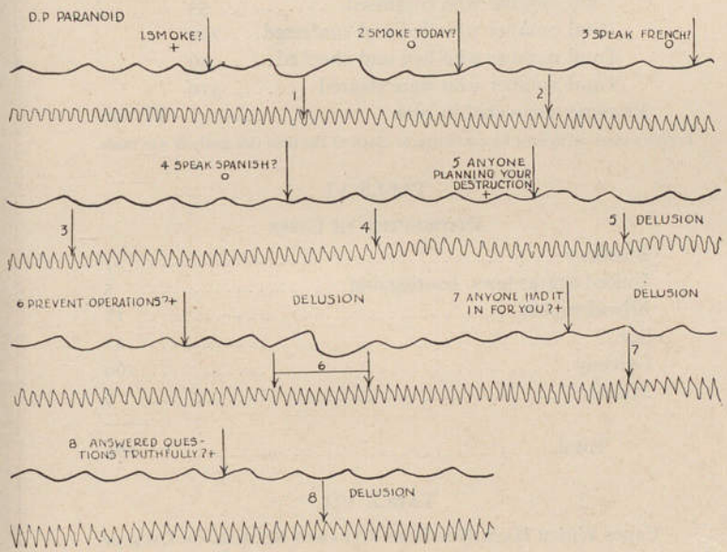


FIG. 35.—Record of an inmate of a hospital for insane criminals questioned about his delusions which he believes. Record therefore indicates no disturbances.

in preliminary investigations only. Personally, the writer has made but one exception to this, and that was to study the reactions of attorneys and the court to such a procedure so that he could use the findings in the present monograph, since no harm could be done to the suspects involved as the writer and his colleague felt that they were innocent.

In cases where the subject has confessed following a deception test, the usual procedure has been to take action only provided other evidence can be secured, such evidence as the recovery of the stolen property or fingerprints, etc. Following such confessions the suspect is

transferred to another room with the investigating officers and there is allowed to make a voluntary statement indicating that the previously given confession was freely and voluntarily given, under no duress or promises of reward, etc.

TABLE V*

SUMMARY OF POLICE CASES

Total number of cases cleared	260
Total number of individuals in foregoing cases	528
Total number who confessed	53
Total number who lied and confessed	129
Total number who lied and checked	36
Total number who were cleared	310
Property recovered in cash	$8,000

* Berkeley cases all cleared by confession or check at the time this analysis was made.

TABLE VI

DISTRIBUTION OF CASES

Burglary	27
United States laws, bootlegging	5
Miscellaneous	12
Sex	42
Larceny	169
Murder	5
Total	260

TABLE VII

CASES WHICH HAVE NOT BEEN CLEARED BECAUSE OF LACK OF CONFESSION OR THE DISAPPEARANCE OF THE SUSPECTS

68 cases, including 333 individuals

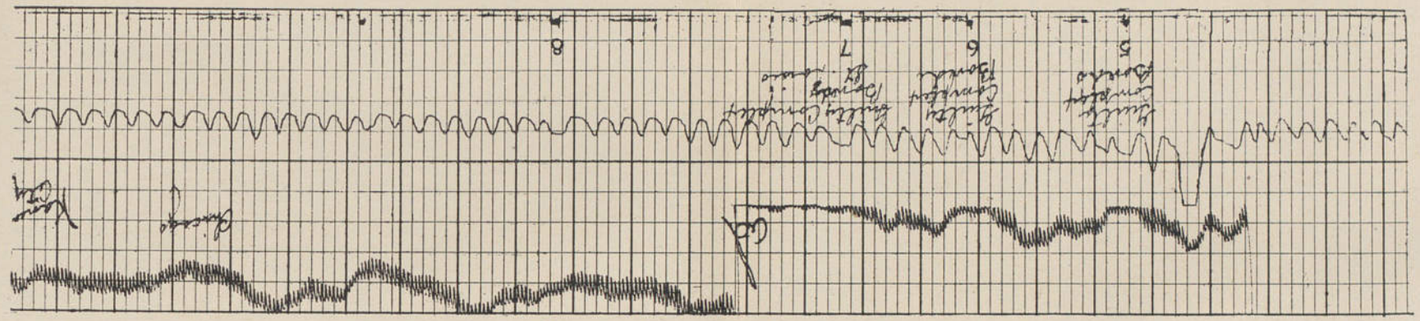
Of the 333 in the 68 unfinished cases, 267 were eliminated or cleared by their records

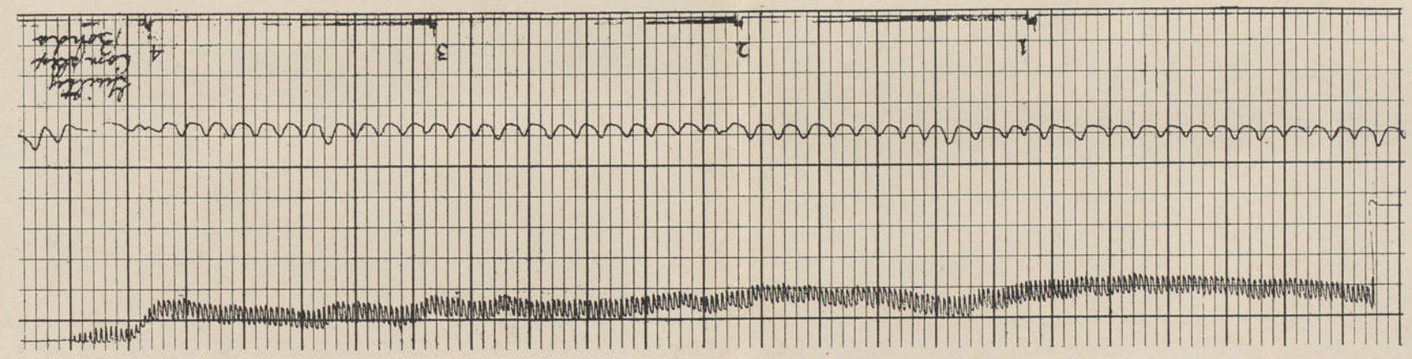
TABLE VIII

Total number of cases tested	328
Total number of persons tested	861

The foregoing is a list of cases where the deception technique was used, cases in which the deception was selected and later checked by confession or other methods. In these cases the list of the stolen property recovered is incomplete and does not include stolen automobiles recovered, etc. In some, the individuals were selected and would have

FIG. 36.—Record of a boy whose record was selected from all those of his fraternity as that of the one guilty of a theft. He later confessed and returned the money. Stolen money recovered from boy. Figs. 36, 37, 59, and 60 show records taken by the writer using the Keeler polygraph





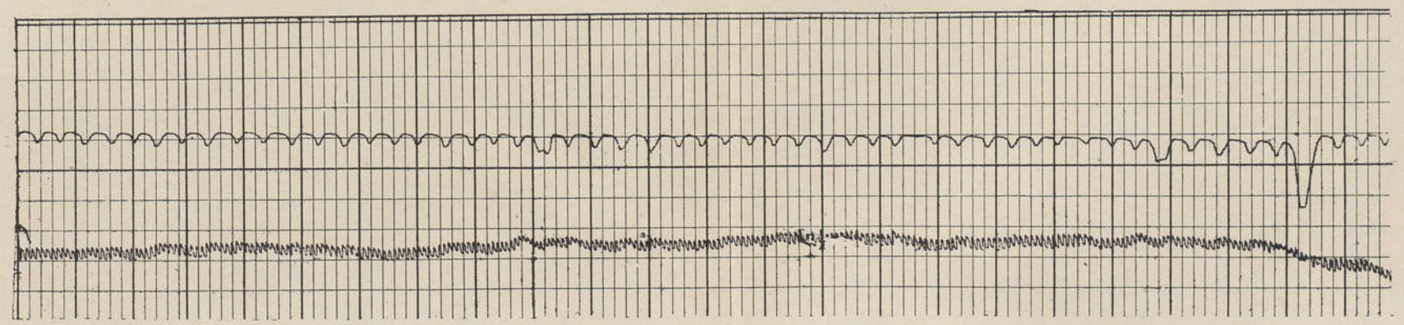


FIG. 37.—Police case: Record of a very clever pickpocket and bond thief who refused to finish test and also refused to answer questions as to where the bonds were hidden. Note the "complexes" in record when questioned about the bonds.

been convicted by other evidence, but in all cases where confession was later elicited, no such confession had been secured prior to the test and thus the test was an important factor in the securing of the confession. In some cases officers had been compelled to stop investigation by the routine methods. In others, believing that the suspect was guilty because of his record, the suspect was followed and other steps taken

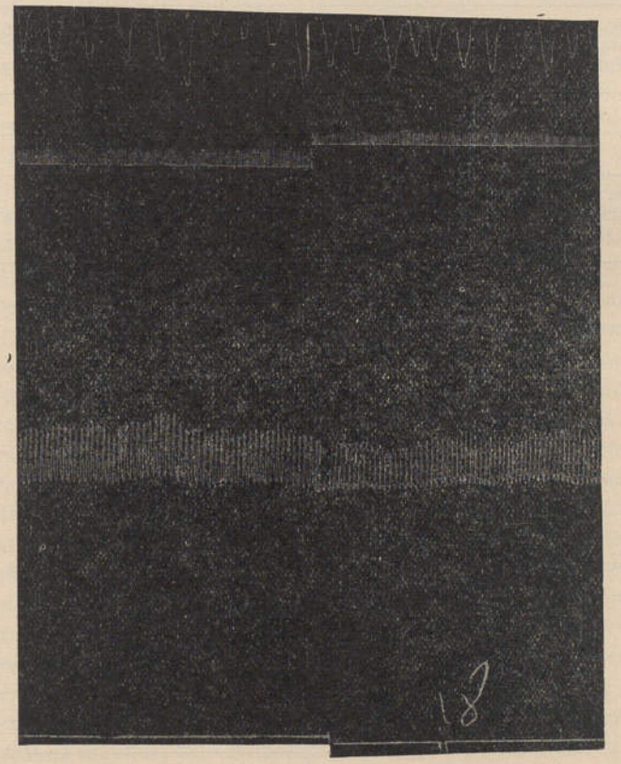


FIG. 38.—Record of a murder suspect who was eliminated by his clear record and subsequently proved innocent. This is the same man as shown in Figure 1.

which later led to the confession or the finding of the stolen property, etc. On the other hand, many of the cases cannot be evaluated in terms of money as is the case where the elimination of an innocent suspect is effected.

The findings of the writers have been confirmed by the investigators working independently in California. Both of these have been and are

working with cases encountered in criminal investigation and have not as yet reported a case of failure. One of these investigators is a police

TABLE IX

CARDIAC CHANGES

	A*	B†	C‡
1. Rise from base line	0.52 cm	0.28 cm	0.85 cm
2. Duration of disturbance	1.95	1.32	4.75
3. Height of contraction	1.87	1.81	2.45

RESPIRATORY CHANGES

	A	B	C
1. Rise from base line			
2. Duration of disturbance	1.15 cm	0.91 cm	2.44 cm
3. Height of contraction	1.20	1.19	2.21

RISE OR FALL FROM THE BASE LINE

C Greater than A		C Greater than B	
	0.59 cm		0.59 cm
P.E.§	.044	P.E.	.033
S.D.‖	0.412	S.D.	0.382

Duration

	3.26 cm		3.60 cm
P.E.	0.442	P.E.	0.366
S.D.	3.21	S.D.	3.38

Height of Contraction

	0.90 cm		0.70 cm
P.E.	.090	P.E.	.067
S.D.	0.51	S.D.	0.51

RESPIRATORY CHANGES

Height	Width
A—1.20 cm	A—1.15 cm
B—1.19	B—0.91
C—2.21	C—2.44
C greater than B 1.62 cm	C greater than B 1.01 cm
C greater than A 1.8	C greater than A 1.05

* represents record taken at rest, no questions asked.
† represents record showing truthful answers in response to indifferent questions.
‡ represents section of record showing the effects of deception.
§ P.E. refers to Probable Error.
‖ S.D. refers to Standard Deviation.

officer, F. Waterbury, who is working with his associates in the Berkeley Police Department. He had in charge the Salt Lake City case heretofore described and also the case in which the record shown in Figure 38 was obtained. Similarly, another worker, L. Keeler, and his associate, A. Sloan, utilized the technique while working for the Los Angeles Police Department while Chief August Vollmer was there.

Statistical data.—In this type of investigation any statistical analysis obtained from one hundred subjects is not sufficient to furnish criteria as to the ultimate accuracy of deception tests. The individual variations in the records may be so great, owing to pathological and other causes, that it is not safe to predict from one hundred records alone whether the changes occurring from deception would be in the nature of respiratory changes, cardiac changes, cardiac increase or decrease in pressure, changes in systolic or diastolic pressure, increased frequency in rate, etc.

Statistical treatment of the changes noted in the records cannot bring out satisfactorily all the qualitative changes present. Table IX represents the results of 1,390 measurements taken from one hundred records of individuals who lied about their crimes or delinquencies.

Our experiments in the study of factors involved in deception indicate that we have a satisfactory technique, but that this is by no means an infallible technique. The errors due to the fear of the innocent, guilty complexes on other situations, or other personality factors should interfere with the introduction of such experimental work in court procedure. At present, we are testing the accuracy of this technique both in laboratory situations as well as in the lying of students involved in cheating, fraternity thefts, stealing from libraries, etc.; the lying of juveniles in court cases and in cases for the psychiatrist; the deception in police and court situations and in penitentiaries. In two series of experiments involving the artificial deception situation arising in the laboratory experiment, it was found that the error of interpretation is so great as to render the test practically useless. In one series of forty-two subjects, the majority, or twenty-eight, showed no objective changes in the records following the deception, and the interpretation in most cases was wrong before the results were known. In another series of seventy, similar results were obtained. In these two experiments, of course, the factors were entirely different than those found where the individual is lying because of fear of punishment, disgrace, loss of property, etc.

CHAPTER XXI

REPRESENTATIVE MURDER CASES

In the cases described in this section it is not the aim of the writer to select the most convincing or those which will prove a given point, but rather to present representative cases and especially those which present problems which are not clear cut. In this respect he disagrees with a leading scientist, well known in this field, who once when discussing with the writer what material should be presented at a certain convention a few years ago said, "Take the most clear-cut and convincing records that you have for your slide material as no one knows anything about this subject and you don't want to raise any unnecessary doubts."

During the last ten years the writer has seen repeatedly how easy it is to influence an audience which becomes unscientific in its enthusiastic acceptance of a given point, going much farther than a writer or speaker could go. Here no exception is made as to the character or training of the audience, whether psychologists, medical men, lawyers, or laymen. Only too often the reader or listener goes farther than can be scientifically done, and only too often statistical workers only see a correlation figure, ignoring the fact that this correlation often shows doubt in clinical application. It is the error, small as it may be, which can result in gross miscarriage of justice.

MURDER CASE

Case 34.—This is the case of a man sent for life to the state penitentiary for murder. He had a previous record of one year in the same institution and three years in a correctional institution. (Case 35 was also involved in the same job and is referred to as X while 34 is called Y.) The state's attorney's statement concerning these men is as follows:

> The State claimed that the defendants X and Y, together with A and one B (the latter pleaded guilty and is now in the ——— Jail awaiting sentence), set out from a flat conducted at ——— by one Julia ——— on ——— with the expressed intention of holding up L——, a garage owner on ———. X and Y took revolvers with them but the evidence showed that Y was not armed when arrested. They left the house, got into a Ford automobile owned by C and drove away at about 6:30 P.M. on the above date. Y's admission to the police as to the part he played was admitted in evidence. When Y returned to the flat he had a bullet mark in his left arm, which the State claimed was fired by L——, who resisted the holdup men. L—— was shot twice in the back by X, the State claimed, and died almost instantly. A stood guard on the sidewalk and was armed with a revolver. The proof did not indicate that B was the one who had driven the men from the scene of the crime and the defendant X produced evidence of an alibi.

This case was tried more than a year ago, at which time X and Y were found guilty by a jury who fixed their punishment at death. The jury found A guilty and the verdict fixed his punishment at life-imprisonment. At that time, however, evidence of five holdups previous to the crime was allowed to go into the record, which caused a reversal by the Supreme Court.

Y refused to take the test, saying that he did not care to discuss his case at all and that the jury must have thought him guilty or he would not be there. He kept his eyes away from the questioner and was sullen, saying: "It does not interest me one way or another. It does not concern me at all because I had nothing to do with crime; I am not interested one way or another and have nothing to say in regard to this crime."

Case 35.—This man was involved in the same job as is described in Case 34.

X consented to take the test provided no one was told the outcome. When shown his record and told that the examiner thought his record indicated that he lied, X laughed (Fig. 39). He then asked that no one be shown his record as it might interfere with his appeal to the Supreme Court. He was making the appeal on the technical grounds that his partner had been granted two separate trials while he had had only one. This man was very co-operative and his attitude was in marked contradistinction to that of his partner. A section of his record is shown in Figure 39.

