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The Admissibility of Scientific Evidence Under the New Mexico and Federal Rules of Evidence

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THE ADMISSIBILITY OF SCIENTIFIC EVIDENCE
UNDER THE NEW MEXICO AND
FEDERAL RULES OF EVIDENCE

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In *State v. Dorsey*¹ the New Mexico Supreme Court held that the results of polygraph examinations are admissible in evidence if sufficient foundation has been laid to show that (1) the polygraph operator is an expert, (2) the particular testing technique used is reliable and approved by the authorities in the field, and (3) the test results are valid for the particular subject tested. This decision overruled a series of cases holding that polygraph results were not generally admissible. In reaching its decision, the New Mexico Supreme Court specifically relied on several rules of evidence that were adopted effective July 1, 1973.²

*State v. Dorsey* is the first reported case involving the admissibility of scientific evidence under the New Mexico or the Federal Rules of Evidence.³

This Article will analyze the *Dorsey* opinion in light of earlier cases in New Mexico and recent polygraph cases in other jurisdictions and will suggest a theory of admissibility of scientific evidence⁴

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1. 88 N.M. 184, 539 P.2d 204 (1975).
2. The New Mexico Rules of Evidence were adopted by the New Mexico Supreme Court by order on April 26, 1973. The Rules were made effective July 1, 1973, for all cases filed on or after that date.
4. Scientific evidence has been classified into two types. It may be a means of obtaining specific data or a means of evaluating the significance of other data. C. McCormick, Law of Evidence 488 (2d ed. 1972); Strong, *Questions Affecting the Admissibility of Scientific Evidence*, 1970, U. Ill. L. F. 1, 5-6. The former type of scientific evidence exemplified by the polygraph examination, will be the focus of this article.
under the New Mexico and Federal Rules of Evidence. In addition, the Rules of Evidence will be examined to determine whether they embody a new theory of admissibility for scientific evidence or whether they essentially codify the earlier standard—general acceptance in the scientific community.

This Article is concerned primarily with illustrating a theory of admissibility for scientific evidence under the New Mexico and Federal Rules of Evidence. It will not undertake to set forth the scientific principles underlying the polygraph examination or to present the conflicting arguments in the continuing controversy over

5. The New Mexico and the Federal Rules of Evidence are essentially identical as they relate to scientific evidence.

6. The requirement that scientific evidence must meet the test of general scientific evidence before it is admissible is discussed infra at text accompanying notes.

whether the polygraph is a reliable device for ascertaining whether a person is telling the truth. This Article will not deal with policy considerations that collateral affect the admissibility of polygraph examinations, notably the fifth amendment privilege against self-incrimination.

NEW MEXICO BACKGROUND

The New Mexico Supreme Court first addressed the admissibility of polygraph examinations in State v. Trimble. Trimble held that evidence of polygraph examinations was inadmissible, even if both parties stipulated to admission of the examination results. The court adopted the rationale for exclusion stated in the leading case of Frye v. United States, decided in 1923, that the polygraph examination had not yet gained general acceptance among physiologists and psychologists as a reliable device to test truth and deception. This rationale is significant because New Mexico has adopted the general scientific acceptance standard stated in Frye to determine admissibility of scientific evidence other than polygraph results.

The phrase “general scientific acceptance” is not clearly de-

8. According to C. McCormick, supra note 4, at 506-507,
   ... the principles underlying the test, the qualifications and procedures of the polygraph operator, and the considerable statistics developed concerning the technique, have been subjected to a more searching and critical analysis than that accorded to any other form of [scientific] evidence.


12. The Court said:
   Just when a scientific principle crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field to which it belongs.

Id. at 47, 293 F. at 1014 (1923).

Neither Frye, Trimble, nor subsequent decisions have indicated what the standard means functionally. The lack of definition means that courts lack guidelines for applying the standard. The phrase is said to require something more than relevancy but something less than infallibility.

In addition, the Frye standard has been criticized as obscuring the proper consideration of scientific evidence under the usual rules of evidence:

The ultimate purpose of the Frye rule, the prevention of the introduction into evidence of specious and unfounded scientific principles or conclusions based upon such principles is certainly unobjectionable. It is questionable, however, whether the Frye rule, with its introduction of a basic inconsistency into the law of evidence, is essential to the purpose. Most of the considerations which have apparently moved the courts to apply the Frye doctrine to various scientific principles may be adequately accommodated within the usual rules of evidence, and within the adoption of special rules of certain ambit.

Not only does the Frye standard obscure the relevancy considerations; it also presents additional problems that may operate to exclude valuable scientific evidence:

If it must be established that the particular test has received wide application to show acceptance, a difficult burden may exist if the scientific principle is logically sound, but, because it is unique, time has not allowed the required application. In addition, if there is little opportunity for the application of scientific tests upon which the evidence may be based, valuable evidence may be unnecessarily rejected. Further, little room may be left to receive evidence where differing schools of thought may disagree as to its reliability.

Despite the substantial criticism of the Frye standard for general scientific acceptance, it continues to be used to exclude polygraph

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14. The difficulty of defining what is general acceptance has led to an application of a test "which is highly selective, although not enlightening as to its details," according to C. McCormick, supra note 4, at 490. See also Strong, supra note 4, at 11.

15. It has been claimed that the general acceptance essentially imposes a requirement of infallibility. C. McCormick, supra note 4, at 490 n. 32. Others, however, note that unanimity of approval is not required but admit that a lesser degree of acceptance "is obviously somewhat lacking in definiteness." Strong, supra note 4, at 11.

16. Strong, supra note 4, at 14. See also Boyce, Judicial Recognition of Scientific Evidence in Criminal Cases, 8 Utah L. Rev. 313 (1962-64); C. McCormick, supra note 4, at 490-91.

Even some courts that are inclined to admit polygraph evidence feel constrained to apply the *Frye* standard. A number of recent cases, however, have manifested disillusionment with the general acceptance requirement, although few courts have expressly repudiated it. Other courts have admitted polygraph evidence without applying the *Frye* standard; some courts have avoided the question of the admissibility of polygraph results by holding that the absence of foundation evidence precludes any review of the general rule of exclusion, although they indicated that such evidence might be admissible if a proper foundation were laid.

*Trimble*'s adoption of the *Frye* standard remained unquestioned in New Mexico until 1974, although it was modified in several cases so that polygraph results could be admitted if the parties stipulated to their admission and if there were no objection at trial.

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20. The court in United States v. Ridling, 350 F. Supp. 90 (E.D. Mich. 1972), did not apply the *Frye* standard in admitting evidence of a polygraph examination. It did, however, mention that "acceptance of the basic theory is a part of the process of making the evidence relevant," *Id.* at 94-95. Moreover, the court cited *Frye* as support for its conclusion that general scientific acceptance is the appropriate standard for judicial notice, *Id.*, at 94, n. 3. The court in United States v. DeBetham, 348 F. Supp. 1377 (S.D. Cal. 1972) also expressed dissatisfaction with the *Frye* standards although it felt constrained by precedent to apply the requirement and to exclude evidence of polygraph test results.

