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**LORRAINE V. MARKEL: AN AUTHORITATIVE OPINION SETS THE  
BAR FOR ADMISSIBILITY OF ELECTRONIC EVIDENCE (EXCEPT  
FOR COMPUTER ANIMATIONS AND SIMULATIONS)**

*Lindsay Kemp*<sup>1</sup>

*Lorraine v. Markel may have a profound impact on the world of electronic evidence admissibility for its guidance to lawyers, but in the area of computer animations and simulations, it carries a mixed message. The opinion takes a progressive approach to the unfair prejudice standard, granting broad discretion to courts to admit computer animation and simulation into evidence. However, the opinion takes a conservative approach to the treatment of computer simulations as scientific evidence. Lorraine's real effect is yet to be seen, but its on-the-fence approach to computer animations and simulations may cause confusion. Lawyers should therefore use extra caution in meeting all relevant standards when introducing these forms of evidence.*

**I. INTRODUCTION**

Imagine you have been involved in a car accident—you were rear-ended while waiting at a red light. Your entire negligence claim against the driver who hit you hinges on his speed at the time of the accident. You invest thousands of dollars in computer simulation evidence, which uses a computer program that generates scientific evidence of the driver's speed based on the laws of physics and the data entered into the computer, such as the extent of the damage done to your car.<sup>2</sup> Sadly, however, your lawyer has failed to admit this computer simulation into evidence properly, and your money and your proof are gone. Perhaps your

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<sup>2</sup> See Fred Galves, *Where the Not-So-Wild Things Are: Computers in the Courtroom, the Federal Rules of Evidence, and the Need for Institutional Reform and More Judicial Acceptance*, 13 HARV. J.L. & TECH. 161, 184 (2000) (explaining how simulations work by using such data in a scientific program).

lawyer was negligent in his duties, or perhaps he was legitimately confused as to what to do in this situation. If only your lawyer had had an authoritative source explaining what evidentiary rules apply to computer simulations, he may have been able to avoid his confusion and subsequent failure. A recently decided case, *Lorraine v. Markel*,<sup>3</sup> may or may not be the authoritative source on computer animations and simulations that he needs.

Most legal commentators would agree that “[t]he age of electronic evidence has arrived.”<sup>4</sup> Lawyers may also be entering an age in which they must exercise heightened levels of care in submitting and authenticating electronic evidence.<sup>5</sup> *Lorraine* has been heralded as “an excellent guide to an important aspect of the care that *may* be or become necessary when parties attempt to offer electronic information into evidence.”<sup>6</sup> The case exposes the less-than-acceptable standard of care that at least part of the legal community is exercising concerning the admission of electronic evidence.<sup>7</sup> Along with the ease and familiarity of internet and computer resources, which have led to a more informal tone in everyone’s personal and business lives,<sup>8</sup> lawyers have taken this

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<sup>3</sup> 241 F.R.D. 534 (D. Md. 2007).

<sup>4</sup> Michael R. Overly, *Effective Discovery of Electronic Evidence*, 39 ORANGE COUNTY LAWYER 14, 22 (1997); see also Laura Catherine Daniel, *The Dubious Origins and Dangers of Clawback and Quick-Peek Agreements: An Argument Against Their Codification in the Federal Rules of Evidence*, 47 WM. & MARY L. REV. 663 (2005) (“Evidence today is seemingly all electronic.”); Ophir D. Finkelthal, *Scope of Electronic Discovery and Methods of Production*, 38 LOY. L.A. L. REV. 1591, 1591 (2005) (“[A]pproximately 90% of documents now originat[e] in electronic form.”).

<sup>5</sup> See *Lorraine v. Markel*, 241 F.R.D. 534, 537–38 (D. Md. 2007).

