



## BAD SCIENCE, BAD LAW

### JUDGING SCIENCE ON APPEAL IN TEXAS CRIMINAL CASES AND RELATED ETHICAL ISSUES

BY STACEY M. GOLDSTEIN AND  
JUDGE MICHAEL E. KEASLER

*Above:*  
An investigator bags evidence in Tyler.  
AP Photo/Donna McWilliam

A conviction must never rest on junk science, and such cases are subject to reversal on appeal when the trial judge erred in ruling that the junk science was admissible. Experience teaches that cases can be won or lost based on the burden or standard of review that applies on appeal. With much at stake, it is not surprising that the appellate standard of review that applies to the trial judge's gatekeeping function in admitting scientific evidence is as controversial as the prospect that junk science may result in wrongful convictions.<sup>1</sup> Indeed, an intense, ongoing nationwide debate among legal scholars and appellate judges exists over the applicable standard of review.

Over the years, two camps have emerged. One camp, expressing the minority view, recommends the application of a *de novo* standard regarding the reliability of the science while retaining the abuse-of-discretion standard regarding the trial judge's application of the science to the facts of the case. Some supporters within this camp also contend that appellate judges must conduct their own research to determine whether a particular science is junk science. The second camp, which includes the majority of jurisdictions, favors the application of an abuse-of-discretion standard to both determinations based only on the record evidence.

In the criminal realm, Texas has joined in the nationwide debate, ultimately deciding to apply the abuse-of-discretion standard. As with other legal issues, one facet in the debate over the standard of review involves consideration of the ethical canons governing judicial conduct. The abuse-of-discretion standard does not implicate those rules, while a *de novo* review allowing independent judicial research would be prohibited under the existing canons.



## Overview

The U.S. Supreme Court's 1993 decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, drastically altered the admissibility standard that applies to scientific evidence.<sup>2</sup> Under *Daubert*, Federal Rule of Evidence 702, which governs the admissibility of expert testimony, superseded the then-dominant "general acceptance" test announced 70 years before by the District of Columbia Circuit Court in *Fry v. United States*.<sup>3</sup>

Under *Daubert*, the proponent of scientific evidence must show, by a preponderance of the evidence, that the evidence will assist the factfinder.<sup>4</sup> To make this showing, the proponent must demonstrate that "the reasoning and methodology underlying the testimony is scientifically valid and ... that the reasoning or methodology properly can be applied to the facts in issue."<sup>5</sup> Some factors that the trial judge, as the gatekeeper under Federal Rule of Evidence 104(a), must weigh when determining the validity of a science include: (1) whether the science "can be (and has been) tested"; (2) whether the science has been "subjected to peer review and publication"; (3) whether there is a "known or potential rate of error ... and the existence and maintenance of standards controlling the technique's operation";<sup>6</sup> and (4) whether there has been "explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance within that community."<sup>7</sup>

Shortly before *Daubert*, in *Kelly v. State*, the Texas Court of Criminal Appeals adopted a strikingly similar relevance and reliability standard for Texas Rule of Evidence 702.<sup>8</sup> The standard in Texas criminal cases is, therefore, commonly referred to as the *Daubert/Kelly* standard.<sup>9</sup> *Kelly* requires the trial judge to make a preliminary, gatekeeping determination as to whether the science-based testimony will be "sufficiently reliable and relevant to help the jury in reaching accurate results."<sup>10</sup> The proponent of the evidence must establish, by clear and convincing evidence (a higher standard than *Daubert* requires), three factors: first, "the underlying scientific theory must be valid"; second, "the technique applying the theory must be valid"; and third, "the technique must have been properly applied on the occasion in question."<sup>11</sup> An inquiry into the following non-exclusive circumstances guides judges in deciding the three factors:

- (1) the extent to which the underlying scientific theory and technique are accepted as valid by the relevant scientific community, if such a community can be ascertained;
- (2) the qualifications of the experts testifying;
- (3) the existence of literature supporting or rejecting the underlying scientific theory and technique;
- (4) the potential rate of error of the technique;
- (5) the availability of other experts to test and evaluate the technique;
- (6) the clarity with which the underlying scientific theory and technique can be explained to the court;
- and (7) the experience and skill of the person(s) who applied the technique on the occasion in question.<sup>12</sup>

