IN THE COURT OF CRIMINAL APPEALS OF TEXAS

NO. PD-1053-19

ALLEN BRAY PUGH, Appellant

v.

THE STATE OF TEXAS

ON APPELLANT'S PETITION FOR DISCRETIONARY REVIEW FROM THE ELEVENTH COURT OF APPEALS TAYLOR COUNTY

WALKER, J., filed a concurring opinion.

CONCURRING OPINION

I agree that the admission of the computer-generated animations in this case was not an abuse of discretion. I write separately to emphasize that even though computer-generated animations can be "demonstrative," they are vastly more persuasive than other demonstratives like diagrams or charts. Because of their persuasiveness, when the prosecution seeks to use computer-generated animations at trial, the defense should not sit on its hands. Instead, expert assistance in computer-generated animations may be necessary, and the defense should seek to obtain expert assistance. And trial courts must remember that indigent defendants may be entitled to funds for expert assistance,

and the Code of Criminal Procedure covers reimbursement to counsel for experts which I believe includes experts in computer-generated animations.

I — Expert Assistance Is Necessary When Computer-Generated Animations Are Involved

Computer-generated animations are increasingly part of the courtroom experience. More commonly found in high-stakes civil litigation, they have been found more and more in criminal cases. One infamous example is the Amanda Knox trial in Italy. Knox was accused, along with her Italian boyfriend Raffaele Sollecito and a third man, Rudy Guede, of murdering Knox's roommate, British student Meredith Kercher.[1] In closing argument, the prosecutors presented a computer-generated animation illustrating the prosecution's theory of the case.[2] The completely one-sided animation portrayed Kercher drinking with Knox's friends; an argument between Kercher, Knox, and Sollecito; and then a brutal attack by Knox and Sollecito on Kercher, "animated with a great deal of blood to match the actual bloodiness of the crime scene."[3] Interjected into the animation were still photographs of the crime scene showing the wounds to Kercher.[4] The animation was especially damning to Knox, as it depicted Knox delivering the final, fatal wound with the screen turning red and showing a gory crime scene photo of Kercher's body.[5] The animation finally depicted certain

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[1] Gareth Norris, *Computer-Generated Exhibits: The Use and Abuse of Animations in Legal Proceedings*, 40 BRIEF 10, 11 (2011).

[2] *Id.*; *see also* Richard K. Sherwin, *Visual Jurisprudence*, 57 N.Y.L. SCH. L. REV. 11, 13 (2013); Michael D. Murray, *The Ethics of Visual Legal Rhetoric*, 13 LEGAL COMM. & RHETORIC 107, 151–52 (2016).

[3] Murray, *supra* note 2, at 151–52.

[4] Norris, *supra* note 1, at 11.

[5] *Id.*; Sherwin, *supra* note 2, at 13.

actions allegedly taken by Knox and Sollecito "to create a false cover story of a violent break-in by a burglar."[6] Unsurprisingly, Knox was found guilty by the jury, though her conviction was eventually overturned upon appeal.[7]

While most computer-generated animations used in trial are far more benign than the one used in the Knox trial, animations that appear relatively harmless can nevertheless have an outsized impact. "[H]umans are essentially visual learners; 87% of the visual information presented to us is retained, while only 10% of the information we hear is retained."[8] When it comes to jurors, studies have shown jurors can recall 65% of evidence presented three days earlier, if that evidence was a combination of visuals and oral testimony.[9] Accordingly, much has been written about the persuasiveness of computer-generated animation.[10] Studies have shown the impact computer-generated animations can have,[11] and jurors who view testimony with computer animation can recall

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[6] Murray, *supra* note 2, at 152.

[7] Elahe Izadi & Peter Holley, *Following Acquittal, Tearful Amanda Knox Says She Is 'Incredibly Grateful'*, WASH. POST (Mar. 28, 2015), https://www.washingtonpost.com/news/morning-mix/wp/2015/03/27/italian-high-court-overturns-amanda-knox-murder-conviction/.

[8] Betsy S. Fiedler, *Are Your Eyes Deceiving You?: The Evidentiary Crisis Regarding the Admissibility of Computer Generated Evidence*, 48 N.Y. L. SCH. L. REV. 295, 306 (2004).