21. Polygraph evidence was declared admissible in United States v. Hart, 344 F. Supp. 522 (E.D.N.Y. 1971) where the government, before trial, requested that its principal witness submit to a polygraph examination and then rejected the conclusions of the test. The court relied on government's duty under Brady v. Maryland, 373 U.S. 83, (1963) to disclose any evidence that may tend to exculpate a defendant. The court never alluded to the *Frye* standard. A court-ordered polygraph test was also admitted in a paternity proceeding without reference to the *Frye* requirement. In the Matter of Paternity Petition of Stenzel: *A v. B*, 71 Misc.2d 719, 336 N.Y.S.2d 839 (Family Court 1972). See also Walther v. O'Connell, 339 N.Y.S.2d 386, 72 Misc.2d 316 (1972), polygraph evidence was admitted where the plaintiff and defendant completely disagreed about a purported loan; and State v. Watson, 115 N.J. Super. 213, 278 A.2d 543 (1971) where results of a polygraph test were admissible for sentencing purposes.


23. *State v. Chavez*, 80 N.M. 786, 788, 461 P.2d 919, 921 (Ct. App. 1969), held admission of polygraph evidence not to be ground for reversal where the defendant's counsel stipulated to the admissibility of the results and offered no objection to their introduction into evidence. A constitutional challenge to the *Chavez* ruling on privilege against self-incrimination grounds was rejected in *State v. Chavez*, 82 N.M. 238, 478 P.2d 566 (Ct. App. 1970). The admission of polygraph evidence pursuant to a stipulation and without an objection was also tolerated by the New Mexico Court of Appeals in State v. Turner, 81 N.M. 450, 468 P.2d 421 (Ct. App. 1970), and State v. Turner, 81 N.M. 571, 469 P.2d 720 (Ct. App. 1970). In the *Turner* cases, however, the defendant offered the polygraph evidence and the issue of its admissibility was not presented on appeal. *See also* Sutin,
In *State v. Alderete*\(^2\)\(^4\) the New Mexico Court of Appeals indicated for the first time that, with the proper foundation, evidence of polygraph results would be admissible. The trial court’s exclusion of the polygraph results proffered by the defendant was affirmed by the Court of Appeals on the ground that the foundation testimony was inadequate; it did not establish that the polygraph operator was qualified or that the test was based on a valid scientific principle. The court indicated that if a proper foundation were laid, admission would be within the discretion of the trial court.\(^2\)\(^5\) Writing for the court, Judge Sutin declared, “Scientific recognition of polygraphic tests has now arrived.”\(^2\)\(^6\) The court applied the standard of general scientific acceptance adopted by *Trimble* and *Frye* and decided that by 1974 the standard had been met.

It is not clear on what basis Judge Sutin found that polygraph tests were scientifically recognized. The foundation testimony at trial did not establish general acceptance of the polygraph test. Without such proof, Judge Sutin’s declaration can only be construed as taking judicial notice of that acceptance.\(^2\)\(^7\) But the effect of judicial notice is to dispense with the foundation requirement for the scientific validity of the polygraph process.\(^2\)\(^8\) Judge Sutin apparently intended no such result since he required a foundation of testimony that the proposed test is accepted in the examiner’s profession and is reasonably precise in its indications.

In a concurring opinion, Judge Wood agreed that polygraph results may be admitted, but on different grounds. He concluded that *Trimble* and *Frye* had not set a standard of general scientific acceptance but rather had restated the basic requirement of relevancy. He considered the reference in *Frye* to general scientific acceptance merely illustrative of the failure of polygraph evidence to meet the standard of relevancy; it is this view of *Frye* that he believed was adopted by *Trimble*.

Under the relevancy standard proposed by Judge Wood, polygraph

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\(^4\) Id. at 178, 521 P.2d at 140.
\(^5\) Id.

\(^2\)\(^6\) See text accompanying notes 8-33 supra for a discussion of judicial notice.

\(^2\)\(^7\) Id. See *C. McCormick*, supra note 4, at \(\S\) \(\S\) 328, 329, 330, for a discussion of judicial notice. See text accompanying notes 114-125 infra for discussion of judicial notice under the New Mexico Rules of Evidence and the Federal Rules of Evidence.

\(^2\)\(^8\) Id. See *Strong*, supra note 4, at 7.
results are admissible if they have probative value. Probative value must be established by expert testimony; the test must be “reasonably reliable, reasonably precise and . . . substantially accepted by experts whose competence includes the subject matter of the tests.”

Six months later, in *State v. Lucero,* the New Mexico Supreme Court expressly overruled the opinions of Judges Sutin and Wood in *Alderete.* The *Lucero* decision not only rejected the *Alderete* opinions favoring admissibility, it imposed conditions on admissibility that were not required prior to *Alderete.* Several earlier New Mexico cases had recognized the admissibility of polygraph evidence if only the first two requirements in *Lucero*—stipulation and absence of objection—were met. Now the Court set five requirements for admissibility of polygraph results in all cases:

1. The tests must be stipulated to by both parties to the case;
2. No objection may be offered at trial;
3. Evidence of the qualifications of the polygraph operator must be offered to establish his expertise;
4. Testimony must be offered to establish the reliability of the testing procedure employed as approved by the authorities in the field; and
5. The validity of the tests made on the subject must be established.

The Supreme Court found that the trial court’s rejection of the polygraph test was not error. The requirements for admissibility had not been met because there was an objection to admission and there was no evidence “of the reliability of the test procedure in general as to the validity of [the] results on the appellant.”

Unfortunately, the *Lucero* opinion does not explain the rationale underlying the five requirements it sets forth. It makes no reference to either of the theories of admissibility advanced in *Alderete* by Judges Sutin and Wood, and it suggests no theory of its own.

The first two requirements arguably support a theory of waiver. Stipulating to the admissibility of polygraph evidence and then

33. *Id.*
offering no objection to its introduction at trial could be considered a waiver\(^3\) precluding appellate review. But, if this were the only theory of exclusion, there would be no need to require evidence of the validity or reliability of the polygraph test.\(^3\)\(^5\)

A second possible theory underlying \textit{Lucero} assumes that the polygraph test is a reliable and valid indicator of truth and deception. The third, fourth, and fifth requirements support this rationale.\(^3\)\(^6\) However, the first two requirements—stipulation and absence of objection—would serve no purpose except to exclude valid and reliable evidence.\(^3\)\(^7\) Scientific evidence other than polygraph results that has been recognized as valid and reliable may be introduced even though the party against whom it is offered would prefer to have it excluded.\(^3\)\(^8\)

No defensible rationale of the \textit{Lucero} case appears that explains all

\begin{quotation}
34. See N.M. Rules of Appellate Procedure for Civil Cases, Rule 11 (1974); and N.M. Rules of Appellate Procedure for Criminal Cases, Rule 308 (1975). This theory was used by the New Mexico Court of Appeals in State v. Chavez, 80 N.M. 786, 461 P.2d 919 (Ct. App. 1970). The court expressed the theory in these words:

With knowledge of the inadmissibility, no objection was made to evidence concerning the test and the results. We see this as a trial tactic which, in hindsight, was unsuccessful. We do not see in this a failure to protect the defendant's rights, a denial of a fair trial, or a denial of due process. The admission of evidence which could have been excluded was the decision of defendant and his counsel. \textit{Id.} at 788, 461 P.2d at 921.