SALT LAKE CITY MURDER CASE

Case 56.—A murder had been committed in Salt Lake City, and three witnesses were alleged to have seen the murderer. A description of this individual was sent throughout the United States, and some weeks afterward a tramp was picked up. Upon his being questioned, it developed that he had recently arrived from the vicinity of the murder. His statements seemed so contradictory and his behavior so strange that his picture was sent to Salt Lake City. The picture was

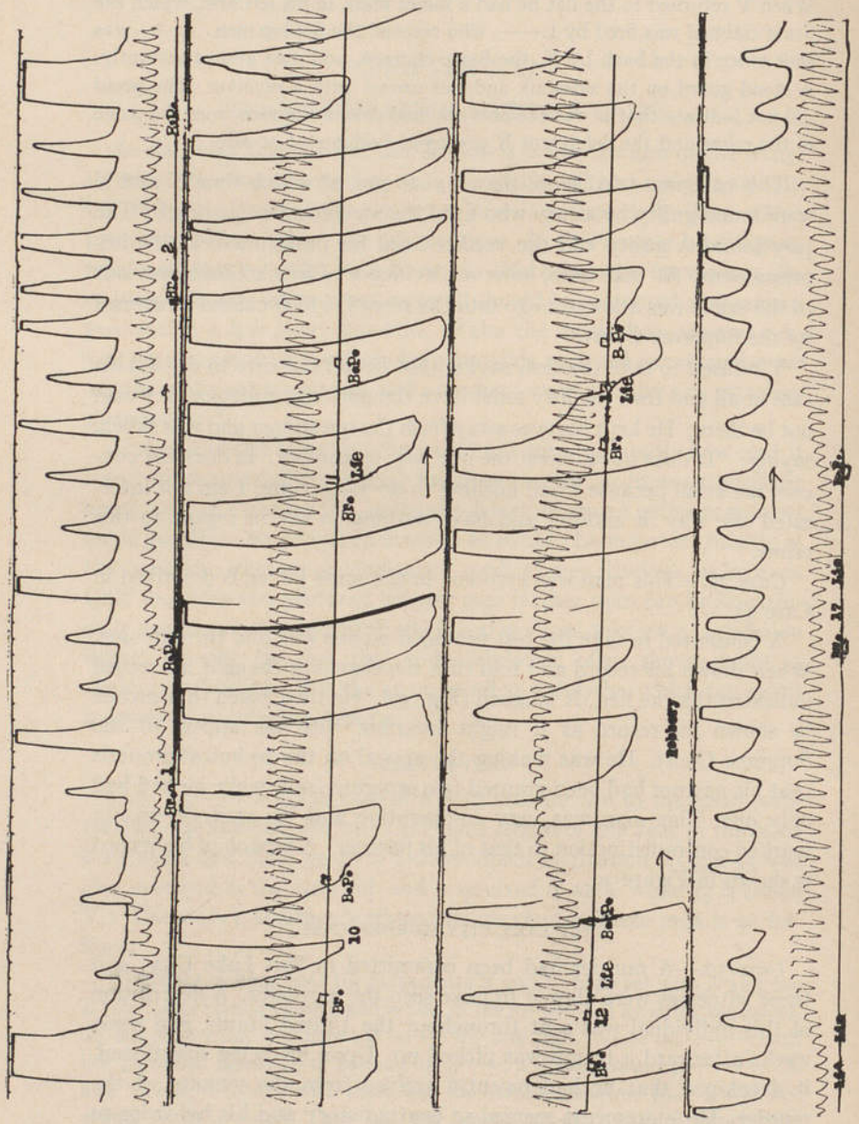


FIG. 39.—Recidivist lying about crime. Record shows respiratory tension as well as cardiac disturbance

identified by the three individuals as that of the murderer. A detective was sent for the suspect. The officers in Richmond, California, where the suspect had been picked up, suggested that he be brought to Berkeley and tested. Aside from the identification of the photograph, the suspect's own words seemed to implicate him. He not only said that he might have been in Salt Lake City but that he might have committed the murder. However, his record, when he was asked about the crime, was as clear as that section before it when there were no specific stimuli. As a result of an analysis of his record, he was cleared of the crime on the assumption that he was capable of conscious deception. It subsequently developed that he was in jail over a thousand miles away on the day of the murder. The real murderer was later apprehended in Los Angeles and confessed to the deed. A representative section of this suspect's record is seen in Figure 38. Although question 18 was a direct question ("Did you kill the clerk?"), no significant changes in tension were observed. In fact, this portion of the record is better than that in which no stimuli were given, which section illustrates the initial nervousness or fear of the innocent suspect. The local officer who handled the case for the test is seen in Figure 1, the frontispiece. From the *San Francisco Examiner* the following comments on this case are of interest:

. . . . Although there was apparently no doubt of the man's guilt, the machine proved him innocent of the crime. Larson [the detective from Salt Lake City] even hesitated about taking him back to Salt Lake.

Hahn [the suspect] stated finally that he was in jail in Stockton for vagrancy on December 2. Investigation proved his statement correct and he was identified by the Stockton police.

"This was the most convincing case we ever had," said Chief of Police August Vollmer in commenting on the case. "Everything pointed to the man's guilt. The pictures were identified and the descriptions tallied."

"Now the man's innocence has been proved. He was confined in the Stockton jail on the day of the murder. So far we have never made a mistake with our machine. I will not say it is infallible. But thus far, it has proved so."

THE HIGHTOWER CASE

Case 57.—The important events in this murder mystery were the disappearance of Father P. E. Heslin; the ransom letter; the murder; the appearance of Hightower, who gave an unusual story of how he knew where the priest's body was to be found; the corralling of Hightower by an *Examiner* reporter who called in the police; and the finding of the body at the direction of Hightower, who indicated which was the foot end of the grave. The ransom letter read:

You damn people made my wife believe that she was not really married to me at all, and she quit me and got a divorce and half the property, which amounted to sixty-five hundred dollars, and your bunch will have to make that good if I have to kidnap and kill a dozen of your so-called fathers, for I am going to have [revenge] and don't you forget it.

Act with caution for I have father of Colma in bootleg cellar, where a lighted candle is left burning when I leave, and at bottom of candle are all the chemicals necessary to generate enough poison gas to kill a dozen men, and as he is fastened with chains you will see that he is in a very bad way, and if I am arrested, or bothered in any way, I will leave him just where he is and in two hours from the time I leave him he will be dead, for the candle will not burn more than an hour and a half after I leave him, for I cut it at that length.

If door is opened to this cellar by any one except myself, it will ignite a bunch of matches, and upset a can of gasoline on top of him and the entire police force, and all your damn knights would not be able to get the chains off of him before he would burn to death, SO THE ONE BEST BET IS FOR YOU TO GET SIXTY FIVE HUNDRED DOLLARS IN FIVES TENS TWENTIES FIFTYS AND HUNDREDS BUT NONE HIGHER THAN HUNDREDS AND BE SURE THERE IS NO MARKS ON THEM FOR IF ANY THING AROUSES MY SUSPICION I WILL LEAVE HIM TO DIE RIGHT WHERE HE IS. I had charge of a machine gun in the Argonne, and poured thousands of bullets into struggling men, and killing men is no novelty to me, besides it will be your own bunch that will kill him if you do not do just as you are told.

GET THE SIXTY FIVE HUNDRED DOLLARS IN UNMARKED BILLS WRAP IN PACKAGE AND SEAL IT FOR THE TWO MEN WHO WILL HANDLE IT BEFORE IT GETS TO ME THINK THAT IT IS DOPE, so don't leave it unsealed or it might not reach me after you had sent it.

Have car ready with spot light, and you will get instructions what road to take and you will turn the spot light upward and drive slowly, until you see a white strip across road, then stop, get out with the money, leave car, and follow the string that is attached to white strip until you come to end of string, then put down package, and go back to town, and remember your brother does not get out until I have the money and am in the clear, besides . . . . and he is complaining of the pain, when he is not gagged so he cannot make a complaint. Better have a doctor ready with you, and be at the house where he lived, and wait for the messenger with the instructions what road to take. REMEMBER JUST ONE MAN IN THAT CAR, and he had better be careful for if he looks suspicious, he will be tagged with a hand grenade, as have six of them ready for any treachery, and the waiting man will not be seen at all, and he will not see the man to whom he passes the package, and the second man gives it to me, but remember, if the cops are notified, or any move made that will make it dangerous to me, I will not send you the instructions how to find him and release him, besides if this becomes public it will be seen how easy it is to trap your bunch of imposters, and others will go and do likewise. 'Nuff said. It's up to you.

You will get the message about nine o'clock at night, perhaps tonight, perhaps tomorrow night.

HAD-TO-HITT HIM FOUR TIMES AND HE IS UNCONSCIOUS FROM PRESSURE ON BRAIN SO BETTER HURRY AND NO FOOLING TONIGHT AT 9 O'CLOCK

Hightower was arrested as a suspect and tested in the Redwood County Jail, the interpretation of the record being that he lied (Figs. 40 and 5).[1] The interpretation of the record fitted in with later evidence, which consisted of the following points: (1) Finding of an infernal machine in Hightower's room. (2) Finding of a tent peg in Hightower's room which was similar to one found at the scene of the crime. (3) Tent in Hightower's room contained sand similar to that found at the scene of the crime. (4) Printing "tuberculosis" on tent belonging to Hightower was identical to the printing of the ransom letter—this according to the handwriting experts. (5) Piece of fish cord found in Hightower's tent similar to that found at the grave. (6) Hightower's alibi was shattered. (7) He was identified by the priest's housekeeper as the one who took the priest from the home. (8) Identification of Hightower's handwriting by experts as identical with that of the ransom letter. The Baker type of alphabet was used in each. According to the theory of one reporter, Hightower was but the tool of some fanatic. He still protests his innocence in the penitentiary. See the following description of the test conducted on Hightower, taken from the *San Francisco Call.*

At the time of the murder the writer was asked to test the suspect by means of the psycho-pneumo-cardiograph. As a result, one of the West Coast newspapers came out with an extra edition with five-inch headlines and a write-up of the test. This write-up is an excellent example of the type of article which the average newspaper man considers of great help to a scientist in presenting his materials to the public, but which is actually a decided hindrance, since it tends to prejudice scientific minds against any test given this sort of publicity. Some excerpts from the article mentioned follow:

Science penetrated the inscrutable face of William A. Hightower today, revealed that beneath an unruffled exterior is a seething torrent of heart throbbing emotions, and that these emotions indicate strongly that he was the murderer of Father Heslin of Colma.

[1] This was the first murder suspect tested under such adverse conditions.

During the small hours of the morning, while a dozen or more newspaper reporters clamored for admittance, a scientific "soul test" was administered to Hightower in the San Mateo County jail.

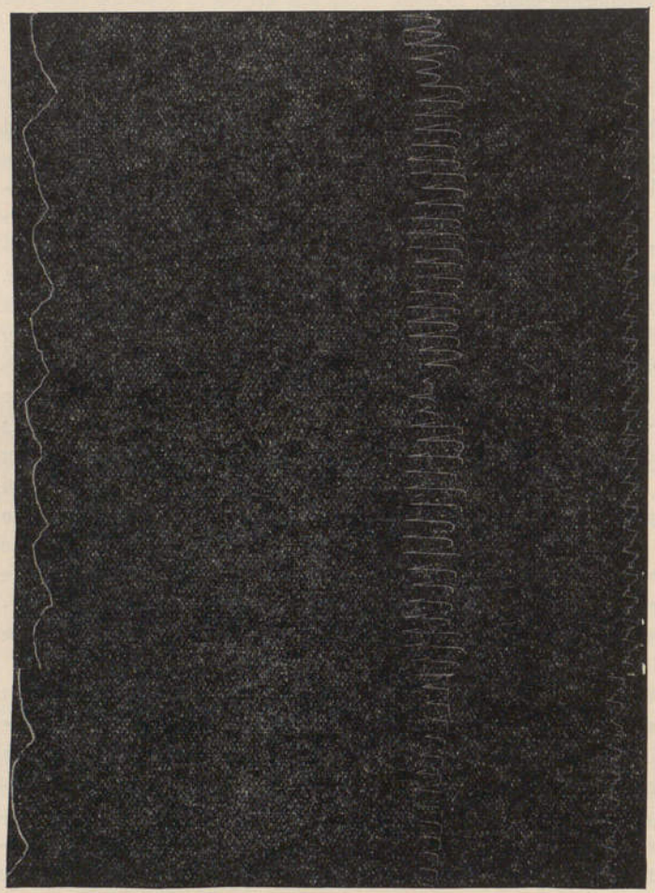


FIG. 40.—Record of a murder suspect, Hightower, showing a cardiac disturbance when questioned about the crime.

This was the most remarkable bit of psychological research undertaken on this coast, in which an apparatus known as a sphygmomanometer was relied upon to determine the truth or falsity of the statements of a man charged with murder, a man whose life is at stake.

This apparatus, which records heart throbs and blood pressure, was called on to perform a new miracle of chemistry—the chemistry of psychology—in

which a soul was laid bare and subjected to the critical inspection of seekers after truth.

And before the test was concluded this apparatus was to tear the mask of self-control from the unfathomable face of William Hightower and show him to the investigators the man he is—not the cool, calculating, dauntless man he has been regarded, but a man torn with human passions, human fears, human frailties—cringing inwardly while wearing a mask of iron.

Harnessing these instruments to Hightower, Dr. Larson, assisted by Philips Edson, examined the accused man for one hour. At the end of that time Hightower, more silent than he has been since he first was accused of the crime, was led back to the cell. An inventor of infernal machines, a plotter of deviltry, he showed not the slightest desire to learn what the wavy lines on the smoked paper indicated. It seemed to those in the Bertillon room as though he knew what the lines told.

Nothing could have been more dramatic, more dispassionately heartless than the manner in which science dissected Hightower, felt his heartbeats, his pulse, examined his breathing, looked beneath the flesh for indications. And nothing could have been fairer. . . . .

That was all. The prisoner, without asking anything of the result, without anything being told him, was led upstairs and locked in his cell, there to brood over the psychological jumps over which he had just been put.

What will be the outcome? Dr. Larson says nothing, but he has a confident air.

For again Dr. Larson's system has been tried and proved 100 per cent efficient. . . . .

TILLEGREN CASE

Case 58 (*Fig. 41*).—One of the leading rabbis of the coast requested us to run a case having international ramifications. He, with a crowd of persons vitally interested in the case, brought out a suspect to be tested. In brief, the situation, as described by the rabbi and reporters of the *Jewish Daily Forward*, was as follows:

Some years ago a Jewish fanatic, although a well-educated rabbi, named Tillegren, accused the Jews of using the blood of Christians' children for ceremonial purposes at the Feast of the Passover. This occurred in Bohemia and initiated a series of pogroms throughout Europe in which hundreds of Jews were massacred. It having become too hot for Tillegren in Europe, he emigrated to the United States. He was located in New York City and was forced to leave. He was again unearthed in Youngstown, Ohio, and at one other place and was forced out. His *modus operandi* consisted in establishing himself under an alias in a synagogue as some sort of a roustabout and finally became a Rabbi. The suspect to be tested had moved into Oakland and had attracted considerable attention because of certain discrepancies which

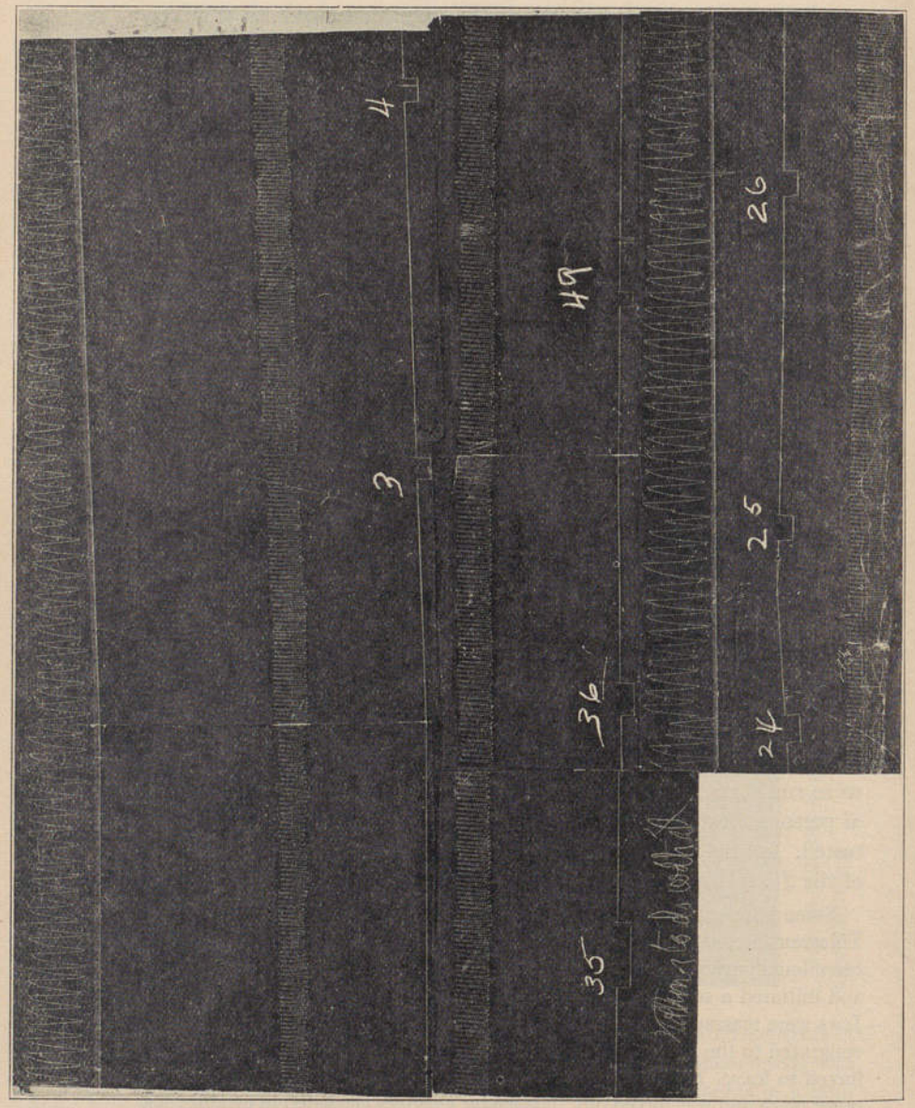


FIG. 41.—Police case: Record of a murder suspect who was eliminated by his clear record and subsequently proved innocent.

seemed significant. Thus, although poor and friendless and denying any education, he seemed to be acting a definite part. While working as a humble member of the synagogue, it was alleged that expressions inadvertently used by him at times indicated that he possessed an excellent education. Some phrases were supposed to have indicated an acquaintance with certain publications only accessible to rabbis who had been trained in Europe. Finally, suspecting that he might be Tillegren, his picture was sent to New York where it was positively identified as being the portrait of Tillegren. He was then accused but denied, saying that his name was ——— and that he could prove it. He then gave specific addresses of relatives living in New York City and Cleveland. The reporters wired their representatives there and could not find that such persons had lived in the specified places.

This was the *status quo* when the test was requested. A few moments before the test some twenty persons of varying professional standing listened to the suspect state his case. In a highly excited tirade, he denounced his accusers as liars and protested that he was not Tillegren and volunteered to undergo any sort of a test to prove the same.

The entire gathering was permitted to observe the test with the understanding that at the first disturbance, such as whispering or nudging, everyone had to leave. The reaction of the spectators was interesting. During the periods of rest while in a different room, various ones would ask, "Are you convinced that he is guilty yet?" "Does the test show that he is guilty?" etc. The leader himself said, "We are all 99 per cent convinced that he is Tillegren, but we would like all confirmation possible before proceeding further." Although the suspect was tested for three hours, the section of record shown in Figure 40 is representative of the negative results. That is, according to the interpretation of the record, the suspect had not lied and therefore was not Tillegren, but he had revealed his true identity and spoken truthfully when he denied the various accusations. During the test the suspect smiled spontaneously at times and seemed unruffled. Following the test his fingerprints were taken and clear photographs were obtained and sent to New York for identification. About a month later the subject and another man whom he introduced as his son came in to demand the fingerprint and photographs. It seems that the suspect was a wanderer and had become separated from his relatives and son who, reading of his predicament in Los Angeles, had arrived to identify him and to prove to everyone's satisfaction that his father was not Tillegren.