<sup>6</sup> Patrick J. Hatfield, Jon A. Neiditz & Jay G. Safer, *From E-Discovery to E-Admissibility?: Lorraine v. Markel and What May Follow*, June 1, 2007, [http://www.lordbissell.com/Newsstand/2007-06\\_EDiscovery\\_Neiditz\\_Hatfield\\_Safer.pdf](http://www.lordbissell.com/Newsstand/2007-06_EDiscovery_Neiditz_Hatfield_Safer.pdf) (citations omitted) (emphasis in original) (on file with the North Carolina Journal of Law & Technology).

<sup>7</sup> *Lorraine*, 241 F.R.D. at 537.

<sup>8</sup> *Id.* at 554 (“Perhaps because of the spontaneity and informality of e-mail, people tend to reveal more of themselves, for better or worse, than in other more deliberative forms of written communication.”); see also John A. Wetenkamp, *The Impact of E-mail on Attorney Practice and Ethics*, 34 MCGEORGE L. REV. 135, 139 (2002) (discussing the informality of e-mail and how this tendency can produce sloppy attorney work).

informality into the courtroom by neglecting the Federal Rules of Evidence for electronic evidence.<sup>9</sup> What remains to be seen in the wake of *Lorraine* is what new level of care lawyers will exercise when submitting electronic evidence, as well as where *Lorraine* is an effective guide and where it is not.

While *Lorraine* has been accepted for its educational value to lawyers and judges regarding admissibility standards of electronic evidence,<sup>10</sup> it is not the purpose of this recent development to prove the case's impact on the many forms of such evidence.<sup>11</sup> Rather, this piece explains why clear admissibility rules for computer animations and simulations are necessary and discusses how *Lorraine* sends mixed messages about the future of the admissibility of computer animation and simulations.

## II. BACKGROUND

Plaintiffs Jack Lorraine and Beverly Mack ("Lorraine") suffered a lightning strike to their boat on May 17, 2004.<sup>12</sup> The plaintiffs filed an insurance claim with defendant Markel American Insurance Company ("Markel") and were compensated according to their insurance policy.<sup>13</sup> Upon Lorraine's discovery of further damage to the hull of the boat some months later, Markel refused to issue further payment, disputing whether the damage to the hull

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<sup>9</sup> *Lorraine*, 241 F.R.D. at 537 (holding that the motions for summary judgment must be dismissed without prejudice for lack of "proper evidentiary support," because the electronic evidence had not been authenticated).

<sup>10</sup> *Id.* at 538 ("The process [of admitting electronic evidence] is complicated by the fact that ESI [electronically stored information] comes in multiple evidentiary 'flavors,' including e-mail, website ESI, internet postings, digital photographs, and computer-generated documents and data files."); *see also* Finkelthal, *supra* note 4, at 1591 (listing some of ways and formats in which electronic information can be discovered (and for our purposes, then used as evidence)).

<sup>11</sup> *See* Surety, *Maryland Judge Expounds on Importance of Authenticating Electronic Evidence*, [http://www.surety.com/images/whitepapers/Lorraine\\_v\\_Markel\\_Summary\\_Analysis.pdf](http://www.surety.com/images/whitepapers/Lorraine_v_Markel_Summary_Analysis.pdf) (last visited Oct. 17, 2007) (on file with the North Carolina Journal of Law & Technology) ("[T]he decision in *Lorraine v. Markel* . . . provides tremendous detail and expertise for those interested in court use of electronically stored information (ESI)").

<sup>12</sup> *Lorraine*, 241 F.R.D. at 535.

<sup>13</sup> *Id.*

was actually caused by the aforementioned lightning strike.<sup>14</sup> After the parties negotiated a private arbitration agreement, an arbitrator awarded \$14,000 to Lorraine for *some* of the damage to the hull caused by the lightning strike, rather than the \$36,000 they had claimed.<sup>15</sup> Subsequently, before the Maryland district court, Lorraine sought the full award of \$36,000, while Markel sought enforcement of the arbitrator's \$14,000 award.<sup>16</sup>

