

SOME OBSERVATIONS ON THE LAW OF  
EVIDENCE — MEMORY \*

THE common legal assumptions in regard to memory come most clearly to the surface in the rules governing present recollection revived, past recollection recorded, and cross-examination to impeach. Between the first two, sharp distinctions are drawn which result partly from the fact that a memorandum used to refresh recollection generally does not go to the jury as evidence<sup>1</sup> — whereas a memorandum of past recollection does — and partly from the psychological theories of the courts. Thus a federal judge lately remarked:<sup>2</sup>

“It is one thing to awaken a slumbering recollection of an event, but quite another to use a memorandum of a recollection, fresh when it was correctly recorded, but presently beyond the power of the witness so to restore that it will exist apart from the record. In the former case it is quite immaterial by what means the memory is quickened; it may be a song, or a face, or a newspaper item, or a writing of some character. It is sufficient that by some mental operation, however mysterious, the memory is stimulated to recall the event, for when so set in motion it functions quite independently of the actuating cause.”<sup>3</sup>

Since when so set in motion, the memory is thought to function quite independently of the actuating cause, it naturally follows

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<sup>1</sup> *Katsonas v. Sutherland Bldg. & Const. Co.*, 104 Conn. 54, 132 Atl. 553 (1926); *Gray v. Boston Elevated Ry.*, 215 Mass. 143, 102 N. E. 71 (1913); *Lucas v. Metropolitan St. Ry.*, 56 App. Div. 405, 67 N. Y. Supp. 833 (1900). *Contra*: *Gross v. Scheel*, 67 Neb. 223, 93 N. W. 418 (1903); *Croushore's Estate*, 79 Pa. Super. 286 (1922); *Nelson v. Gibson*, 90 Vt. 423, 98 Atl. 1006 (1916). See (1917) 65 U. OF PA. L. REV. 499.

<sup>2</sup> Dietrich, J., in *Jewett v. United States*, 15 F.(2d) 955 (C. C. A. 9th, 1926).

<sup>3</sup> 15 F.(2d) at 956.

that the nature, origin, or past history of the actuating cause is, as Judge Dietrich suggests, immaterial. As long as the memory is stimulated to recall the event, it makes no difference what stimulates it. Thus courts of liberal tendencies no longer insist that the memorandum should have been made by the witness or under his direction.<sup>4</sup> And although the Supreme Court thirty years ago<sup>5</sup> reversed a judgment because a writing was used which was not made contemporaneously with or very close to the transaction, most other jurisdictions, and even some federal circuits,<sup>6</sup> do not now require the witness to conform to any definite time requirement. If he will swear that his recollection is thereby refreshed he may, in the discretion of the trial court, resort to anything from a photograph to a press clipping, however irrelevant or ancient, to refresh it.<sup>7</sup> The rule is based on the theory that certain stimuli start a chain of associations which, apparently, have been completely forgotten. Although the dicta of the courts make it possible to stimulate, say, the memory of a face by referring to a picture of the Woolworth building, in actual practice the refreshing memoranda are found to be more closely related to the thing to be remembered. The press clipping, in other words, describes the event

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<sup>4</sup> This is not an altogether modern view. Cf. Lord Ellenborough in *Henry v. Lee*, 2 Chitty 124, 125 (1814): "And it makes no difference, that the memorandum was written by himself, for it is not the memorandum that is the evidence, but the recollection of the witness." One of the best recent statements is that of Wheeler, C. J., in *Neff v. Neff*, 96 Conn. 273, 114 Atl. 126 (1921). The other view is represented by *Wellman v. Jones*, 124 Ala. 580, 27 So. 416 (1900), and *Gordon & Koppel Clothing Co. v. New York Cent. R. R.*, 285 S. W. 755 (Mo. App. 1926). See (1916) 14 MICH. L. REV. 332; (1915) 15 COL. L. REV. 468.

<sup>5</sup> *Putnam v. United States*, 162 U. S. 687 (1896), followed in *Chase v. United States*, 13 F.(2d) 847 (C. C. A. 6th, 1926), and *Nardi v. United States*, 13 F.(2d) 710 (C. C. A. 6th, 1926), noted in (1926) 40 HARV. L. REV. 330.

