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ORDER OF FINAL ARGUMENT IN MINNESOTA CRIMINAL TRIALS

MARILYN VAVRA KUNKEL** AND GILBERT GEIS*

I. INTRODUCTION

To Americans, one of the most familiar legal adages is that the accused is presumed to be innocent until his guilt is established beyond a reasonable doubt. In the American process of adjudication, the accused is granted procedural advantages and safeguards which serve to enhance his invulnerability to miscarriages of justice. It is an American legal truism, only rarely disputed, that it is preferable to lose a score of convictions than to find one innocent person guilty.

In at least one aspect of American criminal trial procedure, foreign commentators have discerned what they consider to be a basic weakness in these fundamental guarantees to the defendant. They often focus their barbs on the order of summation which is adhered to almost universally in American criminal trials. One continental writer, for instance, reports that the French believe that Americans "have no conception of fair play to the accused," but instead possess "the souls and minds of hangmen" because we do not have a rule such as *l'inculpé a le dernier la parole* (the accused is entitled to the last word).¹ Other commentators have noted that the French procedure, allowing the defense to address the jury last, is an "absolutely essential" safeguard² and that it possesses "great advantage for the accused."³ Another writer, commenting on German procedure, maintains that the prevalent European order of argument⁴ should be adopted in the United States, particularly since "every criminal lawyer will appreciate the tactical advantage of such a rule."⁵

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1. Crabitès, *Why American Criminal Law Is a Failure*, 23 A.B.A.J. 697 (1937). See Dalloz, *Code D'Instruction Criminelle Annoté D'Après la Doctrine et la Jurisprudence*, art. 335 (1957).

2. Vouin, *The Protection of the Accused in French Criminal Procedure*, 5 Int'l & Comp. L. Q. 169 (1956).

3. Coudert, *French Criminal Procedure*, 19 Yale L.J. 335 (1910). See also Fred, *Aspects of French Criminal Procedure*, 17 La. L. Rev. 749 (1947); Gardner, *Criminal Procedure in France*, 25 Yale L.J. 271 (1916); Hogg, *French Criminal Procedure*, 23 Can. B. Rev. 853 (1945); Tyndale, *Organization and Administration of Justice in France*, 13 Can. B. Rev. 667 (1935).

4. See, e.g., Rättegångsbalken, July 18, 1942, c.46, §§ 6-10 (Sweden); Keedy, *Criminal Procedure in Scotland*, 3 J. Crim. L. 824, 839, 852 (1932).

5. Meyer, *Criminal Procedure in Germany*, 41 A.B.A.J. 592 (1955). See Straffprozessordnung of Feb. 1, 1879, amend. in 1924, art. 258. See also Neumann, *German Criminal Procedure*, Manual of German Law, II, 149 (1952); Wolff, *German Criminal Justice*, 43 Mich. L. Rev. 155 (1944).

The only exception in the United States to the foreign strictures on American criminal trial procedure is found in the State of Minnesota.⁶ The relevant Minnesota statute provides that:

When the evidence shall be concluded upon the trial of any indictment . . . the plaintiff shall commence and the defendant conclude the argument to the jury.⁷

This measure was introduced in the State Senate in 1875, apparently as a separate matter not connected with any plan of adoption or revision of court procedures.⁸ A number of attempts have been made to alter the statute. The Minnesota Crime Commission twice recommended that the state have the right to reply to the defense's argument to the jury. The Commission's report of 1927 emphasized that such a change would not constitute a reversal of the order of argument, but would merely amend the section to give the prosecuting attorney a short reply or rebuttal argument. The report noted:

Under present procedure, if a fallacious argument be made by the defendant's attorney, an unwarranted appeal to sympathy, a misstatement of the evidence, no answer by the state is possible. Should defendant's attorney say what would be ground for reversal if uttered by the county attorney, not only is it unanswered but, if an acquittal results, no reversal is possible to correct the error, because a verdict of not guilty is final.

Moreover, the present practice is peculiar to Minnesota. In all other states, the final word of counsel to the jury is given to the prosecution. That rule is based upon the logic of the situation. The party having the burden of proof is regularly accorded the final argument. It is submitted that this rule is peculiarly apt in criminal cases, where . . . the state has the burden of proof beyond a reasonable doubt, the greatest burden of proof known to the law.⁹

Nevertheless, the statute has not been altered and, today, according to one observer, "agitation for change continues, but the legislature does not appear inclined to make it."¹⁰

This paper is an attempt to determine the extent of support for a change in the statute in Minnesota and, more importantly, to

6. Orfield, *Criminal Procedure from Arrest to Appeal* 447 (1947).

7. Minn. Stat. 631.07 (1953).

8. Letter from Louis C. Dorweiler, Jr., Director, Minnesota Legislative Research Committee, Sept. 19, 1956.

9. Minnesota Crime Commission Report 34 (1927). This recommendation was renewed in the 1934 Commission report, which pointed out that the change was also being urged by the legislative committee of the Minnesota County Attorneys Association. Minnesota Crime Commission Report 47 (1934).

10. See note 8 *supra*.

evaluate the effect of this aspect of Minnesota's unique criminal procedure on the determination of guilt or innocence. This latter question will be considered both on the basis of answers by persons having had experience with the statute, and by recourse to the experimental findings of contemporary psychology.

To aid in this study, a questionnaire¹¹ was sent to each of the 87 county attorneys in Minnesota, and also to an attorney, selected at random, in each county. Responses were received from 128 individuals. Five incomplete questionnaires were discarded. Of the remaining 123, 68 came from prosecutors and 55 from the private attorneys.

The prosecutors and private attorneys split, as might be expected, in their attitude toward the statute; each group tending to support its particular interests. Thus, although 56% of the 123 respondents voted in favor of retaining the statute, this percentage would likely have been higher had the poll been taken of a group more representative of the Minnesota bar.

The breakdown by groups is shown in Table 1.

Group	Opposed to Statute	In Favor of Statute	No Opinion	Number
Prosecutors	60%	35%	5%	68
Other				
Attorneys	14%	82%	4%	55
Combined				
Response	40%	56%	4%	123

II. RESPONSES OPPOSED TO THE STATUTE

Prosecuting Attorneys

The basic argument advanced in opposition to the statute was that under existing law the defendant in a criminal trial possesses all the procedural advantages,¹² while the state is burdened with all the disadvantages.¹³ Thus, one respondent maintained that in some instances, "it is almost impossible to prove guilt to a jury because

11. Many of the quotations in the text of this article are taken from the responses to this questionnaire and will not otherwise be authorized.

12. Advantages to the defense which were mentioned include the presumption of innocence which carries with the defendant through the trial; the state's lack of direct, positive evidence which often forces it to rely on weak circumstantial evidence for conviction; the inability of the state to use a written confession as evidence unless there has been a signed receipt for a copy attached to the confession; the defendant's right to refuse to testify; and lastly, the rule that disallows the prosecution to comment upon this failure.

13. Cf., Gustafson, *Have We Created a Paradise for Criminals?*, 31 So. Calif. L. Rev. 1 (1956).

our hands are tied even in a good strong case." These advantages, it was claimed, should be offset by granting the state the right to final argument. It is noteworthy that implicit in this position is the view that such a right is a real advantage to successful prosecution.

The most persuasive contention of these prosecutors is that defense counsel may wander far afield in his final argument, including irrelevant, often prejudicial material, and possibly misleading comments on fact or law. Defense counsel may interject any number of theories on the evidence that the prosecution cannot answer. One respondent concluded that "... this statute ... enables the defense to throw out a last-minute red herring." The state's remedy is limited to corrective instruction by the presiding judge and the unwise tactic of objecting during defense counsel's argument. Furthermore, the state may not appeal an acquittal, which fact, coupled with the defendant's right to make the final argument "gives the defense attorney a tremendous advantage."¹⁴ Thus, as a practical matter, "the defense can get away with any flight of fancy and prejudicial argument. The prosecutor cannot answer. If, in final argument, the prosecution anticipates the defense's argument, he can get into difficulties." One defense counsel admitted that, "I felt I had a distinct advantage in making the final argument as I could lambast the prosecution without fear of rebuttal."

A second contention of the prosecutors who favored a change in the law was that since the state must prove guilt beyond a reasonable doubt,¹⁵ the considerable burden thus placed upon the state,¹⁶ and given emphasis by the trial judge's instructions,¹⁷ should be balanced by allowing the prosecutor the final argument.

In support of the claim that the prosecutor should argue last, it was suggested that the same abuses now existing would be avoided since appellate courts, "look carefully at the prosecutor's statement and will tolerate nothing improper; in similar manner the trial judge

14. This county attorney argued that "the only restraint on his [the defense attorney's] argument would be the judge and for the judge to interfere with an argument is often prejudicial."

15. *E.g.*, "It is a rather elementary principle that the party having the burden of proof should also have the last argument. . . . I see no good reason or for that matter any reason for such a statute as Minnesota's."

16. "Because the prosecution has the tremendous burden of proof beyond a reasonable doubt, I feel that the 'last word' would be of great value. The defendant would not be placed in a less favorable position as he still retains all constitutional safeguards."

17. "The judge's charge in the criminal case necessarily is favorable to the defendant because they are told that they have to find beyond a reasonable doubt that he is guilty. This, of course, places a considerable burden upon the state and to offset this, we believe it should have the final argument. The judge's charge is, in my opinion, really an argument in favor of the defendant."

is more likely to allow the prosecutor less leeway on argument than he does the defense since only the defendant can appeal the case and thus upset the whole trial."

Seven of the 41 prosecutors in favor of changing the statute felt that a rebuttal argument,¹⁸ rather than a complete reversal of the order of speaking would be desirable. The prosecutor would then not have the difficult job of anticipating and overcoming arguments of defense counsel and "it would serve to keep defense counsels' argument within bounds because of the opportunity to explain that he was not properly arguing the evidence."¹⁹

Because the rights of the accused in a criminal trial are thought to be adequately protected by constitutional safeguards without the additional advantage of having the final argument before the jury, the majority of prosecutors in Minnesota can see no valid reason why this statute peculiar to their state should be retained.

Other Attorneys

The "other attorneys" sampled who favored a change in the statute supported their position by reference to the burden of proof argument. Each pointed out that in civil cases the plaintiff has the "final word" and by analogy, so also should a criminal prosecutor. Particularly should this be true, they argued, in that the required degree of proof in civil cases which the plaintiff must bear—i.e., "preponderance of evidence," is less stringent than the "beyond a reasonable doubt" requirement in criminal cases. Therefore, *a fortiori*, the prosecutor should argue last.

III. RESPONSES FAVORING THE STATUTE

Prosecuting Attorneys

The prosecuting attorneys who favored retention of the Minnesota statute generally considered it essential to the protection of the basic rights of the defendant.²⁰ They admitted that the present procedure complicated their own effectiveness. Another observation

18. *E.g.*, "Undue advantages are too often taken by defense attorneys which could be very easily explained in most cases by a few minutes' rebuttal. . . ."

19. As another prosecutor expressed it: "While the statute has not particularly hampered the prosecution of those cases where the defendant is patently guilty, because of the fact that there is no appeal by the prosecution on law or fact, it has resulted in permitting the defense counsel on occasion going afield in argument."

20. *E.g.*, "Although I dislike not having the closing argument when prosecuting a case, I sincerely feel that under our Anglo-American system of jurisprudence it is much better to lose several prosecutions than it is to convict an innocent person."

was that the prosecutor possesses a great many advantages such as unlimited funds for investigation and superior investigatory machinery plus cooperation with state and federal enforcement agencies.²¹ It was claimed that, "In order to balance the equities, it is perhaps right that the defense shall have the final argument."

Other Attorneys

The "other attorneys" who favored retention of the statute generally emphasized either that all reasonable advantages should be given the defendant in a criminal trial,²² or that the state already possesses overwhelming advantages which need to be balanced by allowing the defendant the final word to the jury.²³ These attorneys were in agreement with the prosecutors favoring the statute in citing the superior investigative facilities of the prosecutor as the main advantage of the state. One interesting comment was that the state should not receive a conviction unless its evidence was such that it could withstand the final argument.

IV. THE IMPORTANCE OF THE STATUTE

It was implicit in the responses discussed in the previous two sections that the right of making the final argument carries with it *some* advantage.²⁴ This section will examine the respondents' opinions on the extent of that advantage.

21. In addition, it was argued that the prosecutor "has the general respect and belief of the community. For example, many persons on a jury argue that if the defendant was not guilty he would not be prosecuted in the first place. . . ."

22. *E.g.*, "I believe the statute gives more protection to the defendant's constitutional rights, and tends to prevent over-zealous and prejudiced prosecuting attorneys from making remarks that cannot be answered."

23. A particularly lucid comment questions the function of the prosecutor:

Are we interested in convictions or prosecuting the innocent? A prisoner, without money, has about as much chance as a snowball in hell. The state has crime investigators and can spend any sums to get evidence. The prisoner has no money. He is, in most cases, unable to even call a lawyer or get anyone to investigate and question witnesses.

The routine: first arrest—scare hell out of the prisoner—get him to make written statements. If he refuses to scare, then spend money to investigate and get witnesses against him—'scare the witnesses.' The average citizen is in fear of the law and when confronted with officers allows words to be placed in his mouth.

24. The advantage of final argument is illustrated by Clarence Darrow in one of his summaries to the jury:

Under the laws of Idaho the State has the last word, and when my voice is silent, and when Moyer and Haywood cannot speak, their accusers can be heard pleading against them. I know the ability of the eminent gentleman who will close this case. I know the appeal he will make to this jury. I know that he will talk of law and order and the flag which the mine

There was general, though hardly overwhelming, agreement that the statute tends to lessen the number of convictions which the state is able to secure. As Table 2 indicates, 52% of the respondents felt that the statute leads to fewer convictions, with 39% believing that it makes "little or no difference" in the outcome of criminal trials.