The question the parties wanted the court to answer was whether the arbitrator exceeded his authority by awarding less than the full amount of a potentially "all or nothing" arbitration agreement, as the parties had negotiated by e-mail.<sup>17</sup> The court, however, dismissed each party's motions and refused to answer this question because both parties failed to authenticate as electronic evidence the e-mail they submitted with their motions.<sup>18</sup>

### III. SUMMARY OF LEGAL DEVELOPMENT

#### A. *What Lorraine Means to Electronic Evidence in General*

The *Lorraine* court did more than merely dismiss motions for summary judgment. By refusing to make a judgment without having authenticated evidence attached to the party's motions,<sup>19</sup> the court set an example of heightened judicial scrutiny regarding the admissibility of electronic evidence.<sup>20</sup> More importantly, the

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<sup>14</sup> *Id.*

<sup>15</sup> *Id.* ("[T]he arbitrator stated, 'I find that there *is* a basis for an argument regarding loss related damage. . . . The award amount must be kept in proportion to the *loss related damage* only. I find that the repairs relating to that damage should be based on a cost of \$300.00 per foot (\$14,000.00).'"

<sup>16</sup> *Id.* at 536.

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* at 537 (explaining that the parties attached copies of the e-mails without the supporting affidavits or deposition testimony that could have authenticated the e-mails).

<sup>19</sup> *Id.*

<sup>20</sup> *Id.* ("I further observed that the unauthenticated e-mails are a form of computer-generated evidence that pose *evidentiary issues that are highlighted by their electronic medium.*") (emphasis added); see also Hatfield, Neiditz & Safer, *supra* note 6 ("In a major departure from current common practice regarding electronic communications, the opinion states that . . . the court was not in a position to consider the emails, because no basis had been provided by

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court used the opportunity presented by the case to set out an authoritative opinion that will guide the future actions of lawyers and judges.<sup>21</sup>

The *Lorraine* court first delineated the basic rules for the admissibility of all types of electronic evidence, explaining that the evidence must be: (1) relevant; (2) authenticated; (3) allowable under the hearsay rules; (4) allowable under the original writing (best evidence) rule; and (5) the probative value of such evidence cannot be outweighed by any unfair prejudice.<sup>22</sup> *Lorraine* then

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the parties for admissibility or authentication.”); ProofSpace, *Archiving, E-Discovery and the Authentication of Electronic Evidence*, <http://www.proofspace.com/technology/discovery.php> (last visited Oct. 17, 2007) (on file with the North Carolina Journal of Law & Technology) (voicing the concern of some federal judges that lawyers or parties may have altered electronic records before seeking to admit them and explaining that even though “some courts will continue to view electronic business records much as paper documents (which are rarely challenged on grounds of authenticity), attorneys should be prepared to face more frequent challenges to e-records in the coming years”).

<sup>21</sup> *Lorraine*, 241 F.R.D. at 537 (discussing the lack of a “comprehensive analysis of the many interrelated evidentiary issues associated with electronic evidence” and the court’s determination to “undertake[ ] a broader and more detailed analysis of these issues than would be required simply to resolve the specific issues presented in this case” and “provide a helpful starting place for understanding the challenges associated with the admissibility of electronic evidence.”); see also Pike & Fischer, *E-Mail, Other Electronically Stored Data Should Be Given Strict Evidentiary Vetting*, May 9, 2007, <http://www.ilrweb.com/showSingleDoc.asp?section=1&iName=newsIndex&docID=NEWS10661&pop=true> (on file with the North Carolina Journal of Law & Technology) (summarizing *Lorraine* and its main points and calling the opinion an “exhaustive evaluation of the authentication rules . . . explaining the special significance of ESI.”).