The effects of announcing the result of the test to the audience were interesting. The rabbi had requested the test because of his little son who, on hearing of the discussion of the case, had asked, "Why don't you run him on the 'lie-detector'?" The rabbi made the following statement, "If the results had seemed indicative that ——— was Tillegren, the news would have been published all over the world within twenty-four hours." The expression from the other side likewise seemed to indicate some belief in the test, for an old retired junk-dealer told the examiner, "If the machine had shown this man to be Tillegren, I and my friends would have raised enough money to send him to New York to prove that he was not Tillegren."

THE LINGLE CASE

Case 59.—John Boettiger, Tribune reporter and investigator in the Lingle case, in the first instalment of his story, "Solution of the Lingle Case," wrote:

> The Lie Detector, an ultra sensitive instrument which is intended to pierce through the outer defenses of the poker face criminal and to expose his inner emotions and stresses under questioning was frequently employed during the course of the inquiry.

In the investigation of this gang killing, regardless of all gang politics alleged to be involved, the investigating officials made use of every possible scientific aid. The services of Colonel Calvin Goddard as ballistic expert were called upon and by his efforts and those of his assistants the identifying number of the gun was ascertained, as well as the name of the person who sold the gun. Another medical man, Coroner Bundesen, was active in securing Goddard's services, and he himself was active throughout the investigation. He also secured the use of the "lie-detector experts" in the questioning of suspects. Dr. Bundesen requested the writer to express an opinion as to the validity of the "latents" secured from the gun which killed Lingle.

For some time the writer was very interested in whether Bell's story of his and Sullivan's participation in the Lingle killing was true. Bell claimed that they were implicated. One of us had made the request to be allowed to test Bell, had secured several records, and had concluded that his story was true. Two others examined the same records and felt that Bell was lying, that his records showed too much disturbance and seemed indicative of a guilty complex. After some discussion, there still being a disagreement, Bell was retested by Keeler, Vollmer, and the writer. This time we all agreed that Bell appeared to

be lying (we still could have been wrong, of course). If lying, Bell's motive for doing so seemed to be that of revenge upon Sullivan, who supposedly had stolen his sweetheart and who had deserted him when he was arrested. Attention was then diverted from the possible participation of Bell to other channels.

Later, when Brothers was apprehended, a reporter on the *American* requested that the writer test Brothers. The writer consented. However, in an interview by telephone Brothers' attorney refused, saying, "Brothers is having enough trouble now to remember things. The state has everything now." This refusal was in spite of the fact that the reporter made the offer that if the decision was adverse to Brothers there would be no publicity.

The following is illustrative of a certain type of confession occurring during and following sensational trials.

Recently an inmate, Davis, of one of the penitentiaries sent word to the assistant state criminologist that he wished to make a confession. Briefly his statement was to the effect that he had been "tortured by conscience and couldn't hold back any longer"; he wished to confess to the murder of Alfred Lingle, for which act Leo Brothers was already receiving punishment. He made his confession to one of us, but when the examiner appeared he became quite evasive and refused to discuss the matter further.

Briefly his story is as follows: While under the influence of marijuana, a friend asked him if he wished to make five hundred dollars. He replied that he did. The friend stated that he would be taken to a place where he would meet some eighteen men and where he would be given a pistol. There he would be given instructions in detail. (The confessee could not remember the caliber of the pistol.) He was then taken by this friend and the friend's wife (also under the influence of marijuana) to the scene of the crime where he shot Lingle. He states that he fired two shots. The confessee could not remember whether he shot Lingle in the head or elsewhere. He stated that he wore a new rubber glove on the right hand at the time of the shooting. It is important in this connection to add that the details of the Lingle trial and killing were not accessible to inmates of the penitentiary. There had just been a riot in one of the penitentiaries and newspapers were denied the prisoners.

The confessee was tested on the polygraph and it was noted that his record was an exceedingly poor one; the only interpretation possible

was that he had guilty complexes on this or other murders and was repressing. Hypnosis and sodium amytal were also tried.

The procedure in such a case is very difficult to decide upon. If, for instance, such a confession, appearing to be forced, was turned over to the authorities, say the district attorney, it might be featured in some sort of a scoop and arising out of the situation it is conceivable that an arbitrary decision might follow whether such a confession be true or false. In the average prison having as inmates many recidivists, the confessee's life would not be safe. In this case the information was turned over to the warden, no stress being laid on the deception test. It was merely pointed out that there were discrepancies in the man's story.

At present the various ramifications of this case are being investigated.

Such a man as the confessee is placed under close observation, and provided the subject is willing to make a statement to them, the proper officials on the outside are notified of the story. They, of course, are charged with receiving the story in confidence.

This case—the testing of Bell—indicates that three experts who have worked with this special technique for years had difficulty in agreeing. Therefore, why submit such records for court usage if the experts cannot agree among themselves?

THE WILKINS CASE

Case 60.—About 8:30 P.M., May 30, 1922, Henry Wilkins drove up to the Park Emergency Hospital in San Francisco, bringing his wife who had been shot and was dying. He appeared very emotional and claimed that his wife had been shot by bandits. She died shortly after transfer to another hospital where she was taken for a blood transfusion.

Wilkins, his wife, and two small children had been on a camping trip to Felton Grove. According to Wilkins' story, he was forced to the curb at Nineteenth Avenue and Morgan Street by three men in an old Dodge touring car; they were held up and he [Wilkins] gave up all his money, three one-hundred-dollar bills; the bandits were trying to take his wife's wedding rings when he lost his head and reached for a gun, whereupon his wife was shot as she flung herself between him and the bandit's pistol. After the bandit car had driven away, a San Francisco attorney drove up and led the way to the hospital. There was much

furor and sensation in the newspapers and quick, active investigation by the San Francisco detectives.

It was then learned that Wilkins and his wife were not happy and that a sister-in-law was alleged to have had an affair with him, which affair was supposedly continuing. On June 1 two gunmen, Walter and Arthur Castro, sons of a former San Francisco policeman who had been killed on duty, were picked up. They had some one-hundred-dollar bills in their possession. Wilkins failed to identify them in a police line-up.

The first mistake was in the release of the Castro brothers following Wilkins' failure to identify them. On June 3 it was found that on May 8 Mrs. Wilkins had filed a suit for separate maintenance. About this time the attorney who had led Wilkins to the hospital testified that the bandit car was a Hudson. Wilkins, an automobile mechanic, persisted in his story that it was a Dodge. The attorney then identified a Hudson that had been rented by the Castro brothers as the machine driven by the bandits. Also, about this time the detectives learned that in 1918, while a foreman in a repair-shop, Walter Castro had worked for Wilkins, and that they were on intimate terms with each other. Nevertheless, Wilkins had claimed while viewing the police line-up that he had never seen Castro. Another discrepancy was noted in that Wilkins had claimed that three of Mrs. Wilkins' rings had been taken in the robbery. These were later found in his possession. One morning he was supposed to have made a suicidal attempt, and on that day was given to the writer to be tested regarding the truth of his story. His record showed a mass type of reaction with many disturbances, and an interpretation was difficult (Fig. 4).[1] Because of the sensational nature of the case and the tremendous concomitant publicity, the writer interpreted the record as to clear Wilkins, in order that no damage might result, since the interpretation was at best doubtful. This was but the second murder case tested. However, Chief Vollmer, upon seeing the record in Berkeley that night, stated to the writer that an interpretation of the record would seem clearly to indicate that Wilkins was guilty. Nothing further was done by us at that time, although we should have liked to test Castro and, in fact, all the witnesses on both sides as the case progressed.

Following the test, Wilkins was shadowed at the orders of District Attorney Brady. The detective on the case claimed that he trailed

[1] This fact, as well as other facts later to be told by the writer, has never been made public except in letters to Chief August Vollmer and other friends.

Wilkins to Pacific and Broderick streets and saw him talk to a man later identified as Robert Castro, a brother of the Castro gunmen. About this time it was alleged that the two brothers had fled to Eureka in a Ford car, which car was alleged to have been bought for Robert Castro by Henry Wilkins.

Arthur Castro was arrested on an old check charge and returned to San Francisco on June 16, and on June 26 he confessed. According to later accounts he was offered immunity, which was given him because of his confession. In this, Arthur Castro implicated Walter, his brother, as the killer, saying that Wilkins had paid three hundred dollars for the crime. He gave many details as to the arranging of the murder and the actual carrying-out of the killing, including methods of signaling to Wilkins by use of stoplights, etc. A series of articles were later published in a leading San Francisco paper in which Wilkins claimed that he had been roughly treated by the investigating officials.

About this time a young prisoner confessed that he had killed Mrs. Wilkins, but he was found to be mentally ill. According to accounts which had been published, the police and district attorney's office were alleged to have been rather bitter toward each other, but they, together, as well as independently, did some fine detective work.

Wilkins, following his apprehension after the confession of Arthur Castro, had a collapse which was diagnosed as an attack of appendicitis. He secured an attorney and was released, and worked for a time in a repair-shop. On July 14 he was arrested by the district attorney's office. For some time Walter Castro had been sought as the killer, and it was finally learned that he was staying at the home of a sister-in-law who betrayed him to the police. On August 3 police surrounded the house and in the ensuing fight Detective Bailey was killed, and another detective, Gable, was wounded. Castro's sister-in-law was killed, and Walter Castro shot himself.

Infatuation for a sister-in-law was supposed to have been the motive with Wilkins. During the trial he changed his story, saying that the car was a Hudson and that he believed the Castro brothers were the bandits. The first jury disagreed, and the second jury acquitted him. Following the acquittal, Judge Ward was said to have objected openly to the verdict. Some of the jurors were alleged to have stated that they acquitted Wilkins because they misunderstood the directions given them.

Since Chief Vollmer, Mr. Keeler, and others all working on the record independently felt that Wilkins might be guilty, and because of the tremendous disturbance shown in the records, the writer kept in close

touch with Wilkins for months. Once, when Wilkins was released and left at the jurisdiction of the San Francisco Police Department, the writer assisted in securing a position for him in Oakland. Working here, Wilkins lived in Berkeley for a time, using an assumed name because of his children and the notoriety the case had received. The writer spent considerable time driving Wilkins about while he was looking for a house, using this opportunity to study his personality. After some weeks the writer persuaded him to be retested, which was done without any publicity. The second record showed no essential differences from the first, and no attempt was made to secure any confession from Wilkins, or to give him the writer's opinion. More than once Wilkins volunteered statements to the effect that the test was much better than the writer realized.

Four weeks went by and Dr. House, who had given a talk before the American Medical Association about "Truth Serum," desired test material. Wilkins was persuaded to take the test, and, according to Dr. House, told the truth when he denied complicity in the murder of his wife. Scopolamin was administered and just before Wilkins became unconscious, while in a confused state of mind, he made two interesting statements. One was, "I'm going to fool them. I'll answer them in German." Dr. House remarked to the writer at that time that he was inclined to believe Wilkins guilty because of this statement, although he later cleared him.

There is still the possibility that some day this case will be cleared up either by the confession of Wilkins, if guilty, since he is now immune to punishment, or, if innocent, by the confession of Castro that his story was a frame-up.

THE BASSETT CASE

Case 61.—One version of this case was described by the prosecuting attorney, Ewing V. Colvin, of Seattle, Washington.[1]

The following account differs in some respects and is chiefly concerned with the use of the "lie detector." The following letter was written by Mr. Colvin to the writer:

> I am writing you at the suggestion of Mr. August Vollmer, criminologist, now associated with the University of Chicago, in regard to the pneumo-cardiograph, commonly called the "lie detector."
>
> On the 5th day of September, 1928, J. E. Bassett, of Annapolis, Maryland, visiting relatives in the vicinity of Seattle mysteriously disappeared. On the

[1] As told to Hollis B. Fultz, published in *True Detective Mysteries*, XIII, No. 3 (June, 1930), 43.

13th day of September, one Decasto Earl Mayer, about thirty-five years of age, and a woman claiming to be his mother, known to us as a Mrs. Smith, were arrested in Oakland, California, while driving an automobile which belonged to Mr. Bassett. They had among their effects, in addition to his automobile, a wrist watch, a pair of cuff links, and a bill fold, identified as being the property of Mr. Bassett.

When last seen alive by anyone that the State has yet been able to find, Mr. Bassett was in the company of this man and woman, to whom he expected to sell his automobile. He had executed a bill of sale therefor in blank, which bill of sale on the day following Bassett's disappearance was completed by a typist in Tacoma, Washington, at the request of Mayer.

Bassett had advertised his car for sale in the local newspapers, and by reason of that advertisement, Mayer, using the name of "Clark," made contact with him. We find that at about the same time he made contact with at least four other persons advertising their cars for sale.

It is a long story, which I will not here relate in full, but circumstances surrounding the case convince all of us who have worked thereon that Bassett was in some manner murdered by one or both of these parties, who at the time were living in a small house in the suburbs of Seattle. However, no trace of his body has been found and no indications of how he might have been disposed of have been revealed. In the vicinity of the place where Mayer and his mother lived there are a number of deep lakes, and but a mile and a half away is Puget Sound, where the water extends to a depth of many hundred feet but a short distance from the shore. There are also within easy approach by any vehicle heavily wooded forests and deep ravines, and by use of an automobile the Cascade Mountains, which are exceedingly wild, could be reached in a short time.

It is known to the authorities of Montana that about the year 1921 two persons disappeared from the vicinity of Butte and Anaconda in such a manner as Bassett disappeared from Seattle, both having been seen last in the company of Mayer and Mrs. Smith. We also have reports of three or four other persons who disappeared under similar circumstances in the State of Utah, where these people for a long time made their headquarters.

Mayer has served in the Penitentiaries of Utah, Montana, and Colorado, and at Leavenworth, having been released from Leavenworth only a little more than two months before Bassett disappeared in Seattle, and he has been convicted of a number of other offenses which did not result in imprisonment in any penitentiary. It seems that the woman, who claims to be his mother, was more or less closely associated with him in practically all of his criminal activities.

Repeated questioning of these parties by the Oakland police, the local police, the Sheriff and the writer has resulted in practically no substantial information concerning their transactions and relations with Bassett. They

are admittedly the hardest pair of criminals with which local authorities have had to deal.

In a letter dated October 14th, Mr. August Vollmer advises me that it is possible with the instrument above referred to, not only to detect when the parties on whom it is used are telling a lie, but also to obtain from them affirmative evidence of the truth. We have been able to prove practically everything these people have said to us (such as it is) to be false, but we have not been able to obtain any real information from them as to what transpired between them and Bassett at times when they were alone. If we could obtain such information, we might be able to solve one of the most baffling crimes that has ever been committed in this section of the country. May I impose upon you to the extent of asking your opinion as to the efficacy of this instrument in obtaining information suggested above? If there is any real practical prospect of obtaining that information I desire to try the experiment, being particularly anxious, however, to avoid publicity concerning such experiment, unless it proved successful in determining what happened to Bassett. May I be privileged to hear from you at your convenience?

Yours very truly

EWING V. COLVIN.

The writer wrote Mr. Colvin suggesting that it was impossible for him to go there, but that Leonarde Keeler be sent for. The writer stressed the fact that since it was already established that the pair were obviously lying, and since the property of the missing man had been found in their possession, it was a case for complex probing by the "fishing excursion" or map method. This was pointed out to Keeler by letter, and also that the entire problem as far as he was concerned would be the location of the body.

The accused had the following record:

Decastro Earl Mayer, No. 5980, alias Earl Montaigne, G. Gordon, E. Montague, Robert E. Carroll, William Meyers, Conrad Meyer, Earl Meyers, C. D. Mortaigne, William French, Clement Jordan, G. W. Busch, C. C. Skidmore, etc.

2-18-12, Los Angeles, No. 9255 as Robert Carroll and William Meyers, French, charge burglary, sent to Whittier State School.

1-16-15, Seattle, No. 5980, D. Mortaigne, C. C. W., ran out of town and suspended.

1-22-15, Spokane, No. 2962, Larceny, 60 days.

9-14-16, Kansas City, Mo., No. 7700, grand larceny, discharged.

12-5-16, Seattle, grand larceny, auto thief, dismissed.

2-17-17, Portland, Ore., No. 3114, grand larceny, auto, received 1 to 10 years in the Oregon Penitentiary, secured a new trial and was released.

11–2–17, Montana Penitentiary, No. 6104, grand larceny, 4 to 9 years; paroled 8–15–20.

4–1–21, Butte, Mont., vagrancy, quizzed as to the disappearance of Mrs. La Casse.

11–5–21, Utah Penitentiary, No. 3982, auto theft, released 1–10–23.

6–30–23, Colorado State Penitentiary, 1 to 3 years, discharged 12–30–25.

10–31–24, broke jail in Canon City, Colo., while being held for burglary on an Idaho warrant, no disposition.

11–11–24, Kansas, C. C. W., 60 days.

3–11–26, Leavenworth, white slavery, three years; No. 244995. At present serving a life sentence on the Habitual Act, Washington.

On page 47 of the article mentioned above the activities of Mr. Vollmer are cited as follows:

Professor Vollmer went to the Bassett home in Annapolis and spent several days there going over the newspaper files, talking with the Bassett family, learning the habits of James Eugene Bassett, and studying the information which I had gathered.

That information was studied on the basis of its relation to the commission of a murder and disposal of the body. From out of the mass of clippings and files the following facts and conclusions were reached: *Bassett had been murdered for the roadster. The man who murdered him had a long experience with automobiles, and was a thief of automobiles. He had planned the murder carefully and could not be shaken by ordinary methods. He, or they, had little fear of discovery of the body and had taken their own leisurely way of disposing of its remains, indicating that they had had experience in the work they were doing. Therefore, only the most scientific methods would be of any avail.*

Following this, the district attorney wrote to the writer. In this article Colvin is described as stating that Mrs. Smith, upon being given "truth serum," admitted that Mayer killed Bassett, but could not tell where he hid the body. It was then stated that Dr. House forcibly injected Mayer (p. 49),

but as we suspected, Mayer's mind was schooled. He had engraved upon it indelibly his numerous alibis. I believe that under proper conditions the use of "truth serum" can be made very effective. Conditions have to be just right and in Mayer's case we were working under very difficult conditions, and the results were not so satisfying as they were with Mrs. Smith.

