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# Supreme Court of Kentucky

2000-SC-0901-MR

**FINAL**  
DATE 2-20-03 2:12 PM EST

LARRY K. BUTCHER

APPELLANT

V.  
APPEAL FROM JOHNSON CIRCUIT COURT  
HONORABLE DANIEL SPARKS, JUDGE  
CRIMINAL NO. 99-CR-00027

COMMONWEALTH OF KENTUCKY

APPELLEE

## OPINION OF THE COURT BY JUSTICE GRAVES

### Affirming

In or around 1979, Appellant, Larry Butcher, moved in with the mother of then seven-year-old H.B. In 1982, the three moved to Johnson County, Kentucky, where H.B.'s mother gave birth to twin girls fathered by Butcher. Around the time the twins were born, Butcher began a pattern of sexual abuse with H.B., who was then ten years old. From December 1982 through April 1987 this abuse continued, as Appellant repeatedly fondled, sodomized, and had sexual intercourse with H.B. The sexual intercourse between Appellant and H.B. eventually resulted in conception, and H.B. became pregnant in April 1987, at age fourteen. H.B. gave birth to a baby girl on January 19, 1988.

Appellant was convicted by a jury in the Johnson Circuit Court of eleven counts of first-degree rape, two counts of first-degree sodomy, and two counts of first-degree sexual abuse. He was acquitted of two counts of incest. Appellant was sentenced to

forty years imprisonment for each count of rape, thirty years imprisonment for each count of sodomy, and five years imprisonment for each count of sexual abuse, all to run concurrently for a total sentence of 40 years imprisonment. Appellant appeals to this Court as a matter of right.

The issues raised on appeal are the following: (1) whether the trial judge was required to recuse himself; (2) whether introduction of a paternity test violated the requirement that the Commonwealth prove all elements of an offense beyond a reasonable doubt; and (3) whether the prosecutor's closing argument improperly injected the civil paternity standard into the case and misled the jury as to the real effect of DNA evidence. Only the issue concerning recusal of the trial judge is properly preserved for appellate review. The other two issues are not preserved, but Appellant seeks review as palpable error under RCr 10.26.

#### I. RECUSAL OF THE TRIAL JUDGE

Appellant argues that Judge Knight, who presided over the trial, was required to recuse himself because of a familial relationship with the prosecutor, Anna D. Melvin. Appellant contends that the judge's failure to recuse constitutes reversible error and warrants a new trial. According to KRS 26A.015(2)(d)(2), a judge "shall disqualify himself in any proceeding where he or his spouse, or person within the third degree of relationship to either of them, or the spouse of such person is acting as a lawyer in the proceeding . . . ." Appellant filed a motion for recusal of the trial judge, with a supporting affidavit stating, "I have personal knowledge that Judge James A. Knight is related to the prosecutor, Anna D. Melvin, through his deceased wife within the third degree." The trial court found that Appellant's affidavit was insufficient to require recusal pursuant to KRS 26A.020(1). We agree.

Appellant's affidavit to recuse the trial judge focused on the relationship between the deceased wife of the trial judge and the prosecutor. Because the statute refers to a spouse, not a deceased spouse, such an affidavit is insufficient to require recusal. The relationship between the trial judge and the prosecutor was based on an affinity relationship that ceased upon the death of the judge's wife. Thus, Appellant's argument that the trial judge was required to recuse lacks merit.

## II. ADMISSION OF PATERNITY TEST

Appellant next claims that the trial court erred in admitting into evidence the results of a DNA paternity test indicating a 99.74 percent likelihood that Appellant was the father of H.B.'s child. Appellant contends that admission of the test violates the 14<sup>th</sup> Amendment of the United States Constitution, and the Kentucky Constitution §§ 2 and 11, which require that the Commonwealth prove all elements of a charged offense beyond a reasonable doubt. Although Appellant concedes that this issue was not properly preserved, he argues that the error was palpable under RCr 10.26 and seeks reversal as such.

