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Edward W. Cleary

EVIDENCE AS A PROBLEM IN COMMUNICATING

EDWARD W. CLEARY*

"Hellish dark, and smells of cheese."[1]

The law of evidence is sagging to the point of collapse under its own weight. It has cracked visibly in the administrative sphere, and what saves it in the courts is probably a rather general ignorance of what is actually between the covers of Wigmore, plus the fact that lawyers and judges often seem to be downright ashamed to push the rules to their logical extremes. Evidence in action is, happily perhaps, somewhat different from evidence in books.[2] Nevertheless, among people who are thoughtful about such things there is general agreement that something ought to be done.

Basically two problems are apparent: the multiplicity of the rules and their unreality. Possibly the unreality is what causes the multiplicity.

In the realm of honest searching after facts, nothing could be further removed from scientific method than the rules governing procedures used in courts. Scientific method involves systematic observation, impersonally conducted under conditions which permit the checking of results by others.[3] The courts and jurists have engaged in no systematic observation.[4] The adversary approach to facts usually presents a dog fight between two conflicting versions out of which the trier is expected to emerge triumphantly carrying in his teeth the bone of "truth." While synoptic vision may be "a distinguishing mark of liberal civilization"[5] in the formulation of value

* Professor of Law, University of Illinois.

1. The servant Pigg thus described the weather when by mistake in the dark he put his head inside the cupboard instead of out the window. SURTEES, HANDLEY CROSS; OR MR. JORROCKS'S HUNT 418 (1930).

This essay was undertaken with acute awareness of the semantic problems which accompany excursions into strange disciplines. Some omissions are due to oversight and ignorance; others are, in the words of Mr. Justice Holmes, concessions to the shortness of human life. Most of the cases cited will be found in the standard casebooks: LADD, CASES AND MATERIALS ON EVIDENCE (1949); MCCORMICK, CASES ON EVIDENCE (2d ed. 1948); MORGAN AND MAGUIRE, CASES AND MATERIALS ON EVIDENCE (3d ed. 1951).

2. McCormick, *Tomorrow's Law of Evidence*, 24 A.B.A.J. 507, 508 (1938); MAGUIRE, EVIDENCE: COMMON SENSE AND COMMON LAW, 2-9 (1947). It seems apparent that local studies made in connection with proposed codes of evidence have required considerable recourse to the books. See for example, the symposium, *Missouri Evidence Code*, 14 MO. L. REV. 251 (1949).

3. MUNN, PSYCHOLOGY 8 (2d ed. 1951); MARX, PSYCHOLOGICAL THEORY 6 (1951); Mees, *Scientific Thought and Social Reconstruction*, 53 ELECTRICAL ENGINEERING 381 (1934).

4. Studying reported decisions is a literary rather than a scientific pursuit. The magnificent failures of Underhill Moore ought, however, to be mentioned.

5. Cohen, *Field Theory and Judicial Logic*, 59 YALE L.J. 238, 242 (1950).

judgments, it is a most misleading figure of speech as applied to facts.[6] Obviously there is a great difference between the experimental laboratory and the court room, but the question is whether the difference need be as great as we make it. Bridgman's notion of operationism, in attempting to improve the accuracy of scientific language, insists that concepts be defined in terms of the operations producing them.[7] Evidence operates on the reverse basis that the concept produces the result. Legal water runs uphill.

In science a theory possesses a recognized provisional and tool-like character. If the empirical data collected do not support the theory, the theory is discarded. Since the law never collects any empirical data, it is spared the embarrassment of having ever to discard a theory on that basis. Admittedly courts cannot be converted into experimental laboratories, yet inability to produce earthquakes has not precluded the development of seismology scientifically. Naturalistic observation can be both systematic and scientific.

Most substantive law is concerned with how people should act. It is filled with oughts and value judgments.[8] Evidence is almost unique in being primarily concerned with the is. Other than some minor value judgments concerning such things as privilege, the rules of evidence are constructed upon certain assumptions as to how people do in fact act under particular circumstances, rather than how they ought to act. A reference to the chicken cases makes this clear. If upon being released from the premises of the accused the chickens march down the road to the chicken house of the complaining witness, climb on the roost and make themselves at home, evidence of the conduct of the chickens is admissible.[9] Everyone knows that chickens come home to roost. We accept the conduct and do not worry because the chickens cannot be put under oath or subjected to cross-examination. By way of contrast, if the victim of a homicide makes a dying declaration, his statement may be received in evidence provided certain requisites are met, although he too, like the chickens, was not under oath or subject to cross-examination. In the chicken case we rely upon certain well known aspects of chicken behavior, based upon rather general observation. But no one has

6. The alternative of resorting to the continental method, with adversary participation and responsibilities subordinated and judicial interposition correspondingly increased, is less well calculated to maintain the integrity of the individual. Despite the great elements of strength in the adversary system in this regard, its dealing with facts is not a strong point.

7. BRIDGMAN, THE LOGIC OF MODERN PHYSICS (1927).

8. Judge Frank, for one, feels that legal thought has been overly preoccupied with value judgments and has fallen into serious error by ignoring the moral problem of defective court-house fact-finding. COURTS ON TRIAL (1949); *"Short of Sickness and Death": A Study of Moral Responsibility in Legal Criticism*, 26 N.Y.U.L. REV. 545 (1951).

9. State v. Wagner, 207 Iowa 224, 222 N.W. 407, 61 A.L.R. 882 (1928).

ever systematically or even fairly generally observed whether people confronted with the imminence of death actually do tell the truth. Instead, the solemnity of the occasion or the approach of a final judgment or some such thing is assumed to operate upon the declarant so as to elicit only truthful statements.[10] Because the judges regard man as a rational animal they have constructed a pattern of human behavior based upon assumptions as to the effects of varying factors upon rational beings. Thus the reasonable man appears as a far more dominating figure in the law of evidence, where his presence is largely unsuspected, than in the field of negligence, where his whereabouts is at least known.[11] He is the imaginary yardstick by which are measured the actions of participants and the reactions of triers, the legal opposite number of the now deceased economic man.[12]

In this fashion the rules of evidence largely have been constructed out of anecdote and unsystematic observation, plus what hopefully passes for reason but could more honestly be labelled conjecture about human behavior. In the main the jurists have been overawed by the powers of their own minds.[13] Yet the human brain weighs only about three pounds, and too much ought not to be expected of it.

If the rules of evidence are that bad, and there are those who think so, then perhaps the effort to control the judicial decision-making process through rules of exclusion ought to be abandoned in favor of evolving principles for evaluating evidence as is the trend in the administrative field, or perhaps we ought just frankly to get down on all fours like some congressional investigating committees.