Table 2

Group	Consider- ably Fewer Convic- tions	Somewhat Fewer Convic- tions	Little or No Difference	No Opinion	Number
Prosecutors	13%	43%	31%	13%	68
Other					
Attorneys	5%	42%	49%	4%	55
Combined					
Response	10%	42%	39%	9%	123

Responses Indicating That the Statute Leads to Fewer Convictions

Two major reasons were advanced in support of the conclusion that the statute leads to fewer convictions. First, that the average jury is highly vulnerable to strong arguments by counsel. A typical comment was that "defense counsel is able to leave a more vivid impression on the minds of the jurors than his opponent . . . since jurors are quite impressionable."²⁵ Secondly, that when all factors such as ability of counsel²⁶ and the merit of the respective cases are seemingly equal, the order of argument may be decisive. It is important to note, here, that the burden of proof imposed on the state would not seem to be met if at the time of closing argument the state has established no more than an "equal" case.

owners have described time and again. I know the suspicious circumstances which will be woven into that appeal and handled by a tactful tongue and a skilled brain, and I must sit and listen to it without chance to reply.

See Busch, *Prisoners at the Bar* 44 (1952).

25. However, one county attorney argued that: "I have found that the juries here take their job so seriously that regardless of the impassioned or logical argument of counsel, they will very seriously consider and accept the law as given them by the judge." Another interesting comment is to the effect that: "While I do not believe the order of argument is too important where intelligent jurors are assured, it does become an important factor where statutes (as in Minnesota) excuse nearly all intelligent persons from jury duty."

26. "A seasoned prosecutor can, in the average case, overcome the handicap of the statute against mediocre opposition; but if the defense has a top notch counsel, the statute proves to be quite a burden."

*Responses Indicating That the Statute Makes
Little or No Difference*

The advocates of the position that the order of argument makes little or no difference in the outcome of the case imply that although in a situation where all other factors are equal, the order of argument might be crucial, such a situation occurs infrequently, if at all.²⁷ Other respondents believed without qualification that the order of argument is of no importance, primarily because of the effectiveness of the judge's instructions in neutralizing summation arguments.

V. THE PSYCHOLOGICAL EVIDENCE

Many of the respondents indicated that they are never certain which of several possible factors might have been decisive or significant in leading to the jury's decision. One respondent suggested that "psychologists could probably tell you more accurately the advantage, if any, of having the final argument."

The psychological evidence, however, is no more conclusive than are the opinions of the attorneys. Still, the sparse psychological research does tentatively point to a conclusion that was completely ignored by the attorneys; that the initial argument may be the more significant in determining the jury's decision. While there is a rather commonly held opinion among writers in the analogous field of debate that the last argument is the stronger,²⁸ experimental work in psychology—apparently confined to a single major study by Frederick H. Lund²⁹—indicates that the first argument might well be the more effective.

In this study, Lund distributed printed arguments to several groups of students and after testing them on the material presented, concluded that the first argument was the more influential in forming their conclusions. He adopted a "law of primacy," noting that:

A belief gains a certain personal connotation. . . . To have formed an idea and inwardly to have yielded to its persuasive influence is sufficient to make it seem *ours* and something to which we owe

27. A rural county attorney commented:

In all except extreme penalty and strong emotional appeal cases, I believe it makes no difference because facts are facts and the more 'maneuvering and twisting' done by defense counsel, the more our sound, logical rural juries intuitively sense the weakness and inconsistencies of the defense and decide rightly.

28. Collins & Morris, *Persuasion and Debate* 195 (1927); Stone & Garrison, *Essentials of Argument* 235 (1916).

29. Letter from Frederick H. Lund, Oct. 23, 1957. "I know of no other study, outside of my own, dealing with the importance of order of presentation from the standpoint of influence and persuasive value."

allegiance. Thus, the first time a proposition is presented to us we tend to form an opinion and we do so according to the influences present to shape it. Later, such an opinion may gain a certain emotional content if it is contradicted. This follows because of its personal reference and because we would not have our ideas appear frail and inconsequential.³⁰

Lund formulated a similarly effective "ideal of consistency"³¹ which he maintains tends to make persons remain consistent with an opinion to which they have committed themselves. In applying his findings to argument before a jury, Lund concludes that:

Our form of jury trial . . . assumes that both sides are given on [sic] equal opportunity. But the existence of such equality . . . assumes that logical factors will control the decision of the judges or jurymen. . . . But our beliefs are rarely if ever fashioned through such dispassionate weighing of pros and cons. While the lawyer for the plaintiff is reviewing his case and making his appeal, the belief of the jurors is already in the process of formation, and they are not to be dissuaded from their position by an equal amount of evidence or persuasive appeal on the part of the defendant's lawyer. . . .³²

Lund's work, however, does not appear to be altogether applicable to the context of a courtroom trial, despite its intriguing and suggestive similarities, and its provocative hypothesis. For instance, he employed written rather than oral stimuli. Also, in a jury trial, the closing arguments essentially reiterate previous testimony rather than introduce a fresh subject. In addition, the procedure of the jury trial is very likely deeply impressed in the juror's mind; he knows that he will be exposed to two arguments and that he is expected to be receptive to both.³³ More importantly, in the reality of the Minnesota procedure, the arguments are not necessarily of equal

30. Lund, *Emotions of Men* 40-41 (1930). For summaries, see Hollingsworth, *The Psychology of the Audience* 99 (1935); Ruch, *Psychology and Life* 52 (1948).

31. See Lund, *The Psychology of Belief*, 20 *J. Abnormal & Soc. Psych.* 184, 190 (1925):

We feel called upon to be consistent in the same way as we feel called upon to be rational, or as we feel called upon to observe any other ideal which has gained social commendation. Once we have committed ourselves we dare not relinquish our position lest we be challenged with our former statement.

32. Lund, *op. cit. supra* note 30 at 40.

33. Lund would counter this analysis by saying that personality or background factors are at work while one is listening which influence the formation of a position. An individual is not capable of a purely objective attitude. He cannot be a mere recipient of information. Thus what is presented first will not necessarily be dislodged by a later argument of equal merit. Letter from Frederick H. Lund, Oct. 23, 1957.

weight. The defense can both rebut the prosecution and can raise questions which are not susceptible to response by the prosecution.

VI. CONCLUSION

Minnesota's unique statute which allows the defense to deliver the final address to the jury has often been the subject of controversy in the state. The opposition to the statute is based on the premise that it places an undue burden on the prosecution. Those favoring the statute on the other hand, believe that it represents another item assuring protection of the rights of the individual. Both those opposed, and those in favor of the statute generally agree that the right of final argument carries some advantage. A majority believe it results in fewer convictions.

Agitation for change of the statute is apparently not as strong as might be expected. This survey found that 56% of its respondents favored retention of the law, although only 35% of the county attorneys took this position. The percentage of favorable opinions among all bar members might well be greater than 56%.

It was shown that psychological experiment on the importance of the order of argument has produced inconclusive findings. Field work, using recordings and mock juries, such as that being done at the University of Chicago in its program on Law and the Behavioral Sciences, would be highly useful in arriving at a better evaluation of the importance of the Minnesota method.

Finally, noting the absence of definitive experimental evidence, the concomitant absence of significant agitation for change, and the large number of sentiments citing the statute as one which uniquely implements the philosophical core of American jurisprudence (and noting as well, the strong criticisms of the procedure in the other 47 states by foreign observers), the inescapable conclusion appears to be that the Minnesota statute is one to which the state might, at least at this stage of our knowledge of its actual operation, point with considerable pride.

THE PSYCHOLOGICAL BASES OF EVIDENCE PRACTICES: INTELLIGENCE

ROBERT S. REDMOUNT*

A. CURRENT CONCEPTIONS AND MEASUREMENTS OF INTELLIGENCE IN LAW

Intelligence is a common denominator of the litigation process. It inheres in the acts of the judge and jurors, the litigants and witnesses. In fact, the structure and mode of operation of the trial process itself depends upon the common skills and understanding of all the participants. Expressed in general terms, the legal prerequisite is for so much intelligence as will give the litigated acts and proceedings a "rational" character. In many cases individual litigious acts may call for a higher degree of skill and comprehension on the part of liable parties. For example, in tort cases physicians and surgeons and other professional individuals may be held to a very high level of intelligence and knowledge, commensurate with that represented in their profession, before they can avoid liability for their professional acts.¹ Trustees, particularly corporate trustees, may be held to a comparatively high level of skill and intelligence.² Trial proceedings, however, effect no such special requirements. Legal measures of intelligence, where necessary, are expressed in terms of the most primitive and essential facilities of an individual capable of rational thought and behavior. Sense impressions must achieve a level of common experience and interpretation. Understanding must afford some basis in logic. The precise standards are a matter of impression.

I. *Litigants*

Standards of behavior for litigants tend to dwarf intelligence and to subsume it under the more deliberate concern for their purposes and motives on the one hand, and on the other, concern for the normality of their behavior expressed in terms of community standards. For example, the determination of sanity in criminal cases, or of contractual or testamentary capacity, are instances where there is a judgment of intelligence. However, in legal conceptual terms the problem is mostly one of determining the possession and manifestation of requisite skill or intent to enter into acts

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1. See, *e.g.*, *Butler v. Rule*, 29 Ariz. 405, 242 Pac. 436 (1926) (physician held to the standard of skill and intelligence of his profession in the performance of his professional duties); *Comeaux v. Miles*, 9 La.App. 66, 118 So. 786 (1928) (same).

2. See, *e.g.*, *Harris v. Citizens Bank & Trust Co.*, 172 Va. 111, 200 S.E. 652 (1939).

to which legal effects attach.³ Intelligence may be an incidental characteristic in this determination and is seldom a focal matter. To cite another instance, the concept of the "reasonable man" as applied in tort law fixes a crude standard of intelligence and of behavior generally. Standards of reasonableness are fixed in pragmatic terms and judged impressionistically. Reasonableness, and inferentially the level of intelligence that will sustain a person against liability for his acts, is governed by the level of skill for the act presumed to be reflected in the "average" person in a like situation.⁴ This standard of community behavior, and the estimation of the person's behavior in relation to it, is expressed in the observations and experience, the thoughts and sentiments of judge or jury. But, it should be noted that the concept of intelligence expressed here, as well as its measurement, may be diluted by the operation of values and other elements of behavior that have little to do with intelligence.

The law does not express itself directly on the matter of the intelligence of litigants except in those circumstances where there is suspicion of utter deficiency in sense impressions or in logical conception. A fairly typical instance, where the issue of a litigant's intelligence per se might arise, occurs in sex offenses. In the case of rape-complainants, for example, the intelligence of a child victim may be a crucial determination, and may reflect on the merits of bringing litigation based on the complaint. Certainly the rape-complainant as witness is subject to attack for lack of capacity to testify if marked intellectual deficiency is suspected.⁵

II. Decision-Makers

The standards of behavior for decision-makers are initially a matter of political policy expressed in statutes and practices governing the selection of these personnel. The minima of intelligence suggested above may be stipulated, as in the instance of statutes governing the selection of jurors. They are assimilated into a standard of qualification, designated "competence," that includes emotional

3. On criminal responsibility, which involves a determination of sanity as a basis for personal liability in committing crime, see Weihofen, *Mental Disorder as a Criminal Defense*, *passim* (1954). On contractual and testamentary capacity, see Green, *Judicial Tests of Mental Incompetency*, 6 Mo. L. Rev. 141, 152-57 (1941). See also Atkinson, *Wills* 232-52 (2d ed. 1953).

4. See, e.g., *Charbonneau v. MacRury*, 84 N.H. 501, 153 A. 457 (1931) (standard of behavior is that of "average person of ordinary prudence"); *Osborne v. Montgomery*, 203 Wis. 223, 234 N.W. 372 (1931) ("ordinary prudent man"); *Vaughan v. Menlove*, 3 Bing.N.C. 468, 132 Eng. Rep. 490 (1837) ("reasonable man of ordinary prudence"). See discussion of the "reasonable man" concept in Prosser, *Torts* 124-32 (2d ed. 1955). Cf. note 1 *supra* and related text.

5. See Note, *Psychiatric Aid in Evaluating Credibility of Rape-Complainant*, 26 Ind. L.J. 98 (1950).

and moral as well as intellectual criteria. In the federal statute governing juror qualifications, for example, a person is "competent" for jury duty unless he has been convicted of a crime; is unable to read, write, speak or understand the English language; or is incapable of rendering efficient jury duty by reason of mental or physical infirmities.⁶ Essentially the same personal skills are cited in similar manner as prerequisites of juror competence in the various states.⁷

III. Witnesses

The trial process is most intimately concerned with the behavior and intelligence of witnesses and it is to them that evidence rules and practices most often apply. The witness, as an instrument of a rational trial process, is required to have and to reflect certain basic intellectual skills and comprehension.⁸ As to him, the characteristics of intelligence necessary to the trial process are slightly ramified in view of his particular role in litigation. He must be able to make valid sense impressions of an event and give a common interpretation to these impressions. He must be able to carry over his original observation to a later period without virtual obliteration through loss or distortion. He must have sufficient skill to convey his observation and memory without significantly sacrificing accuracy to the communications process. Comprehension of at least some of the value implications of litigation is also essential, the importance of telling the truth being paramount. Intelligence sufficient to understand the nature and obligation of an oath to tell the truth constitutes the general phraseology of the intelligence requirement.⁹ Some comprehension of the tools and techniques of discourse is also necessary. It is important that the witness realize the scope and requirements of a question in examination and that he recognize the dimensions of accuracy and completeness necessary for a full answer. Wigmore phrases this requirement as a "capacity *mentally to understand* the nature of questions put and to form and communicate intelligent answers."¹⁰

6. See 62 Stat. 951 (1948), 28 U.S.C. § 1861 (1952).

7. See Committee on Selection of Jurors, Report to the Judicial Conference pp. 33-35 (1942). Cf. Note, *Psychological Tests and Standards of Competence for Selecting Jurors*, 65 Yale L.J. 531 (1956).