A brief explanation of the paternity test employed is necessary for our analysis. The test at issue, like similar paternity tests used throughout the nation, involves three separate tiers or determinations: probability of exclusion, paternity index, and probability of paternity. Griffith v. State, 976 S.W.2d 241, 243 (Tex. Ct. App. 1998); see generally D.H. Kaye, "The Probability of an Ultimate Issue: The Strange Cases of Paternity Testing," 75 Iowa L. Rev. 75 (1989). The first tier, probability of exclusion, seeks to "exclude" Appellant as a possible father of H.B.'s child. As explained by the expert who conducted the testing in this case, Mr. DeGuglielmo, exclusionary testing looks for inconsistencies between the genetic make-up of the child and the alleged father that

would necessarily indicate a lack of relation.

An exclusion analysis is premised on the basic notion that half of the child's DNA comes from each parent. It requires a comparison of the DNA of the mother with that of the child, excluding the DNA that matches between them. Since the remaining DNA of the child necessarily comes from the biological father, it can then be isolated and compared with the DNA of the alleged father. Griffith v. Texas, supra. If the alleged father's DNA does not "match" the child's DNA at all, he can be excluded as a possible parent.

With respect to Appellant's DNA testing, Mr. DeGuglielmo testified that his team analyzed "a panel of eight different genetic markers...eight different tests that we use to try to find something that would say that Appellant could not be the father of [the child]." He concluded, however, "Each test showed that Mr. Butcher was included in the group of people who could potentially be the father of the child."

Once it is established that an alleged father cannot be excluded as a possible parent, as in Appellant's case, the second part of the paternity test takes effect. As Mr. DeGuglielmo explained at trial, "When we don't find any exclusion, we then have to make some relevance to the information that we have there....So we do a statistical evaluation to say how likely that match that we see is." Applying a formula that factors the frequency of "matches" between the alleged father and the child results in an assessment expressed numerically as a paternity index. As explained in Griffith, supra:

The paternity index is a value reflecting the likelihood that a tested man is the father of the child as opposed to an untested man of the same race. It is expressed as a number. If a paternity index can be assigned to a man, it means that he is that many more times likely to be the father than any other randomly selected male of his race.

976 S.W.2d at 243. Mr. DeGuglielmo testified that tests performed on the eight genetic

markers previously discussed yielded a paternity index of 388/1, meaning Appellant was 388 times more likely to be the father of the child than a randomly selected male of the same race.

The third and final part of the paternity test translates the paternity index into a percentage that is more understandable. This percentage constitutes the end test result--the probability of paternity. It is calculated using Bayes' Theorem, a formula that takes into account actual events and circumstances, as opposed to random sequences of events. Id.; see also Davis v. State, 476 N.E.2d 127, 137-138 (Ind. Ct. App. 1985). In paternity tests generally, this formula combines the paternity index and another value representing the prior probability that an event occurred, including such factors as access to the mother, fertility, and date of conception. The result is a percentage that can be used to assess the overall probability of paternity. The formula is as follows:

$$\text{Probability of Paternity} = \frac{\text{Paternity Index} \cdot \text{Prior Probability}}{\text{Paternity Index} \cdot \text{Prior Probability} + (1 - \text{Prior Probability})}$$

In the context of criminal cases, however, those using this formula to determine paternity typically insert a standard prior probability of .5 regardless of any other factors, which indicates a fifty percent chance that the alleged father actually had sexual intercourse with the mother. Using .5 as the prior probability value, the probability of paternity is simplified as follows<sup>1</sup>:

$$\text{Probability of Paternity} = \frac{\text{Paternity Index}}{\text{Paternity Index} + 1}$$

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<sup>1</sup>Inserting the .5 value into the formula, we would come up with a somewhat unwieldy equation. Thus, the equation is doubled for ease of calculation. Because probability of paternity is expressed as a percentage, the doubled equation yields the exact same result; but, it is important to note that this only works with the .5 value.

The resulting quotient indicates the percentage of random men that would be excluded as possible fathers of a child because they lack the necessary genetic material. In other words, as the percentage reflecting the probability of paternity increases, the alleged father becomes increasingly outnumbered by men who could not be the child's father. Because this concept is not easily conveyed or understood, the probability of paternity is accepted as simply representing the percent likelihood that the tested male is actually the father of the child. Griffith, 976 S.W.2d at 243.