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10. The classic exposition is that of Eyre, C.B., in Rex v. Woodcock, 1 Leach 500, 168 Eng. Rep. 352, 353 (C.C. 1789): "Now the general principle on which this species of evidence is admitted is, that they are declarations made in extremity, when the party is at the point of death, and when every hope of this world is gone: when every motive to falsehood is silenced, and the mind is induced by the most powerful considerations to speak the truth: a situation so solemn, and so awful, is considered by the law as creating an obligation equal to that which is imposed by a positive oath administered in a Court of Justice."

11. Green says the reasonable man in negligence cases is "an objectification of a major abstraction." JUDGE AND JURY 164 (1930). Even in the chicken case we assume a reasonable chicken. An unreasonable one might go elsewhere to roost.

12. Spence's comment about such psychological speculations as "mind," "libido," "insight" and "instinct" as explanations of behavior applies equally to the reasonable man notion. "When not safe from disproof by reason of the fact that their locus is usually specified to be in some region within the organism, inaccessible to observation, these concepts are rendered invulnerable by failure to specify what relations they might have either to the S [stimulus] or R [response] variables. While such vagueness renders them unverifiable, it does insure them a vigorous and long career among certain types of thinkers." *The Nature of Theory Construction in Contemporary Psychology,* 51 PSYCH. REV. 47, 52 (1944).

13. Stevens, *Psychology and the Science of Science,* 36 PSYCH. BULL. 221 (1939), suggests that "the sheep whose wool shone white under the light of reason" were most numerous in departments of philosophy. Presumably he has not explored the literature of the law.

Considerable attention has been devoted to the relation between the exclusionary rules of evidence and the probative value of evidence. Some observers have professed to see a substantial correlation, others little or none.[14] Here and there in the rules are found attempts at quantitative or qualitative evaluations: requiring corroborration of an accomplice; the need of two witnesses in case of treason; rules as to attesting witnesses; holding evidence inherently incredible as contrary to judicial notice; and *falsus in uno,* once a great favorite but now fallen into disrepute.[15] Others might be added, but the picture remains unimpressive. The cases in which courts of review have purported to pass on the "weight" of the evidence reveal the hopelessness of any systematic approach to the problem.[16] If evidence has weight, it must be mensurable, but no standard of measurement is at hand—pounds, liters and inches will not work. Talking in terms of trier's discretion means either that a theory cannot be formulated or else that it really makes no difference anyway. And to say "It is only convincing, not lawyers' evidence which is required" merely ducks the whole problem.[17] Effective control of the decision-making process seems likely to be accomplished only in terms of rules of exclusion, and the integrity of the process demands that the rules be defensible.

As psychology emerged from the caves of mental philosophy and began to assume scientific stature, those who recognized that the rules of evidence were largely based upon speculations about human behavior realized that evidence and psychology had staked out common ground. Unhappily the new science succumbed to the temptation to furnish immediate answers to "highly general, practically important but experimentally meaningless questions."[18] Münsterberg,[19] and a multitude who followed in his steps, concentrated on testimonial errors, reaching the conclusion that human observation was not very dependable. This was both unstartling and without

14. Ladd, *The Relationship of Exclusionary Rules to the Problem of Proof,* 18 MINN. L. REV. 506 (1934), perceives a close relationship. McCormick, *Tomorrow's Law of Evidence,* 24 A.B.A.J. 507 (1938), is skeptical. James, *The Role of Hearsay in a Rational Scheme of Evidence,* 34 ILL. L. REV. 788 (1940), and DAVIS, ADMINISTRATIVE LAW, 448, 474 (1951), in the main disclaim any relationship. While Wigmore in his SCIENCE OF JUDICIAL PROOF 924 (3d ed. 1937) saw a close relation between rules of admissibility and probative value, it is interesting that he felt impelled to write a book of this title after completing his monumental treatise.

15. Note, 29 NEB. L. REV. 122 (1949), contains an interesting criticism of the psychological basis of the *falsus in uno instruction.*

16. Lord, *New Trials and Appellate Review,* 56 DICK. L. REV. 88 (1951).

17. Rutledge, J., in International Association v. NLRB, 71 App. D.C. 175, 110 F.2d 29, 35 (1939). See also DAVIS, ADMINISTRATIVE LAW 473 (1951).

18. MARX, PSYCHOLOGICAL THEORY 12 (1951). "The discouragement of such questions except in preliminary formulations and long-range goals, and their replacement or at least supplementation by more specific and productive questions, seem to be a necessary prerequisite for scientific advance in psychology. The large generalizations will then follow as factual knowledge and empirically-related theory are built up on a more solid basis."

19. ON THE WITNESS STAND (1930).

practical implications for the judicial process. By and large, the psychologists left the jurists, like Pavlov's dog, with their mouths watering although no food was in sight. The lawyers therefore continued to do their own guessing,[20] and the psychologists who had ventured forth joined in the general retreat to the more strongly fortified area of squeaks, squalls and squeals,[21] leaving the lawyers "to their own sadistic pursuits."[22] Outside possibly the development of the lie detector, the compartmentation has remained fairly complete. It is time that the legal profession, in particular the students of evidence, once more turned an eye, preferably a jaundiced one, towards the activities of other people who are concerned with human behavior.

Currently the field labelled "Communications" seems to offer the greatest likelihood of ore in paying quantities. Wigmore defined evidence as "Any knowable fact or group of facts, not a legal or a logical principle, considered with a view to its being offered before a legal tribunal for the purpose of producing a persuasion, positive or negative, on the part of the tribunal as to the truth of a proposition, not of law or of logic, on which the determination of the tribunal is to be asked."[23] Except for a rather spendthrift attitude toward words, this falls neatly within the definition of communications as "the process by which an individual or group transmits cues, predominantly verbal, to modify the behavior of another individual or group."[24]

While such things as mathematical theories of information presently have no apparent significance for our purposes, the mere fact that they are capable of sustained and serious investigation produces some enlargement of horizon.[25] Statistical approaches to verbal behavior attack frontally the

20. Limitations of space preclude adequate reference to the magnificent effort of Hutchins and Slesinger to evaluate selected rules of evidence in the light of what was reasonably verifiable in psychology. By singling out particular trees they failed to examine the structure of the forest as a whole. Where they succeeded was in pointing out the needlessness of continuing to make guesses wholly in a vacuum of our own making. These things take time. Hutchins, *The Law and the Psychologists,* 16 YALE REV. 678 (1927); Hutchins and Slesinger, *Some Observations on the Law of Evidence—Memory,* 41 HARV. L. REV. 860 (1928); *id., The Competency of Witnesses,* 37 YALE L.J. 1017 (1928); *id., Spontaneous Exclamations,* 28 COL. L. REV. 432 (1928); *id., State of Mind in Issue,* 29 COL. L. REV. 147 (1929); *id., Family Relations,* 13 MINN. L. REV. 675 (1929); *id., State of Mind to Prove an Act,* 38 YALE L.J. 283 (1929); *id., Consciousness of Guilt,* 77 U. OF PA. L. REV. 725 (1929).