See generally C. McCormick, \textit{supra} note 4, at § 52. This waiver theory, it should be noted, has nothing to do with a waiver of one's fifth amendment privilege against self-incrimination. The latter waiver theory is discussed in C. McCormick, \textit{supra} note 4, at 296-300.

35. This theory presumes that the parties are masters of their fate and, therefore, may agree to the admission or exclusion of any evidence. Courts, however, need not permit parties to use the courtroom for purposes unrelated to the administration of justice. For example, no court would conceivably countenance the testimony of a number of witnesses whose only purpose was to speak before a captive audience just because the parties agreed to this testimony and no objection was interposed. Indeed, the New Mexico Rules of Evidence authorize the judge to exercise control over the presentation of evidence so as to "(1) make the interrogation and presentation effective for the ascertainment of truth, (2) [and] avoid needless consumption of time..." Rule 611, N.M. Stat. Ann. § 20-4-611 (Supp. 1975).

36. See note 32, \textit{supra}.

37. Nor can these two requirements be justified as serving any interests protected by the fifth amendment right against self-incrimination. These requirements apply when the defendant offers the test results. Furthermore, they apply when the defendant has previously waived his fifth amendment privilege. In neither of the above situations is there a fifth amendment problem that the first two requirements need to address.

38. For example, blood tests to determine intoxication, radar checks of automobile speed, fingerprinting, and ballistic tests are all admissible over objection and without a stipulation if a proper foundation is laid. See C. McCormick, \textit{supra} note 4, at §§ 202-211. Indeed, no relevant evidence is excludable simply because a party objects to its admission. Such a notion is inconsistent with the basic postulate of evidence that "unless excluded by some rule or principle of law, all that is logically probative is admissible." Thayer, Preliminary Treatise on Evidence at Common Law, 265 (1898).
\end{quotation}
five of the requirements. The theory that explains the first two requirements is inconsistent with the rationale for the last three.

Fortunately, the Lucero decision was short-lived. Six months later in State v. Dorsey the New Mexico Court of Appeals distinguished it. This case involved the offer of polygraph test results by a defendant to support his claim of self-defense against a charge of murder. The polygraph examiner would have testified that the defendant was truthful in his responses to questions concerning his defense. The trial court made findings of fact that the polygraph examiner was qualified and the test scientifically valid and properly conducted. These findings met the last three requirements of Lucero and were unchallenged. But the polygraph results were not the subject of a stipulation, and the prosecution objected to their admission. The objection was sustained.

Although the Court of Appeals acknowledged it was bound by Lucero, it questioned Lucero's requirements of a stipulation and absence of objection. Judge Wood sidestepped these requirements on the ground that they were not embodied in the newly-adopted Rules of Evidence that had come into effect since the Lucero case. Thus in Dorsey the Court of Appeals found that admissibility of polygraph tests under the New Mexico Rules of Evidence depended only on the last three requirements of Lucero. In essence, this is the theory that Judge Wood articulated in Alderete: polygraph evidence, if relevant, is admissible under Rule 402 of the New Mexico Rules of Evidence. The trial court's conclusion that the polygraph results were relevant to the issues raised by the charges and the defenses thereto rendered the results admissible under Rule 402.

40. Id. at 325, 532 P.2d at 915.

Being bound by Lucero we may not consider the validity of the reasoning behind items 1 and 2 [stipulation and no objection]. Accordingly, we may apply neither the trial court's findings nor the concession at oral argument, which are to the effect that no reasons exist in this case for the exclusionary rule of items 1 and 2.

41. The New Mexico Rules of Evidence become effective July 1, 1973, for cases filed on or after that date. See note 1 supra. The date on which the Dorsey case was filed was not mentioned by the New Mexico Court of Appeals, but the concurring opinion by Judge Sutin states that the trial court, on October 23, 1973, excluded the polygraph evidence. State v. Dorsey, 87 N.M. 323, 326, 532 P.2d 912, 915 (Ct. App. 1975).
43. An additional reason for the holding by the New Mexico Court of Appeals was its reliance on Chambers v. Mississippi, 410 U.S. 284 (1973). The court read Chambers to invalidate a conviction on due process grounds where evidence of considerable reliability and importance to the defendant's opportunity to defend himself is excluded. State v. Dorsey, 87 N.M. 323, 325, 532 P.2d 912, 914 (Ct. App. 1975). The court found that under
On certiorari the New Mexico Supreme Court affirmed the decision by the Court of Appeals, "but for slightly different reasons." The Court reevaluated the validity of the first two conditions of admissibility set forth in Lucero—the requirements of a stipulation and absence of objection. In a one-page opinion, the Court concluded:

that these two requirements are: (1) Mechanistic in nature; (2) Inconsistent with the concept of due process; (3) Repugnant to the announced purpose and construction of the New Mexico Rules of Evidence...; and (4) Particularly incompatible with the purposes and scope of Rules 401, 402, 702, and 703 of the New Mexico Rules of Evidence.

The New Mexico Supreme Court thus discarded the first two requirements of Lucero. The remaining requirements were left undisturbed. After Dorsey the predicate for admissibility of polygraph tests is evidence that (1) the polygraph operator is a qualified expert, (2) the testing procedure is reliable and approved by authorities in the field, and (3) the test results are valid for the subject tested.

The New Mexico Supreme Court's opinion in Dorsey, however, does not disclose a theory of admissibility for scientific evidence under the New Mexico Rules of Evidence. The decision alluded to neither the rationale proposed by Judge Wood in Dorsey and Alderete nor to that of Judge Sutin in Alderete. The Court referred to Rules 401, 402, 702, and 703 in support of its decision; but failed to indicate how these rules support the admissibility of polygraph evidence. Furthermore, the Court offered no explanation for its departure from the long-standing view that polygraph test results are generally inadmissible.

A THEORY OF ADMISSIBILITY UNDER THE NEW MEXICO AND FEDERAL RULES OF EVIDENCE

The Dorsey decision is a starting point for a theory of admissibility of scientific evidence under the New Mexico and Federal Rules of Evidence. This portion of the discussion will focus on whether the Rules cited by the Court provide a new theory of scientific evidence or carry forward the earlier theory of general scientific acceptance. It will begin with a consideration of the applicability of Rules 702 and 703 to scientific evidence.

the circumstances of Dorsey, the due process requirement in Chambers applied. Id. at 326, 532 P.2d at 915.  
44. 88 N.M. 184, 539 P.2d 204 (1975).  
45. Id. at 185, 539 P.2d at 205.  
Rules 702 and 703

Rules 702 and 703 pertain to testimony by experts. They do not by themselves set forth a theory of scientific evidence. Rule 702 provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.\(^4^\)

Since a polygraph examiner renders an opinion about a subject that involves a scientific device that is purported to measure and record a number of involuntary body responses to the stress produced by knowing deception,\(^4^8\) Rule 702 clearly has some bearing on the admissibility of polygraph evidence.