The other evidence had fairly convinced me that Mayer killed Bassett, but any doubt I might have had vanished when we used serum on his mother.

The following is the alleged account by Colvin as written in *True Detective Magazine* on the use of the "lie detector." This is quoted as there are two undesirable features which must not be used in any scientific investigation. One is the suggestion of force. If, as alleged, a subject has to be chained down he should not be tested. Again, no subterfuge or bluffing must be used as is described in the alleged account of giving a narcotic or anesthetic.

Keeler arrived in Seattle Armistice Day. I took three days outlining to him every angle of the Bassett case and Mayer's supposed connection with it. We began using the "lie detector" on him on Thursday, November 14th. All tests took place in an old courtroom. Mayer had better treatment, better and more food, than at any time since his arrest. He was even given candy, fruit, and all the cigarettes he wanted.

Mayer at first treated the "lie detector" test as a lark. Up to a certain point in our seven days of investigation, he answered every question, but only with: "Yes, sir," or "No, sir."

The entire examination, for six or eight hours each day, had centered around the question: "Where is Bassett's body?" We questioned him, over and over, perhaps a hundred times, "Is it in a lake?" "Is it in the Sound?" "Is it in a well?" To these questions, if he answered, the answer was "No," and in every case a negative reaction was registered.

We began using maps. Maps of California, Oregon, Washington, then Western Washington.

"Is it here?" "Is it here?" "Is it here?" pointing to different sections. We got no reaction even approaching positive until we narrowed down to a map of King County in which Seattle is located. Our maps were divided into numbered and lettered sections. The first positive reaction on the "lie detector" came when we went over, again and again, Section 3 including "The Little Brown House" where Mayer and his mother lived at the time Bassett disappeared. Again on Section 4, the vicinity of Bothell, and especially one tract there where Mayer paid the ten-dollar deposit on the "The Little White House," the reaction became very positive.

We had more maps made. Finally we obtained a large scale map subdivided into Divisions A to K. "Is the body in A?" "Is the body in B?" "Is the body in C?" we would ask him, and so on. Never a reaction from Section D, but H, including the "The Little White House," the town of Bothell and vicinity, brought results. No matter which way or how often we went over the map the needle always registered positively about Bothell.

On our questions: "Is the body buried?" and "In the neighborhood of 'The Little White House' in Bothell?" always there was a permanent positive reaction of the "lie detector."

After three sessions of examination, Mayer went back to his cell jubilant.

"I've got 'em guessing now.– That machine's all wet.– They're just guessing!" he gloated. We found he would not answer any questions relating to cemeteries. When we worked along that line, he struggled, and threw his arms about. The section where we got the strongest reaction included two

cemeteries in Bothell, the main Bothell Cemetery east of town, and the old Swedish Cemetery containing about twenty graves of considerable age, which is about a mile and a half from the "The Little White House."

We had a plat made showing every grave in the Swedish Cemetery, and Mayer refused to look at it. He buried his head in his arms, threw back his head and closed his eyes, fought to keep from seeing the map at all.

The only force that was used on him was Sunday when Keeler had just finished a series of questions on the graves and cemeteries about Bothell. Mayer suddenly roused from lethargy, sprang like a cat and smashed the machine. Two deputies grabbed him and Keeler rushed at him. He was shackled and sent back to his cell. After that his examinations were made while he lay on a cot, wearing an Oregon boot.

Keeler repaired the lie detector and we resumed questioning Sunday evening. We gave him one day's rest in that whole week. Every other day we reviewed all the maps, briefly but thoroughly, and ended always where the big reaction showed, in the vicinity of Bothell.

On Monday, Mayer suddenly looked up at me and said : "Colvin, I'll talk to you if you'll get these other fellows out." The deputies did not want to go, but I persuaded them to leave the room. They insisted on handcuffing the prisoner and one of them gave me a small Derringer pistol, which stayed in my pocket and worried me greatly. Mayer was permitted to sit up on his couch. I drew a chair right up in front of him. He talked low, glancing at the doors, afraid to be overheard.

"Colvin," he said, "will you give me a trial? I'd have a chance to beat circumstantial evidence. I want a trial."

I assured him that in any case his fate would be decided by a jury after a fair trial.

"I know what that machine is, Colvin," he said then. "I know it's recording the truth. I can't beat it.

"Let's not kid each other. You know and everybody else knows that I killed Bassett. What will you do for me if I come clean?

"If you'll lead me to that body," I told him, "then I will not charge your mother with murder, but I'll charge you with murder, and your fate will be for a jury to decide."

"I'll tell you," he said, "my mother has never done anything criminal except that which I caused her to do. She's done anything she's done solely on my account. If you charge her with murder, I'll take the stand and clear her myself."

I bargained with him.

"With the risk that a jury might not believe your testimony, I'll give you this opportunity," I said. "You lead me to that grave, and I will not charge your mother with murder."

"All right, I'll go out there with you," he said.

But when I got up to call the deputies and start, he quit cold. He feared the deputies already had overheard him. I took him to the door to show him, opened it, and there they were, listening. We looked toward the other door, a glass one, and the shadow of a deputy with an ear cocked appeared on the glass. Mayer grew cold.

"Suppose I show you on the map," he welched. He followed one road, then another, leading through Bothell to the eastward. His hand moved clear off the map to the east. He acted confused, hesitated. Twice he decided to go with me and twice we started for the door, only to flinch back when he saw the deputies. He insisted that he wasn't sure of the road, but knew it was east of Bothell.

"You put me back on the machine," he said suddenly. "The machine will tell." We did. He was very calm, apparently willing to work with us for the moment. Again the "lie detector" registered in the vicinity of both cemeteries we had platted in Bothell. But he would not look at the maps of the cemeteries.

At the next session we produced the plat of the Swedish Cemetery, but Mayer had had a day in which to think. He threw his head on the table, refused to look. The deputies then seized him by the shoulders, held his head up, even opened his eyes, but he inverted them downward so that he couldn't see. We were forced to give up. He refused to answer, fought and gave positive reaction at the least mention of a gravestone or slab.

To the very last, that was his conduct, whenever we would show him the map of a cemetery. He would not look.

When he pleaded exhaustion and deliberately shook as though in a convulsion, we used the hypodermic needle he afterwards complained of in court, and on another such occasion, the anesthetic.

The hypodermic contained nothing, and the mask was perfectly dry, with no anesthetic whatever; but each quieted him as he would have been calmed by the narcotic he thought he was getting.

Through the record on the graph of the "lie detector" we had narrowed the region in which Bassett's body must be buried down to an area of two square miles including both Bothell cemeteries, deep woods adjacent to one of them and the little white house.

And then, just as we were hoping for complete success, a judge of the Superior Court of King County listened to the plea of an attorney for Mayer, and we were forced to stop using the "lie detector."

I firmly believe that if while looking at the map Mayer himself could tell when we hovered over the exact spot where the body of Bassett is buried, his reaction would have been so positive that we could have walked directly to our gruesome task, and have solved the mystery of what happened to James Eugene Bassett.

I am convinced, too, that the "lie detector" told us how Bassett was killed and how the body was disposed of.

The detector record is dual. It consists of a series of questions asked Mayer, together with his answers thereto, and a tape record recording his heart action, blood pressure and respiration at the time he was asked each question and gave his answer.

Here are some of the questions and answers:

Q.: Did you stab Bassett with a knife? *A.:* No, sir.
Q.: Did you poison Bassett? *A.:* No, sir.
Q.: Did you dope Bassett? *A.:* No, sir.
Q.: Did you shoot Bassett? *A.:* No, sir.

At this point the machine indicated that the subject's heart muscles contracted and he attempted to control his respiration more than he had under the previous questions, and that his blood pressure went up.

Q.: Did you strangle Bassett? *A.:* No, sir.
Q.: Did you destroy the body? *A.:* No, sir.
Q.: Did you burn the body? *A.:* No, sir.
Q.: Did you cut up the body? *A.:* No, sir.
Q.: Did you destroy the remains with a chemical? *A.:* No, sir.
Q.: Did you scatter the remains? *A.:* No, sir.
Q.: Did you bury the body? *A.:* No, sir.

At this point the machine indicated great emotion of the subject in various respects. His heart action altered. His blood pressure started to go up again, and his respiration was affected.

Q.: Did you get rid of the remains near Clark's "Little Brown House?" *A.:* No, sir.
Q.: Near "The Little White House" near Bothell? *A.:* No, sir.

While intervening questions had shown little or no reaction by the subject, the tape here showed great agitation, as reflected in breathing, heart action, and blood pressure.

Q.: Near one of those two houses in Cathcart? *A.:* No, sir.
Q.: Did you drop the body in a well? *A.:* No, sir.
Q.: Did you drop a concrete slab on top of the body? *A.:* No, sir.

More agitation on the part of the subject was indicated by the machine.

The same heart and respiration reaction to the incriminating questions was given by Mayer not once, but dozens of times. Both myself and Keeler believe the above reactions to questions prove that Mayer shot Bassett; that he shot him at "The Little White House" near Bothell; and that he buried his body under a concrete slab, in the cemetery near Bothell.

It is better not to carry out any tests at all than to use any method which can be construed by the public as bluffing. It may be necessary for the detective in an investigation to adopt disguise, but in attempting to carry out a deception test in scientific fashion, everything should be aboveboard and without any subterfuges. Thus, the writer was told of a sensational case in a small western town where there had been some dynamiting. In order to test the suspect the investigator decided to pose as a K.K.K., using the white regalia, etc., and then to test the subject as though the test were part of the initiation rites. It is better to lose the material than to have to resort to these methods since, after all, the records are not court evidence.

THE CASE OF DECASTO EARL MAYER: WICKERSHAM REPORT

The case of Decasto Earl Mayer is one of the outstanding third-degree cases in the United States. The case is exceptional and is included not as revealing the situation in Seattle, but because of its general interest. Mayer was believed to have killed one Bassett, but the *corpus delicti* was never established. The purpose of the questioning was not so much to obtain a confession for use in court as to find out where Bassett's body had been buried. In the end Mayer and his mother were convicted in April, 1930, of stealing Bassett's property, and both are now in the penitentiary. The case involved seven days and nights of sleeplessness and protracted questioning, the Oregon boot, chloroform, "truth serum" injections, and the "lie detector." The "truth serum" referred to is a drug (scopolamin) and is related to the drug used some years ago to produce "twilight sleep." The theory is that under the influence of scopolamin the witness will tell the truth. The "lie detector" is a machine which, in pulsation and respiration, is said to record the witness' reactions to questions or topics, and hence is supposed to indicate which questions or topics arouse the witness' emotions. The Oregon boot is an iron frame which does not touch the foot while it is at rest, but which if a man tries to run or walk away or suddenly jump will have a tendency to restrain him.

Each of these instrumentalities was tried upon Mayer. His mother was likewise given a hypodermic injection of the "truth serum." After seven days of the questioning and the use of these instrumentalities, an injunction was obtained against the questioning of Mayer except in the presence of his attorney or after he had had an opportunity to be present.

Judge Douglas, of the Superior Court of Washington, said, in granting the permanent injunction:

> It is not for this court at this time to pass on the abstract question of whether the use of this particular machine under any circumstances would be illegal and would be prohibited by the court. The issue here is whether or not the treatment accorded to the defendant, Mayer, between the 14th of November and the 21st of November at the hands of the officers of the law

having him in charge was illegal and improper, and whether it should be permanently restrained.

The Constitution gives to every individual certain guarantees, one of them being that he shall not be compelled to give testimony against himself. While as an abstract question of law that probably should be interpreted as a rule of evidence, its spirit at least should be a rule of conduct for the courts who have, and the officers who have, custody of prisoners. The right given by that constitutional guarantee is just as great for the man who has committed a dozen murders as it is for the man who is innocent of any wrongdoing. . . . .

This court considers that the showing made of the treatment of this defendant being subjected to long hours, day after day, of interrogation as to the crime of which he is accused, in connection with the hypodermic injection, in connection with the other attendant circumstances, such as the use of the Oregon boot, the handcuffs, the chloroform mask, the long hours of questioning, amount to a serious violation of his constitutional rights and tend to reflect discredit upon the administration of justice. This court will not countenance that method of handling any prisoner.

THE SCHWARTZ CASE

Case 62.—Another interesting case in which a suspect was proved innocent by the cardio-pneumo-psychograph was that of Charles Henry Schwartz, of Berkeley, California. Schwartz, a so-called "master-chemist," had been employed by a corporation using cellulose to produce a substitute for silk. At the time he announced that he had discovered the formula, he was being sued by a woman for damages on the grounds of a broken heart. She said she had known Schwartz, under the name of Henry Stein, as a single man. He was married and had three children.

On the night after he had telephoned to the president of the cellulose concern that he had been successful in developing a process for making artificial silk from wood pulp, there was a terrific explosion in his laboratory and almost immediately a fire broke out. After the fire had been extinguished, there was found upon the floor of the laboratory a charred body, supposedly that of Schwartz. Two theories developed, one that this was a case of suicide due to despondency over the breach-of-promise suit, and another that Schwartz had been murdered in order that the formula for artificial silk might be obtained.

Schwartz, for months previous to the crime, was a familiar figure in the Berkeley Police Department. He spent much time questioning the officers as to methods of identification, as was well known to the writer and others.

As Chief Vollmer described the story, the crime had been so planned from the outset as to point suspicion to Gonzales, the night watchman. According to Mrs. Schwartz, her husband had left the house with eight hundred dollars which was not on the body. The night watchman was at once questioned as the suspect responsible for both the fire and murder. The Berkeley officers then tested the suspect upon the "lie detector," but the record and repeated questioning showed no evidence of guilt or even of guilty knowledge. Chief Vollmer was called and suggested focusing upon the body since the watchman was cleared by the test.

Inspection of the laboratory showed it to have been a false front. There was not even a tap for running water. Schwartz's experiments had been fictitious. Inspector of Police Waterbury was convinced the body found in the laboratory was not that of Schwartz. In a private communication to the writer he states:

> On Sunday after the crime was committed I took Captain Lee to Walnut Creek to identify the body of the man murdered by Schwartz, and I told the District Attorney of Contra Costa County that the dead man was not Schwartz, and so did Captain Lee. That the dead man did not have a Roman nose, but had a concave nose, and the following Sunday I saw Schwartz driving in Berkeley but he got away from me. . . . .

Later developments showed that Schwartz had murdered an itinerant preacher who somewhat resembled him in build, had placed the body in his laboratory, and had arranged the explosion and fire so to deface the body that it might be taken for his own. A search for Schwartz was instigated; he was discovered in hiding and at the moment of capture committed suicide.

Here, again, an innocent man, the watchman, was eliminated in spite of convincing evidence contrary to his innocence.

THE PAXTON CASE

Another rather representative case is that of the murder of a soldier in Paxton, Illinois. This case should be discussed here rather than in the section dealing with murder cases because the chief witness whose confession helped implicate the defendant was given a deception test.

Without going into details, what happened was that four army privates went out ostensibly to look up some girls. During the course of the evening one man disappeared to hold a "tryst" with his girl. He was not seen again until after the murder. This man was picked up by an officer because the hands of the former were bloody. After

considerable investigation, a few days later, in spite of the fact that this blood could have been human blood, this man was exonerated by a positive, unbreakable alibi. Incidentally, this man during the deception test in which he was tested to verify the truth in this story gave a very clear record. We shall call this man A, whom we shall acquit temporarily of any complicity in the crime.

From what can be gathered, the other three men were in an automobile. According to B's story, C suddenly yelled, "Now I've got you." He struck D over the head with the crank. Becoming frightened, B left the car and concerning what happened from that time on told two or three rather strange stories of such a nature as to arouse suspicion. The leading point is that he claimed he left the car because he was afraid of C, and yet he claims that afterward he allowed C to pick him up, but in the meantime the body had been disposed of. C, on the other hand, claims that he does not remember anything of what happened, but the state will undoubtedly mention that C suddenly appeared before two witnesses all spattered with blood and claimed that "his buddy had been hijacked," and when they went to get help he disappeared. He was later apprehended some miles away. Here the witness states that he pointed to the bloody shirt and said that he had to get rid of that evidence.

When given a deception test he was very evasive and was questioned upon the true killing and also as to whether his story of not remembering anything was true. He was a heavy drinker and had been drinking heavily for three days prior to the crime. Analysis of this man's past life gave the examiner the impression that there was considerable deterioration here due to alcoholism. (He had had three breakdowns in which he had delirium tremens, and he had also suffered from syphilis for some years.) His record was very poor, indicating that he was unduly resistant. The inference was that he was lying during the test. Although the examiner does not believe in the use of scopolamin, he asked the defendant in the presence of his attorney if he would be willing to take such a test. According to the theory, he would be unable to lie, but according to the examiner's conception of the test he might loose all inhibition and talk freely with a mixture of truth and falsity. The defendant became rather resistant and said he would have to think it over.

The record of B, on the other hand, showed much disturbance, and whether he was lying about the crime or had some other guilty association (there was some question that this man might have been involved

in a series of robberies), or whether we were just dealing with an unstable, neurotic psychopath, cannot be answered. Since he made no confession, there was nothing further for the examiner to do. Naturally, in this case neither the deception test nor the interpretation will be used in court by the examiner.

Incidentally, there was a fragment of a fingerprint found by the examiner on a bottle which figured in the case. The examiner made use of his method of classification,[1] but no identification could be made.

Now, this case is of interest chiefly because the chief witness for the state cannot be cleared by a deception test. Since this does not necessarily mean guilt, it is obvious that such a test should not be introduced into court procedure, for a gross miscarriage of justice might occur if the court or jury were influenced by such test procedure. That is, a miscarriage might occur if the witness was telling the truth. In this case the court procedure should depend on the regular channels of investigation for evidence submitted.

Other representative records from inmates of penitentiaries are shown in Figs. 42–53.

[1] *The Larson Single Fingerprint System.* New York: Appleton & Company, 1923.