In the wake of *Daubert*, the applicable appellate standard of review became a subject of much debate among legal scholars. Many argued for a *de novo* review of the science's reliability and an abuse-of-discretion review of the application of the science

to the facts of the case.<sup>13</sup> Faigman, Porter, and Saks, early commentators on the issue, declared that the validity of a scientific fact, when it "transcends a particular dispute," should be reviewed *de novo* because it "resemble[s] legislative facts" relating to law and policy, which are typically reviewed *de novo*.<sup>14</sup> These commentators maintained that a *de novo* review would prevent courts from ruling inconsistently on the same science.<sup>15</sup>

In 1997, approximately four years after *Daubert*, the U.S. Supreme Court addressed the applicable standard of review in *General Electric Company v. Joiner*. The Court held that a trial judge's ruling on the admissibility of scientific evidence is reviewed under the deferential, abuse-of-discretion standard.<sup>16</sup>

Because the Court did not specifically reject a bifurcated standard, though, some appellate judges and legal scholars continue to consider the issue unsettled and advocate for a partial *de novo* review.<sup>17</sup> Professor Michael H. Gottesman, who argued on behalf of *Daubert* and *Joiner* before the Supreme Court and who specifically argued in *Joiner* that the lower court properly applied the abuse-of-discretion standard, took a different position when he later weighed in on the issue in a law review article. In addition to the pre-*Joiner* arguments,<sup>18</sup> Gottesman claimed, among other things, that appellate courts will simply pay lip service to the abuse-of-discretion standard while actually applying a *de novo* review to achieve the desired result.<sup>19</sup> Gottesman referred to this as "appellate disingenuity."<sup>20</sup> He also claimed that a federal judicial "nominee's philosophical attitudes about scientific testimony will become a new litmus test for confirmation of district judges."<sup>21</sup>

Alaska Supreme Court Justice Dana Fabe, in her concurring and dissenting opinion in *State v. Coon*, argued that a *de novo* review of the validity of a science is appropriate.<sup>22</sup> Justice Fabe, citing some of the aforementioned scholars, maintained that a *de novo* standard would result in consistent rulings by Alaska courts.<sup>23</sup> The failure to do so, she feared, would mean that erroneous guilty verdicts would erode the public's confidence in the criminal justice system.<sup>24</sup> Justice Fabe also remarked that the validity of a science is a legal issue, not dependent on "case-sensitive factual determinations[.]"<sup>25</sup> A science's validity does "not turn on an assessment of the credibility of witnesses," she wrote.<sup>26</sup> A science is "either reliable or unreliable."<sup>27</sup>

A set of scholars and judges who have advocated for a *de novo* review in this context have taken the matter a step further. A *de novo* review, in their opinion, includes the right and the prerogative of an appellate court to conduct its own research when considering a science's validity, notwithstanding the evidence presented in the trial court.<sup>28</sup> Professor Edward K. Cheng has asserted that independent judicial research complements judicial education programs on scientific evidence.<sup>29</sup>

This approach has garnered numerous objections from scholars and judges alike.<sup>30</sup> Cheng, who ultimately advocates for independent judicial research, subject to certain potential limitations, discussed and addressed two of the leading criticisms.<sup>31</sup> One criticism of independent judicial research is that it conflicts with the nature of our adversarial justice system in which the parties are responsible for presenting evidence and in

which the judge is the “neutral and passive decisionmaker.”<sup>32</sup> In response, Cheng states that this may be the only situation in which our “adversarial values” should be sacrificed because accuracy is otherwise compromised.<sup>33</sup> Cheng argues that experts, unlike other witnesses, can be paid by the parties, “ensuring conflicting and partisan testimony,” and in criminal cases, where the defendants are indigent and unable to hire an expert, the prosecution’s scientific evidence may be left unchallenged.<sup>34</sup> Further, Cheng succinctly stated that the public “expects courts to get the science right.”<sup>35</sup>