<sup>6</sup> Cf. *Di Carlo v. United States*, 6 F.(2d) 364 (C. C. A. 2d, 1925); *Jewett v. United States*, *supra* note 2; *Olmstead v. United States*, 19 F.(2d) 842 (C. C. A. 9th, 1927); *De Leon v. Cortes*, 23 F.(2d) 636 (C. C. A. 1st, 1927) (under Porto Rican statute); *Monument Pottery Co. v. Imperial Coal Corp.*, 21 F.(2d) 683 (C. C. A. 3d, 1927).

<sup>7</sup> *State v. Choffe*, 140 Atl. 404 (N. J. 1928); *Sagers v. Internat. Smelting Co.*, 50 Utah 423, 168 Pac. 105 (1917) (memorandum made one year after event); *Hinkelman v. Pasteelnick*, 130 Atl. 441 (N. J. 1925), noted in (1926) 24 MICH. L. REV. 420; *Commonwealth v. Ford*, 130 Mass. 64 (1881); *Hoffman v. State*, 24 Okla. Cr. 236, 218 Pac. 176 (1923); *Potts v. McPeters*, 140 Miss. 97, 103 So. 202 (1925). But see *Titus v. Gunn*, 69 N. J. L. 410, 55 Atl. 735 (1903), and *Detroit Life Ins. Co. v. Linsenmier*, 217 N. W. 919 (Mich. 1928).

in question; the picture is of the person to be identified. The stimulus is actually recognized before the associated recall starts functioning.

When the witness cannot swear that his memory is refreshed, however, he must overcome stricter rules as to time and authentication. If the memorandum is to be his testimony, and is to go to the jury as past recollection recorded, he must, even in the most progressive jurisdictions, show that it was made by him, or under his direction, or that he knows it to be correct.<sup>8</sup> Although the old idea that the memorandum had to be practically contemporaneous<sup>9</sup> with the transaction has now been almost wholly abandoned, a writing not made soon thereafter will have hard sledding in the courts.<sup>10</sup> Recollection is believed to grow progressively dimmer as time goes on, finally fading out altogether.<sup>11</sup>

After a witness has testified with the aid of a memorandum, or has offered one in evidence, or even if he has done neither, his cross-examination may center on his recollection. Here it will be proper in the discretion of the trial judge to show that he has frequently forgotten many things—that his memory is far from good—and in particulars, too, which have no reference to the affairs set forth in the memorandum he has employed or to the subject of his testimony. “If it be generally deficient,” says Robinson, “the whole field of the past is open to the advocate, and the more varied and disassociated are the topics it embraces, the more thoroughly are his defects revealed. On the other hand, if his memory appears generally perfect, and able to recall events of every kind with equal ease, the cross-examiner must discover a deficiency in reference to some class of facts as yet un-

<sup>8</sup> *Norwalk v. Ireland*, 68 Conn. 1, 35 Atl. 804 (1896); *Kolber v. Frankenthal*, 159 Ill. App. 382 (1911); *Wishek v. U. S. Fidelity & Guaranty Co.*, 213 N. W. 488 (N. D. 1927).

<sup>9</sup> *Maxwell's Ex'r v. Wilkinson*, 113 U. S. 656 (1885); *Spring Garden Mut. Ins. Co. v. Evans*, 15 Md. 54 (1859).

<sup>10</sup> See 2 WIGMORE, EVIDENCE (2d ed. 1923) § 745; 5 CHAMBERLAYNE, MODERN LAW OF EVIDENCE (1916) § 3510. Cf. *Murray & Pepper v. Dickens*, 149 Ala. 240, 42 So. 1031 (1906); *Volusia County Bank v. Bigelow*, 45 Fla. 638, 33 So. 704 (1903).

<sup>11</sup> There is, of course, a large element of recognition in the doctrine of past recollection recorded. The witness on the stand must identify the document as one made by him, or under his direction. Because the errors of recognition are fully treated in the remarks about present recollection revived, attention is here focused on those features of the other doctrine which are designed to assure the accuracy of the record, rather than the accuracy of the recognition of the record as authentic.

noticed. . . .”<sup>12</sup> It is possible for a witness who has given his recollection of the making of a sale to be cross-examined as to his ability to remember names, faces, or the ages of his grandchildren. If a man forgets these things, will he not forget others also? This rule depends on the doctrine that memory is a single entity which is either good or bad as a whole.