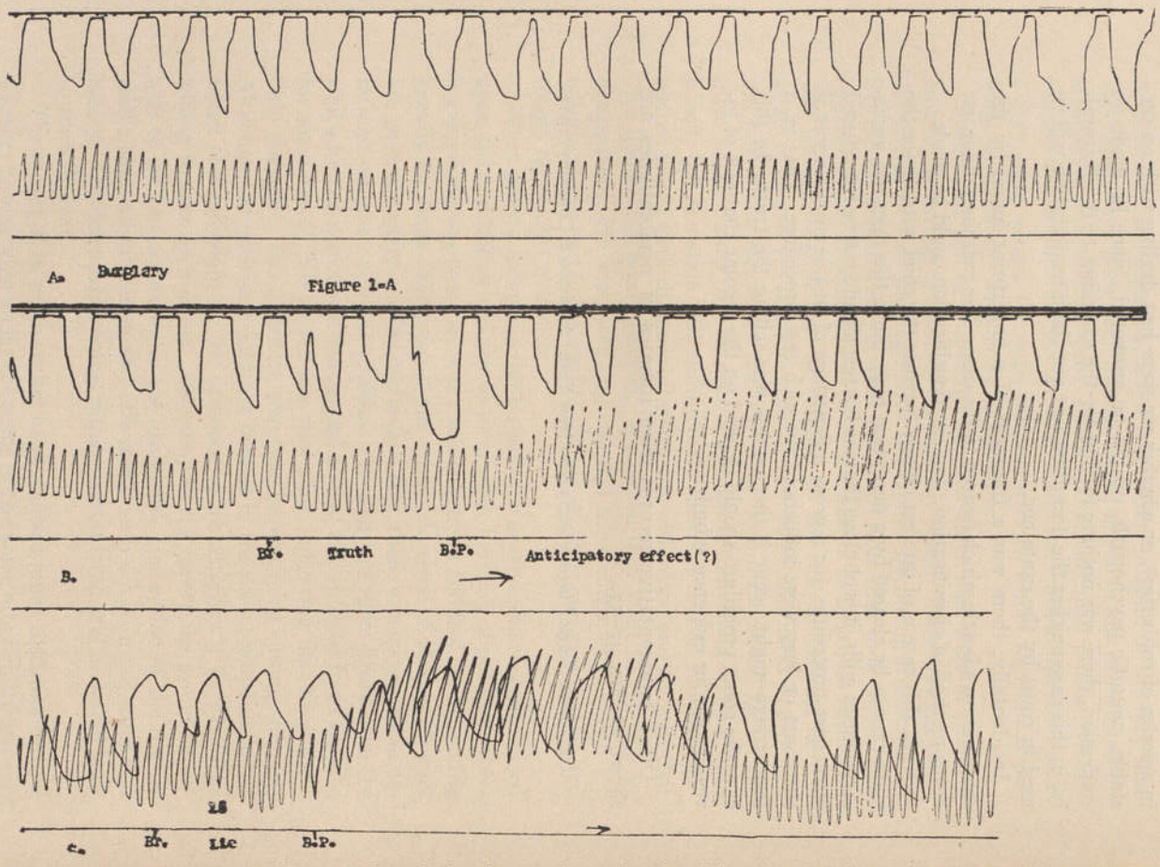


FIG. 42.—Record of an inmate of a penitentiary lying about burglary

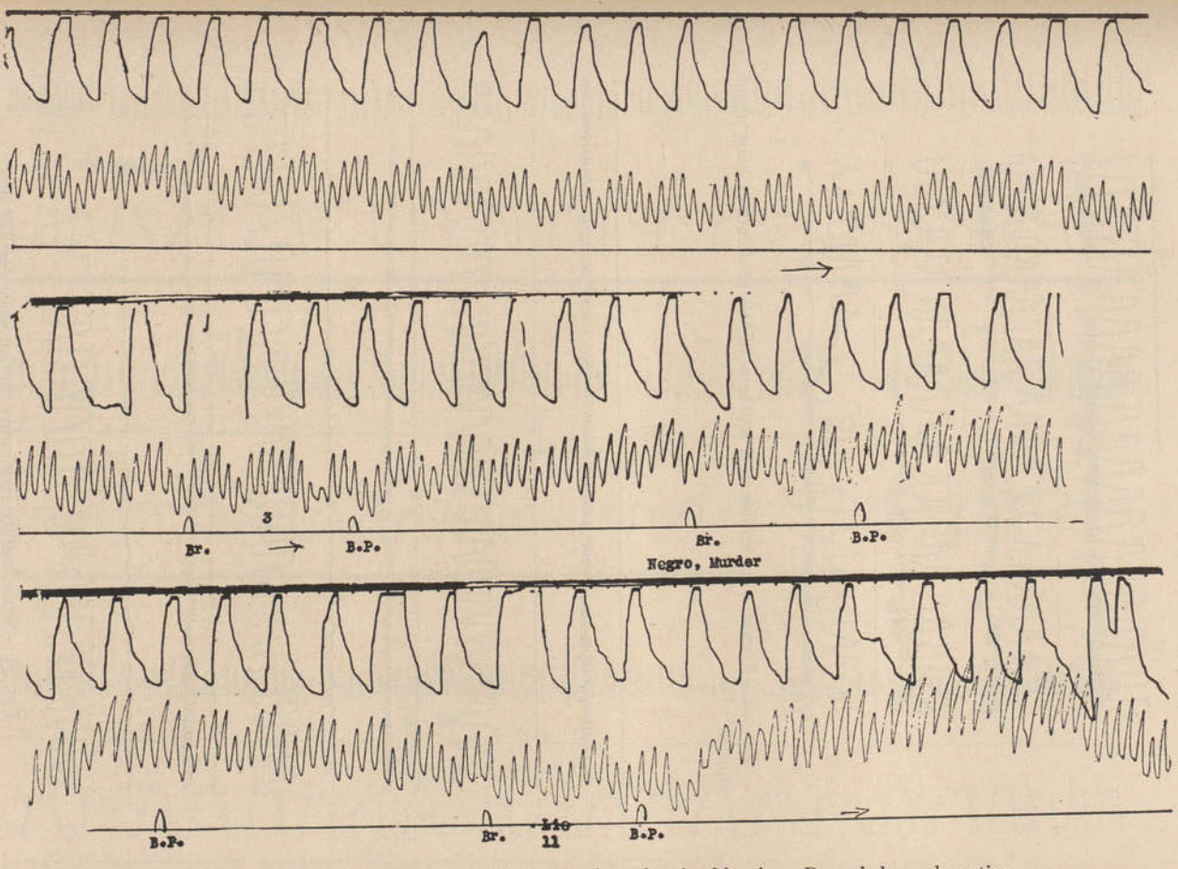


FIG. 43.—Penitentiary inmate: Record of a murderer denying his crime. Record shows deception

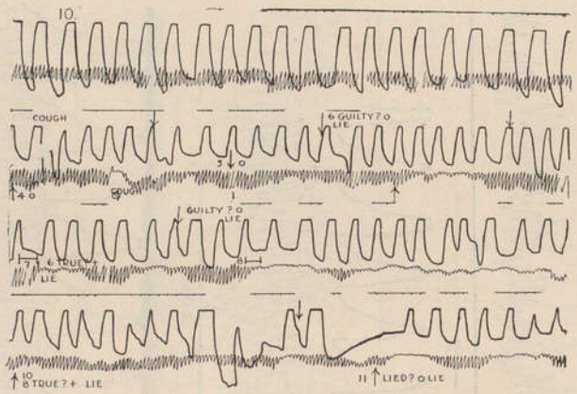


FIG. 44.—Record of an inmate of a southern Illinois penitentiary lying about murder.

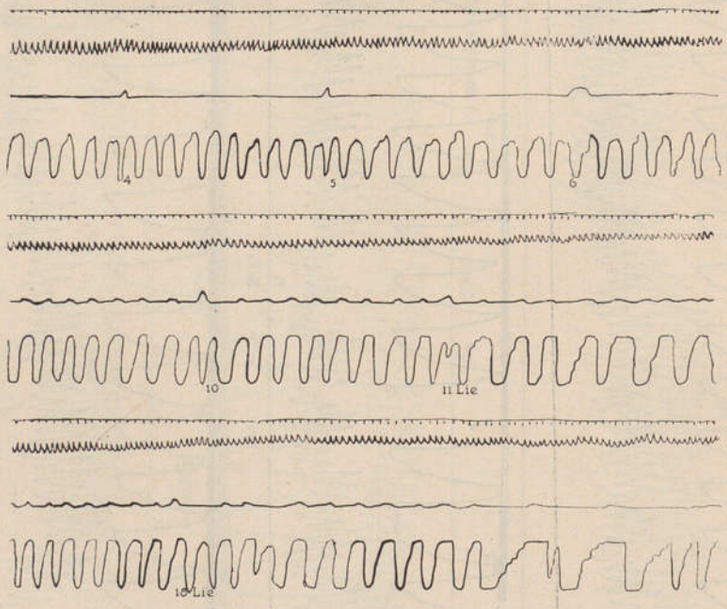


FIG. 45.—Shows marked respiratory tension when denying guilt

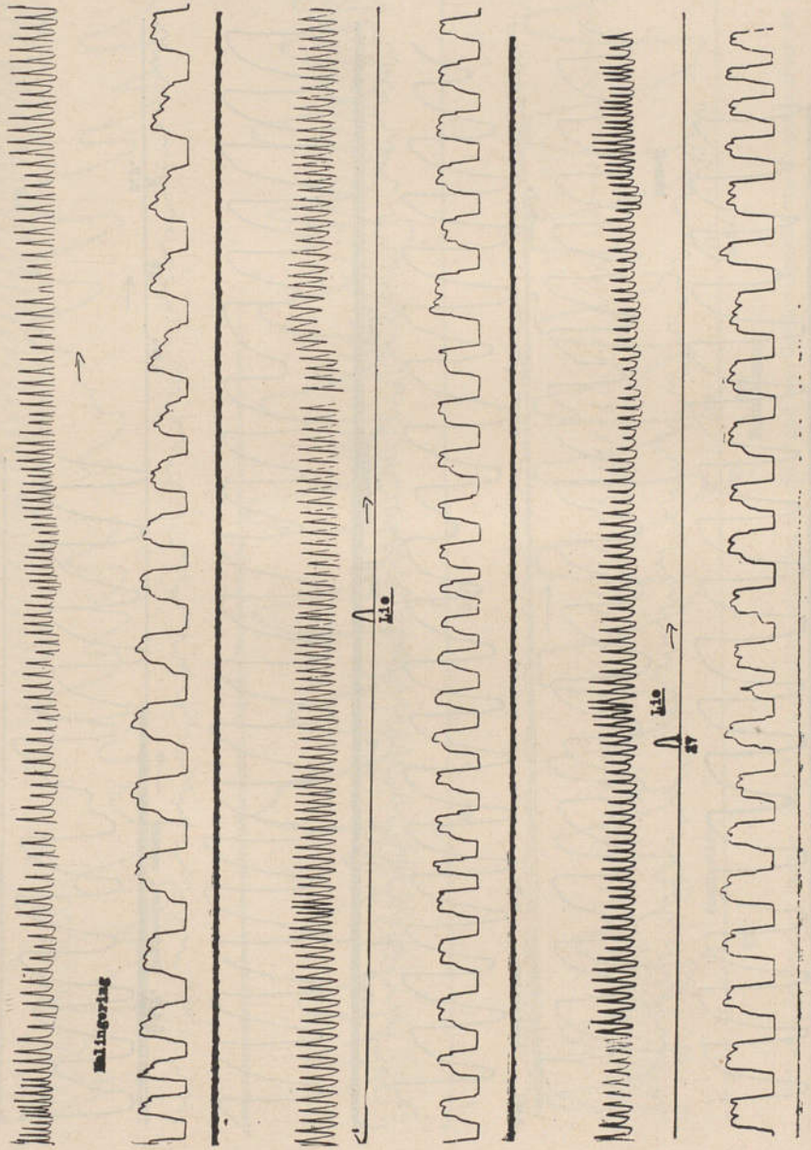


FIG. 46.—Penitentiary inmate: Record of a murderer who is malingering

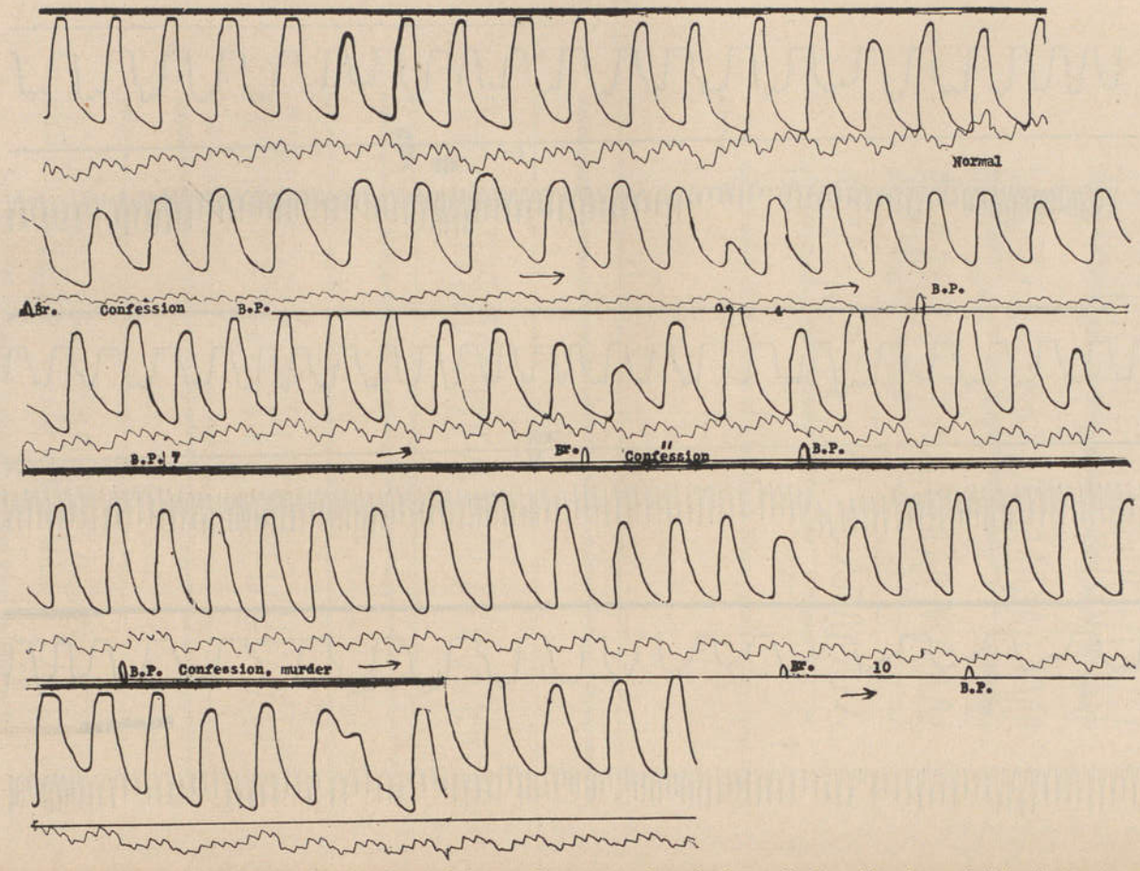


FIG. 47.—Penitentiary inmate: Record of a murder suspect who tells the truth about his crime, admitting it

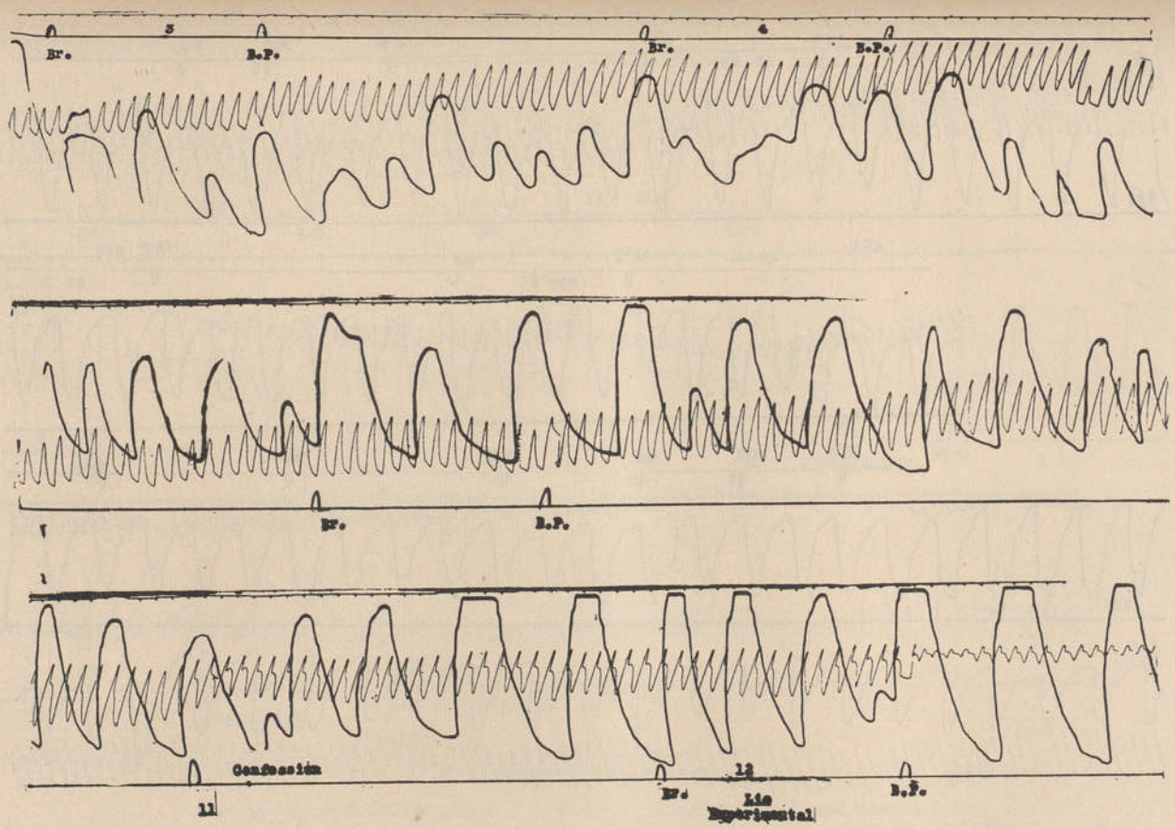


FIG. 48.—Penitentiary inmate: Record of a murderer admitting his crime and who lied for experimental purposes about an indifferent subject.