A second criticism of independent judicial research is that judges will not be able to conduct “first-rate library research” due to lack of resources.<sup>36</sup> Because they are not scientific experts in their own right, judges risk “missing important information or being duped by outlier, polemical, or otherwise discredited material.”<sup>37</sup> Cheng contends, however, that this concern is unwarranted.<sup>38</sup> To him, judges will rely only on reliable sources, as they are accustomed to doing, and will avoid “dubious” sources so as not to risk the “persuasive power of their opinions, let alone their reputations.”<sup>39</sup> Independent research will be limited by the case and what the parties present.<sup>40</sup> Thus, a judge’s research will only supplement what the parties provide.<sup>41</sup>

### The Texas Position

So where does Texas stand? Though Texas is not bound by the Supreme Court’s interpretation of the Federal Rules of Evidence in *Joiner*, the Texas Court of Criminal Appeals, confronted with the dueling standards of review in *Hernandez v. State*, settled the issue once and for all — the abuse-of-discretion standard applies to both *Kelly*’s reliability and relevancy requirements.<sup>42</sup>

In *Hernandez*, the trial judge ruled that a technician’s testimony concerning the results of a marijuana drug test performed by an ADx analyzer testing machine was reliable and, therefore, admissible.<sup>43</sup> The Court disagreed.<sup>44</sup> It held that the record was devoid of any evidence demonstrating the machine’s scientific validity.<sup>45</sup> The fact that the trial judge had admitted such testimony in the past did not mean that the technician’s testimony was *ipso facto* reliable for purposes of this case.<sup>46</sup> If the judge had held a gatekeeping hearing on this issue in a previous case, he should have made it part of the record, which would have supported his ruling.<sup>47</sup>

The Court upheld the court of appeals’ determination that the trial judge abused his discretion and limited its review to the trial record.<sup>48</sup> Regarding the latter, the Court explicitly refused to consider the evidence of the ADx analyzer’s reliability that the State submitted along with its brief.<sup>49</sup> Noting that the State bore the burden at trial, the Court remarked, “The trial court should have been given this material, and appellant should have been allowed an opportunity to cross-examine any witnesses who sponsored it.”<sup>50</sup> Finally, discussing the principle of judicial notice, the Court stated that “judicial notice on appeal cannot serve as the sole source of support for a bare trial court record. . . .”<sup>51</sup>

The dissent argued that the Court should apply a *de novo* review of the reliability of the science and an abuse-of-discretion standard of the trial judge’s application of the science to

the facts.<sup>52</sup> The dissent relied on the same arguments that had been advanced before and after *Joiner* — that an abuse-of-discretion standard of review would lead to inconsistent treatment by courts of the same science, potentially leaving the bench and bar without guidance; that a science’s validity or reliability does not depend on the circumstances of a particular case; that the trial judge is not in any better position to determine a science’s validity; and, that appellate courts can consider the across-the-board policy issues when establishing precedent.<sup>53</sup>

The dissent also maintained that a *de novo* review of scientific evidence includes an appellate court’s ability to conduct its own research, outside of the record, to determine a science’s validity.<sup>54</sup> This assessment, the dissent recognized, allows for an independent, neutral determination, which avoids any biases that the parties’ experts may possess.<sup>55</sup> Further, on their own initiative, appellate judges can obtain more reliable, higher-quality information about a scientific theory or technique than the parties can provide.<sup>56</sup> The dissent also believed that arguments about the validity of a science may be more effective when presented in written form than through testimony.<sup>57</sup> Finally, independent judicial research would also permit the law to keep up with a rapidly changing scientific field.<sup>58</sup> Appellate courts could then quickly remedy any injustice that has resulted from the admission of a science that was viewed as valid at the time of trial but later determined to be junk science.<sup>59</sup>

One of the concurring opinions in *Hernandez* strongly criticized the dissent’s argument that appellate courts should be permitted to conduct their own research as part of a *de novo* review.<sup>60</sup> Without commenting on whether a partial *de novo* review would be appropriate, the concurrence stated: “Equating *de novo* review with an outside-the-record examination confuses the ‘how’ of appellate review with the ‘what’ of appellate review.”<sup>61</sup> Elaborating, the concurrence started by pointing to Cheng’s two most noted challenges to independent judicial research.<sup>62</sup> It also stressed the important nature of live testimony and the ability to confront and cross-examine scientific experts in assessing reliability.<sup>63</sup>