8. See 2 Wigmore, Evidence §§ 493-95 (3d ed. 1940), and McCormick, Evidence 140 (1954).

9. See, e.g., *Bielecke v. State*, 140 Tex.Cr.R. 355, 145 S.W.2d 189 (1940); *Mullins v. Commonwealth*, 174 Va. 472, 5 S.E.2d 499 (1939). This definition of intelligence encompasses both skill and social attitude. Cf. 2 Wigmore, *op. cit. supra* note 8, § 495.

10. 2 Wigmore, *op. cit. supra* note 8, § 495. Cf. *Walker v. State*, 97 Ala. 85, 12 So. 83 (1892) (a witness must have the capacity to "narrate the transaction in what appears to be an intelligent, rational manner"). See also McCormick, Evidence 140 (1954).

These are the lowest acceptable requirements for a person to qualify as a witness. The denominators rule out very few witnesses on the basis of a lack of intellectual qualification. On the other hand, neither do they presume to assure that this or a proximate level of intelligence reflected by a witness is a guarantee of intellectual competence sufficient to refute a challenge to the complete reliability of his statements. While credibility is most often ascribed to interest, character and stability, mediocre intelligence, whether reflected in direct attack and examination or by impression, may afford a proper qualification on the reliability of testimony.

a. The Legal Method of Inquiry.

A direct inquiry concerning a witness' intelligence is most likely to arise when there is some doubt as to his minimum intellectual qualification as a witness. As a matter of logic and practicality it occurs most often when children are required to perform a testimonial function. A deliberate analysis of intelligence is then couched within the framework of a polyglot legal concept termed "mental capacity."¹¹ The term assimilates intellectual, emotional and moral qualifications in a loose collectivity. Intellectual efficiency sufficient to produce reasonably correct sense impressions and minimally reliable recollection and narration is necessary. Emotional stability to the degree that impression, memory and report are not critically distorted is essential. Moral sensitivity so that there is an awareness of necessity or duty to tell the truth is important.

Most witnesses, at the time they are called upon to testify, are presumed to have the minimum mental capacity necessary for qualification. A general presumption of mental capacity exists if the witness is fourteen or older.¹² A party may, however, disagree with

11. See 2 Wigmore, *op. cit. supra* note 8, §§ 492-501, and McCormick, *Evidence* 140 (1954).

12. See 2 Wigmore, *op. cit. supra* note 8, §497 & n.1. The presumption is reversed if the witness is under the age of fourteen. See Shannon v. Swanson, 208 Ill. 52, 69 N.E. 869 (1904) (at fourteen there is a presumption of competency but below that age there is to be an inquiry into qualification); State v. King, 117 Ia. 484, 91 N.W. 768 (1902) (child under fourteen presumed to be incompetent); see also 2 Wigmore, *op. cit. supra* note 8, § 508. However youth and mental immaturity in themselves do not disqualify a witness. See McCormick, *Evidence* 140 (1954) ("in each case the test is whether the witness has intelligence enough to make it worth while to hear him at all and whether he feels a duty to tell the truth."). See also Cargill v. State, 25 Okl.Cr. 314, 220 Pac. 64, 65 (1923) ("intelligence, and not age, is the vital criterion."); State v. Segerberg, 131 Conn. 546, 41 A.2d 101, 102 (1945) ("The principle... is that the child shall be sufficiently mature to receive correct impressions by her senses, to recollect and narrate intelligently and to appreciate the moral duty to tell the truth."); Hancock v. Hallmann, 229 Wis. 127, 281 N.W. 703 (1938) (feeble-minded girl held not competent under this test); 2 Wigmore, *op. cit. supra* note 8, §§ 488, 505-09.

this presumption and a witness' capacity may become a matter of contest.¹³ The witness' behavior prior to his taking the stand may belie the impression of adequate capacity. His conduct and response in a voir dire examination may also issue doubts as to his fitness. Other witnesses may bear evidence of the prospective witness' incapacity. Finally, the witness' behavior in the trial process itself, notably on cross-examination, may establish a strong inference of a lack of capacity.¹⁴ A special examination of the witness' capacity may then be conducted by the challenging party or by the court,¹⁵ and it is the judge's responsibility to render a decision as to the person's fitness to be a witness.¹⁶

b. The Moral Component in "Mental Capacity."

The measures and standards of mental capacity tend to be crude and impressionistic. Minimum moral qualification generally rests

13. See 2 Wigmore, *op. cit. supra* note 8, § 497, and McCormick, Evidence 149-50 (1954). If a party challenges the mental capacity of a witness, the burden is upon the challenging party to prove disqualification by examination or other evidence, *State v. Baker*, 294 Mo. 303, 242 S.W. 405 (1922); *Batterton v. State*, 52 Tex.Cr.R. 381, 107 S.W. 826 (1908). See also 2 Wigmore, *op. cit. supra* note 8, §§ 484-85.

The capacity of a child witness is, of course, a matter of contest since the presumption of qualification runs against the child and his capacity must be established. See note 12 *supra* and note 15 *infra*.

14. Wigmore cites the four foregoing modes by which *insanity* may appear. 2 Wigmore, *op. cit. supra* note 8, § 497. These are also affirmed generally as modes of determining the qualifications or lack of qualifications of a witness. 2 *id.* § 485.

15. *State v. Barker*, 294 Mo. 303, 242 S.W. 405 (1922) (objector must show by examination or other evidence); *Batterton v. State*, 52 Tex.Cr.R. 381, 107 S.W. 826 (1908) (semble); *District of Columbia v. Armes*, 107 U.S. 519, 521 (1882) (Court may examine); *Ariz. Rev. Code* § 4413 (1928), *Ariz. Code Ann.* § 44-2701 (1939). (Court may examine). See also 2 Wigmore, *op. cit. supra* note 8, § 497, and McCormick, Evidence 150 (1954). *Cf.* note 20 *infra*.

In the instance of a child under the age of fourteen, where capacity is not presumed, an examination may be required to establish mental capacity and the court will then decide as to a witness' qualifications. Most courts insist on an examination and positive findings, particularly in the instance of very young children. *Thomas v. Commonwealth*, 300 Ky. 480, 189 S.W.2d 686 (1945) (rape complainant six years old, court's failure to examine and expressly find sufficient understanding and testimonial capacity held to be reversible error); *Hughes v. Detroit, G. H. & M. Ry. Co.*, 65 Mich. 10, 31 N.W. 603 (1887) (child under seven; failure to examine is reversible error). On the other hand, some courts regard a failure to raise the issue of a lack of capacity as a waiver of this deficiency in the testimony. *Pooley v. State*, 116 Ind. App. 199, 62 N.E.2d 484 (1945) (witness a child of six; held, unless competency of witness is questioned in the trial it cannot be raised on appeal); *Kiefer v. State*, 258 Wis. 47, 44 N.W.2d 537 (1950) (competence of infant witness not raised at trial; held, waived). In the latter cases, a presumption of incompetence under the age of fourteen does not appear to operate.

16. *Desilvey v. State*, 245 Ala. 163, 16 So.2d 183 (1944); *State v. Teager*, 222 Ia. 391, 269 N.W. 348 (1936). See also 2 Wigmore, *op. cit. supra* note 8, § 487. After the court has passed upon the witness' capacity, however, the judge or jury may still conclude that the witness' testimony is not reliable. *Cf.* notes 18, 21 and 22 *infra*.

upon an assumption or a solicited verbal statement indicating the witness is aware that some form of punishment may be expected to follow a failure to speak truthfully when committed to do so. A typical examination of moral qualifications as an aspect of testimonial capacity will ask, in approximate language, "Do you know what happens to anybody who tells a lie?" If the witness, who in most instances is a child, gives a response indicating that punishment is the consequence, the court may draw from this and related responses the impression that the witness can and will act on the witness stand under moral restraint.¹⁷ The attending psychological inference is that simple appearance or a simple verbal statement, each having seeming credibility, is a responsive indication that the witness' behavior is governed by a consistent sense of obligation to abide by a conventional and mature code of ethics when asked to do so. The guarantee of such behavior rests in the inference that the witness adequately comprehends and is concerned with the consequences of deviation, namely punishment in a material or spiritual form. The moral commitment presumably is directed to the motive of the witness rather than to his intellectual capacity. It is intended to prevent a failure of truthful exposition accountable to maleficious purpose. It may not be reasoned that moral obligation prevents a failure of truth accountable to a lack of intellectual capacities to recognize it sufficiently, unless moral capacity is based on a presupposition of intellectual capacities. The theory of the law on this point is not altogether clear.

If a witness meets a standard of good impression in the test of moral qualification, his credibility rather than his moral capacity may properly come into focus. The measures of credibility, from the perspective of moral requirements, focus more directly upon behavior and reputation.¹⁸ The moral competence of a witness ultimately relates to his ability and his motivation to tell the truth on the witness-stand. His credibility, defined in these terms, is presumed to be tested on the basis of estimations of character, particularly that aspect of it that concerns veracity. The witness' moral propensities for truth-telling, if cast in doubt by an adversary, are based upon his reputation as a truthful person among those proximately situated so as to know of him. A substantial negative conclusion may

17. For instances and modes of examination, see *Commonwealth v. Tatisos*, 238 Mass. 322, 130 N.E. 495 (1921); *People v. Delaney*, 52 Cal. App. 765, 199 Pac. 896 (1921).

18. See 3 Wigmore, *op. cit. supra* note 8, §§ 920-30, 980-87, and McCormick, *Evidence* 86-97 (1954). See also Ladd, *Credibility Tests—Current Trends*, 89 U. Pa. L. Rev. 166, particularly pp. 171-84 (1940).

also be based upon evidence of the witness' gross misconduct or upon a finding that he has been held legally responsible for criminal acts. This is particularly true if the acts and conduct have entailed the offering of verbal statements that were to have been relied upon for their truthfulness.

Thus, character may be evidenced by prior misconduct having a bearing on truthfulness, by conviction for crimes deemed relevant, and by community reputation as reflected in hearsay. The psychological inferences in the moral tests of credibility are more clearly directed to motive. Intellectual and emotional facilities for ethical behavior are presumed. The basic inference is that individuals possess a truth-telling faculty that is invariant in its operation. Moral disapprobation reflected in the opinions of others, in revelations of palpable misconduct, or in prior punitive legal sanctions, is the evidentiary basis for the non-existence or failure of the truth-telling propensity. A deficiency found in this manner is not only sufficient to form an impression that results in the discredit of testimony, but it also in effect disestablishes the earlier presumption or finding as to the witness' moral capacity.

c. The Emotional and Intellectual Components in "Mental Capacity."

The measures of emotional and intellectual capacity are given a single footing. Minimum qualifications require only that the witness make the barest contact with the world about him. "No person is disqualified as a witness by reason of insanity, imbecility, disease, intoxication, or any other form of mental derangement or defect, except insofar as his condition precludes substantially all trustworthiness in his powers of observation, recollection or narration on the specific matter to be testified."¹⁹ Consistent with the level of skill and comprehension solicited, measures and standards are crude. Interpretation is entirely a matter of impression. Examination and evaluation is usually effected in terms of the witness' general awareness of the simplest events about him and in terms of the slightest level of rational understanding of the proceedings.²⁰ The underlying

19. Wigmore, Code of Evidence 127 (3d ed. 1942). Note that insanity itself is not a basis for excluding testimony, unless the insanity can be said to influence the witness on the particular subject matter about which he is to testify. See *District of Columbia v. Armes*, 107 U.S. 519 (1882) (feeble-minded person held a competent witness); *Truttmann v. Truttmann*, 328 Ill. 338, 159 N.E. 775 (1927) (mental defective held competent); *Regina v. Hill*, 5 Cox Cr.Cas. 259, 5 Eng.L. & Eq. 547 (1851) (witness suffering from insane delusions not prevented from giving a rational account of matters on which he testifies; not incompetent).

20. Perhaps a typical courtroom examination is presented in *Horton v. State*, 35 Ga. App. 493, 133 S.E. 647 (1926). The witness, a child of ten, was asked the following questions directed to the evaluation of her mental capacity: How old are you? How many days in the week—month? What

psychological inference is that emotion and intelligence have a common denominator in a very simple fund of general information, evidenced by association, mostly about oneself, and a most elementary facility for logical reasoning. Given these free of any apparent error and distortion, the minimum of intellectual and emotional capacity necessary to qualify as a witness is established in general terms. It is inferrable to the specific situation represented in the subject of testimony.

Again, however, the establishment of this minimum level of efficiency, though serving for purposes of qualification, affords no guarantee of the credibility of the witness' testimony. Some limitation in the witness' emotional and intellectual capacities may be apparent from impression and may be adduced in cross-examination.²¹ Even without cross-examination mere impression may in fact operate as a basis for devaluing a witness' intelligence and hence his credibility. Since impeachment for lack of credibility is entirely a matter of impression and without articulate standards, appearance as estimated by judge or jury, with or without examination, will govern credibility.²²

day is it—what year? Has anybody talked to you about this case? Would you be punished for telling a lie? Presumably on the basis of the characteristics of response the witness was held to lack capacity to testify in this case. See also Hutchins and Slesinger, *Some Observations on the Law of Evidence—The Competency of Witnesses*, 37 Yale L.J. 1017 *passim* (1928) for reference to examination in the *Horton* case and references to like-kind examinations in other cases. Cf. *Commonwealth v. Tatisos*, 238 Mass. 322, 130 N.E. 495 (1921).

21. See *Henry v. State*, 6 Okl.Cr. 430, 119 Pac. 278 (1911) (witness may be cross-examined with regard to his intelligence in an attack upon his credibility); *Blanchard v. People*, 70 Colo. 555, 203 Pac. 662 (1922) (witness having been held competent by the court, the grade of his intelligence can only be tested by cross-examination). The *Blanchard* case would appear to rule out the use of expert testimony, intelligence tests results and other extrinsic evidence as a means of attacking the credibility of a witness on the basis of insufficient intelligent. But cf. *United States v. Hiss*, 88 F. Supp. 559 (S.D.N.Y. 1950) (psychiatrist allowed to testify, primarily from his courtroom observation, as to the credibility of a witness). See also the use of psychiatric expert testimony in evaluating the credibility of complaining witness in sex cases. Note, *Psychiatric Aid in Evaluating Credibility of Rape-Complainant*, 26 Ind. L.J. 98 (1950). See also Comment, *Psychiatric Evaluation of the Mentally Abnormal Witness*, 59 Yale L.J. 1324 (1950), advocating expert examination to assess abnormality that might significantly affect the credibility of witnesses, and 3 Wigmore, *op. cit. supra* note 8, §§ 991-96, advocating admission of psychological test results for purposes of determining credibility.