Appellant's paternity test resulted in a probability of paternity of 99.74 percent. That is, there was a 99.74 percent likelihood that Appellant was the father of H.B.'s child. Although Mr. DeGuglielmo did not testify that he had used a prior probability value of .5 in reaching his expert conclusions, the mathematical results of the test suggest that he did. Appellant centers his appeal on this issue of prior probability.

Appellant's argument is essentially that the results of the paternity test were improperly based on the assumption that Appellant had sexual intercourse with H.B. It is evident that Mr. DeGuglielmo assumed a fifty percent prior probability that Appellant had sexual intercourse with H.B. in order to arrive at his conclusive testimony that "there was a 99.74% likelihood that Larry Butcher was [the baby's] father". The impropriety of this assumption, Appellant argues, is that it assumes intercourse to prove intercourse. As the Commonwealth was required to prove every element of the offense of rape, Appellant reasons it should not have been permitted to introduce evidence that assumed the very activity that constituted the unproven offense. Appellant asserts error based on the general idea that the Commonwealth was required to presume innocence, then establish guilt by proving each element of the charged offenses beyond a reasonable doubt. For purposes of our discussion, we condense this notion into the

more succinct requirement of “presumption of innocence.”

Quoting McCormick on Evidence § 342 at 579-80 (4<sup>th</sup> ed. 1992), the Griffith court found that the presumption of innocence “merely describes the fact that the burden of persuasion and production in a criminal matter are on the prosecution.” 976 S.W.2d at 246-247. We consider this to be an accurate statement of the law, and reject Appellant’s argument that the .5 prior probability figure offends the principle of presumption of innocence.

Appellant contends that the use of any prior probability whatsoever in calculating probability of paternity in a criminal trial offends due process because it lessens the Commonwealth’s burden of proof and presumption of innocence. While this Court has determined that genetic paternity tests are admissible as evidence in rape cases, we have yet to address the effects of such testing on the presumption of innocence.

See v. Commonwealth, Ky., 746 S.W.2d 401 (1988) (holding that paternity test “was a reliable indicator, and certainly compelling evidence of rape”). Because this is a case of first impression in Kentucky, we look to other jurisdictions for guidance on the issue of prior probability.

Though various courts have entertained virtually the same question we have before us, we are most persuaded by the reasoning employed by the Court of Appeals of Texas facing similar facts in Griffith v. State, supra. There, the appellant had been convicted of sexual assault against a mentally retarded female. The assault had resulted in pregnancy and the birth of a child, and the trial court admitted evidence in the form of paternity test results showing a 99.99 percent probability that the appellant was the father of the child. Id. Like Appellant here, the appellant in Griffith alleged error as to the admission of test results, which were calculated using a .5 prior probability, on

the grounds that it violated the requisite presumption of innocence in a criminal trial.

Concluding that the use of a probability statistic based on Bayes' Theorem in a criminal case did not violate the presumption of innocence, the court held:

The use of a prior probability of .5 is a neutral assumption. The statistic merely reflects the application of a scientifically accepted mathematical theorem which in turn is an expression of the expert's opinion testimony....The jury is free to disregard it. It can be weakened on cross and in argument.

Id. at 247. In this case, Appellant had ample opportunity to question the use of the prior probability and call it to the attention of the jury. Appellant made no effort to have Bayes' Theorem or prior probability explained, nor did he attempt to weaken the effect of the seemingly reliable evidence at issue. We believe the jury was aware that Mr. DeGuglielmo was expressing his opinion, and the jury was free to accept or disregard it.

As to the neutrality of the .5 prior probability, the Griffith court noted, "Logically, the prior probability assumes intercourse *could* have occurred and thus the putative father could be the actual father, but the statistic does not necessarily assume intercourse *did* occur." 976 S.W.2d at 248. In fact, use of a .5 prior probability merely acknowledges that intercourse preceded the birth of the child, and there is an equal chance that another individual engaged in that intercourse with the mother as there is a chance that the alleged father did.