[9] *Id.*

[10] *See e.g.*, Fiedler, *supra* note 8, at 302–15 (section III, titled "How Social Science Studies Can Help Courts Understand the Potential Dangers of Animation"); Jennifer L. Ceglinski, *Admitting Animations: Applied Psychology Research as a Call for Improved Guidance in Assessing the Prejudicial Impact of Computer-Generated Animations*, 6 DREXEL L. REV. 177, 198–207 (2013) (section III, titled "Applied Psychology Research").

[11] *See* Linda C. Morell, *New Technology: Experimental Research on the Influence of Computer-Animated Display on Jurors*, 28 SW. U. L. REV. 411 (1999); Fiedler, *supra* note 8, at 303–05, 307 (discussing study conducted by Saul M. Kassin & Meghan A. Dunn, *Computer-Animated Displays and the Jury: Facilitative and Prejudicial Effects*, 21 LAW & HUM. BEHAV. 269

information more accurately and in more detail than those who did not view animation.[12]

Not only can computer-generated animations be powerful tools to persuade jurors, but the animations can mislead jurors, even if not intentionally.[13] It has been noted that computer-generated animations are not neutral but instead reflect the biases of those who created the animation and may contain inaccuracies.[14] As Justice Castille of the Pennsylvania Supreme Court emphasized:

> the fact that the computer creates a drawing or image does not mean the product is inherently neutral or trustworthy. The content of the computer's product, whether it be a [computer-generated animation] CGA or a simulation, always depends upon some very subjective human agency—in the creation of the computer program, in the human entry of the data, and in the human review, revision and interpretation of the computer's product. The testimony of the person who created the CGA in this case, Randy Matzkanin, testimony which the Majority summarizes at some length, . . . made clear that the computer product at issue was intended to reflect not the conclusions of the computer, but the conclusions and opinions of the Commonwealth's flesh and blood forensic witnesses, as related to and interpreted by Mr. Matzkanin. Indeed, this was so much the case that the CGA was modified and manipulated by the programmer until the end-product satisfied the Commonwealth's forensic witnesses' assessment of the criminal act.
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> The point, though it may appear to be minor, is no less essential. A CGA is not an inherently objective or neutral presentation of the evidence or the theory of the case. As with all human endeavors, the process of creating a CGA offers an opportunity for coloring and manipulating the end-product. As the trial court told the jury, if garbage goes into the production, garbage will come out. Thus, the accuracy of a CGA or computer simulation is always subject to challenge for accuracy and bias, no less than any other evidence.

Commonwealth v. Serge, 896 A.2d 1170, 1189 (Pa. 2006) (Castille, J., concurring).

(1997)); Ceglinski, *supra* note 10, at 198–207.

[12] Morell, *supra* note 11, at 414.

[13] *Id.* at 415 ("Kassin and Dunn's research indicates that jurors can be misled.").

[14] *See* Marc A. Ellenbrogen, *Lights, Camera, Action: Computer-Animated Evidence Gets Its Day in Court*, 34 B.C. L. REV. 1087,1099–1100 (1993).

The fact that these computer-generated animations have great persuasive value of their own, along with the fact that they are inherently biased because they are made by people, means that it is important that a defendant be able to properly defend against the prosecution's use of a computer-generated animation. This means being able to hire a defense expert, and an expert in computer-generated animations may be constitutionally required. As one commentator succinctly put it:

> Can court-appointed counsel overcome the powerful effects of computer images and ensure his client a fair trial merely by cross-examining the state's expert witness? The answer . . . is no. Without being afforded the opportunity to rebut the State's exhibit through either a court-appointed expert or a computer animated exhibit that reflects the defendant's theories, there is little that a public defender can do to level the playing field.[15]

II — *Ake* and the Right to Expert Assistance at Trial

In *Ake v. Oklahoma*, the United States Supreme Court held that, "when a defendant has made a preliminary showing that his sanity at the time of the offense is likely to be a significant factor at trial, the Constitution requires that a State provide access to a psychiatrist's assistance on this issue if the defendant cannot otherwise afford one." *Ake v. Oklahoma*, 470 U.S. 68, 74 (1985).