<sup>22</sup> *Lorraine*, 241 F.R.D. at 538. The court is referring to rules in the Federal Rules of Evidence; the full interpretation by the court reads:

Whenever ESI is offered as evidence, either at trial or in summary judgment, the following evidence rules must be considered: (1) is the ESI *relevant* as determined by Rule 401 (does it have any tendency to make some fact that is of consequence to the litigation more or less probable than it otherwise would be); (2) if relevant under 401, is it *authentic* as required by Rule 901(a) (can the proponent show that the ESI is what it purports to be); (3) if the ESI is offered for its substantive truth, is it *hearsay* as defined by Rule 801, and if so, is it covered by an applicable exception (Rules 803, 804 and 807); (4) is

discussed authentication guidelines for several specific types of electronic evidence, including computer animations and simulations.<sup>23</sup>

*B. What are Computer Animations and Simulations?*

A computer animation is “the display of a sequence of computer-generated images.”<sup>24</sup> One commentator explains the difference between animations and simulations: “An ‘animation’ used for demonstrative purposes is often referred to simply as an animation, while an ‘animation’ used as substantive evidence is often referred to as a simulation.”<sup>25</sup> Thus, animations are simply visual representations used to illustrate a witness’s testimony. Simulations are submitted as substantive evidence, however, because they are “based on scientific or physical principles and data entered into a computer, which is programmed to analyze the data and draw a conclusion from it . . . .”<sup>26</sup>

*C. What Lorraine Says About Computer Animations and Simulations*

The *Lorraine* court explained how other courts have treated computer animations in the past. In general, courts “have allowed the admission of computer animations if authenticated by testimony of a witness with personal knowledge of the content of

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the form of the ESI that is being offered as evidence an *original* or *duplicate* under the original writing rule, o[r] if not, is there admissible secondary evidence to prove the content of the ESI (Rules 1001-1008); and (5) is the probative value of the ESI substantially outweighed by the danger of *unfair prejudice* or one of the other factors identified by Rule 403, such that it should be excluded despite its relevance.

*Id.* (emphasis in original).

<sup>23</sup> *Id.* at 559-61.

<sup>24</sup> EDWARD J. IMWINKELRIED, *EVIDENTIARY FOUNDATIONS* 4.09(4)(a) (6th ed. 2005).

<sup>25</sup> Dean A. Morande, *A Class of Their Own: Model Procedural Rules and Evidentiary Evaluation of Computer-Generated “Animations,”* 61 U. MIAMI L. REV. 1069, 1072 (2007).

<sup>26</sup> *Lorraine*, 241 F.R.D. at 559 (citing *State v. Sayles*, 662 N.W.2d 1, 9 (Iowa 2003)); see also Galves, *supra* note 2, at 180–185 (explaining the difference between animations and simulations); Morande, *supra* note 25, at 1072–73 (explaining that a simulation functions as an expert witness in itself).

the animation, upon a showing that it fairly and adequately portrays the facts . . . .”<sup>27</sup> In *Lorraine*, the court clarified that, according to past cases, the unfair prejudice rule<sup>28</sup> is not violated if the animation is “sufficiently close to the actual events and is not confused by the jury for the real life events themselves.”<sup>29</sup> In keeping with the purpose of providing a guide for lawyers in submitting electronic evidence (and here, computer animations) for admissibility, the court wrote that the most common and useful ways for authentication are by (1) witnesses with personal knowledge testifying to its authenticity<sup>30</sup> and (2) testimonies of expert witnesses.<sup>31</sup>

Concerning computer simulations, offered as substantive evidence, the court emphasized the rule in *Commercial Union v. Boston Edison*,<sup>32</sup> which determined that simulations should be treated like scientific tests, whereby the lawyer must show, among other things, that “the program is *generally accepted* by the appropriate community of scientists.”<sup>33</sup> Noting potential problems and dangers that could arise with admissibility of computer simulations, such as the erroneous entry of information into the computer program performing the simulation,<sup>34</sup> the *Lorraine* court also emphasized that the usual methods of authenticating computer

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<sup>27</sup> *Lorraine*, 241 F.R.D. at 559.

<sup>28</sup> FED. R. EVID. 403.

<sup>29</sup> *Lorraine*, 241 F.R.D. at 559 (citing *Friend v. Time Mfg. Co.*, No. 03-343-TUC-CKJ 2006 WL 2135807, at \*7 (D. Ariz. July 28, 2006)).