Rule 702 requires the court to find that there exists scientific or specialized knowledge that will be helpful in a particular case.\(^4^9\) The court must evaluate the present state of knowledge about the subject of the proposed testimony, in this case, polygraph technique.\(^5^0\) Does the specialized knowledge of the field of polygraphy produce reliable opinions concerning truth and deception? Are such opinions based on a reasonable probability rather than conjecture?\(^5^1\) By requiring that scientific evidence "assist the trier of fact," Rule 702 implicitly requires that the scientific or specialized knowledge that is the subject of expert opinion be reliable. Therefore, the answers to the above questions depend upon the reliability of polygraph examination results, which in turn depend on the validity of the scientific theory underlying the polygraph device. Indeed,

[judicial hesitancy in stamping for acceptability expert evidence on a topic may result from a view that no reliable expert technique has yet been developed, or from a view that none can ever be developed. The "lie detector" cases . . . illustrate the former attitude. [Emphasis added.]]\(^5^2\)

This judicial hesitancy reflects the notion that polygraph examination results are not yet reliable, hence neither relevant nor capable of

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48. See J. Reid & F. Inbau, supra note 7, and C. McCormick, supra note 4, at § 207 for a more complete discussion of the polygraph technique.
assisting the trier of fact.\footnote{53} Thus, the question of whether the polygraph reliably reflects truth or deception is really a matter of relevancy, a question beyond the scope of Rule 702. The determination of reliability is a question of relevancy to which Rule 401 is addressed.\footnote{54}

Rule 703, also cited by the New Mexico Supreme Court in \textit{Dorsey}, likewise does not provide a theory of admissibility for scientific evidence. Rule 703 provides:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to him at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence.\footnote{55}

Clearly, the second sentence of Rule 703 cannot be used to permit a polygraph "expert" to rely on inadmissible polygraph results in forming an opinion on deception. Rule 703 is not applicable if there is no expert, and the determination of whether there is an expert raises the preliminary question of whether there is a field of specialized knowledge. These issues are addressed by Rule 702.\footnote{56} To permit such an independent use of Rule 703 would circumvent Rule 702.

It may be argued, however, that an expert such as a psychiatrist may rely on the results of a polygraph examination when offering an opinion as to whether a person is telling the truth.\footnote{57} But this use of Rule 703 would also circumvent the requirement of Rule 702 that

\footnote{53} Authorities agree that the primary issue raised by the question of reliability of scientific evidence is one of relevancy. \textit{Boyce, supra} note 16, at 314, puts the issue of admissibility in these terms, "However, whether a particular bit of evidence is relevant in the first instance may itself depend upon whether there is a sufficient showing of reliability . . ."; and \textit{Strong, supra} note 4, at 3-4, 14, stated that "Scientific evidence . . . raises what is essentially a question of relevancy. . ." \textit{C. McCormick, supra} note 4, also includes the discussion of scientific evidence in the chapter on relevancy.


\footnote{55} \textit{Id.} at § 20-4-703.

\footnote{56} See notes 49-54 supra and accompanying text.

\footnote{57} A similar use of scientific evidence was presented in Lindsey \textit{v.} United States, 237 F.2d 893 (9th Cir. 1956). In that case, the government attempted to rehabilitate a fifteen-year-old rape complainant by calling a psychiatrist who testified that he had given her a complete examination, including a Sodium Pentothal test, and that he believed she was telling the truth. A tape recording of the interview with the girl under the influence of Sodium Pentothal was played for the jury. The Court of Appeals reversed the conviction and held that the tape recording was improperly received. The court did not reach, however, the question of the reliability and admissibility of the Sodium Pentothal test results.
the information assist the trier of fact. Rule 703 limits the use of inadmissible evidence by experts to the type of inadmissible evidence upon which experts reasonably rely. If it can be shown that experts in a recognized field rely on polygraph tests, even if polygraph results are inadmissible under other evidentiary rules, the language of Rule 703 would seem to permit an expert to base his opinion upon the otherwise inadmissible result. In addition, Rule 705 would permit the disclosure on direct examination of such evidence underlying the opinion. This use of data that is not admissible would require the court to decide whether the underlying information is "of a type reasonably relied upon by experts in the particular field..." In making that determination, the court has discretion to consider the reliability of the underlying information. This is the same question it must answer under Rule 702 when deciding whether the subject of the "expert's" testimony is scientific knowledge. This again is a question of relevancy.

Thus, Rules 702 and 703 by themselves do not support any theory of admissibility for scientific evidence. Only in conjunction with the rules of relevancy do Rules 702 and 703 apply to the polygraph

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58. This is the situation posed by Lindsey v. United States, 237 F.2d 893 (9th Cir. 1956); and referred to in note 57 supra.

The expert may testify in terms of opinions or inference and give his reasons therefor without prior disclosure of the underlying facts or data, unless the judge requires otherwise. The expert may in any event be required to disclose the underlying facts or data on cross-examination.

60. Id. at § 20-4-703. A different question is presented when the underlying basis is elicited on cross-examination. Opposing counsel could insist on the disclosure of unreliable data for the purpose of discrediting the expert's opinion. Rule 705, New Mexico Rules of Evidence, N.M. Stat. Ann. § 20-4-705 (Supp. 1975).
61. "The kind of data on which an expert may reasonably rely depends on the amount of certainty that exists about that particular subject." J. Weinstein & M. Berger, supra note 49, at 703-04.
62. See notes 53, 54, supra and the accompanying text. The phrase "need not be admissible in evidence" in Rule 703 ought not include all inadmissible evidence. The commentary to Rule 703 suggests that the purpose of the Rule was to permit the expert to rely on hearsay and opinions that were relevant, but otherwise not admissible. The examples given by the Advisory Committee include only hearsay statements and opinions. Advisory Committee Note to Rule 703 of the Federal Rules of Evidence, in J. Moore, Federal Practice 703 (Rules Pamphlet, Part 2, 1975); and in Fed. Rules Evid., Rule 703, 28 U.S.C.A. at 503-04. The commentary specifically states that "[m]ost of them [the types of inadmissible information upon which an expert may rely] are admissible in evidence, but only with the expenditure of substantial time in producing and examining various authenticating witnesses." Id. Nothing suggests that the Advisory Committee intended to permit an expert to rely on evidence that is inadmissible because it is either not relevant or too prejudicial. None of the examples of inadmissible facts or data that may be relied on by experts involve information that is irrelevant. See J. Weinstein, supra note 49, at 703-7, 8, 9, 10.
examination and scientific evidence in general.\textsuperscript{63} Rules 702 and 703, therefore, cannot be said to constitute a basis for the admissibility of scientific evidence.\textsuperscript{64} Admissibility must be determined according to the rules of relevancy.

\textit{Rules 401 and 402}

Rules 401 and 402 of the New Mexico Rules of Evidence concern relevancy.\textsuperscript{65} Rule 402 sets forth the general rule of admissibility for all evidence.