Under current Texas law, there are other reasons that a *de novo* review should not be the standard. Preservation of error is systemic,<sup>64</sup> and, in most instances, when a party fails to properly preserve an issue or argument, it is procedurally defaulted.<sup>65</sup> Allowing the parties to submit new materials concerning the validity or invalidity of scientific evidence on appeal runs afoul of this well-ingrained principle. In a similar vein, the Court of Criminal Appeals has held that it will not examine the propriety of a trial judge’s evidentiary ruling based on evidence that the trial judge never had an opportunity to consider.<sup>66</sup> Independent judicial research on appeal is contrary to this principle as well. Indeed, Arizona’s Supreme Court has recognized the logical fallacy of reversing a trial judge’s admissibility ruling based on evidence not presented at trial, stating, “It is somewhat incongruous to call the trial court’s ruling ‘error.’”<sup>67</sup>

The dissent’s argument in *Hernandez* that independent judicial research is required to promptly remedy the injustice that results when a conviction rests on “junk science” is not as crucial

as it may first appear given Texas' writ jurisprudence. A person wrongfully convicted based on "junk science" may obtain relief by way of an application for a writ of habeas corpus,<sup>68</sup> where it is permissible to develop the record with new evidence.<sup>69</sup> Texas recognizes actual innocence based on newly discovered evidence,<sup>70</sup> and Texas recognizes a violation of due process when a conviction is obtained with either the knowing or unknowing use of material false, perjured, or misleading evidence.<sup>71</sup> Generally, habeas proceedings tend to be less formal than trials, and habeas trial judges, as well as the Court of Criminal Appeals — the ultimate factfinder on habeas<sup>72</sup> — has the authority to order the parties to cure a deficient record with any information relevant to the disposition of the habeas applicant's claims.

### Related Ethical Issues

Whichever view one may subscribe to, Texas' Code of Judicial Conduct appears to prohibit independent judicial scientific research. According to Canons 1 and 2, a judge is responsible for ensuring that the integrity, independence, and impartiality of the judiciary are preserved.<sup>73</sup>

Canon 3 specifically addresses restrictions on *ex parte* communications:

A judge shall not initiate, permit, or consider *ex parte* communications or other communications made to the judge outside the presence of the parties between the judge and a party, an attorney ... or any other court appointee concerning the merits of a pending or impending judicial proceeding.<sup>74</sup>

Independent scientific research at the appellate level is likely forbidden under this provision.<sup>75</sup> However, a judge is permitted to obtain the help of an expert on the "law" if the judge notifies the parties of the expert consulted and of the substance of the advice, and the court gives the parties an opportunity to respond.<sup>76</sup> Although there is no interpretive authority in Texas concerning whether an expert on the "law" can be read to include experts on scientific matters, in written form or otherwise, it is likely that the provision would be interpreted to apply only to legal scholars, as opposed to non-legal, scholarly, or expert opinions that may affect the law.<sup>77</sup>

One could argue that independent judicial research might violate these rules and could lead to various forms of sanctions, or, perhaps, even removal in an extreme circumstance. Additionally, judges may be required to recuse themselves from any cases in which their "impartiality might reasonably be questioned" as a result of any independent judicial research.<sup>78</sup>

However, the rules do contain an exception for "*ex parte* communications expressly authorized by law." Consequently, the doctrine of judicial notice comes into play in the debate over independent judicial scientific research.<sup>79</sup> Judicial notice includes two types of facts: adjudicative and legislative facts. Generally, it is not permissible for judges to conduct outside research of adjudicative facts — those that relate to the particular dispute, including facts about the parties, the circumstances, and background conditions.<sup>80</sup> But it is permissible for judges to inde-

pendently research legislative facts, which relate to policy and inform a court's legislative judgment in interpreting the law.<sup>81</sup>

In Texas, any limitations on judicial notice of adjudicative facts have no bearing on a trial judge's preliminary admissibility ruling. Under Texas Rule of Evidence 104(a), when a judge exercises his or her gatekeeping function under *Kelly*, with the exception of privilege, the judge is not bound by the evidentiary rules, including those governing judicial notice.<sup>82</sup>

The Texas Court of Criminal Appeals has previously invoked common law rules pertaining to judicial notice to use extra-record, scientific articles when reviewing a trial judge's scientific reliability ruling.<sup>83</sup> After *Hernandez*, however, it appears that the judicial notice doctrine cannot be used to justify independent, extra-record judicial research into scientific issues.