<sup>30</sup> FED. R. EVID. 901(b)(1); see IMWINKELRIED, *supra* note 24 (“It suffices if the witness testifies that he or she has viewed the animation and that the animation fairly and accurately depicts the witness’s version of the event.”).

<sup>31</sup> FED. R. EVID. 901(b)(3); *Lorraine*, 241 F.R.D. at 560 (“A party may authenticate a video animation by . . . the testimony of the expert who prepared the underlying data and the computer technician who used that data to create it.” (citation omitted)).

<sup>32</sup> 591 N.E. 165 (Mass. 1992).

<sup>33</sup> *Commercial Union Ins. Co. v. Boston Edison Co.*, 591 N.E. 165, 168 (Mass. 1992) (emphasis added). The other showings the party must make are that the computer functions properly and that “the input and underlying equations are sufficiently complete and accurate (and disclosed to the opposing party so that they may challenge them).” *Id.*

<sup>34</sup> *Lorraine*, 241 F.R.D. at 560.



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simulations are the same for computer animations<sup>35</sup>—by testimony from witnesses with personal knowledge<sup>36</sup> and by testimony from expert witnesses.<sup>37</sup>

The court also discussed the final “test” for the admissibility of electronic evidence—unfair prejudice.<sup>38</sup> Rule 403 of the Federal Rules of Evidence states: “Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice . . . .”<sup>39</sup> Unfair prejudice may be evidenced by “language that may provoke an emotional response.”<sup>40</sup> The court furthermore explained that courts will be more likely to consider undue prejudice where there may be “a substantial risk that the jury may mistake [the computer animations and simulations] for the actual events in litigation.”<sup>41</sup> Most importantly, the court cautioned lawyers to be prepared to show why there is no unfair prejudice under Rule 403 when they are offering computer animations into evidence.<sup>42</sup>

#### IV. SIGNIFICANCE

##### *A. Why Do We Need Clear Rules for Computer Animations and Simulations?*

Both computer animations and simulations can have a profound effect on a jury.<sup>43</sup> The information that can be

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<sup>35</sup> *Id.*

<sup>36</sup> FED. R. EVID. 901(b)(1).

<sup>37</sup> FED. R. EVID. 901(b)(3); *see also Lorraine*, 241 F.R.D. at 560 (“Thus, the most frequent methods of authenticating computer animations are 901(b)(1) (witness with personal knowledge), and 901(b)(3) (testimony of an expert witness).”).

<sup>38</sup> *Lorraine*, 241 F.R.D. at 583–84.

<sup>39</sup> FED. R. EVID. 403; *see also Lorraine*, 241 F.R.D. at 583.

<sup>40</sup> *Lorraine*, 241 F.R.D. at 584 (citing *Monotype Corp. v. Int’l Trade Corp.*, 43 F.3d 443, 450 (9th Cir. 1994)).

<sup>41</sup> *Id.* (citing *Friend v. Time Mfg. Co.*, No. 03-343-TUC-CKJ 2006 WL 2135807 at \*7 (D. Ariz. 2006)).

<sup>42</sup> *Id.* at 584 (“[H]e or she must be prepared to demonstrate why any prejudice is not unfair, when measured against the probative value of the evidence.”).

<sup>43</sup> *See generally* Morande, *supra* note 25 (discussing the strong influence animations and simulations can have on a jury); Galves, *supra* note 2 (exploring

communicated by these visual methods is extremely memorable for a jury and can also facilitate jury understanding of the witness's testimony.<sup>44</sup> Moreover, computer animations and simulations are effective ways to grab a jury's attention. Additionally, using a well-known medium makes the jury comfortable.<sup>45</sup> Some analysts consider animations and simulations to be less expensive, faster, and easier to understand, as well as particularly effective because of their ability to hold the attention of the jury.<sup>46</sup>