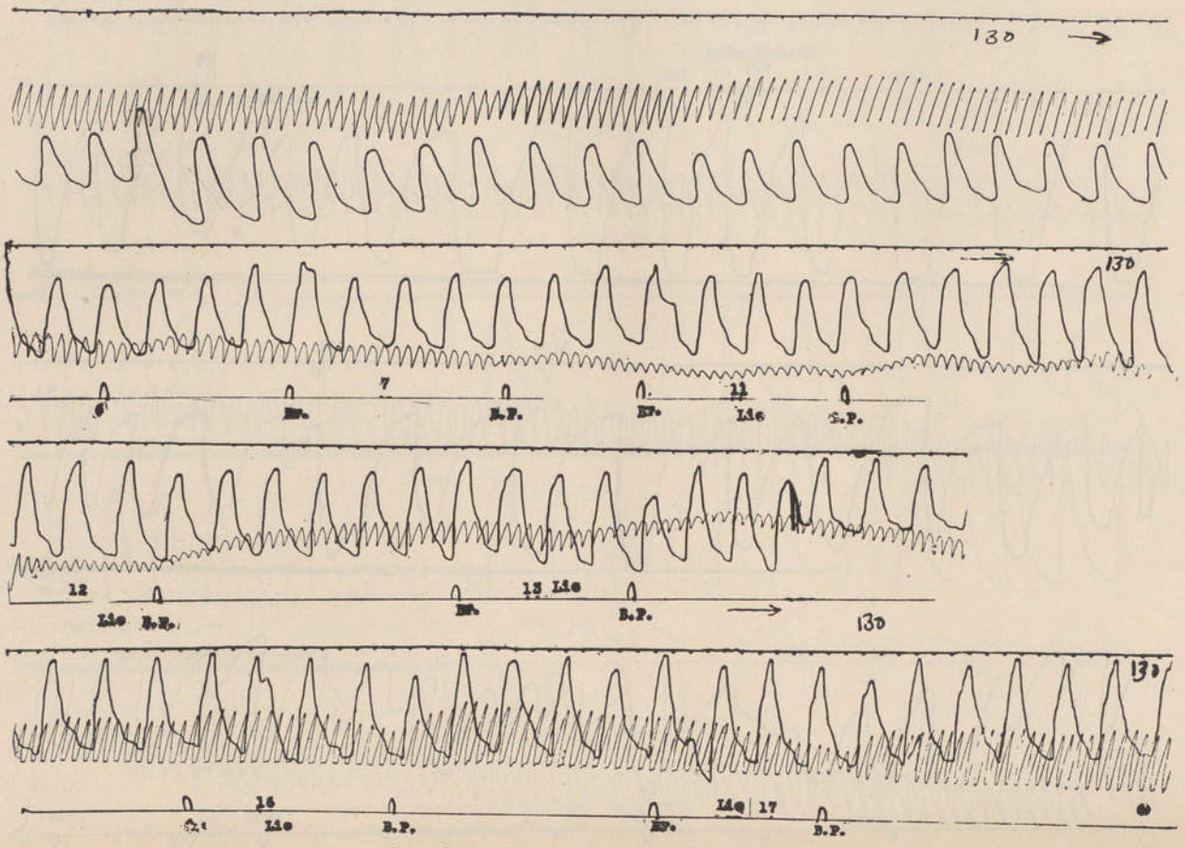


FIG. 49.—Record of an inmate of a penitentiary lying about guilt

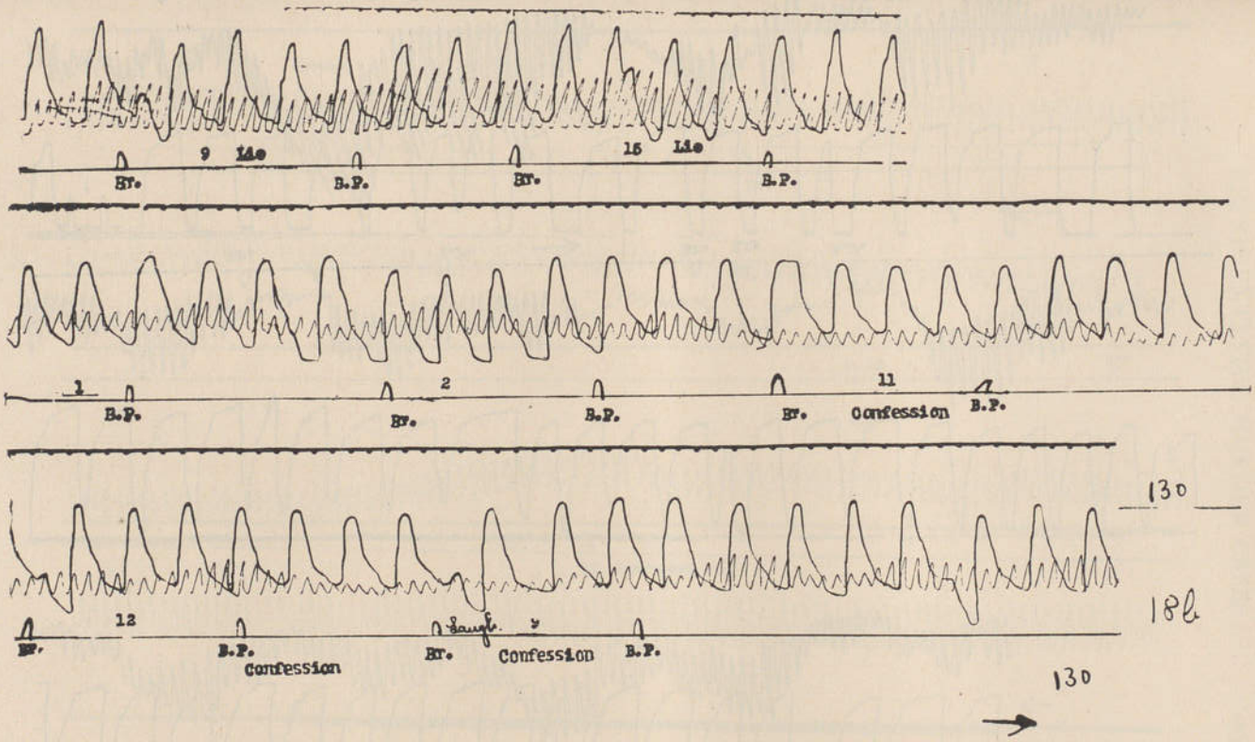


FIG. 50.—Record of same inmate as in Figure 35, lying about guilt and later confessing

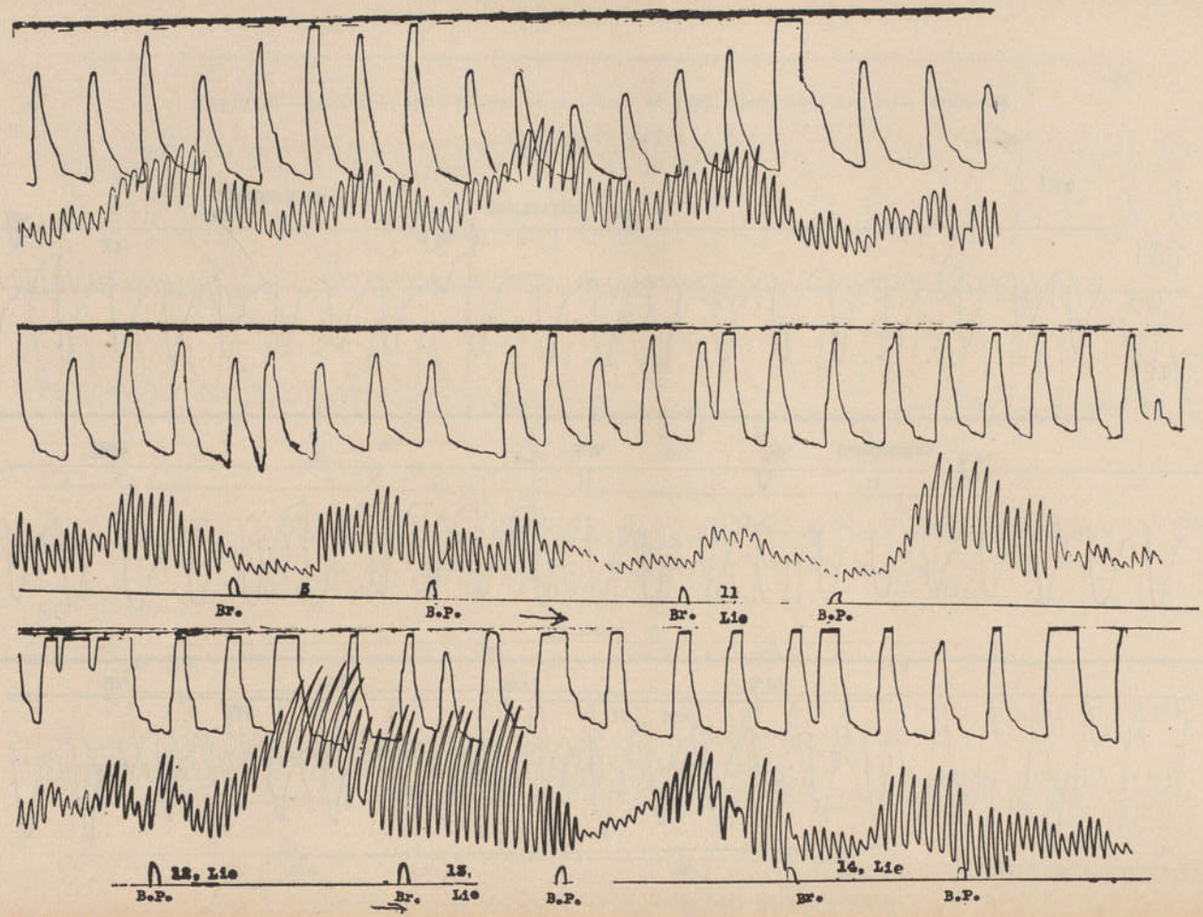


FIG. 51.—Record of an inmate of a penitentiary lying about robbery

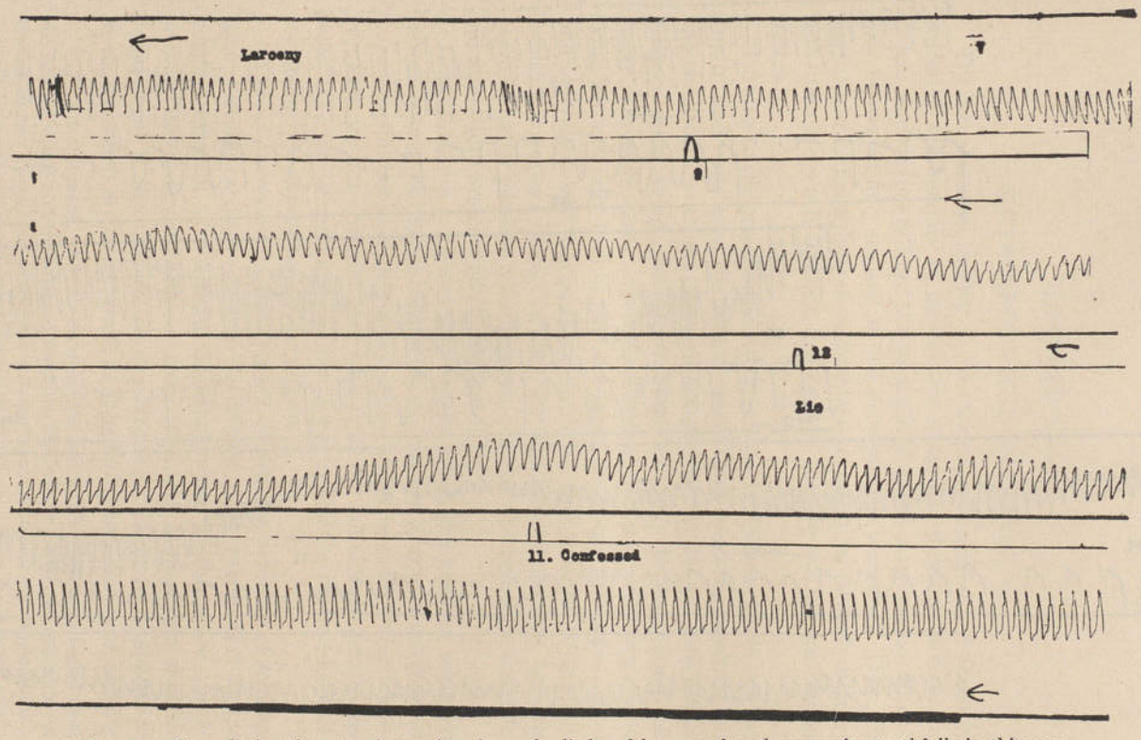


FIG. 52.—Record of an inmate of a penitentiary who lied and later confessed, answering truthfully in this case

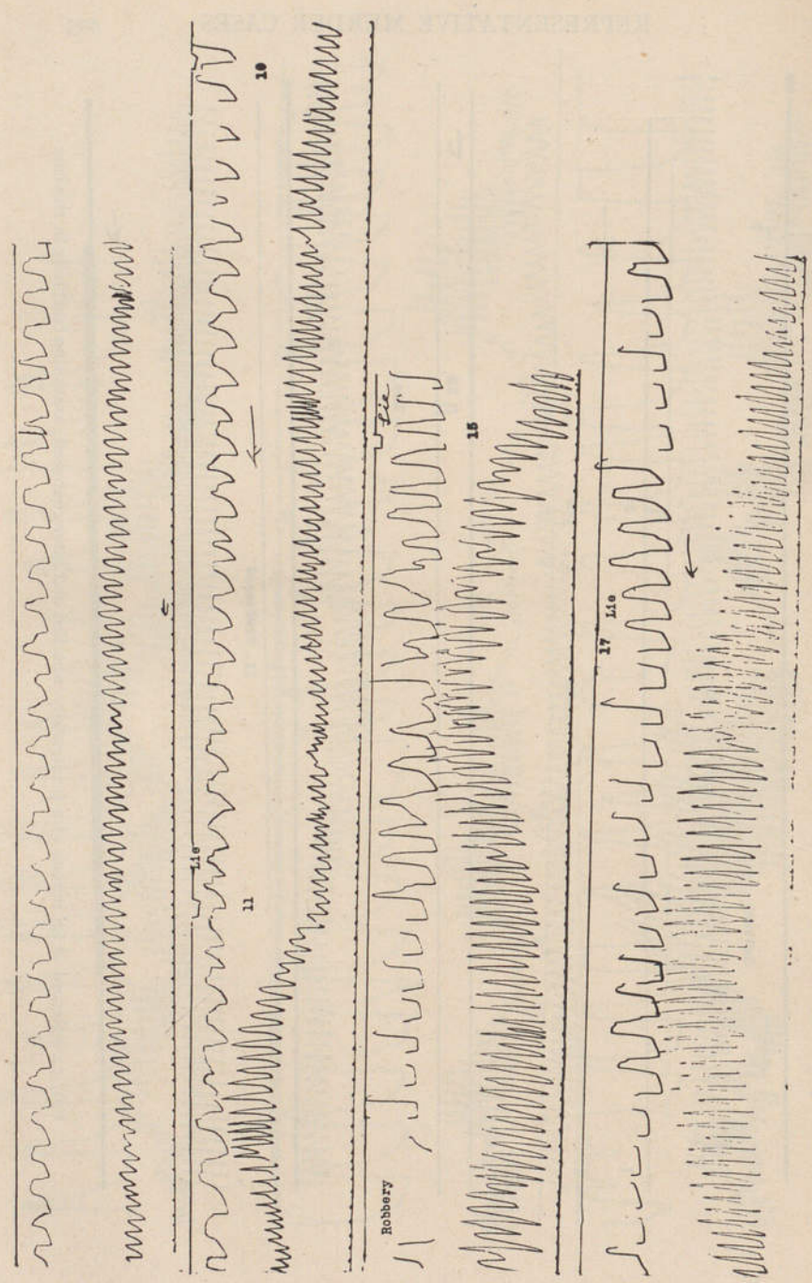


FIG. 53.—Record of an inmate of a penitentiary lying about robbery charge

CHAPTER XXII

RETROSPECT AND PROSPECT

The casual reader, hearing of the ancient judicial modes of determination of the veracity of the witness where the methods of combat, ordeal, and torture utilized the principle of divine intervention, was at first interested and amused at the incongruities presented. Then, to his surprise he finds these same methods coming down through the ages into the nineteenth century, not only in Europe but in the United States.

Turning to the present judicial procedure, he finds such relics as the "oath" and "kissing of the Bible," which bring religious concepts into the courtroom, with the concomitant presence of perjury and undue reliance upon dying confessions. More hopefully he scrutinized the judge as a more exact and efficacious tool for the unmasking of the lying witness, only to find that the jurist has many limitations, legal and individual, and that in this country political pressure often intervenes in important cases. Turning less hopefully to the jury, he finds there no better possibility for accurate solution and he rejects the present grand-jury system and the coroner's jury.[1]

Confronted by a witness who may be lying, the judge or seasoned detective only excels the layman in that he has learned after years of cross-examination that there are certain subjective cues. Unfortunately, these are not objective and vary with the individual case. Moreover, the experienced judge or detective is unable to transmit his ability, gained by experience, to the novice.

In police procedure in this country we still see evidence of reliance upon torture, carried over from the Middle Ages, exemplified by the rough treatment of suspects. Although these methods are openly frowned upon, they still exist, as many truthful commissioners of police could testify if they wished. These methods are gradually disappearing as the standards are being raised, as at Berkeley and elsewhere, and the

[1] The writer himself, while an investigating police officer, was impaneled upon the coroner's jury and then elected foreman. He found a body; the question was that of murder or suicide and the only evidence submitted was the fingerprint evidence he himself gathered from the gun and the corpse. Then, as foreman of the coroner's jury, he passed upon his own evidence.