But as Professor Elizabeth G. Thornburg observes, it is virtually impossible to label independent judicial research in this context as belonging definitively to either category — adjudicative or legislative — individually.<sup>84</sup> She argues that, with respect to the reliability and relevancy determination under *Daubert*, "the analysis operates on three fact levels": first, facts pertaining to the abstract scientific theory or principle that underlies the conclusion; second, "the general technique or procedure that produces the data;" and third, how the procedure was applied in the case.<sup>85</sup> She states that the first two "will have implications beyond the particular case ... [and] resemble legislative facts or even law. But they are also applied to resolve a disputed issue in the particular case, and in that sense they are adjudicative facts."<sup>86</sup> The third level, Thornburg contends, concerns an adjudicative fact.<sup>87</sup> Therefore, judges conducting independent research will not be able "to confine that research to the information that will be used legislatively."<sup>88</sup> Thornburg's breakdown demonstrates that any attempt to justify independent legal research of a science's validity under the guise of a permissible legislative fact assessment would be disingenuous.

If a bifurcated standard of review allowing for independent judicial research of a science's reliability as part of a *de novo* review were ever adopted in Texas, the Canons of Judicial Conduct might need to be revised. Explicit amendments that precisely delineate the scope and limitations on such research would be advisable. Most important, any revisions would need to account for due process. If judges were to conduct independent judicial research, the judicial conduct rules should make clear that, in those circumstances, the parties shall receive timely notification, disclosure of the judge's research, and an opportunity to respond.<sup>89</sup>

In conclusion, the majority and minority views on independent judicial research each have their own benefits and detriments. Putting aside the intellectual debate, however, advocates of both can agree on one point: It is crucial that junk science does not result in a wrongful conviction of an innocent person.

### Notes

1. See generally National Academy of Sciences, Strengthening Forensic Sciences in the United States: A Path Forward, 413 (2009) (NAS Report) (outlining problems with forensic sciences and observing that it will take more than judicial review to cure any infirmities).