21. Some fought a sturdy rearguard action. Allport, for example, expresses concern that "man's moral sense is not able to assimilate his technology" and rejects the counsel of patience in view of the scarcity of scientific findings. "Addiction to machines, rats or infants leads us to overplay those features of human behavior that are peripheral, signal-oriented, or genetic. Correspondingly it causes us to underplay those features that are central, future-oriented, and symbolic." *Scientific Models and Human Morals,* 54 PSYCH. REV. 182 (1947).

22. HOGBEN, FROM CAVE PAINTING TO COMIC STRIP 137 (1949).

23. 1 WIGMORE, EVIDENCE § 1 (3d ed. 1940).

24. Hovland, *Psychology of the Communication Process,* in COMMUNICATIONS IN MODERN SOCIETY 59 (Schramm ed. 1948).

25. SHANNON AND WEAVER, THE MATHEMATICAL THEORY OF COMMUNICATION (1949).

problems arising from the unfortunate fact that "we still have very little bookkeeping in cultural matters."[26] More immediately, the analyses of the stages of communication which have been evolved offer striking parallels and differences when compared with the rules of evidence. The problem of placing the trier in possession of the event confronts the law implacably as soon as the making of decisions is removed from the hands of a neighborhood committee of eye-witnesses.[27] The rules of evidence represent the most careful attempt to control the processes of communication to be found outside a laboratory. They should benefit from some comparison with communications as dealt with in the laboratory.

The problem revolves about the experiences of the senses: vision, hearing, smell, taste and touch, all recognized at least since the time of Aristotle, plus perhaps a refinement of the skin senses (cold, warmth, pain, pressure), muscle sense (kinesthesis), static sense (equilibrium) and organic sensitivity. While the same sense through which the experience was received may be available for its transmission by similar exposure of the receiver, ordinary procedures both in communieation generally and in evidence rely chiefly on hearing and vision. This involves a complex chain of happenings.

A simplification of the analysis put forward by students of communication,[28] with some amplification due to the specialized character of the evidence problem, suggests the following sequence: (1) the occurrence of an event; (2) resulting stimulation of *W*, the witness; (3) internal reactions and preverbal tensions in *W*; (4) speech by *W* in the form of testimony; (5) stimulation of *T*, the trier, by the sound and light waves thus produced; (6) internal reactions and preverbal tensions in *T*; and (7) a final external reaction of *T* in the form of a decision.[29]

I. THE EVENT

Contrary to the controlled laboratory experiment, the occurrence of the event[30] around which the evidentiary process centers is uncontrolled.

26. Lazarsfeld, as quoted in MILLER, LANGUAGE AND COMMUNICATION 97 (1951).

27. By the opening of the 1600's juries ordinarily depended on evidence given in open court as their chief source of information and before the middle 1700's were, in theory at least, obliged to rely upon it as the sole source. Morgan, *Some Observations Concerning a Model Code of Evidence,* 89 U. OF PA. L. REV. 145, 157 (1940).

28. Johnson, *Speech and Personality,* in THE COMMUNICATION OF IDEAS 53, 56 (Bryson ed. 1948).

29. "The diagram provides a convenient organizing scheme for dealing in an orderly manner with an exceedingly complex pattern of events. By breaking the pattern down into a series of stages it becomes possible to examine the functions and possible disorders at each stage, as well as the conditions importantly related to these functions and disorders." *Ibid.*

30. The word "event" is used loosely in order to avoid over-preoccupation with "stimulus" or some equivalent phrase of psychology. In the laboratory the event may be a story read or heard, a picture, a scene enacted or the like, with exactness of control. Laboratory conditions, moreover, do not commonly involve problems of

Whether the particular event is one which may properly be communicated to the trier depends upon considerations of relevance and value judgments beyond the scope of this inquiry. Assuming that the original event is properly communicable to the trier, attention will be focused on the ways and means by which this is accomplished and controlled.

II. Stimulation of W by the Event

In the laboratory the event is independently verifiable, and study may be concentrated upon the reactions of the witness to it. In evidence, however, the event is not controlled but controverted. The stimulation of the witness by the event and his response thereto are relied upon to establish the event itself. Hence the rules of evidence insist as a basic principle that the witness be stimulated by the event. Since this condition is usually satisfied by the assertion of the witness himself, a more accurate statement would be that the witness must say that he was stimulated by the event or that other circumstances indicate that such was the case. In formal legal language the requirement is embodied in the rule against hearsay and in the rule demanding firsthand knowledge.

Hearsay involves disclosure of the stimulus as being the assertion of a third person concerning the event, rather than experience of the event itself. The classic example is the assertion on the stand, "*B* told me that *X* occurred," where the event to be placed before the trier is *X* and not the fact that *B* made the particular statement.[31] The firsthand knowledge rule involves situations in which the witness was not stimulated by the event but was stimulated by something other than hearsay, ordinarily some related event plus something that went on in his own head. Illustrative are: testimony by the patient that during an operation the part of the intestine above the rectum was removed;[32] or testimony that the accused was carrying her own child toward the river, when the witness was too far distant to identify the child but knew she had one.[33] Wigmore's contention that where the source of *W*'s information is the assertion of *B* but *W* puts it in the form of an experience of his own it is not hearsay[34] seems to be an over-refinement

credibility. In litigation an exact reproduction of the event may in theory be available but unaccepted due to the element of credibility.

31. 5 Wigmore, Evidence § 1361 (3d ed. 1940).

32. Smith v. Penn Mutual Life Ins. Co., 233 Iowa 340, 7 N.W.2d 41 (1942). *Cf.* Dennis v. McArthur, 23 Wash.2d 33, 158 P.2d 644 (1945), in which the Court was "not prepared" to say that the witness could not determine that a surgical instrument was inserted into the uterus rather than into some other orifice opening into the vaginal canal. Defendant's contention that only a contortionist could do so was rejected.