This principle was aptly explained by the New Jersey Supreme Court in State v. Spann, 617 A.2d 247 (N.J. 1993). Although that court held that expert testimony based on prior probability figures was inadmissible in New Jersey, it recognized the value of paternity testing and opted to allow juries to determine prior probability figures based on evidence offered at trial. Explaining that the .5 prior probability was not inherently violative of due process, the court stated,



The .5 prior-probability assumption (odds of 1) says only that the chance that defendant is the father is fifty-fifty, that it is just as likely that he is *not* the father as that he is, or that it is just as likely he is as that any man chosen at random is.... The fifty-fifty odds calculated into the probability of paternity percentage do not at all assume that defendant had intercourse with the victim....

Id. at 253. In the criminal arena, such an assumption assigns no more culpability to the alleged father than it does to any other random individual.

Appellant contends that the only fair way to assess prior probability would be to insert a zero into the Bayes' formula. Addressing this very point, the Griffith court refuted such an argument both mathematically and theoretically:

A zero prior probability does not simply presume a defendant is innocent. Rather, a zero probability, in fact presumes that it was *impossible* for the defendant to be the father. When a zero prior probability is plugged into Bayes' Theorem (the formula), naturally the probability of paternity results becomes 0%. The presumption of innocence does not require a jury to assume it was impossible for a defendant to commit the crime charged. Rather, it requires the jury to assume as a starting proposition that the defendant did not commit the crime, until proven otherwise.

976 S.W.2d at 249.

We realize that Appellant does not actually seek to have experts insert zeroes in calculating paternity. Instead, he would have us hold that prior probability has no place in the criminal law. We stand, however, with the Griffith court in our belief that justice is served by a neutral assessment of paternity in criminal cases like the one before us; we further agree that a .5 prior probability is neutral, neither assuming nor denying that intercourse has taken place between the mother of the child and the alleged father.

Appellant in the case before us, as the appellant in Griffith likewise did, looks to several cases from other jurisdictions for support of his arguments. The courts in State v. Hartman, 426 N.W.2d 320 (Wis. 1988), and State v. Skipper, 637 A.2d 1101 (Conn. 1994), held that paternity test results predicated on a prior probability statistic were

inadmissible because such evidence violates the presumption of innocence requirement of criminal proceedings. The Griffith court found that these holdings were flawed, principally because they were based in large part upon a single law review article, Peterson, "A Few Things You Should Know About Paternity Tests (But Were Afraid To Ask)," 22 Santa Clara L. Rev. 667 (1982). Among other criticisms of the article, the Griffith court found that "the author does not cite direct authority (either legal or scientific) to support his statement." Thus, both Skipper and Hartman were based on a weak foundation and cannot support Appellant's contentions here.

Like the Griffith court, we agree with the dissenting opinion of Justice Steinmartz in Hartman, explaining that the probability of paternity statistic is truly neutral, as it "equally assumes the defendant is not the putative father, no matter how damning the evidence in the case." Hartman, *supra*, at 328. Like Justice Steinmartz, we find no violation of presumption of innocence principles in the use of a prior probability to deduce the likelihood of paternity based on DNA testing. We would therefore follow Griffith, *supra*, in concluding that such evidence is admissible, subject, of course, to other applicable evidentiary constraints.

We next address the Commonwealth's burden of proving every element of a charged offense. As the presumption of innocence mandates that the burden of proof and production fall on the Commonwealth, any burden shifting to a defendant in a criminal trial would be unjust. Here, Appellant argues that since the conclusive test results bypassed the issue of intercourse by assuming it occurred, the Commonwealth was relieved of its duty to prove each and every element beyond a reasonable doubt. However, the Griffith court explained, and we agree, that probability of paternity is "merely a way of expressing and interpreting the actual DNA test results. Thus, the

statistic itself does nothing to shift the burden of going ahead to the defendant.” 976 S.W.2d at 249. Mr. DeGuglielmo merely offered evidence of paternity, not proof of intercourse. The jury heard repeated testimony that a genetic paternity test could never be 100 percent conclusive of fatherhood. It is possible that the jury could have believed Appellant was not the father of H.B.’s child, but that Appellant had nonetheless raped, sodomized, and sexually abused H.B.