22. Cf. *Blanchard v. People*, 70 Colo. 555, 203 Pac. 662, 662-63 (1922), the court holding "the grade of his intelligence can only be tested by cross-examination (*in theory*) and considered by the jury in the light of his personal appearance and conduct." (Emphasis added).

While insanity may not of itself establish a lack of competence, it may be used in evidence to attack credibility. See *State v. Hayward*, 62 Minn. 474, 65 N.W. 63 (1895) (evidence of insanity is not only for the judge on the question of competency, but also goes to the jury on the question of credi-

Proofs of emotional or intellectual inefficiency are of a gross character, suggesting the total unreliability of testimony. Evidence of this sort is generally of such substance as to in effect refute the earlier finding or presumption of capacity. In the *Blanchard* case,²³ the court held that a witness could not be impeached by proof that he was of a low order of intelligence where it was not claimed that he was so deficient as to be "insane." "[A]ny grade of intelligence above insanity would have sufficed. . . ."²⁴ The claim of insanity, that is, gross inadequacy amounting to mental deficiency, was required in order to attack credibility by reason of lack of intelligence.

In psychological terms the legal formulation suggests that intellectual and emotional deficiencies are, from the point of view of practical tests and effects, synonymous. The deficiencies are divisible in terms of particular kinds of facilities or areas of experience. Therefore, their effects are not universal in relation to the organism. They are selective and do not necessarily influence the total rational operation of the person. The deficiency, if operative in the legal situation at all, is generally measured in terms of such substance and magnitude as to virtually disaffirm any skills and rational comprehension on the part of the witness concerning the testimonial subject matter.

The standards of ultimate judgment as to capacity and credibility are governed by impression. The decision-maker is offered appearances or reports which appear to virtually conclude the question of testimonial reliability in dichotomous terms. He is left to his own devices in formulating a decision as to the extent of the intellectual and emotional capacities of the witness and the relationship of this finding to the dependability of the witness' information. Conceivably, the decision-maker's common sense and experience may frequently direct finer and more extended calibrations on these matters than the law theoretically allows. The specific bases of such findings are inarticulate and likely to be unsystematic.

The concern of the present paper will be limited to the matter of skill and comprehension based upon intelligence and intellectual efficiency. Though legal conceptualization does not notably distinguish intellectual and emotional components of behavior, psychological theory and evaluation recognizes noteworthy distinctions

bility), and *People v. La Rue*, 62 Cal. App. 276, 216 Pac. 627 (1923) (insanity bears on credibility). See also note 19 *supra* and 3 Wigmore, *op. cit. supra* note 8, § 932. The challenge to both competence and credibility may go to the self-same matter of mental capacity.

23. See notes 21 and 22 *supra*.

24. *Blanchard v. People*, 70 Colo. 555, 203 Pac. 662, 663 (1922).

that make differentiation of the factors important to the estimation and understanding of behavior. Intelligence in the legal domain is embraced in the concept of mental capacity and is denominated in terms of the barest facility for rational behavior, as distinguished from a complete lack of capability. Finer gradations on a higher level of performance are a matter given to impression in subjective terms rather than to systematic concept. Minimally reliable perception, memory and communication, and the simplest levels of comprehension are the measures of intelligence. The instruments of examination infer these capacities from simple verbal statements indicating a simple facility for association in the production of elemental information about oneself and from perfunctory facility for logical reasoning. A general developmental progression in intellectual skills is inferrable, based upon age. However, more precise gradations in growth and qualitative variations among different facilities are a matter of speculation and subjective impression. Demonstrable distinctions between capacity and efficiency are difficult to discern and are not clearly formulated.

The status of legal thought and procedure in the matter of intelligence as a basis for testimonial evidence has been given some slight attention. Hutchins and Slesinger, in an article in 1928,²⁵ focused their attention on the evaluative methods of law in relation to intelligence and, by implication, might have recognized the plight of the legal conceptual framework in this area. They suggested a modification of method through the application of standard psychological devices that have been the subject of extensive and studied treatment by psychologists. Wigmore, in his comprehensive treatise on evidence and in his consideration of scientific methods of evaluation, recognized the potential in psychological conceptions and methods of evaluation.²⁶ Presumably, neither Hutchins and Slesinger nor Wigmore intended a careful study of the concepts and measures of intelligence in order to determine with relative precision the nature and extent of their possible application in law. It is our purpose here to study the psychological theses and evaluations of

25. Hutchins and Slesinger, *Some Observations on the Law of Evidence — The Competency of Witnesses*, 37 Yale L.J. 1017 (1928). Cf. Hutchins and Slesinger, *Some Observations on the Law of Evidence — Memory*, 41 Harv. L. Rev. 860 (1928) and Gardner, *The Perception and Memory of Witnesses*, 18 Cornell L.Q. 391 (1933). The latter two articles focus on processes—perception and memory—that constitute a part of the more incorporative concept “intelligence.” The articles explore the psychological findings on perception and memory and relate these to pertinent rules and practices in the law of evidence.

26. See 3 Wigmore, *Evidence* § 997 (3d ed. 1940) and Wigmore, *The Science of Judicial Proof*, particularly 761-92 (3d ed. 1937).

intelligence and intellectual efficiency and to apply what is pertinent and substantial to the legal problems of testimony.

B. PSYCHOLOGICAL CHARACTERISTICS AND MEASURES OF INTELLIGENCE

Conceptions of Intelligence

Upon examination of the prolific psychological literature on the subject, intelligence appears more often as a term of convenience than a term of rigorous definition. It is a way of describing the behavior of an individual to which the value "intelligent" attaches.²⁷ The ascription of such a value depends upon the range and character of activity which one deems important. On this point psychologists do not offer a conclusive point of view and generally fall short of a full consensus.

In the main psychologists have evolved two conceptions of intelligence. One consists of a loosely-knit aggregate of skills whose compass traverses a substantial proportion of the ingredients necessary for adaptation and efficiency in most social situations. Binet²⁸ was the earliest exponent of this method. He isolated a number of skills and values important to school success and measured children in terms of their relative ability to use and reflect these skills and values in representative problem situations. The Binet technique is the prototype of many intelligence measures in current use. Perhaps the most widely used, aside from the Binet, is Wechsler's scales of intelligence.²⁹ The scales, some of which are particularly geared to

27. In its adverbial form, intelligence connotes a process. Used as a noun it gives the impression of an entity, a faculty, a possession of some sort. The more articulate psychological opinion espouses the view that intelligence is best identified simply as an adverbial or qualifying characteristic of behavior. See Chein, "On the Nature of Intelligence," 32 J. Gen. Psy. 111 (1945). Cf. Whitner, "Has Man Measured His Intelligence?" U.Pitt.Q., 38 (Autumn 1941). Whitner states: "We may first refute any assumption that mental tests have any mysterious power of detecting intelligence as an entity apart from life performance. There is no such measure at present, and the probability is that there will never be any direct measure of intelligence. In fact, it is very doubtful if there is any such entity as intelligence. It is much more defensible to say that a person *acts intelligently* than to say that he *has intelligence*. The term 'intelligent behavior' is a description of behavior under certain conditions. We can generally agree on what behavior is intelligent even though we might never agree about the existence of some mysterious 'intelligence' within the individual. By analogy we apply the term intelligent to the person who acts intelligently. People are considered more or less intelligent on the basis of their behavior and in the practical world past behavior is considered to be the best basis for predicting future behavior."

28. Binet, *Étude Expérimentale de l'Intelligence* (1903). Cf. Terman and Merrill, *Measuring Intelligence, passim* (1937) and Anastasi, *Psychological Testing* c. 1 & 8 (1954).

29. Wechsler, *The Measurement of Adult Intelligence* (3d ed. 1944). See also Wechsler, *Wechsler Intelligence Scale for Children, Manual* (1949), and Freeman, *Theory and Practice of Psychological Testing* 187-88 (Rev. ed. 1955).

assess the intelligence of an adult population, present a series of problems or tasks. Cumulatively, they measure a variety of skills, the ability to: abstract relationships, develop and maintain associations, learn quickly and effectively, use generally valued social judgment in common social situations, store and effectively use verbal symbols, reason plausibly and in the direction of common social value, perceive correctly common social entities, coordinate visual-motor and thinking facilities, achieve order in social relationships according to common standards, use numerical abstraction effectively and master spatial relationships. Wechsler, through this aggregate of skills, sought to assess the strength of direction, resourcefulness and competence of an individual *in camera*.³⁰

Intelligence, in the Binet style of thought, is not a narrowly defined, scientific construct so much as it is a loose operational term with some elasticity of content and boundaries and governed by practical social values. It runs the gamut from largely perceptual operations and adaptive skills to more complex logical operations of great variety and adjustive-manipulative skills. It encompasses social, moral and rational denominators with a particular emphasis on facility for judgment. The components of intelligence are not conceived in terms of inherited properties as distinguished from acquired facilities, and it is not clear that there is, in fact, any solid operational basis for such distinction. There is age variation and other individual variations within the total range of skills. The successive adaptation or adjustment of skills from one situation to another and from one time to another is inferred. The various skills, equally valued, combine to give judgment as to the probable satisfactoriness of an individual's response in common social situations.³¹

30. Wechsler defines intelligence as "the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment." Wechsler, *op. cit. supra* note 29 at 3.

Stoddard, in his analysis of intelligence, draws the full meaning of the value implications of the incorporative, socially reflective view of intelligence. He defines it as "the ability to undertake activities that are characterized by (1) difficulty, (2) complexity, (3) abstractness, (4) economy, (5) adaptiveness to a goal, (6) social value, and (7) the emergence of originals, and to maintain such activities under conditions that demand a concentration of energy and a resistance to emotional forces." G. Stoddard, *The Meaning of Intelligence* 4 (1943).

31. Perhaps one of the most sophisticated concepts of intelligence is that evolved by the distinguished Swiss psychologist Piaget. Appropriating some of the more advanced theoretical constructs of science, he views intelligence as an evolutionary process in which the biology of the individual and his social environment combine to produce the strength and direction of mental energy so as to provide increasingly logical order and equilibrium in the relationship between the person and social reality. Piaget, *The Psychology of Intelligence*, *passim* (Piercy and Berlyne transl. 1950). See also Piaget, *The Origins of Intelligence in Children*, *passim* (1952).

A second conception of intelligence, which relies upon the inherent capacity of statistical method to distinguish various kinds of rationally based facilities, lays greater emphasis upon the importance of methodological rigor than upon the range of social practicality and social experience. A number of investigators, most notably Spearman³² and Thurstone,³³ have utilized the statistical method called "factor analysis" to isolate general and specific factors that are deemed to be discrete and important parameters of intelligence. Thurstone's several specific factors provide the rationale for hypothetical questions which, when composed together, make up a standard test reflecting the factorial conception of intelligence. Thurstone has denominated the following factors in intelligence: *W* (word fluency), *N* (facility with numbers), *S* (ability to assess spatial relationships), *M* (memory), *I* (induction or reasoning), and *V* (facility for verbal association and comprehension).

The factorial method has been utilized to identify parameters of intelligence and to differentiate the intelligence of persons in terms of physiological functions. Halstead³⁴ compared brain-injured and uninjured persons on a large variety of intellectual tasks and evolved four factors of intelligence.

Factor theories of intelligence stress the importance of a complex of logical skills necessary to resolve problems. They emphasize entirely the strictly intellectual focus in behavior, and they begin their measurement at a fairly advanced level beyond the experience of mere perception and sensori-motor response. Both the range of problems and the range of responses that serve to identify intelligence are largely restricted to those in which logic is an essential variable. A considerable constancy of response is implied, based upon the stability of the logical potentials in each individual, and is given generalized effect in a variety of intellectually ordered situations.

The factor formulation of intelligence is at once more rigorous and more limited than the "aggregate of social skills" conception. It is the product of acute applications of statistical methodology,

32. Spearman, *The Abilities of Man* 164-67 *passim* (1927). Cf. Vernon, *The Structure of Human Abilities* 7, 14-20 *passim* (1950).

33. Thurstone and Thurstone, *Factorial Studies of Intelligence*, Psychometric Monographs No. 2 (1941). Cf. Anastasi, *op. cit. supra* note 28, at 358-69.

34. Halstead, *Brain and Intelligence*, *passim* (1947). Halstead provides a succinct summary and evaluation of attempts to relate intelligence to neurological and physiological functioning and presents, as well, an oversimplified review of psychometric and clinical conceptions of intelligence. *Id.* at 8-30.

but its relation to behavior spans a narrower range. Having the virtue of precision, it is less likely to be misleading in its application if carefully interpreted. On the other hand, it may be less useful, particularly in any large variety of social contexts and social experience.

Theories of intelligence coextend with their underlying value endorsements. They vary in range and method to the extent of these preferences. To the extent that there is lacking some community of agreement as to "what" and "how much" they offer no substantial, reliable and general conceptual basis. The biological structure of intelligence, as well as its social definition, lacks a concert of opinion and there is today no semblance of finality in definition and doctrine. As a matter of experience, however, the current conceptions of intelligence have proven viable and useful. There is sufficient consistency in behavior and social experience, and sufficient agreement on study and classification to effect considerable vitality and functional value in today's concepts and measures of intelligence.

The Measurement of Intelligence

The measurement of intelligence is a function of the content of the measuring instrument, dependent upon the choice of problems to be presented, and a function of its structure, indicating the ways in which responses can be assessed. The problems selected can be identified with common experience and, in their requirements, bear a hypothetical relationship to selected facilities of intelligence. The adequacy of response is commonly ascribed to the speed with which tasks are accomplished or the range of difficulty encompassed in a graduated series of trials for each task. The variety as well as the difficulty of tasks may be another determinant.