33. State v. Thorp, 72 N.C. 186 (1875).

34. 2 Wigmore, Evidence § 657 (3d ed. 1940); 5 *id.* § 1361.

not generally borne out by the cases.[35] Now perception involves complex receptor and neural processes.[36] In addition to at least one receptor process (and usually more than one, as we are likely to see and hear at the same time), perception also involves the activation of symbolic and affective processes determined largely in terms of past experience. No one who deals with human behavior can afford to overlook such things as the phi-phenomenon which makes movies move, the perceptual constancy which tends to make us see things as we "know" them, relational discriminations, the effects of context and past experiences, and the responses to reduce clues which make typographical errors so difficult to catch.[37] The extent of Münsterberg's failure in this area was due to his almost perfect misapprehension of the nature of the judicial process, and not because the area is unimportant to lawyers.

Only occasionally, however, does the law attempt to deal with perception in terms more refined than inquiry merely into its apparent presence or absence. There are the cases holding the testimony of witnesses that they heard no locomotive bell or whistle to be insufficient to raise an issue in the face of testimony that the bell was rung and the whistle blown;[38] and there are cases dealing with the extent to which a witness must have observed a moving vehicle in order to testify concerning its speed and with the question whether hearing the vehicle is a sufficient basis for testifying as to speed.[39] While these instances must be considered exceptional, problems of proof are by no means confined to the formulation of "rules," and lawyers are constantly confronted with practical problems of perception. "Attending" as a "set" involving readiness or lack of readiness to be stimulated is readily translated into legal experience although not into legal rules.[40] Studies of the relation between verbal habits and perception establish that knowing a name for the object makes the object easier to recognize.[41] Examination of the preperceptive attitude in terms of receptor adjustments, muscle

35. Treating the problem in terms of stimulation of the witness rather than in terms of inability to subject the declarant to oath and cross-examination possibly suggests a new approach to hearsay. Hammelmann, *Hearsay Evidence, a Comparison*, 67 L.Q. REV. 67 (1951), points out the continental emphasis on lack of perception by the witness in hearsay situations.

The present approach inevitably entangles us in problems of hearsay which involve *neither* hear nor say. Falknor, *Silence as Hearsay*, 89 U. OF PA. L. REV. 192 (1940).

36. MUNN, PSYCHOLOGY 400 (2d ed. 1951).

37. *Id.* at 416.

38. Provenzano v. Illinois Central R.R. Co., 357 Ill. 192, 191 N.E. 287 (1934); *cf.* Rockford, R. I. & St. L. R. R. Co. v. Hillmer, 72 Ill. 235 (1874).

39. 156 A.L.R. 382 (1945).

40. For example, police procedures as to identification of suspects. No matter how artificial or rigged the show up is, the courts are disposed to deal with it in terms of weight rather than admissibility. People v. Berne, 384 Ill. 334, 51 N.E.2d 578 (1943); Lubinski v. State, 180 Md. 1, 22 A.2d 455 (1941). Suggestion is, of course, a further factor in these cases.

41. MILLER, LANGUAGE AND COMMUNICATION 200 (1951).

tensions, adjustments of the central nervous system, and correlations between attending and development of detail[42] may involve the language of the psychologist but all fall within the working world of the lawyer.

III. Internal Reactions of W

Preverbal Tensions

Insofar as the exclusionary rules of evidence have indicated interest in what goes on inside *W* between the time of his stimulation by the event and his appearance on the stand, the assumption seems rather generally to be that *W* has mentally photographed the event and carries the photograph around inside him. When he takes the stand, he describes the photograph. If he never took the photograph, he is in violation of the hearsay or first-hand knowledge rule. If he did take the photograph but has temporarily mislaid it, almost any available means may be used to restore it, *i.e.* refresh his recollection. If he has lost it entirely but wrote down a description soon after the event, the description may be used. The continued existence of the photograph is assumed in the absence of some indication to the contrary. Thus in effect the legal approach seems to be based upon a psychology of image formation and retention, probably a considerable oversimplification, if not downright contrary to the fact.

The psychologists have masked their inability to uncover to any appreciable extent what happens between stimulation or perception and verbalization by saying the speaker-about-to-speak experiences "preverbal tensions." This left-handed confession of ignorance, however, seems preferable to the unfounded certainty apparent in the legal literature. Some factors do seem to be demonstrable. Recognizing is easier than recalling.[43] The reaction time in association tests is shorter when the stimulus is a word than when it is a picture.[44] For reasons previously indicated, similar retinal and other sensory stimulations will produce different responses in different individuals.[45] In the preverbal tension period the relationship between sensory stimulation, language and "recall" is complex. While eidetic ("photographic") imagery appears to be not uncommon in children under six, it is rarely present in adults.[46] The rate of forgetting has been studied exhaustively under varying conditions. Absent the eidetic image, there may be a process of "recoding" in language the salient features of what has been perceived and a recall of

42. Munn, Psychology 385-97 (2d ed. 1951).
43. *Id.* at 211.
44. Miller, Language and Communication 177 (1951).
45. Munn, Psychology 411 (2d ed. 1951).
46. *Id.* at 209.

the language.[47] Yet recall is obviously present in animals with no language at hand for its support, and everyone seems to experience a measure of image retention although a revisualization often reveals striking inaccuracies and distortions in the image retained. In any event, it seems worthwhile to cut loose from the illusion of certainty by admitting that the witness is going to verbalize "preverbal tensions" and that not much is known about them.[48]

An occasional case has attempted to explore the area in terms other than standardizations of recall and memory. Judicial attempts, however, at rule formulation upon the connection between perception and preverbal tensions in point of time reveal that the court is living beyond its intellectual means.[49]

Suggestion and Context

The verbal response of the witness on the stand is the result of at least one further stimulus in addition to the original event, *viz.*, the question put to him. Experiments demonstrate the great influence which context exerts upon the choice of the reaction word.[50] Word-association and sentence-completion tests also show the existence of groups of words which function together, leading to ready transitions and becoming likely or unlikely in similar contexts.[51] While Münsterberg may have taken a somewhat incautious view of suggestion,[52] the effects of it nevertheless are readily shown experimentally.[53] The general prohibition against asking one's

47. MILLER, LANGUAGE AND COMMUNICATION 234 (1951). *Cf.* MORGAN AND MAGUIRE, CASES AND MATERIALS ON EVIDENCE 230 (3d ed. 1951), discussing cases attempting to deal with the problem whether the witness is "voicing a subjective reconstruction instead of the mental imprint left by perception of objective happenings". See also LADD, CASES AND MATERIALS ON EVIDENCE 535 (1949).