2. 509 U.S. 579 (1993).
3. *Id.* at 589 (discussing *Fry v. United States*, 293 F. 1013 (D.C. Cir. 1923)).
4. 509 U.S. at 592–93, 593 n.10.
5. *Id.* at 593–94.
6. *Id.* at 593–94.
7. *Id.* at 594 (quoting *United States v. Downing*, 753 F.2d 1224, 1238 (3rd Cir. 1985)).
8. 824 S.W.2d 568 (Tex. Crim. App. 1992); *see also* Tex. R. Evid. 104(a); *E.I. du Pont de Nemours & Co. v. Robinson*, 923 S.W.2d 549, 556 (Tex. 1995) (an expert's testimony must be relevant and reliable in Texas civil cases).
9. *See Hernandez v. State*, 116 S.W.3d 26, 29–32 (Tex. Crim. App. 2003); *Jordan v. State*, 928 S.W.2d 550, 554–55 (Tex. Crim. App. 1996).
10. 824 S.W.2d at 572.
11. *Id.* at 573.
12. *Id.*
13. *See* Michael H. Gottesman, *From Barefoot to Daubert to Joiner: Triple Play or Double Error?*, 40 Ariz. L. Rev. 753, 777–79 (1998); Jay P. Kesan, *Note: An Autopsy of Scientific Evidence in a Post-Daubert World*, 84 Geo. L.J. 1985, 2038–39, 2041 (1996); David L. Faigman, *Check Your Crystal Ball at the Courthouse Door Please: Exploring the Past, Understanding the Present, and Worrying About the Future of Scientific Evidence*, 15 Cardozo L. Rev. 1799, 1821–22 (1994).
14. Faigman, note 13 *supra*, at 1821; *see also Confronting New Challenges of Scientific Evidence*, 108 Harv. L. Rev. 1481, 1528–29 (1995) (discussing other commentator's arguments for a *de novo* review and suggesting a hybrid standard that includes a *de novo* component).
15. Faigman, note 13 *supra*, at 1822.
16. 522 U.S. 136, 141–43 (1997).
17. *See Hernandez v. State*, 116 S.W.3d 26, 43–52 (Tex. Crim. App. 2003) (Keasler, J., dissenting); *State v. Coon*, 974 P.2d 386, 403, 405 n.14 (Alaska 1999) (Fabe, J., concurring and dissenting); Gottesman, note 13 *supra*, at 777–79.
18. *See also* K. Issac deVyver, *Opening the Door But Keeping the Lights Off: Kumho Tire Co. v. Carmichael and the Applicability of the Daubert Test to Nonscientific Evidence*, 50 Case W. Res. L. Rev. 177, 199 (1999) (stating that trial judges have too much discretion in deciding the admissibility of non-scientific expert testimony).
19. Gottesman, note 13 *supra*, at 778.
20. *Id.*
21. *Id.* at 779.
22. 974 P.2d at 403 (Fabe, J., concurring and dissenting).
23. *Id.* at 403–04.
24. *Id.* at 404.
25. *Id.* at 403.
26. *Id.* at 404–05.
27. *Id.*
28. *See e.g.*, Faigman, note 13 *supra*, at 1821; *Hernandez*, 116 S.W.3d at 49–51 (Keasler, J., dissenting).
29. Edward K. Cheng, *Independent Judicial Research in the Daubert Age*, 56 Duke L.J. 1263, 1274 (Mar. 2007).
30. *Id.*
31. *See e.g.*, *Hernandez*, 116 S.W.3d at 31 n.11, 32–33 (Keller, P.J., concurring); *Coon*, 974 P.2d at 398–99; *see* Elizabeth G. Thornburg, *The Curious Appellate Judge: Ethical Limits on Independent Research*, 28 Rev. Litig. 131, 166–69 (Fall, 2008).
32. Cheng, note 33 *supra*, at 1280–85.
33. *Id.* at 1281.
34. *Id.*
35. *Id.* at 1282.
36. *Id.* at 1283.
37. *Id.*
38. *Id.*
39. *Id.*
40. *Id.* at 1284.
41. *Id.*
42. 116 S.W.3d at 30–31.
43. *Id.* at 28, 30.
44. *Id.* at 30.
45. *Id.*
46. *Id.*
47. *Id.*
48. *Id.*
49. *Id.* at 30–31.
50. *Id.* at 30.
51. *Id.* at 31.
52. *Id.* at 49 (Keasler J., dissenting); *see also* Michael E. Keasler & Cathy Cramer, *Appellate Courts Must Conduct Independent Research of Daubert Issues to Discover "Junk Science,"* *Judicature*, September–October 2006, Vol. 90, No. 2, at 62–64.
53. *See id.* at 44–49.
54. *Id.* at 50–52.
55. *Id.* at 50–51.
56. *Id.* at 50.
57. *Id.*
58. *Id.* at 51.
59. *Id.*
60. *Id.* at 32–42 (Keller, P.J., concurring); *see also* Sharon Keller & Donald Cimics, *Appellate Courts Should Resist the Temptation to Conduct Their Own Research on Scientific Issues*, *Judicature*, September–October 2006, Vol. 90, No. 2, at 64–65.
61. *Hernandez*, 116 S.W.3d at 33–34 n.7 (Keller, P.J., concurring).
62. *See id.* at 32–33.
63. *Id.*