If we examine these rules in inverse order, we find the last one deriving its authority from a defunct psychology, which divided the human mind into a number of faculties,<sup>13</sup> each operating as a unit. Since memory was one of these faculties, exercise of any part of it was thought to improve all of it. Children who practiced learning poems by heart so developed the faculty that in later life they would have no trouble in remembering Mr. Simms of Seattle. The same theory was given as a reason for the retention of the classics and mathematics in the curriculum, because the “mind” training involved would later be transferred to all sorts of life situations.

The application of the scientific method to educational problems revealed the inadequacy of faculty psychology.<sup>14</sup> That it did not work in practice was confirmed by innumerable laboratory experiments. The standard method of testing the transfer of training is as follows: a subject is given a task of known difficulty to perform in arithmetic, memorizing, puzzle solving, or what not. His ability is measured by the length of time it takes to perform the task, or the number of errors made after a given interval. He is then set practicing with different materials until a marked improvement in the new work appears. After the practice period another test is made of his ability in the original field of endeavor. Most investi-

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<sup>12</sup> ROBINSON, *FORENSIC ORATORY: A MANUAL FOR ADVOCATES* (1893) 193, quoted in WIGMORE, *PRINCIPLES OF JUDICIAL PROOF* (1913) 481. “The testing of a witness’s capacity of recollection, by cross-examination upon other circumstances, even unconnected with the case in hand, is a recognized and common method of measuring the weight of his testimony.” 2 WIGMORE, *EVIDENCE* § 995. “A witness testifying to any transaction may be cross-examined . . . concerning other transactions which might be wholly immaterial, for the purpose of throwing light upon his powers of memory. . . .” JONES, *COMMENTARIES ON EVIDENCE* (2d ed. 1926) § 2345. There seem to be no recent cases in which this exact point has been raised on appeal. But countless dicta sanction what is unquestionably “a recognized and common method” of cross-examination. It appears to be so recognized and so common that counsel never think of objecting to it. <sup>13</sup> SULLY, *HUMAN MIND* (1892).

<sup>14</sup> WILLIAM JAMES, *PRINCIPLES OF PSYCHOLOGY* (1890).

gators have drawn the conclusion that there is little if any transfer of training,<sup>15</sup> and that the existence of general faculties cannot be assumed.

Specifically in the field of memory, one psychologist found that practicing the learning of nonsense syllables in no way improved ability to memorize prose or verse.<sup>16</sup> Another found that excellent recognition ability could not be used to predict ability to recall, and *vice versa*,<sup>17</sup> that though intelligent people were usually good "recallers," there was no correlation between intelligence and recognition.<sup>18</sup> It further appeared that there was no correlation between the ability to recall words and the ability to recall ideas, or between the recognition of faces and the recognition of names.<sup>19</sup> Other studies within the fields of recall and recognition yield the same lack of correlation. The result of this battery of experimental data has been the abandonment of the faculty theory and the substitution therefor of a theory of special abilities which may correlate more or less highly with each other. They are not, however, different aspects of one faculty. The new attitude is well expressed in the statement that "for psychology there is no such thing as memory; there are only memories."<sup>20</sup>

Turning now to past recollection recorded and the psychological theory of the fallibility of memory on which it rests, we discover the psychologists, like the judges, emphasizing the importance of the time between an experience and its report.<sup>21</sup> Both agree that as time goes on an experience is forgotten. But the enunciation of this doctrine is of little help in any individual case without a more exact knowledge of the conditions of learning, and the relationship

<sup>15</sup> GATES, *PSYCHOLOGY FOR STUDENTS OF EDUCATION* (1923) c. xv; 2 THORNDIKE, *EDUCATIONAL PSYCHOLOGY* (1913) c. 12.

<sup>16</sup> Sleight, *Memory and Formal Training* (1911) 4 BRIT. J. PSYCH. 386.