48. "One can at least be appropriately humble in recognizing the fact that no one understands very well just how this fateful transformation (of non-verbal goings on within the nervous system into spoken words) is brought about. But humility need not be carried to the point of swooning. The fact that does appear to be clear enough, although it is widely disregarded, is that what we verbalize is not—as the 'practical minded' seem chronically to take for granted—anything that can be called 'external reality'. . . . It is . . . preverbal tensions that we verbalize. The crucial significance of this fact is that basically we always talk about ourselves. . . . What we talk about, then, is a joint product of reality (regarded as a source of sensory stimulation) and of the conditions existing within our nervous systems at the time of stimulation". Johnson, *Speech and Personality,* in THE COMMUNICATION OF IDEAS 63 (Bryson ed. 1948).

49. Louisiana Ry. & Nav. Co. v. Humphreys, 285 S.W. 869 (Tex. Civ. App. 1926), in which witness failed to form an "opinion" as to speed at the time of perceiving the train. This case was reversed on further appeal *sub nom.* Humphries v. Louisiana Ry. & Irr. Co. of Texas, 291 S.W. 1094 (Tex. Comm. App. 1927). *Cf.* Copithorn v. Boston & M. R. R., 309 Mass. 363, 35 N.E.2d 254 (1941), in which the witness said he could "see it now."

50. MILLER, LANGUAGE AND COMMUNICATION 186 (1951).

51. *Id.* at 188. As to visual contexts, see MUNN, PSYCHOLOGY 409 (2d ed. 1951).

52. MUNSTERBERG, ON THE WITNESS STAND 175 (1930).

53. Moore, *Elements of Error in Testimony,* 19 J. APPLIED PSYCH. 447 (1935), reprinted in 28 ORE. L. REV. 293 (1949).

own witness leading questions thus seems to rest on solid ground—until the time factor is taken into consideration.

The witness is protected against suggestion only while on the stand, seemingly on the assumption either that intervening influences are unimportant or that he comes untouched from event to court. The former is directly contrary to the theory upon which leading questions are prohibited. The latter simply is not so, and the requirement of an offer of proof to preserve a ruling on excluded evidence assumes that it is not so. Under the system of party responsibility for the production of witnesses, no competent attorney dreams of calling witnesses who have not previously been interviewed. The preliminary interview affords full play to suggestion and context and evokes in advance of trial a complete verbalization, the importance of which cannot be overlooked. When the witness testifies, are his verbalizations at that time based upon his recall of the event or upon his recall of his former verbalizations? In any event it seems inevitable that he will attempt to be consistent with his earlier statement. The trial assumes the character of a play, and the witness proceeds to "tell his own story" under a type of questioning which is required by the rules of evidence, even if the good sense of counsel fails to suggest such a technique, to produce an almost wholly false impression of spontaneity.[54] The essential naïvete of this procedure must afford some amusement to any experimental scientist.[55]

IV. The Response of the Witness

The response of the witness acts in turn as a stimulus upon the trier, and hence, with a view to controlling the response of the trier, certain controls are exercised over the response of the witness. The question of what the witness may communicate has been disposed of, but there remains to be considered the question of how he is to communicate.

It should be borne in mind that anything a person says is about himself. "What we talk about, then, is a joint product of reality (regarded as a source of sensory stimulation) and the conditions existing within our nervous systems at the time of stimulation."[56] "Confusing that which is

54. The arguments in favor of a natural narrative by the witness in lieu of question and answer thus seem devoid of substantial content, except perhaps for some saving of time. *Trying Lawsuits without Yapping,* 19 J. Am. Jud. Soc'y 155 (1935); Ladd, *Credibility Tests—Current Trends,* 89 U. of Pa. L. Rev. 166, 168 (1940); 3 Wigmore, Evidence § 766 (3d ed. 1940). Of course the narrative form renders it impossible to make the rules operate on an exclusionary basis.

55. Cross-examination may in some measure serve to disclose the influences of suggestion and context, but only in their most obvious aspects. No one know the extent to which cases are decided by getting first to even the most honest witness.

56. Johnson, *Speech and Personality,* in The Communication of Ideas 63 (Bryson ed. 1948).

inside our skins with that which is outside"[57] is called projection. It is a lack of "to-me-ness"[58] in dealing with the "real" world. "Unconscious projection would appear to be a mechanism fundamental in the development of delusional states, hysterical paralysis, fatigue and other symptoms, as well as prejudices of various kinds."[59]

Although the semanticists and psychologists frown upon projection as an indication of immaturity or instability, the rules of evidence not only tolerate but rather encourage it. The witness reasonably well supplied with "to-me-ness" is headed for trouble on the stand, and the books are full of cases involving such prefatory statements as "It seems to me," "I believe," or "My impression is,"[60] due to their ambiguity.

Language itself involves many problems. Plato's friend Cratylus became so doubtful about the actualities of communication by means of words that he gave up words in favor of pointing. Words, of course, are symbols, and meaning is pretty much a personal thing.[61] When a child says bow-wow, does it mean the dog or the bark?[62] No necessary connection exists between the symbol and the thing symbolized.[63] Dictionaries do not contain meanings but equivalent verbalizations; they send us on long tours of other words.[64] Meaning to the speaker is what makes him say it—to the hearer the way it stimulates him. Ogden and Richards' famous triangle of meaning contains a thought at the apex, a symbol at the end of one leg and a referent at the end of the other leg. The dotted line connecting the ends of the two legs and completing the triangle is "stands for."[65] In any event, even though semantics "can be turned to very queer ends by people who already had a gleam in their eye before they met it,"[66] the objective is clear: to produce

57. HAYAKAWA, LANGUAGE IN ACTION 104 (1948).

58. JOHNSON, *op. cit. supra* note 56, at 72.

59. *Id.* at 73.

60. This invites the troublesome kind of exploration mentioned in note 47, *supra*. MILLER, LANGUAGE AND COMMUNICATION 172 (1951), says these phrases are "comments about, or responses to, the verbal behavior which is to follow."

61. "What we call the meaning of an object, situation, or event is in most instances dependent upon how it has stimulated us in the past, the general context in which this stimulation occurred, and how we reacted to it." MUNN, PSYCHOLOGY 410 (2d ed. 1951). See also OGDEN AND RICHARDS, THE MEANING OF MEANING 52, 55, 57 (3d ed. 1930).

62. WALPOLE, SEMANTICS 39 (1941).

63. "Just as men can wear yachting costumes without ever having been near a yacht, so they can make the noise 'I'm hungry,' without being hungry." HAYAKAWA, LANGUAGE IN ACTION 22 (1948).