While *Ake* itself was limited to the issue of insanity, in *Rey v. State* we determined that:

> *Ake* is not limited to psychiatric experts; but the type of expert requested is relevant to the determination of whether the trial was fundamentally unfair without the expert's assistance. The nature of an expert's field and the importance and complexity of the issue will bear directly upon whether the appointment of an expert will be helpful.

Rey v. State, 897 S.W.2d 333, 338 (Tex. Crim. App. 1995). Thus, in *Rey* we held that *Ake* could apply to forensic pathologists. *Id.* at 338–39. And in *Taylor*, we reasoned that "the tenets of *Ake* . . . could, in principle, require the appointment of a DNA expert to assist the defense[.]" *Taylor v.*

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[15] Carlo D'Angelo, *The Snoop Doggy Dogg Trial: A Look at How Computer Animation Will Impact Litigation in the Next Century*, 32 U. S.F. L. REV. 561, 582–83 (1998).

State, 939 S.W.2d 148, 152 (Tex. Crim. App. 1996). But we rejected applying *Ake* to jury consultants. *See Busby v. State*, 990 S.W.2d 263, 271 (Tex. Crim. App. 1999). This was so because "[s]electing a jury is part of an attorney's stock-in-trade." *Id.* As the Eighth Circuit explained:

> [t]here is no principled way to distinguish between psychiatric and nonpsychiatric experts. The question in each case must be not what field of science or expert knowledge is involved, but rather how important the scientific issue is in the case, and how much help a defense expert could have given.

Little v. Armontrout, 835 F.2d 1240, 1243 (8th Cir. 1987); *see also Rey*, 897 S.W.2d at 338 (quoting *Little*, 835 F.2d at 1243).

Because of how persuasive computer-generated animations can be and how likely it is that appointed defense counsel may be ill-prepared to properly analyze and criticize the prosecution's animation, I believe that an expert in computer-generated animations is more like an expert in mental health and an expert in forensic pathology, and not like a jury consultant. Funds to procure an expert in computer-generated animations therefore may be necessary, if an indigent defendant makes the necessary showing under *Ake*. Three interests must be balanced in determining whether the government must provide such access:

> The first is the private interest that will be affected by the action of the State. The second is the governmental interest that will be affected if the safeguard is to be provided. The third is the probable value of the additional or substitute procedural safeguards that are sought, and the risk of an erroneous deprivation of the affected interest if those safeguards are not provided.

Ake, 470 U.S. at 77. The key question is "whether there is a high risk of an inaccurate verdict" if the requested expert is not appointed. *Busby*, 990 S.W.2d at 271.

If the defendant makes a sufficient threshold showing of the need for expert assistance on a particular issue, the defendant is entitled to access to at least one expert. *Taylor*, 939 S.W.2d at 152

("Yet, if appellant met the threshold showing of *Rey*, he was entitled to at least one expert."). Even if the expert cannot or will not testify to the defense's theory of the case, that expert must still be "available to consult with counsel, to interpret records, to prepare counsel to cross-examine State's witnesses, and generally to help present appellant's defense in the best light." *De Freece v. State*, 848 S.W.2d 150, 160 n.7 (Tex. Crim. App. 1993).[16]

But there must be a showing; the Supreme Court has stated that an indigent defendant is not entitled to the appointment of experts when he offers "little more than undeveloped assertions that the requested assistance would be beneficial." *Caldwell v. Mississippi*, 472 U.S. 320, 323 n.1 (1985). He must provide concrete reasons for requiring the appointment of any particular expert. As Professor LaFave notes,

> [c]ourts uniformly stress that the showing of need must set forth in detail what assistance is being requested and why it is needed. The defense must identify the expert, explain what the expert will do, and explain why that will be important in representing the defendant.