Furthermore, Appellant fails to consider, or neglects to mention, that the intercourse that resulted in pregnancy related to the indictment charges of incest. All eleven rape charges were based on intercourse with a child under twelve, which H.B. was until 1984. Only the incest charges alleged intercourse after 1984; as H.B. became pregnant in 1987, paternity would have been evidence of incestuous intercourse, not rape. Appellant was acquitted, however, of the incest charges. Thus, even if the Commonwealth had somehow eluded its burden of proving intercourse, an element of the incest charges, no conviction arose therefrom. The Commonwealth satisfied its requirement to prove intercourse for all eleven rape charges.

From Appellant’s viewpoint, it stands to reason that if the jury believed Appellant had intercourse with H.B. when she was fourteen, the jury may have been more easily convinced that Appellant had raped H.B. as a young girl. This prejudicial effect does not make the evidence inadmissible. Under KRE 403, the trial court must weigh the prejudicial effect against the probative value of the evidence sought to be admitted. See Commonwealth v. English, Ky., 993 S.W.2d 941 (1999). Here, the paternity test was ostensibly significant for an incest determination, and therefore valuable as a probative vehicle. Any prejudice that occurred as a byproduct was minimal, especially in light of other compelling evidence. It was therefore not error to admit the results of the

paternity test as evidence.

Appellant relies on a palpable error standard of review for this unpreserved issue. RCr 10.26 provides that an alleged error improperly preserved for appellate review may be revisited upon a demonstration that it resulted in manifest injustice. Palpable error affects the substantial rights of a party and, under Partin v. Commonwealth, Ky., 918 S.W.2d 219, 224 (1996), relief will only be granted if the reviewing court concludes “that a substantial possibility exists that the result would have been different” absent the error.

In light of the abundant evidence against Appellant, even if we were to find that the DNA paternity test evidence was potentially prejudicial, we do not believe the outcome of Appellant’s trial would have been any different with a lower prior probability. We are also confident that even if the paternity test had not been admitted into evidence, Appellant would still have been convicted of all eleven counts of rape. At trial, H.B. testified that Appellant began sexually abusing her on December 4, 1982, while H.B.’s mother was in the hospital giving birth to H.B.’s younger twin sisters. According to her testimony, the first instance occurred when Appellant woke H.B. from her sleep and gave her a soft drink with alcohol in it. He then fondled H.B. and engaged in sexual intercourse and oral sex with her. The sexual abuse and sexual intercourse occurred several times over the ensuing three days that H.B.’s mother was in the hospital.

H.B. testified that between December 1982 and April 1983 there were at least five more instances of sexual intercourse. She also testified that during the spring and summer of 1984, there were at least three additional instances of sexual intercourse. H.B. further described specific places where intercourse took place, referred to dates,

and even told of a certain dress that she had discarded because Appellant often sexually abused her when she wore it. She indicated that Appellant subjected her to sexual contact many times throughout her childhood, and that from September 1986 through the spring of 1987, sexual intercourse continued. H.B. became pregnant in April 1987, and testified that Appellant was the father of the child. Though supported by corroborating testimony from social worker Linda Duncan and H.B.'s mother, H.B.'s testimony standing alone was sufficient to sustain Appellant's conviction. Dyer v. Commonwealth, Ky., 816 S.W.2d 647 (1991), overruled on other grounds in Baker v. Commonwealth, Ky., 973 S.W.2d 54 (1998); Robinson v. Commonwealth, Ky., 459 S.W.2d 147 (1970).

Having determined that admission of the paternity test results did not offend Appellant's due process guarantee of presumption of innocence, and that there was sufficient evidence even without the test results to support Appellant's numerous rape convictions, we conclude that no error, palpable or other, occurred at trial.