All relevant evidence is admissible, except as otherwise provided by constitution, by statute, by these rules, or by other rules adopted by the Supreme Court. Evidence which is not relevant is not admissible.\textsuperscript{66}

If polygraph evidence is to pass the first test of admissibility, it must be relevant. Relevant evidence is defined in Rule 401:

"Relevant evidence" means evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence.\textsuperscript{67}

Certain types of evidence are the subject of specific rules of relevancy.\textsuperscript{68} Rule 401 provides the standard for determining whether evidence that is not the subject of a special rule is relevant.\textsuperscript{69} Since no New Mexico Rule of Evidence specifically governs scientific evidence, it is subject to Rule 401.

The first question posed by Rule 401 concerns whether the evidence is related to a fact "that is of consequence to the determination of the action." Polygraph test results were offered by the defendant in \textit{Dorsey} to show that he was telling the truth regarding

\textsuperscript{63} The court in United States v. Ridling, 350 F. Supp. 90, 95 (E.D. Mich. 1972), stated that Rule 702 "is only the beginning point in assessing the admissibility of the [polygraph] evidence."

\textsuperscript{64} \textit{Compare}, Walther v. O'Connell, 339 N.Y.S.2d 386, 72 Misc.2d 316 (1972), where the Civil Court of the City of New York stated, "This Court has carefully reviewed the report of the polygraph tests and has decided to admit in evidence the results of these tests as the testimony of an expert witness." \textit{Id.} at 387, 72 Misc.2d at 317.


\textsuperscript{66} \textit{Id.} at § 20-4-401.

\textsuperscript{67} \textit{Id.} at § 20-4-401.

\textsuperscript{68} \textit{E.g.}, Rules 404 and 405 (Character Evidence); Rule 406 (Habit); Rule 407 (Subsequent Remedial Measures); Rule 408 (Compromise and offers to compromise); Rule 409 (Payment of medical and similar expenses); Rule 410 (Offer to plead guilty; nolo contendere; withdrawn plea of guilty); Rule 411 (Liability insurance); N.M. Stat. Ann. § 20-4-404, 405, 406, 407, 408, 409, 410, 411 (Supp. 1975, Interim Supp. 1976).

the circumstances of who struck the first blow and who pulled the first weapon. The polygraph evidence related to the defendant’s credibility clearly a fact that is “of consequence to the determination of the action.”

The second question posed by Rule 401 concerns whether the evidence has “any tendency to make the existence of any fact . . . more probable or less probable than it would be without the evidence.” If the polygraph results presented in Dorsey tend to make the fact that the defendant was telling the truth more probable than it would be without such evidence, the polygraph evidence is relevant under Rule 401. If the evidence has any probative value it meets the test for relevancy.

Whether scientific evidence has any probative value, or, in the terms of Rule 401, any tendency to prove credibility, is the critical question. Rule 401 does not specify how to determine probative value, but the Advisory Committee indicated that the answer to this question “depends upon principles evolved by experience or science, applied logically to the situation at hand.”

What principles of experience or science should be applied to polygraph evidence to determine whether it is probative of credibility? Logically, the scientific principles underlying the polygraph technique should be considered. If these principles are scientifically valid in the sense that test results reliably indicate truthfulness or untruthfulness, the polygraph has a tendency to prove credibility and is, therefore, relevant.

The question of whether the polygraph examination is valid and reliable is, however, the center of controversy. Since this controversy is critical to the issue of relevancy, the method of its resolution is all important.

Preliminarily, however, it should be noted that the question of the relevancy of scientific evidence differs from the question of relevancy presented by nonscientific evidence. For example, whether bootprints in the snow are relevant to show that a person passed by is a matter of experience and logic. The judge and the jury could

73. Advisory Committee’s Note to Rule 401, supra note 69, at 85. See J. Weinstein & M. Berger, supra note 49, at 401-28, 29.
75. See note 7 supra and the literature cited therein.
logically conclude, based on their experience, that the existence of bootprints makes more probable the fact that a person passed by. The evidence does not necessarily prove the fact by a preponderance of the evidence or beyond a reasonable doubt; but it does tend to make the existence of the fact more probable than without such evidence. It is thus logically relevant under Rule 401.76

Whether scientific evidence has any tendency to make the existence of a fact more probable, however, is not a matter of experience and logic. For example, neither the judge nor the jury has any basis for knowing whether certain test results from a polygraph examination make the existence of truthfulness or untruthfulness more probable. Whether such a relationship exists is a matter for scientific knowledge. Thus expert testimony is necessary to provide the logical nexus between the scientific evidence and the fact that it is offered to prove.77

The nexus that makes scientific evidence relevant is one of relia-

76. It is important to emphasize the distinction between relevancy and sufficiency of the evidence.

The test of relevancy, which is to be applied by the trial judge in determining whether a particular item or group of items of evidence is to be admitted is a different and less stringent one than the standard used at a later stage in deciding whether all the evidence of the party on an issue is sufficient to permit the issue to go to the jury. A brick is not a wall. C. McCormick, supra note 4, at 436.

See also James, Relevancy, Probability and the Law, 29 Calif. L. Rev. 689 (1941), in Selected Writings on Evidence (Fryer ed. 1957); Slough, Relevancy Unraveled, 5 Kan. L. Rev. 1 (1956); Trautman, Logical or Legal Relevancy—A Conflict in Theory, 5 Vand. L. Rev. 385 (1952); Weinstein & Berger, supra note 71, 4 Ga. L. Rev. 43, 56.

77. C. McCormick, supra note 4, at 438 n. 28, states that "An important function of scientific evidence is to supply the link which in other instances is furnished by 'common sense' or experience," and quotes the following passage from Strong, supra note 4, at 2-3:

Scientific evidence may play a part in this process of conclusion drawing in two ways. First, science may serve to supply the trier of fact with specific propositions which neither the trier of fact nor the witnesses could obtain through the use of unaided or uninformed sensory perception.

The second possible function of scientific evidence is to supply the trier of fact with general propositions not the product of common experience, which may then be applied to specific scientific or nonscientific data that has been introduced in the case. This will allow the trier to draw conclusions from that data which would otherwise have been either impossible to reach, or at least impossible to reach with the same degree of certainty. Scientific evidence serving this second function is usually supplied through the medium of expert testimony, the expert witness being asked either to supply the general proposition itself or to apply it to an assumed set of data and state a conclusion. The state of technology being what it is, however, the role of the expert as applier of general propositions may occasionally be preempted by a scientific device which not only collects specific data but interprets it in light of some general scientific principle, as is true of radar devices for detection of automobile speed.
bility; and reliability depends on three factors—(1) the validity of the underlying scientific principles, (2) the proper utilization of the scientific technique, and (3) the use of the scientific device by a properly qualified expert. Unlike general relevancy questions, scientific evidence thus requires foundation evidence regarding reliability before it is relevant.

Reliability, however, is not a constant. It varies in degree ranging from minimal reliability to perfect reliability. For example, in detecting truthfulness or deception, polygraph test results may be infallible, totally unreliable, or somewhat reliable. It is important, therefore, to determine to what degree the reliability of scientific evidence, in the sense that the underlying principles are valid, must be established before it is relevant and admissible. Several possibilities suggest themselves. First, reliability may have to be established by a preponderance of the evidence; second, proof beyond a reasonable doubt may be required; third, evidence substantial enough to support a finding of reliability might suffice; or fourth, the court.