<sup>17</sup> Myers, *A Comparative Study of Recognition and Recall* (1914) 21 PSYCH. REV. 442; Achilles, *Experimental Studies in Recall and Recognition* (1920) ARCHIVES PSYCH. No. 44; Lee, *An Experimental Study of Retention and Its Relation to Intelligence* (1925) 34 PSYCH. MONOGRAPHS No. 4. *Contra*: Bennett, *The Correlations between Different Memories* (1916) 1 J. EXPER. PSYCH. 404; Jones and English, *Notional vs. Rote Memory* (1926) 37 AM. J. PSYCH. 602.

<sup>18</sup> Lee, *supra* note 17; Strong, *Recognition Memory* (1912) 19 PSYCH. REV. 447.

<sup>19</sup> Achilles, *supra* note 17.

<sup>20</sup> Davies, *Professor Titchener's Theory of Memory and Imagination* (1912) 19 PSYCH. REV. 147.

<sup>21</sup> EBBINGHAUS, *MEMORY, A CONTRIBUTION TO EXPERIMENTAL PSYCHOLOGY* (1885) (Ruger's tr. 1913).

that obtains among learning, time interval, and amount forgotten. For instance, the psychologist distinguishes between underlearned material and just learned, and again between material that is just learned and that which is overlearned.<sup>22</sup> In the first case, an observer has not seen or heard his material often enough or long enough to repeat it correctly immediately afterward. In the second, the experience is continued long enough for the observer to learn what has taken place and repeat it accurately just once. In the third, it is learned well enough to repeat it accurately several times. For instance, an automobile moving at a certain rate of speed might not have been in the range of vision long enough for the witness to have set down accurately, at once, a minute description of the occupant. This might have been possible had the car been going a little more slowly, or had it passed by quickly twice instead of only once. But again if the observer waited five, ten, or fifteen minutes, the number of things remembered and set down would become steadily smaller. In the first case, the description would have been underlearned; in the second, it was learned just well enough to make possible one accurate, immediate account of what had been experienced. If the car were at a standstill, or if it passed the witness six or a dozen times, always carrying the same occupant, in the same attire, the facts would be had "by heart" or overlearned.

Although the amount forgotten in any given interval of time is, in part, dependent upon the degree of learning, the relation between the two is not constant. For instance, material that is fifty per cent overlearned, that is, material which has been experienced half again as many times as were necessary to just learn it, is better retained at the end of four hours than material just learned. But at the end of two days slightly more of the overlearned material is forgotten than of the just learned. On the other hand, what is underlearned is less well reproduced at the end of the second day than what is just or overlearned. Whereas at the end of a week differences of twenty-five or thirty per cent in the degree of learning have little or no effect.<sup>23</sup>

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<sup>22</sup> EBBINGHAUS, *op. cit. supra* note 21; Luh, *The Conditions of Retention* (1922) 31 PSYCH. MONOGRAPHS No. 142; Tolman, *The Effects of Underlearning upon Short and Long-Term Retentions* (1923) 6 J. EXPER. PSYCH. 466.

<sup>23</sup> Luh, *supra* note 22; Tolman, *supra* note 22.

These curious results are explained by the fact that the rate of forgetting is not uniform. A person does not forget twice as much in two days as he does in one, or twenty-four times as much in a day as in an hour. The many psychologists who have measured forgetting agree that while relatively enormous amounts are forgotten in the first five or ten minutes, as the time interval increases the rate of forgetting decreases.<sup>24</sup> Ebbinghaus, a pioneer in the psychology of memory, found that although over half was forgotten at the end of the first hour, less than three quarters had been forgotten at the end of the second day. And after the lapse of a month, only another five or six per cent had dropped from memory. More recently, using a different method of measuring the amount retained, another investigator found that a fourth of the amount learned was forgotten in four hours, but only a little over a half by the end of the second day.<sup>25</sup> These differences in the absolute amount retained at certain times are due to the sort of material learned and the methods of measuring what is retained. But the differences do not alter the shape of the mathematical curve of forgetting. In every case it starts with a sharp rise, and begins to flatten perceptibly at the end of two or three days. On the basis of that curve, it is safe to assume that what was not recorded for two weeks might just as well have waited for two months, as far as accuracy of memory is concerned.<sup>26</sup>

In spite of this continual oblivescence, the stories we get in documents and on the witness stand are told with a strange definiteness and clarity. The recorder or witness does not usually seem conscious that anything may be missing or, worse, inaccurate. The reason for this lies in the peculiarities of an image. Although occasionally an experience may be mistaken for an image, it is generally true that images differ from reality in their greater

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<sup>24</sup> Ebbinghaus, *supra* note 21; Luh, *supra* note 22; Bean, *The Curve of Forgetting* (1912) ARCHIVES PSYCH. No. 21.