### III. CLOSING ARGUMENT

Appellant's third and final argument is that the Commonwealth, during closing argument, improperly injected the civil paternity standard into this case and misled the jury on the real effect of the DNA evidence. Appellant readily concedes this issue was not preserved.

The prosecutor stated in his closing argument,

It's only in recent years that we have the benefit of DNA. There were paternity and blood tests but nothing as specific as DNA in 1988. This is the same process ... DNA process as used today, as he told you, Dr. DeGuglielmo told you, it's used for freeing people and putting people on death row and to establish paternity. And in those cases paternity is established by a ratio of just one hundred to one. If they come up with that, one hundred to one match, then they say "X" is the father of so-and-

so. Or anything that works out to a ninety percent probability then that's conclusive for a DNA process. This is well beyond that. This is almost four times that; three hundred and eighty-eight. And I think the probability was 98.74, I believe.

To warrant reversal, misconduct of the prosecutor must be so serious as to render the entire trial fundamentally unfair. Stopher v. Commonwealth, Ky., 57 S.W.3d 787, 805 (2001), cert. denied, \_\_\_ U.S. \_\_\_, 122 S.Ct. 1921 (2002). Moreover, counsel is allowed great latitude in closing argument. Slaughter v. Commonwealth, Ky., 744 S.W.2d 407 (1987), cert. denied, 490 U.S. 1113 (1989). Opening and closing statements are not evidence and prosecutors have wide latitude during both. Stopher, supra, at 805-806. Here, the prosecutor did not “improperly injected the civil paternity standard into this case.” Rather, he referred to the testimony of Mr. DeGuglielmo, who did, in fact, state, “In most jurisdictions paternity tests look for what we call a paternity index of a hundred or greater.” The prosecutor made no mention of Kentucky statutory law in his closing argument, and we attribute his misstatement of numerical data to mistake, not misconduct. We find no merit in Appellant’s argument as to the closing argument.

The judgment and sentence of the Johnson Circuit Court are affirmed.

Lambert, C.J., Graves, Johnstone, Keller and Wintersheimer, J.J. concur.

Cooper, J., concurs in a separate opinion.

Stumbo, J., dissents from the majority opinion in regard to the failure of the Circuit Judge to recuse and joins the concurring opinion filed by Justice Cooper as to the statistical analysis.

Counsel for Appellant

John Palombi  
Department of Public Advocacy  
100 Fair Oaks Lane, Suite 302  
Frankfort, KY 40601

Counsel for Appellee

A.B. Chandler III  
Attorney General

Janine Coy Bowden  
Assistant Attorney General  
1024 Capital Center Drive  
Frankfort, KY 40601-8204

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## CONCURRING OPINION BY JUSTICE COOPER

I do not agree that a person can be convicted of an offense involving sexual intercourse on the basis of statistics that assume a 50% probability of guilt solely because he has been accused. There might be justification for factoring in the 50% probability when the paternity test is used to identify a child's father in a civil action for the purpose of establishing a child support obligation. KRS 406.011; KRS 406.111. In most such cases, the alleged father admits having had sexual intercourse with the child's mother but denies that the act resulted in conception. But there is no justification for factoring in a 50% probability of guilt in a criminal case when the alleged father denies having had sexual intercourse with the child's mother and the act of sexual intercourse is the crime of which he is accused. Use of a statistic that assigns a 50% probability of guilt based solely on the existence of an accusation denigrates the



presumption of innocence by shifting the burden of proof from the prosecution to the defense.

However, I agree that the error was rendered harmless when the jury acquitted Appellant of the only charge that was premised upon the victim's pregnancy, i.e., incest. If the jurors believed Appellant was the father of H.B.'s child, they would have necessarily found him guilty of incest. For whatever reason, they believed H.B.'s accusations that Appellant subjected her to sexual intercourse, deviate sexual intercourse, and sexual abuse prior to her twelfth birthday, but disbelieved her accusation that he subjected her to sexual intercourse again at age fourteen -- despite evidence of a 99.74% probability that he was the father of her child. Perhaps the jurors, too, had misgivings about converting an accusation into a 50% probability of guilt.

Stumbo, J., joins this concurring opinion.