64. *Jones v. State*, 942 S.W.2d 1, 2 n.1 (Tex. Crim. App. 1997); *Hughes v. State*, 878 S.W.2d 142, 151 (Tex. Crim. App. 1992); *Fuller v. State*, 829 S.W.2d 191, 199 n.4 (Tex. Crim. App. 1992).
65. *See Pena v. State*, 285 S.W.3d 459, 464 (Tex. Crim. App. 2009) (“To avoid forfeiting a complaint on appeal, the party must ‘let the trial judge know what he wants, why he thinks he is entitled to it, and to do so clearly enough for the judge to understand him at a time when the judge is in the proper position to do something about it.’ This gives the trial judge and the opposing party an opportunity to correct the error. Whether a party’s particular complaint is preserved depends on whether the complaint on appeal comports with the complaint made at trial.”); *Hailey v. State*, 87 S.W.3d 118, 121–22 (Tex. Crim. App. 2002) (ordinary notions of procedural default generally prohibit an appellate court from reversing a trial court’s decision on a theory not presented to the trial court).
66. *Weathered v. State*, 15 S.W.3d 540, 542 (Tex. Crim. App. 2000) (citing *Hoyos v. State*, 982 S.W.2d 419, 422 (Tex. Crim. App. 1998); *Hardesty v. State*, 667 S.W.2d 130, 133 n.6 (Tex. Crim. App. 1984); *Rachal v. State*, 917 S.W.2d 799, 809 (Tex. Crim. App. 1996)).
67. *State v. Bible*, 858 P.2d 1152, 1189 n.33 (Ariz. 1993).
68. *See* Tex. Code Crim. Proc. arts. 11.07, 11.071.
69. *See e.g.*, *Ex parte Nailor*, 149 S.W.3d 125, 131 (Tex. Crim. App. 2004) (“if the appellate court rejects a claim of ineffective assistance of counsel because the record on direct appeal does not contain sufficient information to adequately address and resolve a particular allegation of counsel’s deficient performance, the defendant may re-urge consideration of that specific act or omission in a later habeas corpus proceeding if he provides additional evidence to prove his claim.”).
70. *See Ex parte Brown*, 205 S.W.3d 538, 541 (Tex. Crim. App. 2006).
71. *See Ex parte Ghahremani*, 332 S.W.3d 470, 477 (Tex. Crim. App. 2011); *Ex parte Chabot*, 300 S.W.3d 768, 771–72 (Tex. Crim. App. 2009).
72. *Ex parte Reed*, 271 S.W.3d 698, 727–28 (Tex. Crim. App. 2008).
73. Texas Code of Judicial Conduct Canons 1, 2 (eff. Mar. 1, 1994, as amended Feb. 1, 2010).
74. *Id.* at Canon 3B(8).
75. *See* Cheng, note 33 *supra* at 1294–95 (concluding that analogue provisions from ABA Model Code of Judicial Ethics would not permit independent research).
76. Texas Code of Judicial Conduct Canon 3B(8)(e).
77. *See* Cheng, note 33 *supra*, at 1294–95 (concluding analogue provision from ABA Model Code of Judicial Conduct makes no exception for non-legal experts).
78. Tex. R. Civ. P. 18b(2)(a).
79. *See generally* Cheng, note 33 *supra*, at 1290–92.
80. Thornburg, note 35 *supra*, at 149–50 (citing Kenneth C. Davis, *An Approach to Problems of Evidence in the Administrative Process*, 55 Harv. L. Rev. 364, 402 (1942)).
81. *Id.* at 152 (citing Davis, *supra* note 85, at 402); *see also* Cathy Cochran, *Surfing the Web for a “Brandeis Brief”: The Internet and Judicial Use of Legislative Facts*, 70 Tex. B. J. 780, 781–82 (Oct. 2007) (explaining what constitutes legislative facts).
82. Tex. R. Evid. 104(a); *see also* Tex. R. Evid. 201–204; Cheng, note 32 *supra*, at 1289 (observing that under the federal analogue, “Judges deciding scientific admissibility questions can therefore evade some obstacles that would ordinarily hinder their ability to do independent research.”).
83. *Emerson v. State*, 880 S.W.2d 759, 764–67 (Tex. Crim. App. 1994).
84. Thornburg, note 35 *supra*, at 155–56.
85. *Id.* at 155–66.
86. *Id.* at 156.
87. *Id.*
88. *Id.*
89. *See generally id.* at 193–99.



### STACEY M. GOLDSTEIN

is research attorney to Judge Michael E. Keasler, Texas Court of Criminal Appeals.



### JUDGE MICHAEL E. KEASLER

presides on the Texas Court of Criminal Appeals.