64. "When scholars say 'chien' means 'dog', they *should* say that 'chien' and 'dog' both mean the same." OGDEN AND RICHARDS, THE MEANING OF MEANING 91 (3d ed. 1930). See also MILLER, LANGUAGE AND COMMUNICATION 111, 112 (1951); Richards' introduction to WALPOLE, SEMANTICS 14 (1941).

65. OGDEN AND RICHARDS, *op. cit. supra* note 64, at 11. An interesting treatment of the triangle of meaning within the framework of evidence is found in KING AND PILLINGER, OPINION EVIDENCE IN ILLINOIS c. 1 (1942). See also WALPOLE, SEMANTICS 81 (1941), for a poor man's version of Ogden and Richards.

66. Richards' introduction to WALPOLE, SEMANTICS 16 (1941).

in the trier a reaction which bears the greatest possible similarity to the reaction produced in the witness by the event.

In everyday life, meaning is a two-way street, involving speaker and listener and the total backgrounds of each. In common conversation the possibility is always present that failure to "understand" may become apparent and the opportunity for clarification thereby be afforded.[67] Evidence, on the contrary, offers a one-way street. While on occasion a juror may screw up his courage to the point of requesting further enlightenment, ideas of decorum and maintenance of the integrity of the judicial process seem to preclude asking the trier what impression he has received from a statement, exhibit or demonstration.[68] Thus while sound practice often indicates the necessity of considerable exploration and amplification of meaning during direct examination, and cross-examination affords the adversary further opportunity therefor, meaning is limited to the witness' side of meaning. The reaction of trier to the symbols employed remains a dark jungle, except insofar as some very casual exploration of his background may have been made upon the *voir dire* examination. Meaning from the viewpoint of the trier is revealed, if at all, only in the decision. Thus the problem of meaning assumes proportions in the judicial process which are uncommonly troublesome, and the effort to solve the problem in some measure by rules is to be expected.

The levels of abstraction constitute one of the most important aspects of language. What is associated now with one thing and again with another tends to become dissociated from either and to become an object of abstract contemplation.[69] In ordinary communication a great deal of semantic difficulty arises from a "factually unwarranted degree of categorical thinking,"[70] *i.e.*, identification.

> "The unreflective use of . . . class words makes automatically for identification, for overgeneralization and the relative disregard of individual differences and specific data. Discussions carried on in terms of such words as 'Democrats' and 'Republicans', 'Communists,' and 'capitalists', 'the Russian', 'the Englishman', 'the underprivileged', 'the consumer', etc., tend, unless conducted with extraordinary semantic consciousness and care in qualification, to degenerate into almost meaningless manipulation of vacuous verbal forms."[71]

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67. "A language must contain a certain amount of redundancy if it is to be a reliable means of communication." MILLER, LANGUAGE AND COMMUNICATION 104 (1951).

68. People v. White, 365 Ill. 499, 6 N.E.2d 1015 (1937), a case involving a disputed signature, allegedly made by retracing a carbon copy with ink. The jurors examined the signature by using a microscope under the supervision of a handwriting expert who asked each juror in turn whether he could see the black flecks, receiving affirmative answers. This, the court said, was improper.

69. MUNN, PSYCHOLOGY 245 (2d ed. 1951).

70. Johnson, *Speech and Personality*, in THE COMMUNICATION OF IDEAS 69 (Bryson ed. 1948).

71. *Ibid.*

Korzybski suggested adding index numbers to terms, as cow_1, cow_2 and cow_3, so that, while the common classificatory term reveals what the individuals have in common, the index numbers serve as a reminder of characteristics not possessed in common.[72] Word association tests reveal that "dog" often suggests "animal" but "animal" does not often suggest "dog."[73]

The general insistence in evidence cases that the higher levels of abstraction be reserved to judges and politicians and that witnesses proceed upon the lowest practicable level of abstraction is, therefore, sound. The trier will encounter abstraction enough when he attempts to formulate a decision. The wording of the usual objection to too high a level abstraction by the witness, *viz.*, that he is expressing an "opinion" or a "conclusion", has had some tendency to obscure the whole problem. Considerable sympathetic attention has been bestowed upon the witness who has climbed too high on the ladder of abstraction, has been admonished to "state the facts," and has had his mouth effectively closed. The apparent lack of judicial insight in a fairly large number of cases leads to insistence that the "rule against opinions" be liberalized. The likely result would seem to be to deprive the trier of valuable assistance and to return to the earlier practice of using oath helpers, somewhat in the fashion of character witnesses in criminal trials today.

Despite the 600,000 words recognized in English, language is a poor thing at best.

> "Tens of thousands of years have elapsed since we shed our tails, but we are still communicating with a medium developed to meet the needs of arboreal man."[74]
>
> "The language or languages available to us are such that they tend to make for oversimplification and overgeneralization. Reality—that is, the sources of sensory stimulation—is, so far as we know, decidedly process-like, highly dynamic, everchanging. Our language, on the other hand, is by comparison quite static and relatively inflexible. . . . The basic fact is that, at best, there are far more things to speak about than there are words with which to speak about them."[75]
>
> "What a speaker eventually says can hardly be anything but a far cry from the supposedly relevant first order facts . . ."[76]

Consequently it is not surprising that witnesses at times encounter difficulty in verbalizing at the required low "factual" level. The constantly changing relationship between two moving vehicles involves a complex

72. HAYAKAWA, LANGUAGE IN ACTION 121 (1948); KORZYBSKI, SCIENCE AND SANITY cc. 24-26 (2d ed. 1941). Abstractness in art, too, receives its share of criticism for failure to communicate.

73. MILLER, LANGUAGE AND COMMUNICATION 184 (1951).

74. OGDEN AND RICHARDS, THE MEANING OF MEANING 26 (3d ed. 1930).

75. Johnson, *Speech and Personality*, in THE COMMUNICATION OF IDEAS 66 (Bryson ed. 1948).

76. *Id.* at 67.

problem of relative motion of the type solved in naval circles by the maneuvering board or electronic calculators. The witness is driven to saying, "If he hadn't of turned out, he would of hit the child on the tricycle." Testimony in favor of sanity involves the use of an abstraction to avoid the impossible task of describing the details of a lifetime of normality. Emotions, particularly complex ones, often are susceptible of description only in terms of situations supposed to cause them.[77] Yet in these and related situations the answers evolved by the courts generally are more in accord with the practical necessities than are those suggested by their critics.