Typically, problems reflect the use of verbal skills. They are couched in verbal terms, solicit the use and manipulation of verbal symbols and require a verbal response to identify and perhaps to qualify solutions.³⁵ Numerical and spatial skills, involving the use of numerical and spatial concepts in question and answer, are also

35. For example, a stimulus word is presented and the subject may be asked to give its meaning, or a word having the opposite meaning, or a synonym. Another example of a verbal task involves the presentation of two words that are analagous in certain respects. The subject may be asked to identify and define the analogy. Other kinds of verbal problems frequently used in intelligence tests involve the arrangement of sentences in logical order, the definition of abstract terms and the interpretation of proverbs. Depending upon the levels of intellectual development being tested, verbal tasks may range from simple association to complex logical reasoning and abstraction. Cf. Freeman, *op. cit. supra* note 29, at 129-97, 270-305; Anastasi, *op. cit. supra* note 28, at 175-204, 351-86.

frequent problem components.³⁶ Occasionally tasks may be presented in pictorial or demonstrative form, may require identification or physical manipulation of the problem materials and thus may require demonstrative solutions rather than answers in some symbol form. The different patterns of communicative skills, "verbal" v. "performance," involved in a test are in themselves an important basis for test selection and for differentiations in use. Where, for example, a subject has language difficulty, a performance rather than a verbal type of test may provide a better index of the subject's intelligence. Children, particularly at younger age levels, have developed motor, perceptual and some social skills further than they have developed logical skills. They are likely to perform more effectively on "performance" tasks. Where a visual or hearing handicap exists, there is further basis for noting the distinction between verbal and performance tasks and for selecting a type of intelligence test that does not emphasize skills on which an individual would be particularly penalized because of physical, maturational or cultural limitations.

Intelligence tests may also be significantly differentiated in terms of whether they require or can accord to individual administration or administration en masse and in terms of whether they pose a limited or unlimited time requirement for completion. Administrative feasibility and efficiency is the matter at stake here. Tests that can be given en masse, or "group tests," can be used to test and sample a large number of individuals in a short time interval. However, individually administered tests safeguard the character and evaluation of responses more effectively since the test administrator can personally observe and evaluate such factors as motivation, emotional disturbance and the like. These latter are likely to have a significant meaning for the nature of the result achieved by a subject and may create an appearance of intellectual deficiency or lowered skill and capacity where such conclusions are not in fact correct. Group tests are more prone to errors of estimation in gauging intelligence though they are substantially correct in their estimates in the largest number of cases. Individual tests, on the other

36. Subjects may be given arithmetic problems of varying complexity to solve or may be asked to complete a number series that is governed by a particular mathematical operation. Tasks may range from simple counting to those involving complex arithmetical reasoning. Spatial skill may be tested in tasks involving the determination of the number of units in a complex spatial structure whose complete dimensions can be grasped but are not graphically portrayed in full. Tasks may require the detection of similarities or differences in spatial structures graphically presented. Cf. Freeman, *op. cit.* *supra* note 29, at 129-97, 270-305; Anastasi, *op. cit. supra* note 28, at 175-204, 351-86.

hand, are not as economical of time and administration resources but they are better adapted to special test conditions, such as subject's blindness or deafness, poor motivation, etc.³⁷

The rigorous demands and criticisms of research methodology, in their tendency to standardize the intelligence testing process and the scales of judgment, have contributed to a large measure of common meaning and consistency in result. In such terms as "intelligence quotient" and "mental age," "coefficients" of "validity" and "reliability," "standardization" and "norms," the merit of a test and the proper meaning of its result can be determined.

The terms of description and interpretation for the magnitudes of score achieved on an intelligence test are generally standardized. Mostly, reference is made to the "mental age" or the "intelligence quotient" represented by a person's score on a test. "Mental age" assumes, on the basis of test experimentation, levels of mental development commensurate with levels of chronological development. A person's "mental age" is, therefore, an index of his achievement on the intelligence test relative to the achievement of persons at different chronological age levels. If the individual scores above or below the modality for his age level, he is above or below the average intelligence for his age.³⁸ The "intelligence quotient," on the other hand, is the product of a formula that expresses the relationship between a person's accomplishment on an intelligence test and a statistical average based on the results achieved by a larger and representative population on the test. It may be based on the relationship between mental age and chronological age, or it may be based on a different kind of formulation of the relative position of a person's mental skills.³⁹

The competency of a test may be judged by the way performance on it compares with performance on some other criterion measure. The statistical method of comparison is called correlation technique and provides the test with indices of its validity. Results on a test may be correlated with the results achieved by the same person or a

37. Freeman and Anastasi, in their treatises on intelligence, describe in some detail the characteristics and uses of different intelligence tests. They include a discussion and differentiation of individual and group tests in relation to the different purposes they serve. See Freeman, *op. cit. supra* note 29, *passim* and Anastasi, *op. cit. supra* note 28 *passim*. See also Buros, Fourth Mental Measurements Yearbook (1953) for a compendium, including descriptions and brief critical reviews of existing psychological tests.

38. The concept of mental age and the technique for computing it is described in Anastasi, *op. cit. supra* note 28, at 73-74, 187-91, and in Freeman, *op. cit. supra* note 29, at 43, 133-35.

39. See Anastasi, *op. cit. supra* note 28, at 74-77, and Freeman, *op. cit. supra* note 29, at 46-48. See also Wechsler, *The Measurement of Intelligence* 19-35 (1st ed. 1939).

similar group on other intelligence tests, or they may be correlated with the degree of success achieved by the same person or similar persons on tasks that involve the skills measured by the testing technique. Relatively high indices of correlation will indicate that a test has relatively high predictive efficiency as a general measure of intelligence or for the purpose selected. Such measures of competence or efficiency are generally available for most widely used intelligence tests.⁴⁰

The reliability of a test, meaning the extent to which it gives a consistent result, is another index of the value of a test. The self-consistency, and hence the dependability, of a result achieved by a test can be measured in terms of a statistical coefficient of test reliability. One can compare results achieved on a test by the same group at different sittings as a basis for determining the coefficient. Another common method is to compare results when similar types of questions in a test are separated so that the test is split into two equivalent parts, and the results on one part are compared with the results on the other.⁴¹

The applicability of a test to a particular situation and the significance of its estimate for a particular person may be judged by the populations used as subjects in the construction of the test. The standardization of a test—that is, the populations used to determine the level of response for questions and the populations used to provide a set of scores and test norms against which all future scores can be compared—provides the basis for determining whether a particular individual or individuals can be accurately rated by the test. If test scores and interpretations are based on results achieved by children, the test may not be appropriate for adults. If the standardization is based on the results of a group of Southwestern farm inhabitants, this may not be appropriate and representative for a group of Eastern urban individuals. The interpretation of the results of any particular test or any particular person will be governed by the extent to which the persons and conditions of testing are similar to those utilized in the development of the test.⁴²

In the main, intelligence test results and the mental ages and intelligence quotients based upon them are comparable. The care involved in the construction and in interpretation of tests in itself

40. See Anastasi, *op. cit. supra* note 28, particularly 127-45, 314-16, and correlational studies mentioned for the majority of intelligence tests described, *passim*. See also Freeman, *op. cit. supra* note 29, at 27-28, 31-38.

41. See Anastasi, *op. cit. supra* note 28, at 94-119, and Freeman, *op. cit. supra* note 29, at 10-26.

42. See Freeman, *op. cit. supra* note 29, at 38-41, 43, and Anastasi, *op. cit. supra* note 28, at 152-171.

suggests that they are considerably more reliable on the average than impressionistic assessments of intelligence.⁴³ Though faulty to some degree in theory and technical application, they are a highly perfected short-cut assessment of the intellectual potential and probable rational skill and comprehension that an individual will bring to bear in common life experiences and in new situations.

Personal and Social Factors Influencing Intelligence

Individual and social differences influence the existence and estimate of intelligence in important ways. They must be recognized if intelligence and intelligence test results are to be interpreted correctly. In particular, considerations of age, social environment, emotional barriers and psychopathology, and brain injury and genetic deficiency, differentiate the structural and operational characteristics of intelligence.

The dimension of age is of central importance. The passing of time connotes the operation of physical and social processes which differ in their effects upon intelligence. The effects accumulate and result in modifications of intelligence, most particularly nearer the beginning and the end of life.

Mental development taken as a whole has been reflected and analyzed mostly through the measurements of intelligence tests. It proceeds at a fairly rapid and consistent rate of acceleration in the early, more formative years of life. The rate of growth diminishes in the years just short of and just subsequent to puberty. At some time between puberty and the early twenties there is a leveling of the mental growth process and a peak of performance is achieved. There then begins a gradual and slow decline into the middle years of life. The process of retrogression accelerates in the later years, past

43. Psychiatric evaluations of intelligence focus on particular qualitative factors rather than upon intelligence as a whole. Assessment techniques are impressionistic, though based on a wealth of clinical experience and information about behavior. Not infrequently the quantitative measures of psychology are utilized for more precise estimations of magnitude of intelligence or degree of intellectual deficit. The study of intellect in psychiatric examination most frequently focuses on the nature of thought content and the extent of thought disturbance. The general character of a patient's response to questions is analyzed for evidences of delusional thinking, aberrational preoccupations and exaggerated concerns. Thought disturbance is sought in evidences from response of erratic or faulty logic, poor memory and the inaccurate interpretation of general surroundings. These intellectual denominators are interpreted as part of and in the context of the total configuration of the emotional and social behavior of an individual. Cf. Henderson and Gillespie, *Textbook of Psychiatry* 105 (7th ed. 1956) and Stresker, *Psychiatry* 65-84 (5th ed. 1952). The diagnostic evaluation of possible mental deficiency of course involves a more extensive and systematic evaluation of intelligence. There is generally a heavy dependence upon the results of relatively more elaborate and more extensive psychological test results.

the ages of fifty and sixty, and becomes more noticeable and substantial.⁴⁴

While the pattern of evolution can be traced in general terms, individuals differ considerably in their rates of change. Evidences of an accelerated rate of decline and decrement may, for example, be noted in comparative middle age in some persons. In others, mental facility is relatively intact in all or many respects as late as the seventieth and eightieth years.

Within the general conception of mental evolution, there are differences in the pattern of development and retrogression for particular kinds and qualities of mental ability. Roughly speaking, it is not until the ages of ten or twelve, or thereabouts, that a child develops a dependable sense of time, space and weight perception, and reasonably accurate discriminations in various sizes and forms.⁴⁵ Patterns of thought in children are most frequently held to develop from the concrete to the abstract, and the child's evaluation and classification of experience, including his conceptions of causal relations, may not reflect the correct use of logic until he is roughly ten or twelve. Even then, however, the level of efficiency will vary with the complexity of the problem to be deciphered.⁴⁶

The child's fund of general information and his use of language also acquires competence and reliability only with growth and experience.⁴⁷ Symbolic processes reflect the opportunities of experience and education. Where these contacts are retarded reliable comprehension, explanation and communication are limited. Events depend-

44. Jones and Conrad report what is probably the most comprehensive study available on the growth and decline of intelligence. See Jones and Conrad, *The Growth and Decline of Intelligence*, 13 Genet. Psy. Monogr. 223 (1933). See also *Intelligence: Its Nature and Nurture*, 39th Yearbook of the National Society for the Study of Education, Part II (1940) for a number of articles analyzing the evolution of intelligence with age (particularly Bayley, *Mental Growth in Young Children*, and Gesell, *The Stability of Mental Growth*). See also Wechsler, *The Measurement of Adult Intelligence* 54-69 (3d ed. 1944).

45. Patterns of development in various kinds of mental facilities are succinctly presented and summarized by Thorpe, *Child Psychology and Development*, particularly 161-262 (2d ed. 1955). The more familiar theories and experimental literature are covered in brief. See also Horrocks, *The Psychology of Adolescence* 211-55 (1951).

46. See Piaget, *The Origins of Intelligence in Children*, *passim* (Cook transl. 1952). See also Thorpe, *op. cit. supra* note 45, at 220-21; Piaget, *The Child's Concept of Physical Causality*, *passim* (1930), and Piaget, *Judgment and Reasoning in the Child*, *passim* (Warden transl. 1928).

A review of conceptions of children's reasoning is presented by Johnson, *Development of Thought*, 9 *Child Development* 1 (1938).

47. See Thorpe, *op. cit. supra* note 45, at 237-61. See also McCarthy, *Language Development in Children*, *Manual of Child Psychology* 476 (Carmichael ed. 1946).

ing for their correct identification and explanation on the use of words and upon thought processes may not be reflected with reasonable accuracy until a child completes his elementary education or its equivalent in experience. There is variation, of course, not only in terms of individual differences in skill but also dependent upon the complexity of the response expected of a child and upon the subtlety of the situation he is asked to recognize or interpret. Where simple perception under simple conditions is at stake, and the child need only offer recognition, he is obviously competent to do so at an earlier age than if he must offer extensive verbal interpretation of a fairly complex set of events.

At the other end of the life scale, where mental skills are on a decline, the greatest deficit occurs in tasks involving speed, raw power and ingenuity. Age exerts its most adverse influence upon native capacity or "sheer modifiability."⁴⁸ Advanced age contributes to greater difficulty in tasks involving problem-solving and conceiving new relationships. Tasks involving the use of reasoning require more time for successful completion by persons of advanced age and may suffer in the degree of success achieved. On the other hand, those tasks heavily dependent upon accumulations of experience may be more easily and adequately negotiated. Funds of knowledge and information become greater, more important and remain relatively stable with age.⁴⁹

The effects of growth and age upon intelligence surely reflect to some degree changes in the internal characteristics of an individual. It is equally certain, however, that not only physiological evolution but social experience as well has a telling effect on the nature and extent of a person's intelligence.

