Response to False Statements Posted on SSRN by Mark Perlin, CEO of Cybergenetics, and His Employees[1]

William C. Thompson

July 5, 2023

Abstract

Cybergenetics is a company in Pittsburgh that markets a software program for interpreting forensic DNA evidence called TrueAllele. Mark Perlin is the CEO of that company and the inventor of TrueAllele. After I published an article in the Journal of Forensic Sciences that criticized some aspects of TrueAllele, Perlin and four of his employees posted a 103-page diatribe on SSRN full of unsupported assertions, circular reasoning and ad hominem attacks based on falsehoods. In this short paper I offer several examples of their false claims and deficient inferential reasoning. While they are entitled to disagree with me and to explain why they think my scientific critique of TrueAllele is mistaken, they are not entitled to lie and make up facts in an effort to vilify those who disagree with them. Their behavior is contrary to scientific norms; they should be ashamed of themselves.

---

[1] This article responds to Mark W. Perlin, William P. Allan, Jennifer Bracamontes, Kari R Danser and Matthew Legler, *Reporting exclusionary results on complex DNA evidence, with a response to "Uncertainty in probabilistic genotyping of low template DNA: A case study comparing STRmix™ and TrueAllele®" software*. https://ssrn.com/abstract=4449313

1

Introduction

Earlier this year I published an article in the *Journal of Forensic Sciences* (JFS). It discussed a criminal case in which two probabilistic genotyping (PG) programs, STRMix™ and TrueAllele™, were used to assess the strength of the same item of DNA evidence, with strikingly different results. For STRMix, the reported likelihood ratio in favor of the non-contributor hypothesis was 24; for TrueAllele it ranged from 1.2 million to 16.7 million, depending on the reference population. My article sought to explain why the two programs produced different results and to consider what the difference tells us about the reliability and trustworthiness of these programs. An open-access version of my article can be found at: https://onlinelibrary.wiley.com/doi/full/10.1111/1556-4029.15225.

Recently, a response to my article was posted on SSRN by Mark Perlin and several of his employees. Perlin is the CEO and owner of Cybergenetics, the company that markets TrueAllele. The response is a 103-page diatribe that mixes scientific analysis with false and defamatory personal attacks. It is a hit piece containing vitriolic personal attacks supported by falsehoods and lies. In this short article I will respond to this hit piece by presenting several examples illustrating how Perlin and his employees have used false assertions to mount a thoroughly reprehensible personal attack.   Perlin's hit piece can be found here: https://ssrn.com/abstract=4449313 .

Because my JFS article offered criticisms of both TrueAllele and STRMix I fully expected that my article might draw responses from individuals associated with TrueAllele and STRMix. JFS routinely publishes letters responding to its peer-reviewed articles, so I expected that promoters of STRMix and TrueAllele might write letters to JFS raising scientific points, and that JFS would publish those letters along with my responses. That would be a respectful and responsible way to air disagreements about PG software and would advance scientific understanding of the underlying issues. I hope that Perlin and his employees will consider submitting such a letter. When and if that happens, I will be happy to respond to it.

I am not willing to respond to the vitriolic screed that Perlin and his employees posted on SSRN, other than by giving examples of some of their more egregious falsehoods and lies. I see no point in attempting to engage in scientific discussion with people whose idea of a scientific discussion involves attacking the motives and character of the person they are debating, particularly when they are willing to base their attacks on falsehoods. No scientific journal would publish what Perlin and his colleagues posted on SSRN. SSRN does not vet or review postings; except for policing copyright violations it apparently allows anyone to post anything that purports to relate to social science.

What follows is a discussion of a few of the lies and distortions in what Perlin and his employees have posted.

Falsehood #1: The prosecutor in the case that I discussed in my article decided not to present a scientific report that I had prepared for him because it was highly partisan and scientifically flawed.

I learned about the case that I discussed in my JFS article by working as a consultant for the prosecution. Although I reviewed the evidence in the case and was available to answer the prosecutors' questions about it, I was never called to testify and I did not prepare a report in the case. Perlin and his colleagues could easily have confirmed this fact by asking me or one of the prosecutors. But they did not. Instead, they assert repeatedly based on no evidence whatsoever that I prepared a report that was rejected by the prosecution because it was scientifically flawed. For example:

> *Thompson's partisan report is unbalanced, inaccurate and scientifically flawed; the prosecutor did not use it. (p. 10)*

> *Thompson prepared a case report from the government's view….The government didn't use his report (p. 12-13)*

> *Thompson prepared a strongly worded report supporting the prosecution's position, with scathing tone and without conducting any testing. But the government didn't call Thompson to testify, nor did it use his polemical report. (p. 20).*

> *Thompson mischaracterized TrueAllele and the underlying science, producing an unused partisan report. (p. 49)*

Let me be very clear about the facts. The report that they are talking about in such disparaging terms DOES NOT EXIST. No such report was ever written.

Consequently, there is no basis for the insulting suggestion that the prosecutors in the case chose not to present this "report" because they somehow found it inadequate and rejected it. Perlin and his colleagues have used a mistaken inference based upon their own lie to suggest, falsely, that the prosecutors in the case disagreed with my analysis of the evidence. This tour-de-force of defamatory speculation is an excellent example of the quality of the analysis they present in their SSRN posting.