<sup>25</sup> Luh, *supra* note 22.

<sup>26</sup> Two things may be noted here in passing. As the time interval between experience and recall increases, not only is much forgotten, but also errors creep into what is remembered. Dallenbach, *The Relation of Memory Error to Time Interval* (1913) 20 PSYCH. REV. 323. And there is a direct relation between attention and retention. What was seen out of the corner of the eye, so to speak, does not deserve a high degree of credibility. Myers, *A Study in Incidental Memory* (1913) ARCHIVES PSYCH. No. 26.

vagueness.<sup>27</sup> When an attempt is made to translate an image into words, two things happen which make the words untrustworthy. In the first place, there is a strong tendency to sketch in the missing details; and in the second, the words used give no indication of the degree of definiteness of the image. A person may thus state that "it was raining that day and I had my rubbers and umbrella" as a memory when in reality the "raining" was an inference from the "rubbers and umbrella" and the mental picture of the event is very hazy indeed. Once, however, the image becomes words, it takes on all the color of the words, and becomes retroactively clear, sharply defined, and complete. In evaluating statements of past facts, therefore, the curve of forgetting is doubly important.

When we pass from past recollection recorded to present recollection revived, we observe that here recognition plays an important part.<sup>28</sup> A glance at a paper on the witness stand, and the "mysterious mental process" referred to by Judge Dietrich<sup>29</sup> is set in motion. That mysterious process is, in the first instance, recognition, though it is later followed by associated recall. But the relative position of recognition in present recollection revived gives it psychological aspects different from those of past recollection recorded. Of certain differences, as we have noted, the courts are aware. It remains to be seen whether or not the courts and psychologists are aware of the same differences.

The courts, in allowing recollection to be thus revived, correctly assume that recognition<sup>30</sup> outlasts recall; <sup>31</sup> they also assume correctly that a person's inability to recall is no ground for diagnosing an equal inability to recognize.<sup>32</sup> On two grounds, then, they seem

<sup>27</sup> PEAR, REMEMBERING AND FORGETTING (1922) 33, 38.

<sup>28</sup> See note 11, *supra*. We are concerned here with the revived memory, its relation to the stimulus, and the relation both have to the objective accuracy which is the goal of the courts.

<sup>29</sup> *Supra* note 3.

<sup>30</sup> It must be kept clearly in mind that the recognition is only a stimulus. The process of recognition is first treated alone because it is a source of great error, and because the "mysterious process" then set in motion most emphatically does not function independently of it. It will be seen (*infra* p. 869) that the relationship between the recognized stimulus and the recall is very close. The probability of error in recognition is, therefore, crucial.

<sup>31</sup> Luh, *supra* note 22; Myers, *supra* note 17; Strong, *supra* note 18; Strong, *Effect of Time-Interval upon Recognition Memory* (1913) 20 PSYCH. REV. 339.

<sup>32</sup> See note 17, *supra*.



safe in allowing this method of bringing to mind what has apparently slipped it. The fact that recognition does not depend upon either age or intelligence<sup>33</sup> is a further reason for being hospitable to such testimony. Other attributes make it seem the method *par excellence* of the court room. For instance, it takes only one third the length of time to learn material which is to be recognized rather than recalled, and the material is retained for recognition almost three times as long.<sup>34</sup>