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[16] "However, the State need not 'purchase for an indigent defendant all the assistance that his wealthier counterparts might buy.'" *Ex parte Jimenez*, 364 S.W.3d 866, 876–77 (Tex. Crim. App. 2012) (quoting *Ake*, 470 U.S. at 77). "Nor is a defendant entitled to choose an expert of his own personal liking or one who will agree with his defense theory." *Id.* at 877. "A defendant does not have a due-process right to ''shop' for experts—at government expense—until he unearths a person who supports his theory of the case.'" *Id.* (quoting *Taylor*, 939 S.W.2d at 152). This is because the purpose of appointing an expert is "to level the playing field; to give a defendant access to a competent expert who can assist in the evaluation, preparation, and presentation of the defense." *Griffith v. State*, 983 S.W.2d 282, 286 (Tex. Crim. App. 1998). In the words of the Seventh Circuit, the Constitution does not entitle

> a defendant to the best (or most expensive) expert, or to more than one expert if the first does not reach a conclusion favorable to the defense. Just as a defendant who relies on counsel at public expense must accept a competent lawyer, rather than Clarence Darrow, . . . so a defendant who relies on public funds for expert assistance must be satisfied with a competent expert.

United States v. Mikos, 539 F.3d 706, 712 (7th Cir. 2008).

WAYNE R. LAFAVE ET AL., 3 CRIMINAL PROCEDURE § 11.2(e) (4th ed.)

Thus, when the prosecution has indicated that it will use a computer-generated animation at trial, defense counsel must do more than ask for an expert of his own. Counsel should seek out an appropriate expert before filing the *Ake* motion, so the *Ake* motion can set out the requested expert by name, why the expert is necessary in the particular case, and the approximate cost of appointing that expert.

III — The Code Provides for the Costs of "Other Experts"

Once the defendant makes the necessary showing, funds should be made available to him. The Code of Criminal Procedure provides for reimbursing counsel for the costs of experts which should include experts in computer-generated animations:

> (d) A counsel in a noncapital case, other than an attorney with a public defender's office, appointed to represent a defendant under this code shall be reimbursed for reasonable and necessary expenses, including expenses for investigation and for mental health and other experts.

TEX. CODE CRIM. PROC. Ann. art. 26.05(d). And in a capital case, appointed counsel may be entitled to not only reimbursement but also advance payment for expert expenses:

> (1) An attorney appointed . . . to represent a defendant at trial or on direct appeal is compensated as provided by Article 26.05 from county funds. Advance payment of expenses anticipated or reimbursement of expenses incurred for purposes of . . . expert testimony may be paid directly to . . . an expert witness in the manner designated by appointed counsel and approved by the court.

Id. art. 26.052(l).

But trial court judges and appointed defense attorneys might not think of computer-generated animations as a field requiring expert assistance. Defense counsel might neglect to request funds for an expert, and even if defense counsel requested an expert, a trial court judge might reject it out-of-

hand. As computer-generated animations become more prevalent, I suggest that the Legislature amend article 26.05(d) to specifically identify experts in computer-generated animation in addition to their reference to mental health experts (i.e., "including expenses for investigation and for mental health, *computer-generated animation*, and other experts."). *See id.* art. 26.05(d). It would then be clear to all that computer-generated animation is a field of expertise, and funds are available for an indigent defendant to get assistance if necessary. The Legislature could even create a special indigent defense fund to help counties pay for experts in computer-generated animations. *See Bullock v. Calvert*, 480 S.W.2d 367, 370 (Tex. 1972) ("The appropriation of state money is a legislative function.").

As for attorneys with public defender's offices, they, too, may also need assistance from experts in computer-generated animations, even though article 26.05(d) does not provide them funding for experts. *See* TEX. CODE CRIM. PROC. Ann. art. 26.05(d) (referencing "counsel in a noncapital case, *other than an attorney with a public defender's office*") (emphasis added). In counties where there are public defender's offices, the county commissioners could consider increasing the funding for their public defender's offices, so their attorneys may obtain, when appropriate, expert assistance in computer-generated animations.

IV — Money, and Rule 403 as an Alternative

But the money may not be available for the defense. When that happens, an indigent defendant, aided by counsel who may not be trained or equipped to deal with the prosecution's computer-generated animation, will be at a severe disadvantage. This is made even more glaring by how much the State can spend on its animations. On the extreme end, the computer-generated

animation used in the Amanda Knox case ran for twenty minutes and cost 182,000 euros.[17]