The relative importance of natural endowment as an aspect of organic processes and personal environment as an aspect of social processes, has been the subject of heated debate by students of "intelligence" for many decades.⁵⁰ The debate has resulted in, and has been the result of, extensive experimentation on the influence of environment upon intelligence. A number of studies, mostly con-

48. Thorndike, *Adult Learning* 96-196 (1928).

49. See Jones and Conrad, *op. cit. supra* note 44; Foulds, *Variations in the Intellectual Activities of Adults*, 62 *Am. J. Psy.* 238, 245-46 (1949); and Foulds and Raven, *Normal Changes in the Mental Abilities of Adults as Age Advances*, 94 *J. Ment. Sci.* 133, 141-42 (1948).

50. A good representation of some of the experimental literature that provides the factual basis for controversy is contained in 39th Yearbook of the National Society for the Study of Education (1940). See also 27th Yearbook of the National Society for the Study of Education, *passim* (1928).

51. See note 50 *supra*.

ducted by proponents of the theory that intelligence can be substantially nurtured, suggest the marked modifiability of intelligence which is reflected in substantial changes in intelligence test scores under varying environmental conditions. Other studies, generally effected by those who assign a greater role to inheritance in intelligence determination, stress the important connection between genetic characteristics and intelligence.⁵¹ The greater mass of experimentation would appear to associate higher intelligence test scores with more complex and generally more highly valued social environments. Race distinctions in scores tend to evaporate where social environments for the races are comparable. "Backwoods" children, and rural children as a group, perform more poorly than city children and children living in more complex social environments, particularly on verbal tasks. Those in occupations that are more generally highly valued, such as professionals, usually achieve superior scores to those in the lesser valued, semiskilled and unskilled occupations. A high positive correlation exists between scores on scales of intelligence and positions on scales of occupations. This correlation carries over to the intelligence of children as related to their father's occupations. In general, intelligence test scores tend to rise with social status. The differences between all or most social groups may in fact represent differences in the populations measured, or they may represent bias in the construction and standardization of the particular intelligence tests used.⁵²

The compass of social environment as a conditioning factor in intelligence can be subdivided into intellectual and emotional influences. Most experimentation upon the influences of social environment implies differential opportunity for intellectual growth in various kinds of social activity and in various social settings. Some studies reflect the critical effects of emotional deprivation as a motivational deterrent to intellectual growth and the effective display of intelligence. Emotional deprivation and disturbance, reflected in the extreme in advanced psychopathology, can substantially modify the operation of intelligence, both as to the kinds of skills affected

52. The references to investigations that have established the importance of social milieu and social experience as a variable in intelligence are many and scattered. Following are some representative references: Klineberg, *Negro Intelligence and Selective Migration* (1935); Wheeler, *The Intelligence of East Tennessee Mountain Children*, 23 J. Educ. Psy. 351 (1932); Shimberg, *An Investigation Into the Validity of Norms With Special Reference to Urban and Rural Groups*, 16 Archives Psychol. No.104 (1929); Harighurst and Breese, *Relation Between Ability and Social Status in a Midwestern Community: III Primary Mental Abilities*, 38 J. Educ. Psy. 241 (1947).

and the degree of intelligence manifest.⁵³ Anxiety, if sufficient in intensity, will constrict an individual's rational responses to situations and will thwart the optimal display of intelligence. The more severe forms of psychiatric illness, such as schizophrenia, may produce the sharpest evidence of intellectual inefficiency. The psychiatrically disturbed person's reservoirs of intellectual skills subserve and are influenced by emotional needs and distortions, so much so that these skills may no longer retain their integrity. Facility for sustained attention and motivation may be diluted by emotional pre-occupations. The progression of psychological disorder into a firmer psychosis may be accompanied by disturbances in conceptual thinking and a functional loss of ability to abstract. The intellectual disorders accompanying psychiatric illness may be substantially reversed, to the degree that recovery from illness takes place.

Physical injury or deterioration, notably brain injury and deterioration associated with senility, may result in a more permanent impairment of intellectual functioning. The ability to concentrate, or to think abstractly, may be particularly affected.⁵⁴ Brain injury, occurring at or shortly after birth or in prenatal development, is a major cause of mental deficiency. Mental deficiency, or feeble-mindedness, is a diagnostic term to describe life-long, largely irreversible intellectual inadequacy.⁵⁵ A high correlation obtains between the degree of intellectual inadequacy reflected in mental deficiency and the degree of social incompetence the mental defective displays. Deficiency may range from the level of the high grade moron, who may have the intellectual skills and may function somewhat like a twelve-year-old, to the idiot, who functions at no better than the three-year level and lacks the most elemental skills for survival.

The variegated character and the broad range of skill inhering in the label "mental deficiency" is reflected in the uneven develop-

53. See, e.g., Hunt and Cofer, *Psychological Deficit*, Personality and the Behavior Disorders c. 32 (Hunt ed. 1944); Cameron, *The Functional Psychoses*, Personality and the Behavior Disorders c. 29 (Hunt ed. 1944); Landis and Bolles, *Textbook of Abnormal Psychology* 460-78 (Rev. ed. 1950); and Mandler and Sarason, *A Study of Anxiety and Learning*, 47 *Abn. and Soc. Psy.* 166 (1952).

54. See Landis and Bolles, *op. cit. supra* note 53. See also Halstead, *op. cit. supra* note 34 *passim*.

55. Perhaps the best known and most widely used reference on mental deficiency, detailing physical, mental and social characteristics of different kinds and grades of mental defects, is Tredgold, *A Textbook of Mental Deficiency* (9th ed. 1956). See also Sarason, *Psychological Problems in Mental Deficiency* (1949); Kanner, *A Miniature Textbook of Feeble-mindedness*, 7 *The Nervous Child* 363 (1948); and Doll, *The Feeble-minded Child*, *Manual of Child Psychology* 863 (Carmichael ed. 1946).

ment of the intellectual skills possessed by the defective individual. Generally, greater learning difficulty and poorer skill is reflected in those tasks that are of an increasingly complex and difficult character which involve higher thought processes and more elaborate use of symbols. It has been demonstrated that higher grade feeble-minded individuals can learn and are most successful in the handling of materials and assignments mostly dependent upon sensori-motor and perceptual skills. Since the feeble-minded person has difficulty in mastering symbolic thought and relatively difficult systems or classifications of events, communication may be awkward and its interpretation treacherous. The true accuracy and dependability, even of communicated perception, may be difficult to assess. Generalization concerning the degree of skill of the feeble-minded is hazardous because of the substantial range of skill and heterogeneity of behavior the single diagnostic term connotes.

Taken as a whole, the industry of psychology on the subject matter of intelligence is impressive. The elaborate character of thought and investigation upon this dimension of behavior provides the best articulation now available on the conception of intelligence, its operational characteristics and its susceptibilities. None of the accumulated knowledge is conclusive as to the proper understanding of intelligence and no reassurance is afforded in the mechanical application of information and techniques. The body of knowledge is incomplete and any ultimate validity is indeterminable. There do exist, however, trends and preferred understandings and applications suited to various conditions and needs. These provide some of the cues and bases for intelligent judgment concerning rational capacities and components in behavior.

C. A CRITICAL ANALYSIS AND REVISION OF THE CONCEPTS AND OPERATIONS OF INTELLIGENCE IN RELATION TO TESTIMONY

Current Legal Concepts and Practices

In the perspective of the deliberate and extensive study of intelligence that characterizes the psychological approach, the articulated legal formulation appears altogether too brief and schismatic. It is insufficient from the point of view of a concept of intelligence, but more particularly it is far short of an adequate understanding and description of the range of intelligence operations in the courtroom process.

Evidence rules and practices relating to intelligence address themselves to the minima of skills essential to qualify testimony as a rational characteristic in a rational trial process. In legal theory,

the criteria of qualification are: (1) the perceptual facilities of the witness which relate back to the experiencing of those prior events that are now the subject of testimony, and (2) the witness' memory facility and ability to use elementary symbols as conditions for the present communication of the past events. A slight degree of logical comprehension, sufficient to reduce questions to intelligible response, and a slight awareness of the social implications of testimony, sufficient to inhibit the deliberate assertion of grossly unreliable statements, are also prerequisite. In practice, minimum intelligence qualification is established as a result of impression gained from the witness' total behavior. An elementary time-space conception, reflected in a simple awareness of one's bearings; elementary logical capacity, evidenced in merely intelligible response; and an impression of cognizance to perform dutifully and as ably as possible provide the critical standards that must be met to establish eligibility. Within the total range of human skill the requirements are so simple that they are presumed to exist universally in adults. They become an issue only if the presumption is challenged. However, even these minimum skills are recognized to be a product of maturation and development. Their existence in full maturity and with ultimate reliability before the age of fourteen must generally be established.

Though the requirements are framed in terms of capacity, the gauge is one of efficiency. The probable and actual performance of an individual, rather than any estimate of his potential, provides the measure of qualification. Demonstrations of skill under conditions presented in court, whether in *voir dire*, direct, or cross examination, provide the index of intellect. Limitations for testimonial purposes are deemed limitations in capacity, and exist without references to sources of deficiency and to remediability.

The delineation of minimum intellectual standards for witnesses does not of course define the general caliber of testimony and of intellectual activity in the trial process. Nor does it define the general degree of intellectual sophistication with which witnesses experience events about which they provide testimony. The law implicitly recognizes higher and more complex levels of rational operation both in the specific matters that are the focus of litigation and in the general trial process that provides the medium for decision. In part, the outcome of a trial reflects differences in the operation of intellectual skills of witnesses and other participants, operative in relation to the subject matter of litigation and in relation to the juridical process itself. An intellectual measure exists, for example, in the behavior and assessment of the witness at the time of and in relation

to the subject matter about which he testifies. There is implicit a partly intellectual standard of conduct to guide and to judge his actions, usually framed in terms of plausibility and reasonableness. There is also a separate intellectual measure in the manifestation and assessment of the credibility of his testimony, whether or not credibility becomes a matter of contest. The plausibility and reasonableness of statements, particularly after they have been subjected to close examination and scrutiny, will determine whether he meets a standard of performance sufficient to give his testimony substantial effect in the minds of judge and jury. The standards of intellectual performance are essentially inarticulate, derived more from intuition and feeling than from relatively precise conceptualization and careful estimation. They may presumably vary considerably as, for instance, between witnesses and judges or jurors, and among witnesses, or judges and jurors.

It may thus be generalized that at or near the minimum levels of admissibility intellectual qualifications and characteristics, notably of witnesses, are simply conceived and measured. The degree of simplicity is such as to suggest error even in the light of the incomplete but relatively more extensive formulations of psychological knowledge. In the normal and characteristic operations of presenting and sifting evidence, the intellectual denominator is imbedded in vague points of reference that are only subjectively understood. The concept and measurement of intelligence loses articulation and its importance as a vital denominator in the trial process and the trial result is conceptually obscure.

**The Psychological Conception*

Intelligence in its psychological conception is, as we have seen, a way of valuing behavior. The standard of measurement for judgment is essentially the rationality of operations. The characteristics of rationality pursue an evolutionary course. Early in life the individual advances from perceptual and sensori-motor skills to a more complex integration in behavior involving the use of logic and the development of symbolic tools and language. The rate, kind and extent of growth show a wide variation within broad limits of normality that are statistically defined. In life's twilight rational operations become more erratic as physical faculties begin to fail and the more complex kinds of intellectual skills lose their potency.

The adequacy of rational operations is tested in the comparative performance of individuals on a variety of tasks that closely resemble the experiences of social reality. A variation in technique stresses

performance on tasks that are more abstract in nature but are presumed to measure facilities that are essential constituents in the rational dimensions of general behavior.

The emphasis on individual assessment in general and essentially abstract terms tends to obscure the interrelationship that constitutes the substance of intelligence. It is, on the one hand, a function of stable conditions and the development of powers within the individual. On the other hand, it is a function of the number and complexity of the dimensions of tasks to which it is to apply. Tasks with comparatively simple dimensions evoke the need for a comparatively simple range of skills. The extent to which an individual reflects these skills will, as to the particular tasks, reflect the degree of intelligence he possesses. As an example, if an individual is called upon to make a simple identification and to relate what he saw with a minimum of interpretation as to the meaning of events, it is reasonable to say that correct perception, and little else, manifests a high degree of intelligence in the situation. But if an individual is asked to interpret a highly complex set of events whose comprehension requires an acute facility in the most difficult processes of logic, evidences of perceptual skill and the logic and reasoning facility normal to most social operations will not suffice to denominate a person's behavior as intelligent. The estimate of intelligence, as correctly stated in the law, is to be judged in relation to the demands and needs of the particular situation in which it is to be utilized.⁵⁶

56. See note 19 *supra* and related text. See also 2 Wigmore, *Evidence* §§ 492-95 (3d ed. 1940). Variation in the requirements of intelligence in testimony is the basis for not categorically excluding groups likely to be notably deficient, such as mental defectives or some insane individuals.

The range of mental deficiency, as reflected in the extent and kinds of social behavior involved, is substantial. See note 55 *supra*. Generalizations as to lack of intellectual skills, particularly at the simplest levels of performance, are difficult to make. Theoretically, witnesses may be called upon to reflect only the simplest skills in their testimony, such as perception and then elemental communication, and higher grade mental defectives would appear to be able to perform effectively at this level. However, the conclusion is at least debatable, and a high degree of reliability placed in any testimony of a mental defective, who at best does not achieve a mental age above approximately twelve years, is questionable.

The hypothesis of a possible area of reliability in the testimony of a markedly insane (psychotic) individual may be even less tenable, at least as it is determinable in the trial process. It runs counter to current psychiatric theory in holding that particular skills and areas of experience may be divisible from the area of operation of the illness. For the practical purposes of trial this divisibility does not exist. Severe psychiatric illness is generally deemed to pervade the personality and virtually all of its mental operations. Cf. Noyes, *Modern Clinical Psychiatry*, particularly 1-10 (4th ed. 1953) on psychiatry and "the mind;" Hendrick, *Facts and Theories of Psychoanalysis*, particularly 141-67 (2d ed. 1939) on the structure of the total personality; and Alexander, *Fundamentals of Psychoanalysis*, particularly 82-88 (1948) on the structural theory of mental apparatus.