While there are benefits to using computer animations and simulations, there are also certain inherent dangers that increase the need for clear evidence rules.<sup>47</sup> First, animations and simulations have the potential to be too influential on the jury—Americans are accustomed to receiving visual information through media like televisions and may be more accepting of the testimony delivered in such a way.<sup>48</sup> For example, the jury may accept a computer-animated depiction of an eyewitness's testimony as fact rather than a personal account subject to doubts and judgments of the witness's credibility.<sup>49</sup> However, some commentators have faith in the ability of the jury to separate fact from testimony and argue that judges should allow such evidence while instructing the

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the benefits and dangers, including undue influence of a jury, of using animations and simulations).

<sup>44</sup> Galves, *supra* note 2, at 180–190 (“If a ‘picture is worth a thousand words,’ then a computer-generated animation says a thousand words, sings a thousand songs, and paints with a thousand colors all at once.”); *see also* Elan E. Weinreb, “Counselor, Proceed With Caution”: *The Use of Integrated Evidence Presentation Systems and Computer-Generated Evidence in the Courtroom*, 23 CARDOZO L. REV. 393, 396 (2001) (“Computer animations or simulations . . . are tremendously persuasive and significantly aid jurors in comprehending difficult issues.”).

<sup>45</sup> Galves, *supra* note 2, at 191.

<sup>46</sup> *Id.* at 197 (quoting Fred Misko, Jr. & Charles E. Ames, *Using Technology in the Management and Trial of Complex Case*, COMP. L. REV. & TECH J. Summer 1997, at 16-17, *available at* <http://www.smu.edu/csr/Misko.pdf>) (on file with the North Carolina Journal of Law & Technology).

<sup>47</sup> *See generally* Morande, *supra* note 25 (discussing the ease with which animations and simulations are accepted by a jury and why this is not always a good thing).

<sup>48</sup> *Id.* at 1075–76.

<sup>49</sup> Galves, *supra* note 2, at 216–21.

jury not to “overvalue” the evidence.<sup>50</sup> In other words, “judges need to be reminded that Rule 403 should be employed ‘sparingly’ . . . .”<sup>51</sup> Other commentators believe that the unfair prejudice rule in Rule 403 is (and should remain) extremely important, because dissimilarities between testimonies and opinions are not always depicted in animations and simulations and can therefore be misleading or confusing to the jury.<sup>52</sup>

Another inherent danger in using computer animations and simulations is that some images are too powerful and can play on a jury’s emotions, fears, or repulsions.<sup>53</sup> For example, an animation depicting “facial expressions, blood, or sounds like screams or gunshots” may be overly graphic and thus be unfairly prejudicial.<sup>54</sup> One final danger is that, “animations and simulations that contain subtleties such as human gestures emulating emotion are likely unduly prejudicial because they cannot generally represent such features with sufficient accuracy.”<sup>55</sup>

One final consideration regarding the use of computer simulations as evidence is that they might not be admitted.<sup>56</sup> Developing computer animations and simulations for court is very expensive—“complex animations can range in cost from \$50,000 to over \$100,000.”<sup>57</sup> The danger lies in having the computer-generated evidence excluded for any of the five reasons *Lorraine* explained,<sup>58</sup> including violation of the unfair prejudice rule or

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<sup>50</sup> *Id.* at 218–21 (“Simply because Hollywood can produce special effects showing, for example, present-day dinosaurs walking through fields . . . does not mean that most people exposed to such images are so unsophisticated that they will say to themselves: ‘I saw it on a screen, so it must be true, and now I am incapable of even considering a contrary argument.’”).

<sup>51</sup> *Id.* at 222.

<sup>52</sup> Morande, *supra* note 25, at 1117.

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

<sup>56</sup> See *supra* Part I.

<sup>57</sup> Galves, *supra* note 2, at 288 (“In terms of sheer costs, many commentators liken them to small Hollywood movie productions, since they can cost tens of thousands of dollars and the initial cost can unexpectedly multiply when revisions and modifications need to be made.”).