One might be a little skeptical of the accuracy of a psychological process that is not dependent either on age or on intelligence. It might be assumed, *a priori*, that such a process would have a fairly wide margin of error, and that seems to be the case. This wide margin results from the fact that error increases proportionately with the increase in the similarity of the material to be recognized to that originally seen.<sup>35</sup> For example, a subject is shown a half dozen pictures of white children, and then later on is requested to pick those pictures out of a batch of a dozen. If the extra six are of houses, or horses, or colored adults, the accuracy may be as high as eighty or eighty-five per cent. If, however, the unfamiliar pictures are of other white children, the accuracy drops to fifty per cent; and if the new group looks something like the old, the percentage of correct choices is likely to be below twenty.<sup>36</sup> Since the usual memorandum employed in court is similar to the original, the dangers of the rules on present recollection revived are obvious. The problem is complicated by the deceptive certainty of the recognizer. This certainty is a direct function of the similarity of the material.<sup>37</sup> As a result it has an eccentric<sup>38</sup> relation to objective accuracy. Since this subjective certainty increases with the degree of similarity, it follows that it also increases with the percentages of error. But when the material is identical, the accuracy becomes almost one hundred per cent,<sup>39</sup> and the subjective

<sup>33</sup> See note 17, *supra*.

<sup>34</sup> Mulhall, *Experimental Studies in Recall and Recognition* (1915) 26 AM. J. PSYCH. 217; Myers, *supra* note 17; Hollingworth, *Characteristic Differences between Recall and Recognition* (1913) 24 AM. J. PSYCH. 532.

<sup>35</sup> Feingold, *Recognition and Discrimination* (1915) PSYCH. MONOGRAPHS No. 78.

<sup>36</sup> *Ibid.*

<sup>37</sup> Lund, *The Criteria of Confidence* (1926) 37 AM. J. PSYCH. 372.

<sup>38</sup> That is, it increases as what is shown becomes more similar to the original transaction.

<sup>39</sup> Feingold, *supra* note 35. The results of the Feingold experiment show that

certainty becomes absolute. In other words, it is safe enough to trust absolute subjective certainty as an indication of objective accuracy; but anything less than absolute is no better (and it may be worse) than complete uncertainty.<sup>40</sup>

It will be objected that, although the foregoing criteria may be interesting as far as recognition is concerned, a present refreshed recollection is based only in part on recognition. Granting this inaccuracy, is there any proof that recall, stimulated by that recognition, and supposed to "function independently thereof," is also inaccurate? A recent experiment answers the objection decisively.<sup>41</sup> In a class lecture the instructor made certain unequivocal statements about the results of a series of experiments. A well-meaning, but none too thoughtful, reporter on the local student paper printed an entirely erroneous account of the lecture. On the routine examination at the end of the week, after the usual questions, each student was asked to indicate on his paper whether or not he had read the press account. Most of those who had read it "recognized" it as accurate, and on the examination paper remembered what they had erroneously recognized. Those who had not read the article reported the lecture with their customary accuracy. The false stimulus here came while memory was still fresh. Taking into consideration the fact that the recognition curve of forgetting is a slow reproduction of the recall curve, we readily see that a few weeks or months later the things recognized and then recalled would be even less likely to conform to objective reality.

In evaluating the memory of a particular person in a particular situation, psychology has developed a number of objective tests which the courts are reluctant to admit.<sup>42</sup> The intelligence tests

while many errors are made when the material to be recognized is, say, eighty per cent similar to the original, when the material is one hundred per cent similar, or is the original shown again, error drops to almost nothing. This is natural because the error is due to mistaking similar material for the genuine article.

<sup>40</sup> Strong, *supra* note 18; Hollingworth, *supra* note 34.

<sup>41</sup> Bird, *The Influence of the Press upon the Accuracy of Report* (1927) 22 J. ABN. AND SOC. PSYCH. 123.

<sup>42</sup> Cf. *State v. Schlaps*, 254 Pac. 858 (Mont. 1927), and *Strand v. State*, 252 Pac. 1030 (Wyo. 1927). As to use of systolic blood pressure devices, cf. *Frye v. United States*, 293 Fed. 1013 (Ct. of App. D. C. 1923), noted in (1924) 33 YALE L. J. 771; (1925) 37 HARV. L. REV. 1138; (1924) 24 COL. L. REV. 429; (1924) 34

which have been most widely used and are therefore the best standardized may be admitted in evidence without hesitation. These tests, since they have a high correlation with recall, may be considered a rough measure of it. There are countless other tests of memory,<sup>43</sup> which, though not yet as thoroughly standardized as the Stanford Revision of Binet,<sup>44</sup> for example, have been in use long enough to warrant their employment in the court room. It is not suggested that every witness be subjected to an exhaustive series of tests; but in doubtful cases they furnish valuable aid to the discretion of the trial court.