Measuring Experience in Terms of Intelligence

From the point of view of its value in litigation, estimates of a witness' intelligence are applied at two points. The intelligence of the witness' behavior at the time of and in relation to the subject matter of testimony is one such point. The other is the intelligence manifest in the testimonial process itself. The witness' behavior in connection with the subject matter of his testimony is a function of his proximity and relationship to the event. Within the limits of these qualifying circumstances, the intelligence of his response to the situation is a function of his skills. In some instances, where the witness is only an observer at a distance, the optimal and effective functioning of perceptual skills may be a sufficient gauge of intelligence. In others, where the witness' relation to the event is less remote, the measure of his intelligence may be the variety and facility of a number of skills.

The valuation and classification of various kinds and degrees of experiencing different events, as a basis for estimating a person's application of intelligence, is a monumental and impractical task.⁵⁷ The range and complexity of events and the range and complexity of modes of experiencing, searches to the ends and extremes of ingenuity in human behavior. For practical purposes it is endless. Only *after* litigation, and then only imperfectly, can the parameters of a situation, including a person's relationship to it, be defined. functioning of perceptual skills may be a sufficient gauge of intelligence of his behavior, and then only as a matter of crude judgment. But, expressed in terms of minima, it is hypothetically possible that the most remote contact in the simplest situation — identifying a party with possession of a weapon — may afford sufficient definition for the setting of general minimal intellectual requirements for a witness. An *a priori* requirement of normality in perceptual skills may serve as the qualification of intelligence necessary for a witness at this point of contact in the litigation. The sufficiency of this kind of requirement as a general minimal qualification of intelligence rests on the assumption that the witness' connection with an event

57. "Experiential capacity" is of necessity an essential in qualifying a witness. That is to say that the general (as distinguished from the special or expert) witness must have had some personal contact with the event about which he testifies. See 2 Wigmore, Evidence §§ 554-56 (3rd ed. 1940). The nature of this contact or experience is a matter of particular concern in the eventual assessment of the testimony of a witness and may be subject to considerable examination. However, criteria are poorly conceived for the evaluation of degrees and kinds of experience, particularly as they relate to a large number of possible events having a variety of characteristics. Impression, utilizing a largely subjective scale, defines the weight of experience.

and the event itself can be adequately reflected in terms of a simple and single intellectual skill with considerable frequency.

The underlying assumption, relating to the adequacy of tests of perception as a test of minimal intelligence in the experiencing of events that become the subject of testimony, is open to some doubt. It is more reasonable to assert that events in general, witnesses' connections with them, and witnesses' behavior are more complicated. Generally, in relation to any event or experience, the witness must not only be able to perceive but to interpret as well. The action which he is called upon to describe, his own or someone else's, is couched in a larger frame of experience. Normally, a witness "apperceives"⁵⁸ some or all of this experience. He apperceives it in terms of values it reflects or in terms of his own values. He makes logical interpolations and judgments that help to crystallize an event in his mind. The breadth of his social experience, offering signposts of recognition, is utilized to set the events and his related behavior so as to provide him its meaning and a basis for remembrance. Where the witness has a communications function in relation to and at the time of the event, however simple it may be, his participation is more active. It is then even clearer that he may rely upon logical processes, the use of symbols and a substantial social frame of reference, however efficient, as the irreducible and minimal intellectual characteristics of his experience.

It may at least be argued that perception is a far too limited test of minimal intelligence for a witness even in relation to the simplest events he experiences and must recount in court, and certainly in relation to most events. The witness' experience, even stripped to basic contacts, usually relies on many more skills. In fact, to qualify his intelligence in terms of perception alone may provide an altogether incorrect inference that he could understand and interpret an event with reasonable accuracy when in fact perception unattended by other skills would give clearly erroneous impressions.

58. "Apperceive" is defined "To recognize; interpret (new ideas, knowledge, etc.) in terms of what is already known," and "apperception" is defined as "Clear perception; relating of new to previous knowledge." Webster's Collegiate Dictionary (5th ed. 1936).

The point is here made that as to any event in social reality a witness apperceives. The facility of perception, as a separate operative entity, exists only under carefully constructed experimental conditions, essentially without social references, and is achieved only with great difficulty. Varying degrees of apperception, never perception alone, are brought to bear in all of social experience. It is of course possible, in a limited number of instances, that the degree of apperception necessary to understand, register and later communicate an event may be quite limited, and may not go far beyond the use of perception as a native skill unendowed with social experience.

A witness, notwithstanding the connotation of the term, almost invariably does, and must do, more than perceive.

Intelligence, even at the simplest levels generally necessary for a witness at the time he experiences an event, is a complex of skills and experience. Reduced to basic elements it may be constituted in the witness' range of general information and memory; his ability to achieve logical as distinguished from other modes of explanation;⁵⁹ his ability to use at least a minimum of social judgment, implying the existence and operation of social values; his perceptual skill; and his ability to understand and to manipulate verbal or non-verbal symbols. As the experience he must relate, and his connection with it, becomes more involved and complex, he may require the same kinds of skills but with demonstrations of greater acumen. The level of reliable intelligence in most circumstances is not so much a matter of differences in types of skills⁶⁰ as it is differences in the degree to which skills are possessed and demonstrated as experiences range from the simplest to the more complex.

It may be possible to give crude gradations, probably on an *ad hoc* basis, for the appropriate degree of intelligence essential for fully credible testimony in the light of the complexity of the event to be reported by the witness and the extensity of his contact with it. Witnesses of automobile accidents to which they are not a party require a lesser degree of skills in making their role and account meaningful than do witnesses of complex contract negotiations which they have "observed." Perhaps in time a useful scale of typical events and witness relationships to these events can be established as a basis for determining the approximate degree of intelligence necessary to give an account of each event substantial credibility. With more practical certainty, however, many currently available scales of intelligence can be utilized to assess the extent to which a witness possesses the range of skills minimally necessary to qualify his performance as meaningful and accurate in the general run of events and experience that become the subject of testimony. Criteria for minimal performance by the witness, based upon standards of average or normal general intelligence, can be established.⁶¹

59. Recollection should be made that logic is but one mode of explaining causality and but one basis for defining relationships. In the earlier stages of intellectual development, particularly, other kinds of explanation are utilized. Cf. note 46 *supra*.

60. An exception may be said to exist where the witness must demonstrate a high standard of performance in any one skill if his testimony is to achieve a substantial credibility. For instance, a person relating the handling of accounts may need to display a considerably greater level of numerical facility than would normally be required of a witness.

61. Cf. note 42 *supra*. Nearly all intelligence tests calibrate results and distinguish interpretations of scores on the basis of a reasonably large sam-

Measuring Testimonial Skill in Terms of Intelligence

The second focal point of a witness' contact with litigation, previously mentioned, is his testimonial performance in court. As Wigmore has suggested, memory and communications skills are the essentials of intelligent behavior here.⁶² Memory, and more particularly communication skills (whether of a verbal or non-verbal character), represent a relatively advanced degree of intellectual development. Communication is based upon the use of logic and symbol systems. It implies a reservoir of underlying skills and prior manipulations such as perceptual discrimination, selection from a range of information, judgment based upon reasoning, and so forth. The bases of intelligence in the art of testimony, even in terms of a minimum qualification, are complex. The prerequisite is for a range of skills such as are ordinarily represented in some psychological conceptions of intelligence and in a variety of intelligence tests.⁶³ Standards of minimum intelligence necessary for qualification may be conveniently expressed in terms of degrees of approximation to normal or average performance in a general population. The calibrations afforded in intelligence test measurements and their standards of interpretation are particularly suited for adaptation to the process of estimating witness' intelligence in court, provided the meanings and applications of the tests and scoring standards are carefully studied and understood.⁶⁴

Standards of credibility of testimonial skill may vary with the complexity of the information to be presented. A higher degree of intelligence may be essential to make testimony comprehensible—that is, memory and communications skills may need to be more acute and complex—where the information to be given is highly

pling of "average" or "normal" population. This sampling creates a standard indicating statistical distributions of intelligence, and values intellectual skill according to where scores fall in the statistical distribution. Empirical tests have demonstrated that decrements in scores away from the average represent decrements in the degree to which an individual possesses the skills that make up the composite of intelligence. Since tasks involving these skills constitute the substance of intelligence tests, the reasoning regarding intelligence test results is circular, but the tests are nonetheless serviceable.

62. See 2 Wigmore, Evidence §§ 493-95 (3d ed. 1940).

63. See notes 28-30 and 35-36 *supra*.

64. A careful consideration should be given to the range of skills measured in intelligence tests, the character of norms, with particular concern for their representativeness, the interpretation to be given scores and their classification, and other desiderata in the choice and use of tests. See particularly notes 37-42 and 52 *supra*. Technical deficiencies and social discriminations in tests are particularly important to detect if the test evaluation of witnesses is to prove sound and dependable. Correct selection and interpretation maximizes the validity of results, and safeguards against the slovenly use of tests that has been all too common and has led to gross misapplications and undependable interpretations.

complicated. Minimum facility in communication may be insufficient and may, under these circumstances, afford distorted and highly unreliable testimony. Tentatively, however, calibrations of memory and communications skills necessary to creditably convey different kinds of information may be unreliable and difficult to achieve. It perhaps affords a task and a challenge for the future.

The Preference For Psychological Measures of Intelligence

The conclusion is offered that the intelligence of a witness, even in terms of minimum qualification, involves an extensive set of skills. Its application and estimation in the trial process is a complicated matter to be judged in terms of separate dimensions. These are: (1) the nature and complexity of events to be described, (2) the witness' proximity and relationship to the events and (3) the skills which he can bring to bear so as to give his experience, and his testimony about it, a rational and reliable character. Formulated in these terms, intelligence as now framed in concepts and tests of mental capacity in law is much too primitive and inaccurate. Psychological concepts and measurements are more extensive and apropos, but they are also far from being complete and sufficient. They offer less than an ultimate definition of the intelligence-as-related-to-a-situation necessary for correct and sufficient estimation in law. But notwithstanding, psychological conceptions and selected intelligence test devices are well-suited to broad aspects of the conception of intelligence applicable to witnesses, particularly to those aspects relating to the witnesses' reservoirs of skills. They are more complete and more accurate than conceptions and estimations now afforded as a test of the competency, and perhaps of the credibility, of testimony.⁶⁵

65. It may be useful at this point to suggest a meaningful distinction between "competency" and "credibility" as regards the intelligence of testimony. Competence may be defined as the minimum level of intelligence necessary to experience and report the general run of human events in an essentially meaningful and accurate manner. In some comparatively few instances, events markedly simple in dimensions may require less than this minimum of intelligence necessary for the general or average range of experience. Since these instances (involving essentially isolated behavior of the simplest dimensions, requiring only the simplest level of observation by the witness from a point of remote contact) are much in the minority, it is better to provide for *ad hoc* exceptions to the general standard of competence than to reduce it to a yet simpler level where it ceases to have any real meaning and effect for the largest run of events that become the subject of testimony.

Credibility refers to the degree of intellectual skill manifest by the witness in relation to the extensivity of contact and the difficulty of the subject matter which he experiences and must relate. It can be estimated at the time of his experiencing and at the time of his relation. Necessarily, this level of intelligence will virtually never be less than the level essential for experiencing the

Psychological tests, though a shorthand method for assessing the intellectual skills of witnesses, involve the introduction of extrinsic evidence and, for greatest efficiency and accuracy, the use of expert witnesses to correctly administer, interpret and communicate the results. Test assessments of large numbers of witnesses in a trial would be cumbersome and result in the prolonging of litigation. A better policy would suggest that they be selectively used, preferably where the intellectual skills of a witness are a critical matter in the presentation and evaluation of his testimony. They should certainly be applied in the relatively infrequent instances where minimum skills must be evidenced. They may also be of particular value where special requirements of intelligence are posited. As an example, they would be helpful in assessing the performance of a witness where testimony involves a particularly complex piece of information that requires a high degree of skill in comprehension and communication. They would be valuable in judging a witness' behavior where he has experienced a complicated set of events requiring that he grasp the significance of the whole if his testimony about the events is at all meaningful and to be relied upon. Certainly where the witness is the only source of information in these circumstances, and his skill is in doubt, a systematic evaluation of his intellectual skills is important and desirable.

Legal Procedure to Govern the Use of Expert Measures of Intelligence

The character of rules regulating the introduction and use of expert testimony based on intelligence test evaluation requires meas-

largest run of events, hence never less than that necessary for competence and minimum qualification.

The standards of competence and credibility are thus quite different, and the distinctions between the two cannot be obscured, as a practical matter, by attacks upon one (credibility) which, if successful, virtually destroy the other (competence). Cf. notes 21 and 22 *supra*.

"Reliability," as expressed in relation to intelligence, may refer either to competence or to credibility. Its meaning may be derived from a determination of whether the problem of competence, or the problem of credibility, is involved.