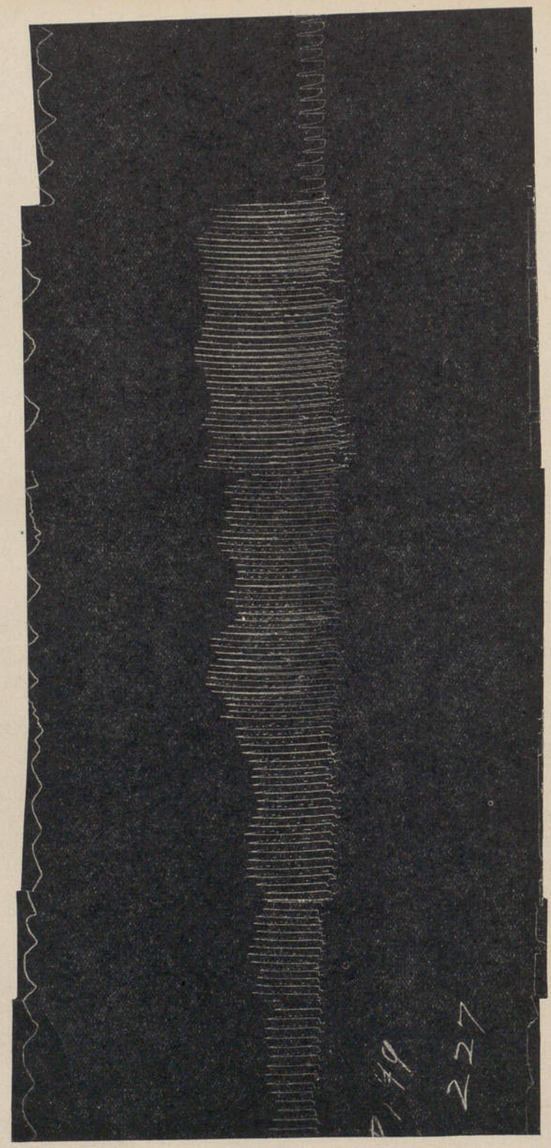


FIG. 54.—Increasing tension shown in a police case where suspect is a physician accused of a homosexual crime with a boy. Section of boy's clear record is shown also

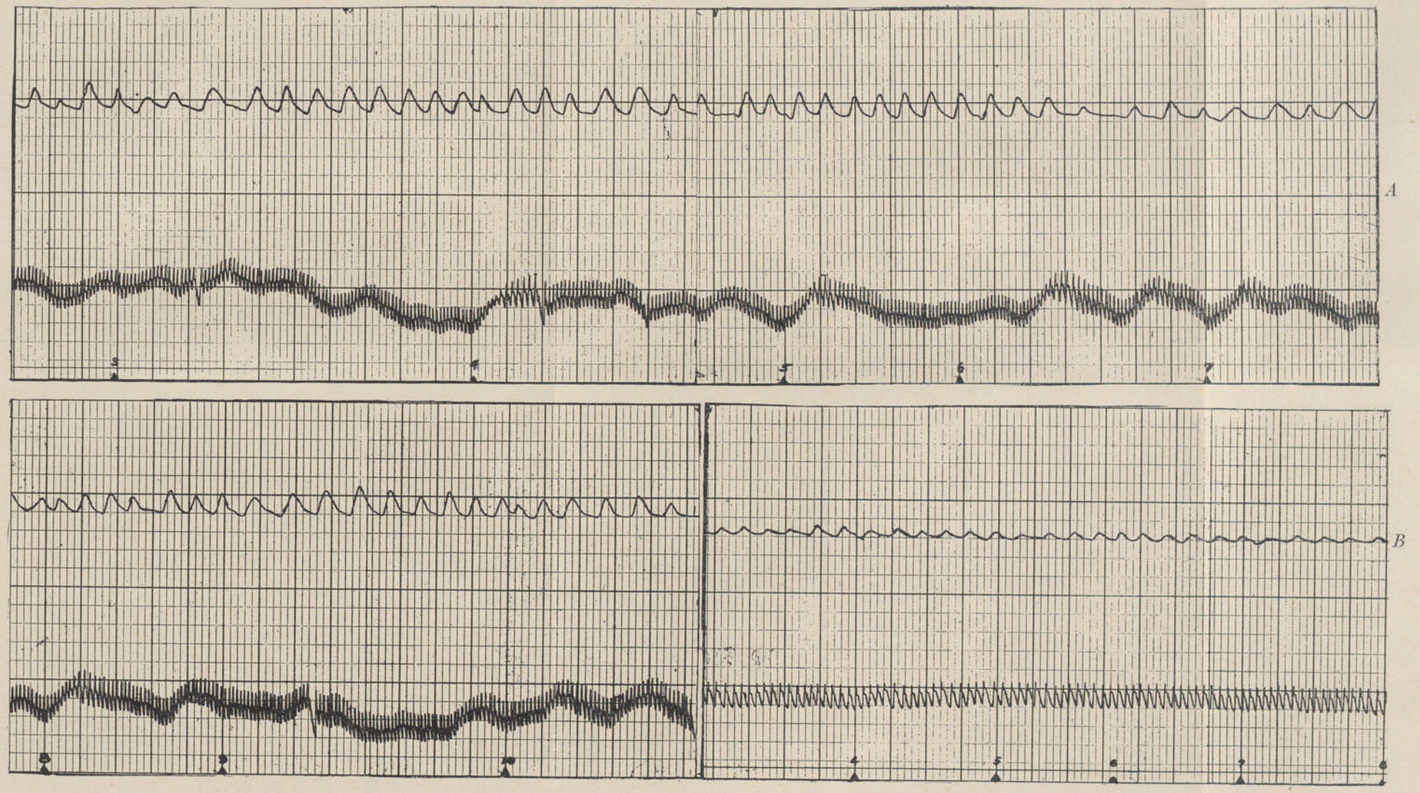
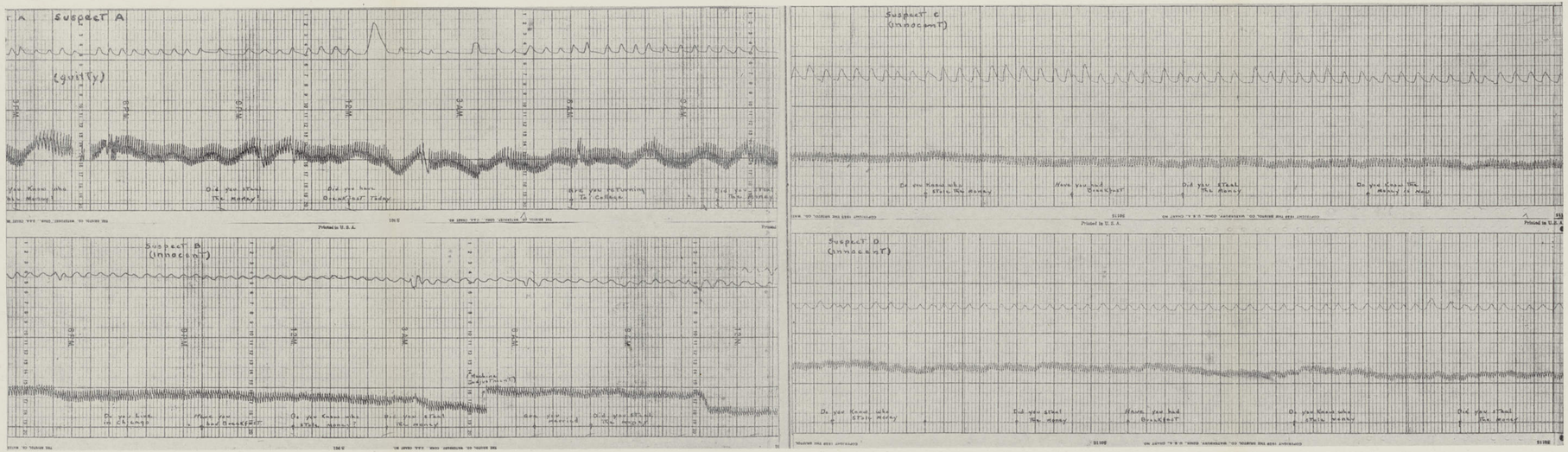


FIG. 55.—Record of a suspect lying about stealing from a safe, showing much guilty tension as compared with absence of guilty tension after confession when answering questions truthfully (A). See Fig. 56 for the same lying record compared with those answering truthfully in the same case. Records shown in Figs. 55–56 were made by Leonarde Keeler, of the Crime Detection Bureau.



—R.R. Co. Safe burglary

Suspect A– guilty
" B - innocent
" C "
" D "

—R.R. Co. Safe burglary

FIG. 56.—Records of four suspects involved in stealing money. (See Fig. 55.) E shows two disturbances on the cardiac record. No connection with the guilt complex. C is given for comparison with the records of three other suspects who were eliminated from the same crime because of their records shown in Fig. 55

education of the policeman becomes the asset instead of political connections and ability to swing a club. Unfortunately, the police department is still a political football in many cities and is used in the interests of the mayor or some politician; the chief of police is recruited from the army or from business life and is totally untrained and unfit to guide a police department.[1]

It is tragic to see ambitious police officers who are not politicians but who have the qualities requisite to their office go to any inconvenience to secure the training which a police course offers, often studying for years in some one field, only to be relegated to the "sticks" by some newly appointed political chief. This situation is too often a symptom of the indifference and ignorance of the public, which must slowly be educated to the fact that policemanship is a profession to be respected and adequately paid. Fortunately, there are many more idealists in this respect to be found among the ranks of the police than among the general public.

The attitude of the police as a whole in reference to scientific tools is admirable. They are of necessity skeptical and must be convinced, for they have been fooled too many times by the claims of theoretical criminologists. A "lie detector" that is successful in using one set of criteria in the university may fail when given the "acid test" on the firing line. The police attitude in reference to the so-termed "lie detector" has been similar to that which existed in reference to fingerprints when first introduced as evidence, years ago. However, there is this important difference. In the case of fingerprints we are dealing with entirely objective evidence while in using the "lie detector" we must reckon with the interpretation of objective data, which may have several meanings. Unfortunately, the unskilled examiner still relies on cues, which he utilizes in his interpretation of the "cardio-pneumo-psychograms."

At this point it might be imperative to note the attitude of the various police departments with which the writer is acquainted.[2]

[1] Regarding this whole question see the admirable discussion by Raymond Fosdick as well as the use of the Co-ordinating Council introduced by Chief Vollmer in Berkeley. This calls for the co-operation of all the community agencies in the handling of every case. Months ago Professor Vollmer spoke to the writer about a similar co-ordination of all forms of agencies in Chicago and the utilization of these co-ordinative resources in the treatment of delinquency.

[2] There are two factors that serve as obstacles in scientific experimentation. Owing to the sensational nature of the cases, there is often much undesirable publicity, which is not infrequently desired by the so-called "expert." Second, there is the

In the past the writer has secured police material from Berkeley, Oakland, Martinez, Piedmont, and San Francisco, California; Mr. Keeler likewise secured material from Los Angeles and vicinity while Vollmer was chief of police there; Chicago material came from the Juvenile Court; some tests were made in Evanston while Wiltberger was chief; testing has been done for the Western Union Telegraph Company, and the penal institutions of Illinois have afforded considerable material. The bulk of the material was secured from California.[1]

The police officials in and about Berkeley co-operated well in furnishing material in the form of actual suspects. Not infrequently such incidents as the following arose when officers from larger cities were involved:

In one instance a Berkeley recidivist was wanted as a suspect in one of the larger cities. He had previously been given a deception test and several other crimes were admitted by him, which made a clear case for the officials desiring him. After watching the test procedure, one of the two visiting inspectors expressed the opinion that he and his "partner" could show the writer a quicker way: they "would line up that guy against a wall and tell him to come through," or they would

difficulty of securing test material because of the attitude of the investigating officials. These officials invariably bring the suspect for a deception test only after all other measures have failed and the co-operation is poor at best. The detective then expects the examiner to agree with his (the officer's) preconceived idea of the suspect's innocence or guilt. If the examiner disagrees, the detective loses interest and will not round up or bring in other suspects who might be guilty. Many illustrations of this might be cited but the following one will suffice. Over a year ago, Mr. Keeler and the author were asked to Des Moines, Iowa. Following a brutal assault and the killing of a nine-year-old girl, with public sentiment demanding an arrest, two likely suspects were seized. Since they did not confess Mr. Keeler was requested to test the subjects. Both, and especially one who had previously been accused of attacking a child, were very good candidates. One suspect was quickly eliminated. The interpretation of the record of the other man suggested that he seemed to be lying but not necessarily about this crime, as he was also disturbed by a reference to an intimacy with a witness who furnished him with an alibi at the time of the murder. The writer made the suggestion that the investigation of the present suspects be continued but that all the available sex psychopaths, such as those on parole, be rounded up and tested. This was not done and one of the original suspects was later tried and acquitted.

[1] All the records shown in this work were secured either by the Berkeley apparatus or from a modified Thomas polygraph, assembled by Earl Bryant for the writer, except those records of the fraternity and bootlegging cases. These were secured by the writer on the Keeler polygraph, the records differing in no essential way from the others and those three or four furnished by Keeler.

Lie

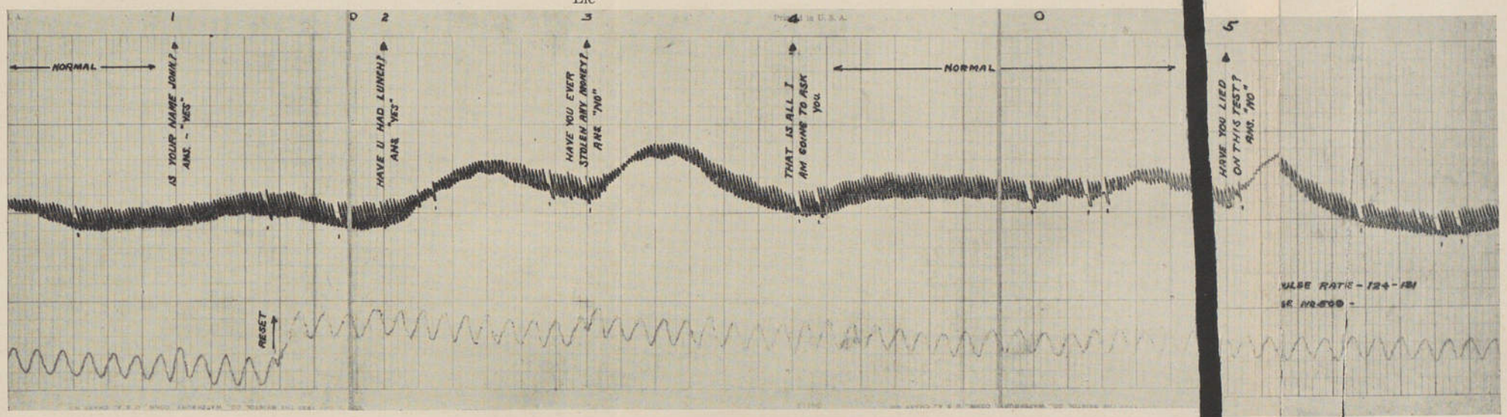


FIG. 57.—Record of a negro suspect denying theft of money. Record shown was made by Leonarde Keeler, of the Crime Detecti on Bure

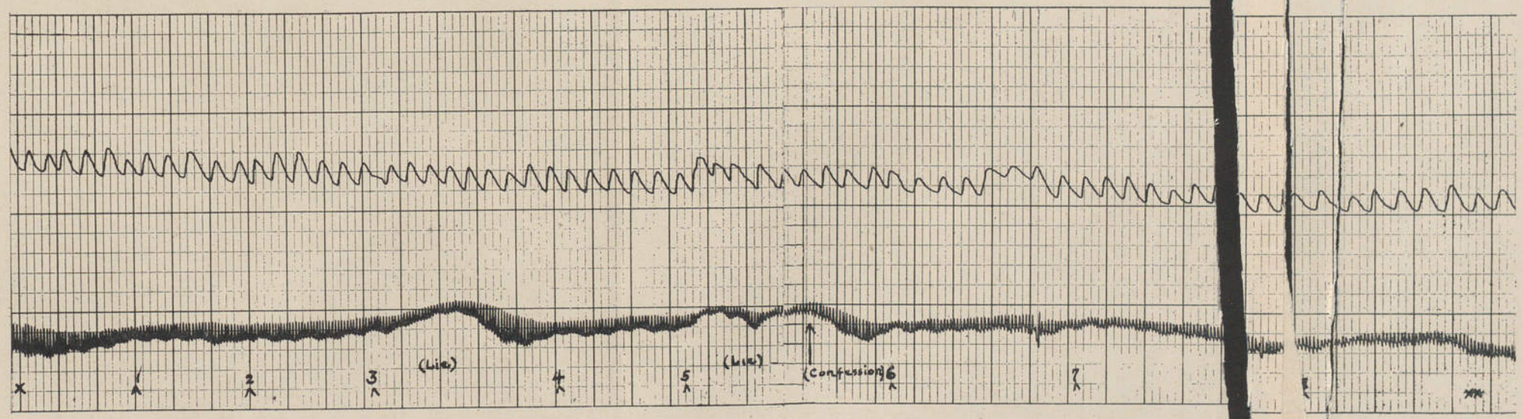


FIG. 58.—Record of a suspect lying about a theft in a fraternity house. Record shown was made by Leonarde Keeler, of the Crime Dete tion

beat it out of him. Such scientific methods were "all right for some fish but not for this hooligan."

This attitude is not uncommon with the type of police official selected by a politician. More than one recidivist, inmate of a penitentiary, has told the writer that when arrested he was about to confess, hoping to "cop an easy plea," when the detective commenced to "hose" him, whereupon he knew that they had "nothing on" him and preferred to take a beating rather than be sent to prison.

Again, two inspectors from a neighboring city, disgruntled because their suspects requested to be brought to Berkeley for "a test on the 'lie detector,' " took them to a clairvoyant in order to locate the stolen rings.

While the writer was in California, he was called in as consultant in two cases in which the San Francisco police were interested. One was the Hightower case, involving the murder of a priest. Here the interpretation of the writer as checked by subsequent events and information received orally from Dan O'Brien, the chief of police, was correct. In the other, the Wilkins case, the interpretation given out agreed with alleged facts later brought out in the trial, although the defendant was acquitted. About this time a reporter told the writer that he was informed by the leading San Francisco officials that they would never make use of the test again. This is of interest since they were familiar with only two cases in which the results were at least 50 per cent accurate, which far exceeds the usual success of officials in the detection of crime or guilt of a suspect from cross-examination methods alone. Moreover, it was not possible in these two cases to conduct scientific experiments since control material—opposing and confessing witnesses, and the like—was not submitted for test purposes.

Captain Niles, of the Oregon Police School, and Colonel W. Pugh, formerly chief of police at Duluth and now practicing medicine, have always been very co-operative. Police laboratories are gradually being established where suitably trained men can use deception-test procedure, not as a court instrument in gathering evidence, but merely for furnishing leads in the preliminary investigation. As yet there is no satisfactory apparatus available, as it is continually being modified, nor are there enough skilled operators to do the work in a rational, scientific fashion. More than psychological, statistical, physiological, or clinical training alone is necessary for this work.