<sup>58</sup> *Lorraine v. Markel*, 241 F.R.D. 534, 538 (D. Md. 2007). As noted earlier, the five standards are: (1) relevance; (2) authenticity; (3) allowable under the

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failure to be authenticated.<sup>59</sup> If the evidence is excluded, the client loses that entire investment and the weight of that evidence in court.<sup>60</sup> For these reasons lawyers need to take every possible precaution to ensure that the computer animation or simulation has met applicable admissibility standards.

*B. How Does Lorraine “Move Forward” by Addressing These Dangers?*

The *Lorraine* court took a fairly progressive approach towards unfair prejudice in computer animations and simulations.<sup>61</sup> As noted above, one of the reasons the court gave for non-admission is that “there is a substantial risk that the jury may mistake them for the actual events in the litigation.”<sup>62</sup> The evidence may be unfairly prejudicial if there is a “confusion of the issues, or misleading [of] the jury.”<sup>63</sup> The court acknowledged the risk that juries will mistake the animation or simulation for the actual events, or that it could be “distracting, confusing, or emotionally charged,”<sup>64</sup> but advised that cautionary instructions to juries could overcome these problems.<sup>65</sup> This confidence in cautionary instructions is why the court required that judges be given a high degree of discretion in determining admissibility of electronic evidence, thus advising that the exclusion of evidence under Rule 403 should be used

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hearsay rules; (4) allowable under the original writing (best evidence) rule; and (5) the probative value of such evidence cannot be outweighed by any unfair prejudice. *Id.*

<sup>59</sup> Galves, *supra* note 2, at 288.

<sup>60</sup> *Id.* at 289 (“The unavoidable problem is that a proponent of a CGE [computer-generated evidence] cannot obtain a ruling on its admissibility until *after* it is created and shown to the judge and opposing counsel for their reactions and arguments.”).

<sup>61</sup> *Lorraine*, 241 F.R.D. at 559–560, 584.

<sup>62</sup> *Id.* at 584.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> *Id.* (citing JACK B. WEINSTEIN & MARGARET A. BERGER, WEINSTEIN’S FEDERAL EVIDENCE § 403.02[2][c] (Joseph M. McLaughlin ed., Matthew Bender 2d ed. 1997)) (“[I]f there is doubt about the existence of unfair prejudice . . . it is generally better practice to admit the evidence, taking necessary precautions of contemporaneous instructions to the jury followed by additional admonitions in the charge.”).

sparingly.<sup>66</sup> *Lorraine*'s adoption of this permissive approach may permit animations and simulations to become more widely accepted in the future.<sup>67</sup>

C. *How Does Lorraine "Move Backward" in Addressing Some Issues of Authentication of Computer Simulations?*

*Lorraine* correctly stated that "[c]omputer simulations are treated as a form of scientific evidence, offered for a substantive, rather than demonstrative purpose."<sup>68</sup> However, *Lorraine* hardly mentioned that the rules of admitting scientific evidence are governed by Federal Rules of Evidence 702 and 703,<sup>69</sup> and this omission could be confusing to a lawyer looking to *Lorraine* as an authoritative and all-inclusive guide. Furthermore, the federal test for the admissibility of scientific evidence is explained in *Daubert v. Merrill Dow Pharmaceuticals, Inc.*,<sup>70</sup> whereby "[t]he factors to be considered are . . . whether there has been a *particular degree* of acceptance [of the scientific program] within the relevant scientific community."<sup>71</sup> *Lorraine* failed to mention the *Daubert* test.<sup>72</sup> Instead, the court pointed to the Massachusetts state standard that the program must be *generally accepted* by the appropriate

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<sup>66</sup> *Lorraine*, 241 F.R.D. at 584. Of course, there is always a danger that the jury might ignore or forget a cautionary instruction.