The matter of determining competence or credibility may necessarily arise at any time, depending upon the extent to which any stage of the witness' participation in the trial affords an opportunity for observation and judgment. See note 13 *supra*. Competence will most generally be determined before a witness takes the stand but if later determined to be lacking the finding will revert back to the beginning of testimony. Credibility will most generally be assessed, for each part of the testimony presented by the witness, at the time he gives that particular testimony. It may, however, be gauged at other times, and ultimate judgment may result from an accumulation of impressions of intelligence. These, if such is the process, should then be related back to the particular phases of experience and testimony, credibility in relation to each to be assessed in the minds of judge and jury in turn.

ured thought and formulation. Certainly the use of experts⁶⁶ to administer and interpret intelligence tests, and report the findings, is a logically consistent part of the framework of examination that takes place where *competence* is now brought into issue.⁶⁷ The intelligence test is, in fact, a more advanced, more systematic and more dependable examination technique than any now in use.⁶⁸ It provides a comprehensive measure of basic intellectual skills calibrated in terms of statistically defined levels of performance, any particular level being a measure of where the individual stands in relation to a large general population. The refinement, in comparison to other examination techniques, is so far advanced as to warrant the use of the intelligence test technique as the exclusive method of examination for intellectual factors in the evaluation of competence. Yet, at the same time, the results of any one test at any one sitting are not so entirely dependable as to justify treating a particular test result as a presumption regarding intellectual qualification. The intelligence test result is the best evidence of the existence of the intellectual component in competence. But it is rebuttable, preferably in terms of another measurement of equal quality, as in the instance where there are significantly discrepant results on the same or other intelligence test assessments.⁶⁹

Procedurally, the matter of a witness' competence arises upon the challenge of one of the parties. The objecting party must then demonstrate by examination the witness' competence and, in the event of a contest on the matter, the judge must render a decision as to competence. At the point where an examination is to be administered, it would seem proper and desirable for one or both parties

66. Almost invariably it is the trained psychologist who has the particular and the refined skill for intelligence testing that is necessary and desired for the evaluation of trial participants. Mostly, psychologists are available in colleges, universities and in medical and other public service agencies and institutions. Increasingly, they are being added to public school systems, to juvenile and domestic relations branches of courts, to industrial and commercial firms, etc. The trained psychologist, suitable as a consultant on matters of intelligence evaluation, invariably has a master's and, preferably, a doctoral degree in psychology from a college or university accredited by regional educational associations. He will have had one or more years of experience, including individual testing experience, working with clients and patients. The earlier experience will have been, directly or indirectly, under college or university supervision as part of a program of training. He will most probably be a member of the American Psychological Association.

67. See notes 15-17 *supra* and related text.

68. See note 17 *supra* and related text.

69. It should be noted that intelligence test results and their interpretation, for any particular person in any short period of time (measured in terms of years), are likely to be highly consistent, if tests are correctly selected and administered. The prospect of differences of opinion as to findings and their interpretation is much more remote than, for example, in the instance of diagnostic conclusions in psychiatric testimony.

to make a motion for a single or separate expert examination of intelligence out of the courtroom in lieu of the poorly contrived, *ad hoc* examination procedures now conducted by the attorneys and the judge in the courtroom.⁷⁰ The delay for the purposes of examination and report would be comparatively brief since tests can normally be administered and the results reported within a period of two hours. The availability of experts on short notice is a matter of planning and arrangement by counsel or court, involving either a specific prearrangement where the issue of a witness' competence can be foreseen in a particular case, or reference to a standing list of available experts who may be called upon for fairly immediate consultation.

The selection of experts would be a matter for the court's discretion, viewing particularly the qualification and availability of any one or more persons. Leave should be given the parties to use and to introduce evidence of their own qualified experts where there is such a request. While, in theory, this procedure could lead to the "battle of the experts" so familiar in psychiatric testimony, in point of fact there is relatively little dispute or discrepancy on the results achieved by properly selected and properly administered intelligence tests for a given person at any given time.⁷¹

The expert assessment of intelligence, as an aspect of the determination of competence, has not been submitted to a test of law. There is, perhaps an analogue supporting legal acceptance in the favorable view now generally taken of expert examination to establish the credibility of prosecuting witnesses in sex offense cases.⁷² In the case of intelligence test estimation relating to a particular level of competence, there is greater speed and greater certainty in the procedure, the result is less open to contention, and the invasion of the privacy and dignity of the individual examined is slight.

There may still infrequently arise, as has been suggested earlier, the possibility that the minimum level of competence to be established for particular testimony is below that reflected by the lowest level of normality on an intelligence test. If, for example, simple perception based on remote connection with an event is all that is to be adduced in testimony, then certainly parties should be able to address to the discretion of the court the argument that the usually applicable minimal level of witnesses' competence should be waived, and the traditional examination procedures in court should be permitted.

70. See note 17 *supra*.

71. See note 69 *supra*. Cf. notes 35-42 *supra*.

72. See note 5 *supra*. See also McCormick, Evidence, 99 (1954).

The legal procedure involved in the assessment of intelligence as an aspect of *credibility*,⁷³ is of a more complicated and uncertain character. Consideration here involves not only the skills and abilities of the individual, as an independent entity, but also the relationship of these to the demands and requirements of a particular situation adjusted according to the degree to which the individual has or should have participated in the situation. These latter matters are presently too problematic in most instances to permit the setting and application of any particular level of intelligence as a requirement to establish credibility. Where the parties agree, however, that a high level of intelligence, (or some level other than the minimum) would be necessary to give credibility to a witness' testimony regarding a particular experience, then with the approval of the court the parties could stipulate the level of intelligence necessary to establish or impeach credibility. Only then would an expert assessment and opinion of intelligence justify a substantial weight and high probative value. But even, as is entirely likely, failing a stipulation as to the level of intelligence to be involved in credibility, an ingenious attorney could argue that the character of testimony offered or to be offered requires a particular degree or level of intellect on the part of a witness if his testimony is to be given full credibility. He might then introduce, as evidence on the particular issue as he has framed it, expert testimony based on intelligence testing regarding the level of intelligence held by the witness or the prospective witness.

The use of psychiatric expert opinion addressed to issues of witnesses' credibility has been established in sex offenses cases and had arisen in other instances.⁷⁴ Psychological expert opinion on intelligence as an aspect of credibility is of even sounder probative value, and can and should be more readily admitted into evidence. It should be left to the discretion of the court to decide whether its value in any particular case outweighs the time and the diversion of attention involved in its introduction.

Intelligence Estimates By Decision Makers:

Some Conceptual Guides

In the main, it must be assumed that a judge and jury's assessment of the intelligence of a witness and, inferentially, the substan-

73. The term being accorded the definition given in note 65 *supra*.

74. See note 5 *supra*. See also *United States v. Hiss*, 88 F. Supp. 559 (S.D.N.Y. 1950) (Psychiatrist permitted to testify as to credibility of a witness on the basis of courtroom observation.); cf. *Psychiatric Evaluation of the Mentally Abnormal Witness*, 59 Yale L.J. 1324 (1950).

tiality and reliability of his behavior and testimony will be derived from a subjectively defined set of inferences. The inferences will relate to the nature and operation of intelligence in the abstract and as manifest by the witness in his original experience and later testimony about it. In this evaluative process, psychological formulations and data are helpful in providing a more sophisticated set of conclusions.

Intelligence is best comprehended as a manifold of operations conducted under a variety of conditions. The role of age, particularly in relation to differential intellectual functions, is important to recognize. In very young children, particularly those without benefit of elementary school education or its approximate equivalent in social experience, all phases of intellectual functions may be quite unreliable by standards of adult performance. Except where utter necessity demands, it may be the better policy not to rely in any circumstance upon a younger child's testimony.⁷⁵ Where reliance is essential, only the most primitive facilities, such as perception, may be sufficiently developed so as to convey any objective meaning.⁷⁶ Only as to these may any credibility be warranted and then only if pitfalls in the communications process can be overcome.

The intelligence of older children, ranging from approximately ten to sixteen, is better developed and reaching toward full maturity. However, the extent of individual differences in the develop-

75. It is commonly proclaimed that "intelligence, not age, is the vital criterion" of mental qualification as a witness. See note 12 *supra*. The operational skills, that is, the functional intelligence of an individual, is of course partly a function of age. The fact of youth denotes the lack of full development of intellectual skills. And, in the period of early youth, the intelligence of nearly all children is, in important respects, unreliable and idiosyncratic when compared to adult standards. See notes 45-47 *supra* and related text. The optimum and most reliable interpretation of experience related by a child is best negotiated in an informal, clinical setting where there is a sufficient opportunity to make a fuller observation of his intelligence and behavior. Deficiencies and idiosyncrasies, in terms of adult standards, can be more apparent. Interpreting the validity of the child's experience and communication in the narrow and formal confines of court, under a process of examination essentially insensitive to the many factors operative in the child's behavior, and invoking adult standards of judgment, does little to safeguard the reliability of testimony and the formation of accurate conclusions. "Letting the testimony in for whatever it may be worth" has little to recommend it as a policy in this instance, where judge and jury, having no acute skills in these circumstances, are more than normally likely to derive premature and erroneous conclusions regarding the testimony. If the child's testimony is utterly necessary, a more sagacious mode of examination in a more informal setting and manner and away from the witness chair, is a minimal need.

76. See notes 45-47 *supra*. But see also note 58 *supra*, suggesting that as to the skills and duties of witnesses' intellectual functions are almost invariably complex. It may be quite difficult in most circumstances to reliably reduce the function of a witness to a single or simple intellectual component and then infer that this simpler requirement, if existing, satisfies the needs of testimony.

ment and patterning of various skills makes any generalization as to the dependability of intellectual behavior in this age range extremely tenuous. A favorable inference is difficult to assert if the events to which the growing intelligence is to apply are strange and complex. A reasonably safe negative inference can be made if the general intelligence of a witness in this age range is below average or normal. In this circumstance, the dependability of intelligence functions, particularly the more difficult functions relating to the use of logic and symbols, is open to considerable doubt. Where a negative inference as to intelligence may prevail, by reason of the complexity of tasks or the appearance of a generally impoverished level of mental skills, intelligence test determinations, if made available, may be quite useful in effecting a decision as to mental competence in the situation.⁷⁷

Somewhere in the later teens, ultimate skill and maturity in intellectual functions is achieved. A presumption of intelligence in relation to common social experiences may be said to exist.⁷⁸

The declining years of life are also a period of declining absolute intelligence, a factor to be recognized by judges of the reliability of testimony. In particular, those skills highly reliant upon the use of logic, abstraction and quick thinking are vulnerable to deterioration. And, in addition, physical faculties begin to fail. A sensitivity to this process of change, conceived within a framework that recognizes extensive individual differences in the extent and distribution of skills, and a variable rate of decline will enable more precise judgments as to the reliability of a witness' intelligence. Where considerable deterioration and enfeeblement is sensed, systematic psychological evaluation to assess the extent to which intellectual skills correspond to normal adult operations, if made available, may help to determine the dependability of the intelligence function.⁷⁹

77. Cf. notes 61 and 64 *supra*.

78. Currently a presumption generally holds that sufficient intelligence for testimonial purposes exists from the age of fourteen. See note 12 *supra*. If the critical age of fourteen is deemed to represent the ultimate point of maturity of intellectual skills, the estimate is not too far distant from the apex of development established by psychological studies. See note 44 *supra*. While some studies suggest thirteen or fifteen as the age at which maturity of intelligence is reached, many of the later studies suggest that the peak of development is somewhere nearer the age of twenty.

79. One possibility is to evaluate the older person's performance on various parts of an intelligence test in terms of norms provided for the young adult or the adult of early middle age. Norms at these age levels reflect relatively stable and optimal intelligence in a general population. Another criterion reflects not so much the general result of deterioration with age but the losses relative to optimum efficiency at any given age for a particular person. See Landis and Bolles, *Textbook of Abnormal Psychology* 460-78 (Rev. ed. 1950) on the measurement of intellectual impairment.

For the most part, the estimation of the intelligence of a witness does not depend on a distinction between intellectual capacity (referring to the individual's optimal level of skill under stable internal and external conditions) and intellectual efficiency (reflecting the extent to which skills are utilized) particularly in the light of any psychological interferences. In so far as intelligence in adults is generally stable, and the period intervening between the experiencing of an event and testimony about it is relatively brief, the presumption is reasonable that differences in intellectual efficiency between these two points of reference is not significant. It is intellectual efficiency rather than capacity that is the focus of judgment in the evaluation of testimony. However, the intellectual skills manifest by an individual may be more erratic and retarded upon injury, and merit close scrutiny if severe emotional disturbance or brain injury is evident or suspected at the time of testimony, or if either has been operative at the time of the event to be reported or in the intervening period between the experiencing and retelling of an event.⁸⁰ Evidences of intellectual malfunctioning and deterioration may reflect upon the original experiencing of an event. Such evidences may additionally or separately reflect upon the reliability of testimony. Systematic examination⁸¹ may help to determine the extent of the disturbance and the remaining degree of competence, at least at the time of testimony. Crude inferences may also be drawn as to the operative efficiency of intelligence at the time of the original experiencing of the subject of testimony by the witness.

In conclusion, it may be said that intelligence is an ubiquitous phenomenon in the trial process and one of the most essential dimensions of decision. As applied to any one of the human instrumentalities of the trial process, it is a complex phenomenon. It ultimately reflects the value attached to the intellectual skills of the individual interacting with and deciphering a series of events of varying dimensions and degrees of difficulty. The advances of psychology offer a reduction of the phenomenon to some comprehensible and manage-

80. Cf. note 79 *supra*.

Brain injury and enduring emotional disturbance should be distinguished from situational anxiety as a cause of intellectual failure and faulty and unsatisfactory testimonial performance. A deterioration in intellectual skill manifest on the witness stand may be the product of the overwhelming force of anxiety in those individuals prone to disorganization in behavior when stress is magnified. See reference to Mandler and Sarason in note 53 *supra*. Cross-examination, particularly, may have this effect in some cases. The consequence may then be not so much a reflection upon the intellectual skills of the witness as upon the proficiency of the cross-examiner in harassment. The distinction, particularly for the layman, may not always be easy to achieve.

81. See note 79 *supra*.

able proportions. The accomplishment is, however, far from sufficient to provide for a careful ordering and estimation of intelligence in the range of situations with which the trial process deals. Nevertheless, measuring instruments of the psychological science are usable and, in the light of utterly impoverished alternative systems of evaluation, preferable. Their reliable use is dependent upon careful judgments and the application of large doses of discretion.

Mainly, intelligence, even in terms of its minima, has been incorrectly or at least insufficiently interpreted in the law of evidence. In its more normal manifestations in the trial process, the range of its operations, and the possibility and need for its extensive and systematic consideration, have largely been overlooked. This paper offers only the beginnings of a fuller development of this denominator of the trial process. It focuses upon witnesses and their intellectual skills. Much more concerted attention and careful study of the operation of intelligence is merited if trials are to become ever more systematic and reliable decision-making devices.