Thus far little has been done in Chicago for the Police Department by the writer or his associates. Last October Professor Vollmer, to-

gether with the writer, visited two precinct stations to secure experimental material. Much interest was evinced but no case material was ever secured.

Mr. Rouse, one of the writer's assistants, has secured interesting case material from fraternity-theft suspects and other alleged offenders. The investigators for the "Secret Six" have been very co-operative in furnishing test material. The former Commissioner of Police Alcock had offered fullest co-operation.

Mr. Keeler, working independently at the Scientific Crime Detection Laboratory at Northwestern University, has tested bank employees, sorority cases at Northwestern, and a few police cases for the city and coroner's staff.

On the basis of the writer's experience, he believes that if the police department of any large city actively co-operated for but six months it would be possible to secure material and decisive data concerning the accuracy of deception-test methods. This would involve the following procedure:

It should be possible to secure a record on every suspect brought in, in the daily line-up, as well as on every suspect when first picked up or under suspicion. If conducted properly, there will be but little legal opposition, for, if treated as a human being, the suspect will often co-operate to a surprising extent. There should be no publicity and the records taken once with the interpretation should then be filed until the case is definitely cleared up. In the past it has been necessary for the writer to give the interpretation to the inspector and assist in the investigation. This can be done if the investigators have intelligence and merely use the interpretation as "leads," but prevent the records from being used in court as evidence. At present, as well as in the past, the officials and the public evaluate the merit of this test procedure by the work of poorly trained operators in sporadic, sensational cases described in the newspapers.

First, we must determine whether there are disturbances or changes present in the records (eliminating entirely subjective factors) when the guilty suspect is questioned about his crime, and whether these records can be differentiated from the records of innocent suspects when fear is ruled out. This has been done so satisfactorily that the test procedure, properly carried out, can be used as a practical tool in the preliminary investigation. However, there are, and always will be, errors due: (1) to the fact that an individual may lie, but his record show no disturbances; (2) to a "guilt complex" of a neurotic individual innocent

of the crime; or (3) to the fear of an innocent suspect. In at least five cases tested by the writer errors due to the foregoing causes were apparent. What the actual error is can only be determined on the clinical subject, the suspect, under stress with emotions aroused (whether innocent or guilty), not in a classroom experiment with certified stimuli.

Further clarification of the writer's present position on deception tests will be clear from the following abstract from an address to the South Side Medical Association at Chicago, January 24, 1931:

> It is important at this time to call attention to two extremes, one in which there is too much optimism and a tendency for overevaluation of the possibilities of such a test, also a tendency for ill-trained workers to set up so-called critical experiments and, on the other hand, armchair criticism on the part of those who have done no work on the test and who are familiar with only laboratory psychology. To be able to secure critical data of any sort in this problem one must have a sound training in physiology as well as thorough clinical training, since at any moment one may be dealing with abnormal mental or abnormal physical material, also a good forensic training whether as forensic psychologist, psychiatrist, policeman, lawyer, or investigator, is necessary.
>
> In previous papers I have discussed experiments and the usual objections, the chief of which is the fear of the innocent, and will not take further occasion to discuss this here except to say that it does not interfere with the practical deception tests. That is, it may help to furnish the exceptions, but these are not of sufficient number to interfere with the procedure. The term "lie detector" is misleading and the title "cardio-pneumo-psychogram" found in the first publication concerning this work seems most satisfactory. In my publications I have stated that deception as tested is nothing but a form of complex situation with repression and this study is merely one phase of the utility of such physiological criteria. In this deception test it makes no difference whether we are dealing with a college student, a clever business man, or a recidivist in the penitentiary, so long as there is some actual motive for the deception. The business man may be lying about some irregularity, the detection of which might result in disgrace, loss of business, etc., but according to our experience, his deception is no different from, and is as easy to detect as, that of anybody else.

The writer should like at this point to call attention to the fact that the very common difficulty experienced by his associates is that the scientist who has only his laboratory background, and no training in criminology or clinical subjects, is at sea in the conducting of a deception test in the police laboratory. After being trained so that he is able to follow the test procedure as outlined, and has secured satisfactory records, and is even able to make correct interpretations he is helpless

in securing a confession from a suspect. This involves experience not only in cross-examination and interrogation of the witness or suspect, but presupposes experience and ability in methods of criminal investigation. Since the combination of criminal investigator and scientist is rare, and since every day we do not find a Hans Gross, a Wigmore, or a Vollmer, the most fruitful combination is that of a deception-test expert who co-operates with a sufficient number of trained investigators. These men can be given the results, including the inferences from the deception test, and then secure evidence with which to convict or eliminate the suspect. So far, this desideratum has been found by the writer chiefly in Berkeley. Here with the enthusiastic co-operation of Inspectors Woods, Mehrtens, Wilson, Greening; Sergeant Wiltberger; Officer Fisher; and Inspectors Burbank and Trotter of Oakland it was possible to clear up many cases in which a confession was secured. Too much is expected of a deception test. The subject is supposed at once, upon being confronted by his record, to beg for the privilege of confession. The fact that we are dealing with a strong defensive mechanism, as the safety of the organism is involved, is forgotten.

The references in the public press to the so-called "lie detector" have naturally created a great deal of interest. As a result of such interest one citizen suggested to the governor of the state of Illinois that this was an excellent way whereby it would be possible for him to turn all innocent persons out of the penitentiaries and thus relieve the state of some of its obligations. The suggestion was made with all sincerity. With what the writer has said up to this point, it will be obvious that the suggestion never got beyond that stage.

A few paragraphs from the reply of the state criminologist to this suggestion will make the writer's position clear:

. . . . On returning to Chicago in 1925 Dr. Larson took up an extensive plan of research to ascertain the reliability of the deception of detection technique. This research has been going on continuously for five years. It includes studies in psychoses, neuroses, the feeble-minded, endocrine deficiencies, the question of innocence or guilt where the deception is consciously attempted, the question of innocence or guilt where the subject has delusions, etc. In other words, all angles of the problem will be scrutinized.

It is within the general plan of research to examine inmates of the various penal institutions. This has been on the program of research for some time, and as soon as time will permit it shall be done.

Dr. Larson, the originator of the method as used here, is constantly emphasizing the fact that this method has not been sufficiently tested from all angles to be relied upon unquestionably. In other words, many more thou-

FIG. 59.—Record of a bootlegger denying his connection with Capone gang

sands of records will have to be taken, all angles will have to be considered, before any absolute reliability can be determined.

We in science must constantly guard against overenthusiasm for any method which apparently reveals truth finally and completely. We wish to emphasize that although we believe in this piece of research as being ultimately productive of important results, it probably never will be reduced to a degree of fineness whereby it may be judged absolutely reliable in ascertaining the innocence or guilt of all persons questioned as to crime.

In the legal field little need be said at this time. Probably one of the greatest living authorities in the field of evidence has just written in his last edition:

> Looking back at the range of possibilities for experimental psychometric methods of ascertaining concrete data for valuing testimonial evidence, it will be seen that thus far the only new psychometric method that has demonstrated any utility is the blood pressure method, *which detects lies;* that the word-association method, which has thus far not proved practicable in judicial inquiries, can be used to detect an accused's consciousness of guilt, but does not assist in the valuation of testimony; and that there still remains unexploited by psychometry almost the whole field of possibilities in testimonial evidence. In spite of the Muensterberg trumpet-blast of 1909, announcing that "the time for Applied Psychology is surely near," and that "the judges can test the individual differences of men by the methods of experimental psychology," and "with the same (quantitative) accuracy (as in food materials) can transform their common sense into careful measurements," the record of psychometric achievement with testimony is still meager.
>
> But how could it be otherwise? The task is next to insuperable. The obstacles have already been enumerated more fully. The conditions required for truly scientific observation and experiment are seldom practicable. The testimonial mental processes are so complex and variable that millions of instances must be studied before safe generalizations can be made. And the scientist in this field is deprived (except rarely) of that known basis of truth by which the aberrations of witnesses must be tested before the testimonial phenomena can be interpreted.
>
> No wonder, then, that the progress of testimonial psychometry must be slow.[1]

Attempts were made to introduce the lie detector into the courtroom during the Kirkland trial. The writer disagreed with Mr. Keeler on this policy and refused to take part because he thought that a test conducted in a courtroom was scientifically worthless. Judge Grant Crum-

[1] Wigmore, *Principles of Judicial Proof* (rev. ed., 1931), p. 634, sub. 243, summary.

packer held that a courtroom was not a scientific laboratory, and the test was not allowed.

For a year the writer had been addressing himself to the legal phases of the problem, working with Professor Vollmer of the University of Chicago. At the end of the year the writer had a report of the work done on the question of whether or not the test at this stage can be admitted into court procedure as legal evidence. It may take years to determine satisfactorily the reliability of the technique from a clinical viewpoint, that is, the question of the detection of crime or guilty knowledge by a deception test. The writer was also serving as a consultant, representing the Institute for Juvenile Research, Division of the Criminologist, for a committee to test the "lie detector." This committee was headed by Professor Thurstone, a psychologist. Other members were Professor August Vollmer, Dr. Chester W. Darrow (a psychologist), and Professor H. D. Lasswell of the Department of Social Sciences at the University of Chicago. Thus far, this committee, as judged by personal communications, were interested chiefly in the laboratory set-up of an experimental situation to include deception. One of its members has expressed himself as interested in the clinical and experimental work with police cases.

The writer's problem for Professor Vollmer is entirely an independent project, except that an attempt is being made to use every sort of control. Much work remains to be done, but the writer and his assistants have all that they can do to secure experimental data, using the technique he originally worked out in Berkeley. All sorts of modifications and other criteria can be made use of, such as those which Lasswell and Darrow are using. We feel that respiratory and cardiac studies afford possibilities which yield certain definite results and are temporarily concentrating on them.

A continuation of a previous study made in the penitentiary was undertaken this year by the writer with the aid of his assistants, Mr. Haney and Mr. Rouse. The plan was to secure the records of at least one hundred inmates of penal institutions who denied their guilt and to make comparisons among the cases in Joliet, Pontiac, and Menard. We all know that there are some innocent men in all penitentiaries. We are interested in seeing if the percentage of records cleared (as innocent) is the same from the institutions holding recidivists.

Allowing for the experimental errors of the procedure, which should not vary, we shall then determine the experimental errors by actual case investigation, securing of other evidence, etc. If this be secured,

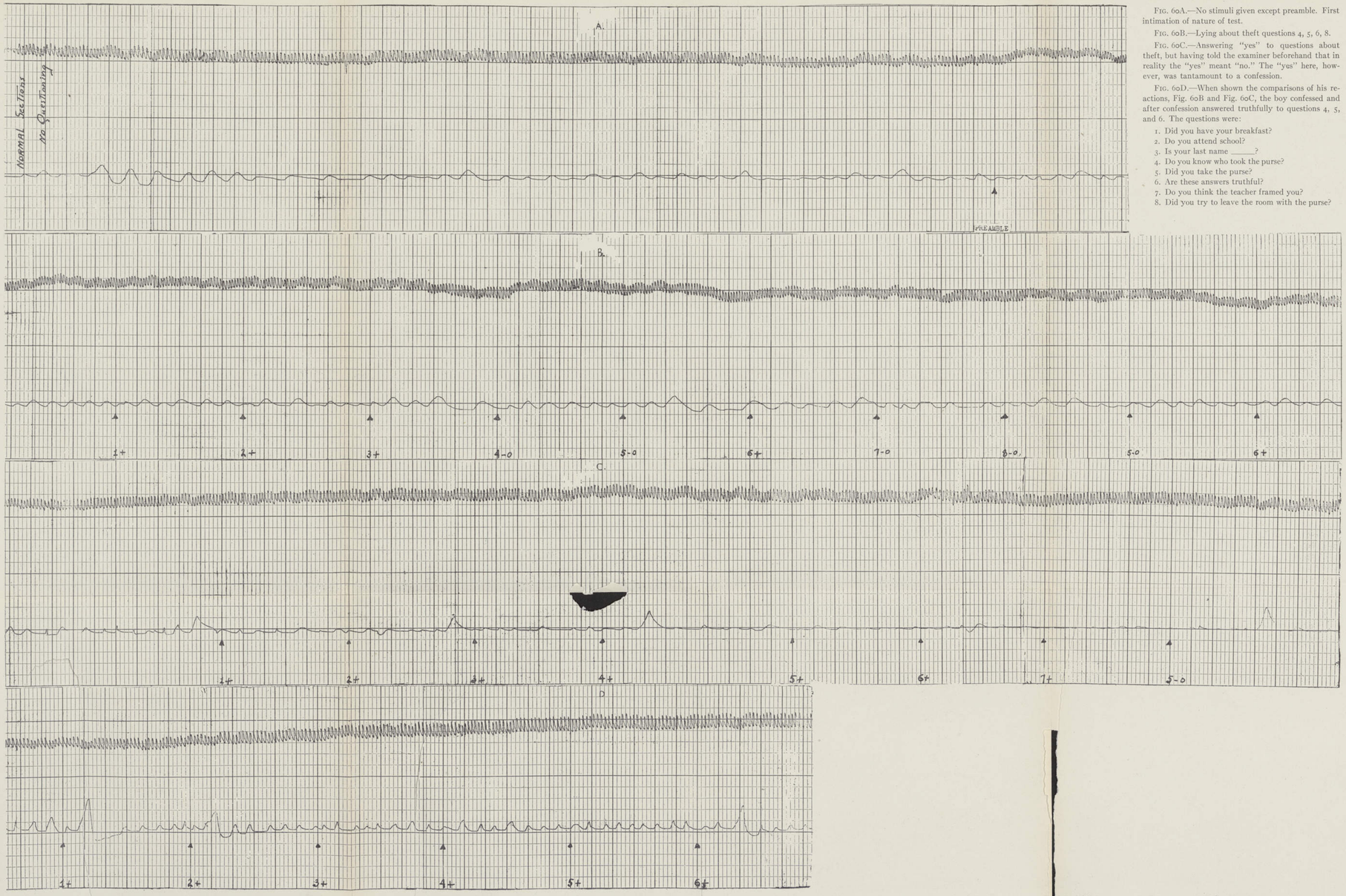


FIG. 60A.—No stimuli given except preamble. First intimation of nature of test.

FIG. 60B.—Lying about theft questions 4, 5, 6, 8.

FIG. 60C.—Answering "yes" to questions about theft, but having told the examiner beforehand that in reality the "yes" meant "no." The "yes" here, however, was tantamount to a confession.

FIG. 60D.—When shown the comparisons of his reactions, Fig. 60B and Fig. 60C, the boy confessed and after confession answered truthfully to questions 4, 5, and 6. The questions were:

1. Did you have your breakfast?
2. Do you attend school?
3. Is your last name _____?
4. Do you know who took the purse?
5. Did you take the purse?
6. Are these answers truthful?
7. Do you think the teacher framed you?
8. Did you try to leave the room with the purse?

then administrative action of some sort can be instituted, provided the proper legal evidence has been found.

When we allow for the experimental error of the procedure, the knowledge of which we are attempting to establish experimentally, about the same number of "clear" records should be found when subjects deny their guilt. We can then determine the actual experimental error due to misinterpretations by the investigator by securing the necessary evidence with which to confirm or disprove the inmate's story about his crime. It is then time enough for administrative action of some sort on the part of the parole or pardon board.

Up to the present time the writer has been strongly adverse to the introduction of deception-test records into court procedure as the technique is not infallible and may never be accurate enough to warrant courtroom use. There can never be in this technique such accuracy as is possible in the case of fingerprints, and so long as error is possible, these records should not be introduced for wrangling sessions by opposing attorneys, as they would only further mystify the jurors and might lead to a flagrant miscarriage of justice. But as a means for the interrogation of suspects and their accurate selection, it compares favorably with other police or legal methods of investigation, if used properly, and has already won an important place for itself as a tool in preliminary investigations.

Dean Wigmore, in a personal discussion with the writer, agreed with the position stated above, and mentioned the fact that when interrogating a suspect in the courtroom or in a police cross-examination, we are dealing with human variables. Because of the complexities of psychological interrogation, the reactions of no ten human beings under questioning are necessarily alike. Consequently there may always be errors in the interpretation of records. The student trained in statistical methods seems unable to see that statistical means alone cannot aid here or assist in solving the real problem involved. Each case is a clinical entity within itself. If it were possible to interpret the records successfully in 80 per cent of the cases, the technique would be recommended by many of those who work with slide rule and statistical methods alone. But even if the accuracy of the interpretation, or the correlations worked out, are high enough to satisfy the statistician, they could not satisfy the expert criminologist, clinician or the trained jurist so far as courtroom evidence is concerned.

As an analogy we can refer to vital statistics in typhoid fever. There the living organism is concerned, and we have no pure factor or func-

tion which is always constant. Thus the mortality due to typhoid may vary from 10 to 20 per cent, but there is no definite fixed rate, owing to the fact that there are many variables. It is convenient to know, for statistical studies, that the death-rate may be, let us say, 15 per cent, but what the clinician wants to know is to which group the new patient belongs. Since he cannot determine whether his patient will be in the group of 85 per cent which recover, or in the 15 per cent which do not, he must fight to the last moment in guarding against complications. Similarly, the jury would have no way of determining whether the interpretation of the deception record is in the 85 per cent group of correct interpretations or in the small group of errors. There will thus be a 15 per cent factor by which innocent men might be convicted and executed or sent to the penitentiary.

The laboratory psychology of the schools which, using artificial stimuli, studies experimental emotions can throw little light on the determination of the variability of a given clinical procedure. Here, as has been said, the physiologist and forensic psychopathologist offer the best combination for fruitful research.

NOTE.—At the time this book goes to press, there is general recognition of the difficulties which the authorities had in handling the Lindbergh case. The writer is of the opinion that in this case, where so many suspects were brought in, the "lie detector" would have been an excellent, efficacious, and speedy method of eliminating the innocent without certain of the suspects being subjected to the strain of months. The writer has continuously maintained in his work and throughout this book that the "lie detector" is of greatest value in the early stages of the police investigation as an additional and important tool for eliminating the innocent, thus giving the investigators time to run down the clues on suspects whose records, for one reason or another, show "the guilt complex." It is alleged that the "lie detector" was offered in this case but the authorities did not make use of it.

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