<sup>67</sup> Galves, *supra* note 2, at 300. Galves hopes that:

[p]erhaps within a few years . . . the lawyers, judges, and legal scholars of tomorrow will view computer technology in the courtroom, not so much with a skeptical or technophobic eye, poised to exclude it under the evidentiary and procedural rules, but rather with a commonplace acceptance and rational reliance. Indeed, they probably will wonder how CGEs [computer-generated evidence] ever could have been perceived as anything beyond just a more efficient and powerful way than non-computerized exhibits to communicate complex ideas in a persuasive and effective manner.

*Id.*

<sup>68</sup> *Id.* at 300.

<sup>69</sup> FED. R. EVID. 702, 703; *Lorraine*, 241 F.R.D. at 560.

<sup>70</sup> 509 U.S. 579 (1993).

<sup>71</sup> Galves, *supra* note 2, at 255 (emphasis added).

<sup>72</sup> *Lorraine*, 241 F.R.D. at 560.

community of scientists.<sup>73</sup> “General acceptance in the particular field in which it belongs” is less flexible for purposes of admissibility than *Daubert*’s “*particular degree*” of acceptance.<sup>74</sup> The term “general acceptance” may be designed to “keep out non-established, or ‘junk’ science, [but] it also would keep out new, innovative scientific techniques . . . until they became established (or ‘generally accepted’), necessarily placing courts one step behind society.”<sup>75</sup> By failing to mention the more progressive *Daubert* test for computer simulations, *Lorraine* made a serious omission and took an overly conservative approach which could mislead attorneys who are wondering which standard applies in their jurisdiction.<sup>76</sup> This heightened standard goes against the technological trend (as evidenced by the federal *Daubert* test) and dampens the hopes that the admission of simulations as scientific evidence will become more commonplace (and without such difficult standards to overcome).<sup>77</sup>

## V. CONCLUSION

*Lorraine* may have a profound impact on the field of general electronic evidence for its clear guidance to lawyers and even judges.<sup>78</sup> However, it carries a mixed message for computer animations and simulations.<sup>79</sup> The *Lorraine* decision takes a progressive approach to Rule 403 and unfair prejudice, allowing for necessary protections against such prejudice while still granting broad discretion to the courts to admit computer animations as evidence.<sup>80</sup> *Lorraine* seems to take a step backward, however, in

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<sup>73</sup> *Id.* at 548 (emphasis added) (citing *Commercial Union Ins. Co. v. Boston Edison*, 591 N.E. 165 (Mass. 1992)).

<sup>74</sup> Galves, *supra* note 2, at 253–254.

<sup>75</sup> *Id.* at 254.

<sup>76</sup> *Lorraine*, 241 F.R.D. 534.

<sup>77</sup> Galves, *supra* note 2, at 300 (“[T]he rules should be updated and interpreted in their true spirit so as to not ‘discriminate’ against technological advances in display technology.”).

<sup>78</sup> See *Surety*, *supra* note 11.

<sup>79</sup> See *supra* Part IV. A–C.

<sup>80</sup> See *supra* Part IV. B.

the ultimate push for more technology in the courtroom through its stringent analysis of computer simulations.<sup>81</sup>

The real effect of *Lorraine* is yet to be seen, but its mixed message regarding computer animations and simulations may stir confusion as to the intended future of electronic evidence of this sort, rather than serve as a useful resource for lawyers. In the face of this confusion, lawyers need to be prepared, as *Lorraine* advises, to defend computer animations and simulations against allegations of unfair prejudice. Furthermore, lawyers must be wary when submitting computer simulations as scientific evidence. Rather than meeting the “particular degree” of acceptance for scientific evidence as stipulated by *Daubert*, lawyers should be prepared to meet the more stringent “general acceptance” standard. Lawyers can protect themselves and their clients by paying careful attention to these tests, and by looking beyond *Lorraine* to discover the standards used in their own jurisdictions. Ultimately, *Lorraine* will perhaps be most useful because it makes lawyers aware that they must be extremely conscientious when submitting electronic evidence for admissibility.

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<sup>81</sup> See *supra* Part IV. C.