One would hope prosecutors in Texas would not spend that much money on what are supposedly demonstrative exhibits. The animation in *Serge* cost between $10,000 and $20,000. *Serge*, 896 A.2d at 1183 & n.9. But even considering this lesser amount, it should go without saying that $10,000–$20,000 is a lot of money that an indigent defendant does not have laying around. Unsurprisingly, Serge raised the issue of cost, noting that his entire indigent defense fund was limited to $10,000. *Id.* at 1183.[18] In his concurring opinion, Justice Castille noted that:

> In a case where both parties are well-funded, each will have the resources available to hire the computer professionals necessary to challenge the accuracy of a proffered CGA or to generate a competing animation. In contrast, in a criminal case involving an indigent defendant, the cost of assuring that the defense is able to adequately assess the accuracy of a Commonwealth CGA, or to produce a competing CGA of its own either contesting the accuracy of the Commonwealth's depiction or depicting a defense theory, would have to be borne by the state. If such funding is denied, the burden will fall upon appointed counsel to attempt to school himself in a field in which he most likely is not expert. As this case reveals, the cost of this evidence, in terms of both time and money, is substantial—the fifteen second CGA here apparently cost $10,000–$20,000 and a substantial portion of the trial was consumed in examining how Mr. Matzkanin produced it.

Id. at 1189 (Castille, J., concurring). Justice Castille "would [have left] open the prospect that the interests of justice may require providing an indigent defendant with the funds necessary to respond" to a computer-generated animation produced by the Commonwealth. *Id.* at 1190. Justice Castille concluded that, "in those situations where the defense cannot secure an equivalent production[,]"

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[17] *Amanda Knox: Italy Court Investigates Video Cost*, BBC NEWS (May 2, 2012), https://www.bbc.com/news/world-europe-17922339.

[18] The Pennsylvania court found the argument "waived" because it was not presented at the trial court, but the court nevertheless addressed the issue "in *dicta*." *Id.* at 1184–85, 1190 (Castille, J., concurring). Because the Pennsylvania court had refused to extend *Ake v. Oklahoma* beyond issues of insanity, the court determined that an indigent defendant is not entitled to funds to create a computer-generated animation of his own. *Id.* at 1184–85 (majority op.).

"the wisest course for the trial judge *might* be to exclude such evidence entirely[.]" *Id.*

Our Texas trial courts might not have that much money available for indigent defendants to use to hire experts to evaluate and rebut prosecution animations and to potentially create animations of their own. If there is no appetite for a special indigent defense fund to help pay for experts in computer-generated animations, Rule 403 may provide the necessary balance—the "wisest course"—because it may be more cost-effective to level the playing field by keeping the prosecution's animation out.

Supposedly, the computer-generated animations are demonstrative only. Therefore, when used appropriately, they do not present anything new to the jury but instead repackage what the jury has already been told. In other words, they are cumulative. When the balance is between a demonstrative that is, by definition, cumulative yet also carries the potential for an outsized impact on the jury and an indigent defendant's right to a fair trial, it would not be a stretch to say that the demonstrative's value is outweighed by its prejudicial impact. *Id.* at 1188 (Cappy, C.J., concurring) ("This monetary disparity between the Commonwealth and defense in obtaining a CGA is a relevant factor when considering the prejudice to the defense."). If the funds provided to an indigent defendant are simply not enough to match the resources put into the prosecution's animation, exclusion may be the prudent choice. *Id.* at 1190 (Castille, J., concurring).[19]

V — Conclusion

In sum, although we can call it "demonstrative," a computer-generated animation is much

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[19] *See also* Edward J. Imwinkelried, *Impoverishing the Trier of Fact: Excluding the Proponent's Expert Testimony Due to the Opponent's Inability to Afford Rebuttal Evidence*, 40 CONN. L. REV. 317, 342 (2007) (noting that the opponent's inability to afford a rebuttal witness can increase the danger of overvaluation of expert testimony, and such danger is a recognized basis for invoking Rule 403).

more powerful than a simple diagram. A computer-generated animation, even if it exactly replicates the oral testimony of a witness, can be much more persuasive than a traditional demonstrative exhibit. Because of how powerful and how technical a computer-generated animation can be, when the prosecution uses a computer-generated animation, an indigent defendant whose appointed defense counsel is likely to be untrained and unable to competently challenge the animation will need expert assistance and funds to hire an expert. With these additional thoughts, I join the Court's opinion.

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