80. Strong, supra note 4, at 18-22.
81. Id. at 14-15; see also C. McCormick, supra note 4, at 491 and n. 34. A number of states, including New Mexico, have enacted licensing requirements for polygraph examiners. See, e.g., N.M. Stat. Ann. § 67-31A-1 et. seq. (Repl. 1974); Romig, Status of State Polygraph Legislation in July 1972, in Legal Admissibility of the Polygraph 44-53 (N. Ansley ed. 1975).
82. For a discussion of the effect of the varying accuracy of the results of paraffin tests as evidence of recent use of a firearm, see Strong, supra note 4, at 13. See also Korn, Law, Fact, and Science in the Courts, 66 Colum. L. Rev. 1080, 1111 (1966), for a discussion concerning the evidentiary use of the “lower accuracy” findings of the social behavioral sciences.
83. This standard would seem to imply that reliability is a condition that requires a determination by the court. It is similar to the procedure for the determination of preliminary questions set forth in Rule 104(a). This rule provides:

(a) Questions of admissibility generally. Preliminary questions concerning the qualification of a person to be a witness, the existence of a privilege, or the admissibility of evidence shall be determined by the judge, subject to the provisions of subdivision (b). In making his determination he is not bound by the Rules of Evidence except those with respect to privileges.

84. This standard differs from the first suggestion only by the standard of proof required for the finding of reliability by the court.
85. This suggestion is similar to the procedure for the determination of conditional relevancy set forth in Rule 104(b) [N.M. Stat. Ann. § 20-4-104(b) (Supp. 1975)]. This rule provides:

(b) Relevancy conditioned on fact. When the relevancy of evidence depends upon the fulfillment of a condition of fact, the court shall admit it upon, or subject to, the introduction of evidence sufficient to support a finding of the fulfillment of the condition.

Whether Rule 104(a) or 104(b) applies to the determination of the question of the relevancy of scientific evidence presents an exceedingly interesting question that is beyond the scope of this paper. For a discussion of the applications of each rule and the rationales
foundation evidence tending to show that the scientific evidence is in some degree reliable could be required. 86

It is submitted that the fourth suggestion is the appropriate standard for the determination of the degree of reliability necessary to establish the relevancy of scientific evidence. This standard comports with the definition of relevancy in Rule 401, 87 and it permits the court to decide whether the scientific evidence is logically relevant without requiring that it also meet a standard of proof such as preponderance of the evidence or beyond a reasonable doubt. 88 Beyond this threshold, showing the degree of reliability would, of course, be a matter of weight for the jury. 89

Applied to polygraph evidence, this standard would require foundation testimony by an expert tending to show that test results are in some degree reliable in detecting truthfulness or untruthfulness. Such a foundation renders test results logically probative of credibility, and the evidence thus meets the definition of relevancy in Rule 401. The opponent of the evidence may, of course, contest its reliability by introducing contrary evidence, but this should not require the exclusion of the polygraph evidence. Instead, Rule 401 contemplates that the weight of such evidence be left to the jury, and the jury is free to reject or accept the polygraph evidence.

In summary, the theory of admissibility for scientific evidence under the New Mexico and Federal Rules of Evidence is one of relevancy. First, scientific evidence must be relevant in order to be admissible under Rule 402. Second, there must be evidence tending to show that the scientific evidence is reliable in order to be relevant under Rule 401.

It is submitted that the theory of admissibility embodied in the New Mexico and Federal Rules of Evidence is correct in its treatment of scientific evidence. Scientific evidence ought to be held to the same standard of relevancy as is nonscientific evidence. Although considerations of undue prejudice, confusion of the issues, or jury underlying each rule, see generally, E. Morgan, Basic Problems of Evidence (1962); Maguire & Epstein, Preliminary Questions of Fact in Determining the Admissibility of Evidence, 40 Harv. L. Rev. 392 (1927); Morgan, Function of Judge and Jury in the Determination of Preliminary Questions of Fact, 43 Harv. L. Rev. 165 (1929); J. Wigmore, Evidence § 2550 (3rd ed. 1940); J. Weinstein & M. Berger, supra note 43, at 104-9 et seq.

86. This standard is essentially the test for relevancy prescribed by Rule 401. Its provisions are set forth at text accompanying note 66, supra; see also the discussion of Rule 401 in notes 71-75 supra, and accompanying text.

87. Id.

88. See note 76, supra.

89. See Boyce, supra note 16, at 314 and n. 13.
competence to deal with scientific issues\textsuperscript{90} may affect the decision to admit scientific evidence, these considerations do not and should not affect the theory of admissibility—one of logical relevancy.\textsuperscript{91} These considerations may, however, operate under Rule 403\textsuperscript{92} to exclude relevant evidence, scientific or otherwise, whose probative value is substantially outweighed by these considerations.

One question remains about the theory of admissibility advanced for scientific evidence: should the relevancy of scientific evidence be left for determination under Rule 401, which applies generally, or should a special rule be drafted to deal specifically with the relevancy question presented by scientific evidence. If there is but one theory of relevancy and it applies to scientific and nonscientific evidence as well, there is arguably no reason for a special rule. However, scientific evidence does present the relevancy question in a somewhat different posture. The relevancy of scientific evidence frequently depends on scientific knowledge, whereas the relevancy of nonscientific evidence generally depends only on ordinary experience and logic.\textsuperscript{93} Although this difference presents no problem under Rule 401,\textsuperscript{94} the application of the general relevancy principles to scientific evidence is not readily apparent, especially regarding the issue of reliability. Indeed, the general exclusion of polygraph evidence may be explained as a failure by courts to recognize that any degree of reliability renders test results relevant to the issue of credibility.\textsuperscript{95}

In view of courts' failure to apply the basic relevancy standard to polygraph evidence, perhaps a special provision outlining the

\textsuperscript{90} Id. at 325-26:
There seems to be little reason why courts should not allow juries to hear both sides of the question of the reliability of a particular form of scientific evidence and decide what, if any, weight it should be accorded, upon, of course, a foundation which shows there is a reasonable possibility of reliability.

In this regard the scientific theory of the polygraph is probably no more difficult to comprehend than are the theories of Freud and Jung. If two psychiatrists can be allowed to present varying schools of psychiatric thought to a jury with the ultimate determination of what weight to accord them being left to the jury, there would seem to be little reason, assuming a showing of reasonable reliability, why the pros and cons of the operation of a polygraph should not also be left to the jury's consideration.

\textsuperscript{91} J. Weinstein & M. Berger, supra note 49, at 401-18, state that, "Any proffered item that would appear to alter the probabilities of a consequential fact is relevant—although it may be excluded because of other factors."

\textsuperscript{92} N.M. Stat. Ann. § 20-4-403 (Supp. 1975). The provisions of Rule 403 are set forth at text accompanying note 101 infra.

\textsuperscript{93} See note 77 supra, and accompanying text.

\textsuperscript{94} See discussion of the application of Rule 401 to scientific evidence at text accompanying notes 89-96 supra.