This brings us back to cross-examination to impeach. The departure for limbo of faculty psychology, taking with it the faculty of memory, indicates that cross-examination to other instances of forgetting, unrelated in kind to the facts of the case in suit, is a waste of time. The control of it is now vested in the trial judge. But his discretion should be exercised to forbid it, not to extend it. Indeed, the day must come when that discretion will no longer play the present part. The common sense of a trial judge, who may not always be experienced and gifted, cannot rank with the psychological test when it comes to probing memory and determining the facts relevant to probe it. Meanwhile, cross-examination of memory may well be confined to facts closely similar to those it is claimed the witness has remembered in the case at bar. "Repeated instances of inability to recollect give the right to doubt the correctness of an alleged recollection of a material fact"<sup>45</sup> only if the instances are akin to the material fact. Inquiry into ability to recall dissimilar items is unprofitable and misleading.

In weighing past recollection recorded, the court will be assisted by a knowledge of circumstances surrounding the original experience. Where the event was definitely attended to<sup>46</sup> by an observer who was determined to remember everything that happened,<sup>47</sup> the record can be believed with little or no reservation.

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A. L. R. 147. See also the excellent discussion of these and similar devices in McCormick, *Deception Tests and the Law of Evidence* (1927) 15 CALIF. L. REV. 484.

<sup>43</sup> WILSON AND HAKE, *HOW TO MEASURE* (1921); Gould, *A Test for Memory of Names and Faces* (1917) 1 J. APPL. PSYCH. 321.

<sup>44</sup> TERMAN, *MEASUREMENT OF INTELLIGENCE* (1916).

<sup>45</sup> 2 WIGMORE, *EVIDENCE* § 995.

<sup>46</sup> Myers, *supra* note 17.

<sup>47</sup> Achilles, *supra* note 17; Mulhall, *supra* note 34. The effect of determination

In the absence of those guarantees of accuracy,<sup>48</sup> it is necessary first, to scrutinize very closely the length of time or number of times the original event was "exposed"<sup>49</sup> and, secondly, the interval between the last appearance and the making of the record. There is nothing to be gained here by such general statements as "a sufficient length of time," or "at or near the event," unless these criteria are put upon a quantitative basis.

The general theory, for instance, that time is important because of progressive oblivescence, is meaningless without a knowledge of the curve of forgetting. Knowledge of it indicates that those courts have done well who have abandoned the requirement of strict contemporaneity; for there is a difference of only six to ten per cent between the amount forgotten by the end of the first and the end of the fourth hours. For the same reason, if a lapse of two days is no ground for exclusion, there is no cause for ruling out anything recorded in less than a month.<sup>50</sup> And since the curve of forgetting by that time has become almost a horizontal line, it is safe to say that what was forgotten between one and six months would be negligible. In other words, the curve of forgetting gives the tribunal a method of estimating the memorial accuracy of past records.

Of present recollection revived, it can only be said that probably the courts have been actuated in reaching the very broad rules they have now laid down by the thought that some testimony, though perhaps distorted, is better than none; and by the addi-

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is much greater on recall than on recognition. But with the latter it is, at least, an added guarantee.

<sup>48</sup> Whitley, *The Dependence of Learning and Recall upon Prior Mental and Physical Condition* (1924) 7 J. EXPER. PSYCH. 420. This investigation finds the effects negative while Stratton, *Retroactive Hypermnnesia* (1919) 26 PSYCH. REV. 474, finds that memory for events just previous to a violent emotion is keener than for events immediately after, or events unaccompanied by any emotion.