V. Stimulation of Trier

If we were concerned only with the response of the witness as such, no effort to control the response would be indicated. The response of the witness, however, is without intrinsic significance in the judicial process and acquires importance only by virtue of the fact that it in turn stimulates the trier. If the experience to which the trier is subjected is really purposeful, it is as an aspect of the broad process of learning, and all the senses contribute to learning. Hence the more sensory perceptions brought into operation, the more effective the learning process will be, and this receives rather extensive recognition in the rules of evidence. Obviously vision will run a close heat with hearing in any race for preference, although occasionally smell or some other sense will enter in.[78]

Evidence affords great latitude for the use of visual aids. The range of admissible exhibits includes relevant physical objects, models, maps, diagrams, photographs, moving pictures, X-rays, and documents generally. Their effectiveness is recognized in the profession. Demonstrations and reënactments are received with caution, although considerable discretion is accorded the trial judge. In at least one instance, that of documents, preference for the visual over the oral finds expression in the best evidence rule.

A conflict between preferences for visual and oral stimuli occurs in the case of evidence consisting of the testimony of a witness. A strong insistence is found that the witness, if possible, appear in person. For example, depositions and testimony given in a former trial of the case are inadmissible in the absence of a showing of unavailability of the witness, and the accused in a criminal prosecution has the right to be confronted at the trial by the witnesses against him. The result is to expose the trier

77. Miller, Language and Communication 170 (1951).

78. Trier, as well as witness, has a problem of recall. As to the usual superior recall of visual over auditory observation, see Moore, *Elements of Error in Testimony*, 19 J. Applied Psych. 147 (1935), reprinted in 28 Ore. L. Rev. 293 (1949).

to the stimulation of light waves by way of observing the appearance and demeanor of the witness as well as to the stimulation of the sound waves created by vocalization. Visual stimulation is not, however, carried to the fullest possible measure, since testimony is ordinarily not reduced to writing for the perusal of the trier, especially when he is a jury, and depositions are read to the jury rather than taken to the jury room. There is even a rather definite bias against the taking of notes by members of the jury, although perhaps the general rule has been to leave the matter within the discretion of the trial judge.[79] Views of the locus of an occurrence or of property being condemned are likewise left pretty much to the trial judge, occasionally to be considered as "evidence" but more often only for the purpose of helping the trier to "understand and apply the evidence."[80]

This preference for the physical presence of the witness also rests upon the assumption that the trier, whether an experienced judge or a random collection of jurors, can evaluate credibility by observing demeanor and appearance. The court of review is extremely reluctant to disturb trial level determinations of credibility. "It only reads the evidence and rehears the counsel. Neither is it a reseeing Court."[81] In other words, every man is his own lie detector. No scientific basis for this assumption has ever been demonstrated, and experimental results indicate that on the contrary there is none.[82] The commonly recognized symbolic aspects of emotion are highly conventionalized in some instances, as the Chinese are said to indicate surprise by sticking out the tongue, and these things are easily simulated. "Anything in the way of 'spiritual influence', 'value', or the intangibles of personality that Mr. A may succeed in conveying to Mr. B is to be described ultimately by the physicist conversant with optics and acoustics."[83] Nevertheless, the courts are not yet prepared to accept the lie detector, which takes into account symptoms of emotional disturbance subject to far more accurate observation

79. BUSCH, LAW AND TACTICS IN JURY TRIALS 1073 (1949). People v. White, 365 Ill. 499, 6 N.E.2d 1015 (1937), held it error to permit the jury, upon retiring, to use a magnifying glass to examine an alleged forgery. Other cases have held this analogous to the use of a pair of spectacles. BUSCH, *op. cit. supra* at 1080.

80. The reluctance to permit views, whether of real estate or of a bastard child for the purpose of determining resemblance to the putative father, to be considered as "evidence" probably arises from the impossibility of incorporating the object into the record on appeal. The difficulties of trial court supervision over juries and of appellate court supervision over trial courts are enhanced by the presence of this uncontrolled variable.

81. Powell v. Streatham Manor Nursing Home, [1935] A.C. 243, 249.

82. Eliasberg points out the unreliability of expressive movements as a basis for evaluating credibility in *Forensic Psychology*, 19 So. CALIF. L. REV. 349 (1946). Munn dsecribes experiments demonstrating the inability of observers to agree on the nature of emotions manifested, without knowing the nature of the stimuli which caused them. PSYCHOLOGY 331 (2d ed. 1951).

83. Johnson, *Speech and Personality*, in THE COMMUNICATION OF IDEAS 57 (Bryson ed. 1948).

and measurement,[84] although when the crudity of judicial method is revealed in its unattractive nakedness, the courts hasten to cover the indecent exposure.[85] As long as credibility continues to be evaluated upon the present basis, the jury will continue to serve a most useful function by performing for courts what the judges themselves cannot do without the appearance of absurdity and consequent damage to the prestige of judicial institutions.

Presently not much is discernible in the way of a trend towards calling in the psychologist and the psychiatrist to assist with the problem of credibility. Eventually, free association tests,[86] psychiatric diagnosis,[87] and the so-called truth drugs[88] may, along with the lie detector technique, attain recognition, but acceptance is slow. Perhaps the situation is one of scientific unreadiness rather than judicial hesitancy.[89] Robinson naively expressed disappointment that "Psychologists have not been called in any numbers to assess the credibility of witnesses," yet on the following page admitted, "If we go back over the entire history of psychology we are struck by the purely ephemeral character of its schools of thought."[90] After all, the decisions of courts are not tucked away in scientific journals. Abdication in favor of the psychologists and psychiatrists is not advocated, but an increased awareness of developments and methodology in their fields is indispensable to an intelligent solution of the credibility problem.

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84. INBAU, LIE DETECTION AND CRIMINAL INTERROGATION (1942); Smallwood, *Lie Dectectors,* 29 CORNELL L.Q. 535 (1944).

85. In Querica v. United States, 289 U.S. 466, 53 Sup. Ct. 698, 77 L. Ed. 1321 (1933), the trial judge told the jury: "And now I am going to tell you what I think of the defendant's testimony. You may have noticed, Mr. Foreman and gentlemen, that he wiped his hands during his testimony. It is rather a curious thing, but that is almost always an indication of lying. Why it should be so we don't know, but that is the fact." The giving of the instruction was held erroneous. As Judge Frank points out, it would have been all right for the jury to have assessed credibility on this basis but it should not openly have been talked about. Broadcast Music v. Havana Madrid Restaurant Corp., 175 F.2d 77 (2d Cir. 1949). It is interesting to note, however, that increased activity of the sweat glands accompanies emotional upset, resulting in changes in the electrical resistance of the skin which can be measured by an adaptation of the Wheatstone bridge. MUNN, PSYCHOLOGY 348 (2d ed. 1951). The galvanic skin response is one of the responses recorded by the lie detector.