\textsuperscript{95} See generally C. McCormick, supra note 4, at 440-491 and n. 32.
relevancy theory of admissibility should be added to the New Mexico and Federal Rules of Evidence. It could be added as a subdivision of Rule 401, entitled “Relevancy of Scientific Evidence.” Its terms might provide:

401(a). Scientific evidence is relevant according to Rule 401 if there is foundation evidence having any tendency to make more probable that the scientific evidence is in some degree reliable in showing what it purports to show.

Until such a provision is added, however, the relevancy of scientific evidence must be decided under the general relevancy rule, Rule 401.

THE GENERAL SCIENTIFIC ACCEPTANCE STANDARD AND THE NEW MEXICO AND FEDERAL RULES OF EVIDENCE

The preceding section sets forth a theory of admissibility under the New Mexico and Federal Rules of Evidence. Neither set of Rules makes express reference to a standard of general scientific acceptance. This portion of the discussion will consider whether, and to what extent, the New Mexico and Federal Rules of Evidence implicitly adopt a requirement of general scientific acceptance.

Rule 401 and the General Scientific Acceptance Standard

Rule 401, which defines relevancy, the criterion above proposed for admission of scientific evidence, does not expressly require general scientific acceptance of a particular scientific device before it becomes relevant. The essential requirement for relevancy of scientific evidence is reliability. Nor does Rule 401 suggest a requirement of general acceptance; applied to the polygraph, it requires evidence having some tendency to show that the polygraph device reliably detects truth or falsity. This tendency, or probative value, can be established without demonstrating general scientific acceptance. Testimony that the polygraph device is supported by valid scientific principles should suffice to make more probable the existence of the polygraph’s reliability.

Thus, a requirement of general scientific acceptance would appear to impose a more stringent condition for establishing relevancy—a

96. Neither the American Law Institute’s Model Code of Evidence (1942); the National Conference of Commissioners on Uniform State Laws, Uniform Rules of Evidence (1974); nor the California Evidence Code (1965) include special provisions for determining the admissibility of scientific evidence. B. Witkin, California Evidence 592 (1966), states that scientific evidence “is not governed by a distinct set of rules; the usual rules apply....”

97. See note 73 supra and accompanying text. See also the preceding section.
condition that is inconsistent with Rule 401.\textsuperscript{98} For example, the foundation evidence introduced in \textit{Dorsey} tended to prove that the polygraph is reliable—and indeed such a finding was made by the trial court—even though there was no evidence that the polygraph examination is generally accepted as reliable in the scientific community. Even if evidence had been introduced that the polygraph technique was unreliable or not generally accepted among scientists, such evidence would not have defeated the determination that the foundation evidence was sufficient to present the test results to the jury. Such evidence contesting the reliability of the results would merely affect the weight to be given the evidence.\textsuperscript{99} From the conflicting evidence regarding polygraph reliability, the jury could decide to what degree the results are reliable and how much weight to give them in assessing the credibility of the subject of the examination. Therefore, the question of whether the polygraph examination has achieved general scientific acceptance would not affect the first question of relevancy and, therefore, admissibility, under Rule 401. It may affect the jury’s later determination of whether to accept or reject the examinee’s version of the facts.

Although general scientific acceptance of the polygraph examination is not required under Rule 401 to establish relevancy, the absence of general scientific acceptance may yet operate to exclude polygraph evidence under Rule 403.\textsuperscript{100} It provides:

> Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence.\textsuperscript{101}

Rule 403 permits the judge to balance the probative value of proffered evidence against the possible harmful consequences specified in Rule 403 and to exclude relevant evidence if, in the exercise of his discretion, he determines that the possible harm substantially outweighs the probative value.\textsuperscript{102}

If the court finds that the foundation evidence is probative of the

\textsuperscript{98} C. McCormick, \textit{supra} note 4, at 489-91, suggests that the requirement of general scientific acceptance imposes a special rule of admissibility for scientific evidence better suited to the taking of judicial notice than to determining simple relevancy; a standard of relevancy should be the only requirement. \textit{See also} Strong, \textit{supra} note 4, at 14.

\textsuperscript{99} \textit{See text accompanying notes 70-71 supra.}


\textsuperscript{101} Id.

\textsuperscript{102} Advisory Committee’s Note to Rule 403 of the Federal Rules of Evidence; J. Moore, \textit{supra} note 62; 28 U.S.C.A. § 403, at 102. \textit{See also} J. Weinstein & M. Berger, \textit{supra} note 49, at 403-7, 8.
polygraph's reliability but does not establish general acceptance in the scientific community, it may consider whether the dangers specified in Rule 403 may substantially outweigh the probative value of the test results in the absence of general acceptance. The Advisory Committee explained that the danger of unfair prejudice "means an undue tendency to suggest decision on an improper basis, commonly, though not necessarily, an emotional one." Testimony by a polygraph expert may tend to overimpress the jury because the opinion as to credibility is based on "scientific" evidence. In fact, the fear that juries are awed by scientific evidence and may give too much weight to such evidence has been suggested as the real reason for excluding polygraph evidence.

The absence of general scientific acceptance may, in addition, raise the dangers of "confusion of the issues, or misleading the jury." These dangers are present when the evidence creates "a side issue that will unduly distract the jury from the main issues." For example, if witnesses are called by both sides regarding the reliability of the polygraph technique, the trial may be unduly prolonged as the issue becomes a major concern of the litigants. A criminal or civil trial may be turned into a forum for the litigation of the reliability of scientific evidence.

The recent case of United States v. Ridling, decided prior to adoption of the Federal Rules of Evidence, considered the possible dangers of undue prejudice, confusion of the issues, and misleading the jury in connection with the proffer of polygraph evidence. The court found that the dangers cited in Rule 403 did not substantially outweigh the strong probative value of polygraph evidence in a perjury trial. Moreover, the court indicated that the dangers of undue prejudice, confusion of the issues, and misleading the jury

103. Advisory Committee's Note to Rule 403, supra note 102.
104. See, e.g., C. McCormick, supra note 4, at 490 n. 32; Boyce, supra note 16, at 322.
107. This would raise the Rule 403 "considerations of undue delay, waste of time." N.M. Stat. Ann. § 20-4-403 (Supp. 1975). J. Weinstein & M. Berger, supra note 49, at 403-29, suggest that courts in cases involving confusion of the issues or misleading the jury are "in fact excluding evidence because an unsuitable amount of time would be consumed in clarifying the situation."
109. Id. at 95; accord, United States v. Zeiger, 350 F. Supp. 685, 691 (D.D.C. 1972), rev'd per curiam, 475 F.2d 1280 (D.C. Cir. 1972); compare Lindsey v. United States, 237 F.2d 893 (9th Cir. 1956) where the court excluded the tape recording of a Sodium Pentothal test because of the difficulty that a lay jury would have in properly evaluating the evidence.
would be minimized if the test were performed by court-appointed experts.\footnote{\textsuperscript{110}}

It should be emphasized, however, that it is within the discretion of the court to balance the probative value of offered evidence against the dangers specified in Rule 403.\footnote{\textsuperscript{111}} The assessment of the probative value of polygraph evidence will often depend upon the purpose for which it is offered and the strength of the foundation evidence. The \textit{Ridling} decision specifically referred to its importance in a perjury trial and to the record indicating the validity of polygraph theory.\footnote{\textsuperscript{112}} It would appear, therefore, that when the necessity for polygraph test results is greater, the opponent has a greater burden to show that the dangers stated in Rule 403 substantially outweigh the probative value of the evidence.\footnote{\textsuperscript{113}}

\textit{Rule 201 and the General Scientific Acceptance Standard}

Although general scientific acceptance of the polygraph examination is not required under Rule 401, the proponent of such evidence is certainly not prohibited from establishing its general acceptance in the scientific community. Such proof, according to McCormick, would make possible judicial notice of the validity of the scientific theory underlying the polygraph examination.\footnote{\textsuperscript{114}}

Under the Federal and New Mexico Rules of Evidence, judicial notice is governed by Rule 201.\footnote{\textsuperscript{115}} This rule provides that the court

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111. See J. Weinstein & M. Berger, \textit{supra} note 49, at 403-12, 13, 14, 15.