Falsehood #2: I disclosed the defendant's name

In their SSRN posting, Perlin and his employees claim that my article released the name of the defendant in the case that my article discussed (p. 20) and strongly imply that doing so was unethical. It will be obvious to anyone who examines my article, however, that this claim is not true. My article does not name the defendant, nor does it identify the case, nor even the court in which it was tried. Based on the limited information about the case that I published most people would find it impossible to ascertain the defendant's identity.

3

Yet, while criticizing me for releasing the defendant's name (which I did not do) Perlin and his employees include the defendant's name and identify the case in their posting (p. 9). They also comment on the defendant's alleged crimes. Because the defendant was identified in a public trial that led to his conviction, I see no real problem with releasing his name at this point. It is the height of hypocrisy, however, for Perlin and his employees to criticize me, and suggest that I was unethical, for doing something that I did not do, and that they *have* done. If they really believe there is a problem with disclosing the defendant's name, and are looking for someone to blame, they should look in the mirror. They did it; I did not.

Falsehood #3: I published a "ridiculous fabrication" about Perlin's statements at a PCAST meeting

In 2016, the President's Council of Advisors on Science and Technology (PCAST) issued an important report on the scientific status of a number of forensic science disciplines, including forensic DNA testing. In 2017, PCAST issued an addendum that included important commentary and discussion of probabilistic genotyping (PG). As part of a literature review in my article in JFS, I included the following paragraph about PCAST:

> In 2017, PCAST issued an addendum with further commentary on PG analysis. It discussed …. a meeting that PCAST had held with developers of the two programs (John Buckleton for STRmix™ and Mark Perlin for TrueAllele™) to discuss ways to validate PG software programs. PCAST explicitly rejected Perlin's contention that it was "mathematically impossible for the likelihood ratio approach in his software to incorrectly implicate an individual." PCAST instead endorsed Buckleton's view that proper validation requires empirical testing of the software with known-source samples that are similar to those encountered in casework. Accordingly, PCAST recommended that before admitting PG evidence in court, judges "should ascertain whether the published validation studies adequately address the nature of the sample being analyzed (e.g., DNA quantity and quality, number of contributors, and mixture proportion for the person of interest)."

Perlin and his employees object to this statement. They claim that PCAST misquoted and mischaracterized what Perlin said at the PCAST meeting. Their SSRN posting says:

> Thompson begins his report by repeating a ridiculous fabrication about something that was never said at a closed 2016 PCAST meeting at the White House. No scientist would declare a "mathematical impossibility" for the TrueAllele LR "to incorrectly implicate an individual." Obviously, Dr. Perlin never said any such thing. To the contrary, he strongly advocated for empirical software testing across diverse DNA laboratories, cautioning against PCAST's proposed centralization at NIST. At the meeting, he gave the committee electronic copies of 34 TrueAllele validation studies. PCAST was unhappy with his views.

Although my article accurately summarized what PCAST said, Perlin et al. apparently believe that I should have recognized that the PCAST report was wrong, because PCAST's statements about Perlin are "a ridiculous fabrication" that no scientist would ever say. In my defense, I must say that I believe PCAST's account of Perlin's statement because I have, in years past, heard Perlin make very similar statements at scientific meetings. So, I do not think it was unreasonable or inappropriate for me to quote PCAST on this point. There is no question that PCAST's statements on PG validation are important to discuss in a scientific review of that issue, and hence were appropriate to discuss in my JFS article.

My belief that Perlin actually did say what PCAST asserts has received additional support recently from others who attended the PCAST meeting. After Perlin and his employees posted their comments on SSRN, I was copied on an email that John Buckleton sent to Perlin on this very issue. Buckleton also copied a number of other individuals who attended the PCAST meeting and heard Perlin speak. Buckleton's email says the following:

> June 5, 2023
> Mark, You wrote in your reply to Bill Thompson:
>> *PCAST non-statement*
>> *Thompson begins his report by repeating a ridiculous fabrication about something that was never said at a closed 2016 PCAST meeting at the White House. No scientist would declare a "mathematical impossibility" for the TrueAllele LR "to incorrectly implicate an individual." Obviously, Dr. Perlin never said any such thing. To the contrary, he strongly advocated for empirical software testing across diverse DNA laboratories, cautioning against PCAST's proposed centralization at NIST. At the meeting, he gave the committee electronic copies of 34 TrueAllele validation studies (62). PCAST was unhappy with his views.*
> I can confirm that my recall is the PCAST view and that what you have written here is false.
>
> John Buckleton (he/him) DSc, FRSNZ
> Principal Scientist
> ESR

As far as I know, Perlin has not responded to this email. In light of all of this, I think it is quite clear that a "ridiculous fabrication" is indeed being perpetrated here. I think it is also clear who is doing it.

5

Conclusion: Can We Please be Civil and Focus on the Science?

The scientific community has longstanding norms for debate and discussion. People are entitled to disagree; people are entitled to criticize the work of others. From a scientific perspective, there is rarely anything to be gained by vilifying those with whom you disagree. The discussions must be carried out in a respectful manner that focuses on scientific substance rather than personal character and motives. If you think someone is wrong, you should carefully explain why you think so. You should also take care to accurately characterize what others are saying. Most importantly, the discussion must be honest. There is no excuse for lying or making false claims in order to gain traction in a scientific debate. That is never acceptable; it is always reprehensible.

Perlin and his employees are certainly entitled to disagree with what I published in JFS, but they are not entitled to publish reckless falsehoods. They have simply invented facts to vilify me and attack my professional competence. I believe most members of the scientific community will agree with me that this behavior is shameful and unacceptable. They should take their SSRN posting down and commit themselves to more civil discussion in the future.