86. MUNN, PSYCHOLOGY 372 (2d ed. 1951).

87. Machtinger, *Psychiatric Testimony for the Impeachment of Witnesses in Sex Cases,* 39 J. CRIM. L. 750 (1949). The use of psychiatric impeaching testimony in the second Hiss case aroused great interest. The reaction in legal circles was generally not unfavorable. Jones, *Admission of Psychiatric Testimony in Alger Hiss Trial,* 11 ALA. LAW. 212 (1950); Note, *Psychiatric Evaluation of Mentally Abnormal Witness,* 59 YALE L.J. 1324 (1950); *cf.* Note, 30 NEB. L. REV. 513 (1951). Comment by the psychiatrists, however, was unfavorable. Roche, *Truth Telling, Psychiatric Expert Testimony and Impeachment of Witnesses,* 22 PA. B. A. Q. 140 (1951). See also Eliasberg, *Forensic Psychology,* 19 So. CALIF. L. REV. 349 (1946).

88. Despres, *Legal Aspects of Drug-Induced Statements,* 14 U. OF CHI. L. REV. 601 (1947).

89. Note, *Status of Lie Detector Evidence in California,* 39 CALIF. L. REV. 439 (1951); Roche, *supra* note 87; Despres, *supra* note 88.

90. ROBINSON, LAW AND THE LAWYERS 98, 99 (1935).

Any account of the stimuli to which trier is exposed would be patently incomplete in the absence of at least passing reference to the final arguments of counsel and the instructions by the court. They lie outside the conventional scope of the subject of evidence, and hence beyond the confines of this discussion. Nevertheless, the influences of both upon the decision making process present additional fields for further critical appraisal, since they too constitute variables bearing upon the final result. Certainly the effectiveness of the "limiting" instruction, whereby the jury are cautioned against improper application of evidence admissible for one purpose but not for another, directly concerns the present inquiry.

VI. TRIER'S RESPONSE

The response of the trier in the form of a verdict or judgment is another aspect of the decision making process which lies outside the conventional areas of evidence. Nevertheless, it is the end product of the entire process, and an examination of any aspect of communications would scarcely be complete without some regard to the reaction of the listener.[91] Current scientific thinking, which requires the definition of concepts in terms of the operations producing them,[92] seems also to require that the validity of the method be examined in the light of the results obtained. This the law rather carefully guards against.

A verdict is usually as impenetrable as a billiard ball. If it falls within the factual framework of the evidence and the legal framework of the instructions, ordinarily it is impervious to attack. Consequently a wholly preposterous view of the facts may combine with a complete misapprehension of the applicable law to produce a perfectly good verdict. Jurors may not be questioned as to their decision or manner of reaching it, other than the formal poll "Is this your verdict?" Nor may the testimony of a juror ordinarily be received to impeach the verdict.[93] A judge giving instructions is like a general giving orders without ever knowing whether they are carried out.[94] The reversal of a decision for error in an instruction thus confers an independent power upon words, such as is found in many of the old folk tales.[95]

91. "But he cannot check that his message got across if his recipient never repeats it or if it is repeated where he cannot hear it. The secondary information, that the recipient knows the item, must somehow return to the original talker." MILLER, LANGUAGE AND COMMUNICATION 252 (1951).

92. See note 7 *supra*.

93. See Hutchinson v. Laughlin, 102 N.E.2d 875 (Ohio App. 1951), a medical malpractice case, in which the foreman of the jury apparently voted for defendant on the ground that from his own knowledge of astrology the operation was undertaken at a time which ordained failure, since the moon was in the sign ruling that part of the body. The verdict was allowed to stand.

94. *Semble*, WALPOLE, SEMANTICS 84 (1941).

95. *Ibid.*

While the use of special verdicts and special interrogatories may result in some penetration below the surface of jury decisions, the enlightenment is more apparent than real. About the same may be said of requiring findings of fact by judges trying cases without a jury.

An evaluation of the decision in the light of the evidence and the conduct of the trial once more involves the making of certain assumptions about human behavior. Here again the reasonable man concept is encountered. In the absence of a showing to the contrary, a judge trying a case without a jury is presumed to have disregarded evidence improperly admitted. No such presumption prevails as to juries. In passing upon the sufficiency of the evidence to support a particular verdict, courts frankly phrase their decisions in terms of whether reasonable men could so find in view of the evidence. This assumes that there is such a thing as a reasonable man, in fact at least twelve of him, and that the judge has some inner sources for ascertaining how he reacts to all kinds of situations. This is, of course, done wholly without regard to significant studies of relations within groups.[96] Moreover, there is practically no effort at inner exploration of individual jurors, other than the casual investigation of the *voir dire* examination which is concerned mainly with interests which might affect the decision, although attitudes seem equally significant.[97]

CONCLUSION

The whip-socket is not going to be removed from Evidence all at once. Common sense must continue to be our guide in these matters, but what is good common sense varies with the times. It involves acquaintance with what is developing in other areas. Today it certainly involves a willingness to admit that what cannot be demonstrated scientifically is always at least open to argument. In Evidence the need is very great for an increased use of inverted commas to indicate a transitional stage in our thinking between the extremes of absolute certainty and complete abandoment.[98] Clemenceau said that war was too important to be left to the generals. The objective study of human behavior is too important to be left to the psychologists.

96. FESTINGER *et al.*, THEORY AND EXPERIMENT IN SOCIAL COMMUNICATION c. 1 (1950).

97. "The vast bulk of responses which can be elicited are evoked on the basis of prior learning." Hovland, *Psychology of the Communication Process*, in COMMUNICATIONS IN MODERN SOCIETY 59 (Schramm ed. 1948).

"We are more likely to have attitudes and do nothing about them than we are to have interests and do nothing about them. Nevertheless, when we are called upon to make decisions, to act, and to express opinions, our attitudes determine the outcome just as strongly as do our interests." MUNN, PSYCHOLOGY 300 (2d ed. 1951).

"Habit is the enormous fly-wheel of society, its most precious conservative agent. . . . You see the little lines of cleavage running through the character, the tricks of thought, the prejudices, the ways of the 'shop', in a word, from which the man can by and by no more escape than his coat-sleeve can suddenly fall in a new set of folds." 1 JAMES, THE PRINCIPLES OF PSYCHOLOGY 121 (1890). See also note 93 *supra*.

98. I am unable to locate the originator of this phraseology.