114. C. McCormick, \textit{supra} note 4, at 491.

115. N.M. Stat. Ann. § 20-4-201 (Supp. 1975). Rule 201 only governs judicial notice of adjudicative facts. \textit{Id.} at § 20-4-201(a). “Adjudicative facts are simply the facts of the particular case.” Advisory Committee’s Note to Rule 201 of the Federal Rules of Evidence, J. Moore, \textit{supra} note 62; 28 U.S.C.A. § 201, at 53. Under this definition, the validity of the scientific theory supporting the polygraph test would be a fact that could be the subject of judicial notice. Legislative facts, defined as those which have relevance to legal reasoning and the law-making process, are not the subject of judicial notice under Rule 201. Advisory Committee’s Note to Rule 201, \textit{Id.} Judicial notice is an especially appropriate device for determining the relevancy of evidence. It will often supply the hypothesis that gives evidence its probative value. \textit{See J. Weinstein & M. Berger, \textit{supra} note 49, at 200-24, 25, 26, 27, 28, for a discussion of this use of judicial notice. \textit{See also} Korn, \textit{Law, Fact, and Science in the Courts}, 66 Colum. L. Rev. 1080, 1110 (1966) for examples of this use of judicial notice with regard to scientific evidence.}
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may take judicial notice on its own initiative, but it must take judicial notice if requested to do so and if the necessary information to support judicial notice is supplied. The standard for judicial notice is set forth in Rule 201(b):

A judicially noticed fact must be one not subject to reasonable dispute in that it is either (1) generally known within the community, or (2) capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned, or (3) notice is provided for by statute.

Under Rule 201(b) the essential prerequisite of judicial notice is a high degree of indisputability. Assuming that proof of general scientific acceptance would suffice to remove reliability from controversy, the court must, if requested, take judicial notice of that fact. Of course, the propriety of taking judicial notice may be contested, and evidence may be introduced to rebut the indisputability of the polygraph's reliability.

The effect of judicial notice is prescribed in Rule 201(g):

In a civil action or proceeding, the court shall instruct the jury to accept as conclusive any fact judicially noticed. In a criminal case, the court shall instruct the jury that it may, but is not required to, accept as conclusive any fact judicially noticed.

Rule 201(g) thus dispenses with the need to prove a fact that is judicially noticed. After judicial notice is taken of the validity of the scientific evidence, the proponent of such evidence need not provide a foundation regarding the validity of the scientific theory underlying the evidence. Nor may the opponent introduce evidence contesting that fact. Foundation evidence regarding the qualifications of the examiner and the proper manner of conducting the examination would, of course, still be required.

117. Id. at § 20-4-201(d).
118. Id. at § 20-4-201(b). Federal Rule 201(b) does not include the third method of establishing judicial notice. 28 U.S.C.A. § 201(b).
119. Advisory Committee's Note to Rule 201, supra note 115.
120. N.M. Stat. Ann. § 20-4-201(d).
121. Id. at § 20-4-201(e). This subdivision provides that, 'A party is entitled upon timely request to an opportunity to be heard as to the propriety of taking judicial notice and the tenor of the matter noticed. In the absence of prior notification, the request may be made after judicial notice has been taken.'
122. N.M. Stat. Ann. § 20-4-201(g).
123. See Advisory Committee's Note to Rule 201(g), supra note 100; Strong, supra note 4, at 7.
124. Strong, supra note 4, at 8-9, observes that "Where notice is taken merely for this limited purpose [to establish the validity of the general scientific principles], of course
If the standard of general scientific evidence does not remove the issue of reliability from "reasonable dispute," proof of general scientific acceptance may still be important to the proponent of polygraph evidence. For example, polygraph experts may testify that the results of properly conducted tests are generally accepted as valid and reliable in the scientific community. They may admit, however, that the polygraph examination is not infallible. Such proof might enhance the probative value of polygraph evidence, and it may decrease or eliminate the possibility that the relevance and, therefore, the admissibility of polygraph evidence could be contested.

CONCLUSION
The New Mexico and Federal Rules of Evidence provide a framework for the admissibility of scientific evidence.

The New Mexico Supreme Court's reliance on these Rules of Evidence in Dorsey may indicate a move toward a less restrictive theory of admissibility for scientific evidence. The Court did not refer to the old requirement of general scientific acceptance, and the new Rules of Evidence to which it did refer include no such requirement.

In addition, the new Rules of Evidence provide a framework for dealing with an evolving scientific process. When a scientific process is so new that its reliability and, hence, its relevancy are uncertain, Rule 403 permits its exclusion on the ground that the dangers of undue prejudice, confusion of the issues, misleading the jury, and waste of time substantially outweigh its probative value. When the scientific test is subjected to greater use and evaluation and gains greater acceptance, the probative value would not be substantially outweighed by those dangers, and the evidence should be admitted for the jury’s consideration. Finally, when the scientific principle has become so well established that it is generally accepted, Rule 201(b) permits the courts to take judicial notice of the basic principle.

The Dorsey opinion places polygraph evidence in the second stage of the evolutionary process. Dorsey requires foundation evidence of the validity of the principles underlying the polygraph examina-

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125. This possibility assumes that the standard of general scientific acceptance requires more than relevancy but less than infallibility. See note 16 supra and accompanying text.


127. The court in United States v. Ridling, 350 F. Supp. 90, 95 (E.D. Mich. 1972) indicated that the polygraph examination is presently in one of the first two stages.
tion in every case in which polygraph evidence is offered. Dorsey also permits the opponent of polygraph evidence to contest the validity of those principles in every case. The effect of Dorsey is to require the litigation of the reliability of polygraph evidence on a case-by-case basis. This procedure will continue until judicial notice is taken of the validity and reliability of the polygraph technique.

Although the procedure mandated by Dorsey may seem wasteful of time and effort, this result is not peculiar to scientific evidence. The admissibility of evidence is frequently conditioned on a proper foundation. Moreover, this procedure permits the proponent to introduce scientific evidence while at the same time it allows the opponent to contest its reliability. It is only when there is no longer any real controversy over the reliability and validity of the scientific technique that judicial notice makes this procedure unnecessary.