<sup>49</sup> There seem to be no cases where the cross-examiner had this in mind in testing the validity of a memorandum introduced as past recollection recorded. Where the witness does not have recourse to a memorandum, a customary method of cross-examination centers on his opportunity to observe and the use he made of it. *Seaboard Air Line Ry. v. Emfinger*, 16 Ala. App. 265, 77 So. 415 (1917); *Polley v. Kansas City Oil Co.*, 89 Kan. 272, 131 Pac. 577 (1913); *Dean v. Wabash Ry.*, 229 Mo. 425, 129 S. W. 953 (1910); *Southern Ry. v. Lester*, 151 Fed. 573 (C. C. A. 6th, 1907). See also 2 WIGMORE, EVIDENCE § 994.

<sup>50</sup> EBBINGHAUS, *op. cit. supra* note 21; Luh, *supra* note 22; Bean, *supra* note 24; Finkenbinder, *Curve of Forgetting* (1913) 24 AM. J. PSYCH. 8.

tional supposition that the jury will give due weight to the evidence of a man who has refreshed his recollection from, say, the comic supplement. The trial judge who lately permitted counsel to withdraw a witness into an anteroom during his examination for the purpose of refreshing his recollection,<sup>51</sup> must have smiled grimly at the thought of how little of this inspired evidence a hard-headed jury would believe. It is not suggested that the courts depart from the rule allowing refreshment of recollection in the discretion of the judge through any means that the witness swears is effective. It is suggested rather that that discretion be exercised in the light of quantitative measurements instead of general notions of memory. The danger that a false recognition will produce false recall is real.<sup>52</sup> But it is a danger which in extreme cases destroys the effectiveness of the testimony with the jury, and in other cases can be avoided by knowledge on the part of the judge of what the percentage of error in given circumstances is likely to be, considering the number and the minuteness of the details.

The legal psychology of memory, then, insofar as it is a faculty psychology is outworn, and may as easily be abandoned by the courts as it has been by the psychologists. Insofar as it stresses the importance of time in past recollection recorded, it is headed in the right direction, but suffers from minor aberrations which may be escaped through taking a little thought. Insofar as it permits refreshment of recollection through "a song, or a face, or a newspaper item," it is on none too solid ground, but ground which may be made somewhat steadier through knowledge of the interaction of recognition and recall. The present authors are aware that common sense rules of behavior have enabled courts to dispense justice reasonably well up to the present. They are further aware

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<sup>51</sup> *State v. Henson*, 290 Mo. 238, 234 S. W. 832 (1921), criticized in (1922) 20 MICH. L. REV. 673.

<sup>52</sup> See Morgan, *The Relation Between Hearsay and Preserved Memory* (1927) 40 HARV. L. REV. 712, 717, n. 2: "Every trial lawyer will realize that it is an unusual case in which the memory of a friendly witness is actually refreshed upon the stand. . . . Both before and at the trial even the most honest witnesses frequently deceive themselves in thinking that their narratives represent memory only, rather than part memory and part reconstruction. It is not uncommon to hear a witness testify that a memorandum actually refreshes his recollection . . . when it is apparent that he is merely accepting the contents of the writing, and would be entirely helpless without it, even after having consulted it."

that speed is an essential element and that administering a psychological test to every witness would cause immeasurable and unnecessary delays. All that is suggested is that in those cases where common sense has little unequivocal to offer, science may be resorted to. This suggestion is essentially that of Dean Wigmore, who has written, "As the science of psychology progresses, broadening its scope and enlarging its discoveries of precise truths and methods, it will make copious contributions in this particular field of knowledge. . . . If courts will open their minds to the realization that science can be applied to the judgment of testimonial credit, regardless of the rules arising before the days of modern science, they will readily follow a liberal practice."<sup>53</sup> Already the psychologists have discovered much which affects fundamental legal conceptions of memory. By careful use of their proved results in these and other fields, we may yet build a law of evidence more closely related to the facts of human behavior.

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<sup>53</sup> 2 WIGMORE, EVIDENCE § 990. Compare also the statement of another author. "To a certain extent, greater than is perhaps generally understood, each examining counsel and every member of the court and jury is, in dealing with evidence, called upon to act as an amateur psychologist. So regarded, the methods employed by them must, in the light of modern knowledge, be regarded as crude, clumsy and ineffectual. Probably the reason for this lies in the conservative persistency with which we are carrying into the present day the methods and machinery of what might be called the stone-age of legal evolution." 3 CHAMBERLAYNE, *op. cit. supra* note 10, § 1774.