

IN THE CIRCUIT COURT, MANITOWOC COUNTY, BRANCH 1,  
STATE OF WISCONSIN

---

PEOPLE OF THE STATE OF WISCONSIN	)	
	)	
	)	
-vs.-	)	No. 05 CF 381
	)	
STEVEN A. AVERY	)	
	)	
	)	
Defendant	)	

---

I, Dr. Karl Reich, under oath and under the penalty of perjury, state that:

1. This is a supplemental affidavit written specifically to address the apparent confusion and unfortunate technical misunderstandings made by the court in regard to a previous filing in this case made on October 3, 2017.
2. No new data, results, or opinions are offered at this time; this document addresses the apparent errors, confusion and misunderstandings as expressed in the court's opinion rendered on this matter on October 3, 2017.
3. Specifically, the court's opinion reads: "*The author of the report concedes that there is no forensic test available that can conclusively determine whether DNA was left by sweat. As such, the report cannot conclusively state that the DNA on the hood latch could not have been left by the sweat of the defendant's hand.*" (Opinion at 3) (emphasis added).

The facts are somewhat different: The allegation at trial was that the DNA Mr. Avery left on the car hood latch came from sweat. This allegation is demonstrably false in regard to (1) the inability to identify this body fluid and (2) that whatever DNA might have been carried by skin cells in the sweat is many times less than the DNA that was allegedly recovered from the hood latch.

- i) there being no test, assay, measurement or analytical method that can identify sweat as a body fluid, the prosecution's assertion is pure storytelling with no scientific foundation;
- ii) sweat, which technically has no DNA whatsoever [sweat is an exocrine secretion of water and salt], can only have DNA that is derived from the few



sloughed skin cells carried along in the aqueous volume; *i.e.*, the amount of DNA deposited from 'sweat' would be roughly equivalent to that left by simple touching of an object;

iii) the series of experiments that were carried out to replicate the prosecution's assertion of sweat / DNA on the hood latch does not support the prosecution's assertion of the source of the DNA. As the court returns to this topic, this is further explored below: -here we summarize that fifteen (15) volunteers were recruited to open the hood latch of the same model and year as the automobile from the case and then the amount of DNA left on the hood latch was measured by the same technique used by the Wisconsin State Laboratory.

4. Specifically the court's opinion reads: "*The report indicates that 15 people, unidentified by any statistical data, touched the hood latch of a car substantially similar to the one owned by the victim and found on the defendant's lot. Of those individuals, 11 left no trace. As a result, the report concludes that it is highly unlikely that the defendant's touch left the DNA on the hood latch.*" (Opinion at 3) (emphasis added).

As far as this goes, the court recaps the experimental approach, *i.e.*, replicating the action asserted in the prosecutor's case. The comment, "*unidentified by any statistical data*" (italics added) is somewhat opaque, but may be related to an older, and discredited, concept of 'secretor *vs.* non-secretor' or to the sample size (15 individual measurements) used in the experiment.

i) the concept of secretor *vs.* non-secretor which was purported to be an individual characteristic and used in conjunction with a series of (true) genetic markers prior to the current DNA-STR method, actually has no basis in analytical science or human genetics. There was never, nor is there presently, any genetic or analytic data to support the designation of secretor or non-secretor although this concept continues to persist in the memory of some jurists. In other words there is no such thing as a secretor (or for that matter a non-secretor) and this designation was, and is, pure junk science. If this concept is the origin of the court's comment, "*unidentified by any statistical data,*" it is not only irrelevant, but erroneous. The so-called method to determine the 'secretor status' (note quotation marks) of an individual was merely the observation that the amount of DNA that is deposited on forensic evidence will vary with the item, pressure, time of contact, time since hand-washing and other poorly understood variables.

ii) in stating "*unidentified by any statistical data,*" the court may be referring to a possible statistical bias when small sample sizes are analyzed in an experiment. Here the analysis from fifteen (15) separate contacts from fifteen individuals is a reasonable number of independent tests sufficient to provide substantive information to the trier of fact in regard to the amount of DNA that could be

expected to be left on a hood latch after a contact that replicates an action described at trial.

iii) no identification or differentiation of the individuals who participated in the hood latch experiments is relevant as there is no theoretical, experiential or analytical method that would favor one person over another as leaving more, or less, DNA on an item of evidence, here a hood latch. Thus the choice of individuals cannot, and does not, bias the experimental results.

5. Specifically the court continues: *“Furthermore, while 11 of the test subjects did not leave detectible DNA on the hood latch, the fact remains that 4 of the test subjects did leave detectible DNA by touch. The report does not give any quantifiable statistics as to the amount of DNA left in his tests or comparable data to the test performed on the hood latch in question and entered into evidence at trial. Contrary to the defendant's assertions, the test of the DNA on the hood latch does not rule out the defendant's hand as the source of the DNA. In fact, the report declines to make such a conclusion, noting that the matter could become a subject of further, non-DNA, investigation.”* (Opinion at 3-4) (emphasis added).

Unfortunately the court is in error as precise values were provided for (a) the amount of DNA allegedly recovered by the Wisconsin State laboratory from the hood latch of the vehicle and (b) the four (4) replicates of the experimental hood openings that did leave some detectable DNA.

i) The Wisconsin State laboratory recovered approximately 1.9 nanograms of DNA from the item of evidence named as the hood latch: to be precise, 30 microliters of a 0.0616 ng/ $\mu$ L solution of purified DNA which equals ~1.9 nanograms. These data were provided previously.

ii) the four attempts at opening the hood latch that did leave detectable DNA quantified at 0.0519 nanograms, 0.0936 nanograms, 0.0696 nanograms, and 0.0729 nanograms. These data were provided previously.

iii) the total amount of DNA that was recovered from the fifteen (15) hood opening trials was 0.288 nanograms [0.0519 + 0.0936 + 0.0696 +, 0.0729]. These data were provided previously.

iv) the difference in the amount of DNA recovered from the hood opening trials versus the amount of DNA recovered by the Wisconsin State laboratory is six (6) fold (to be precise, 6.6 times); *i.e.*, from a total of 15 attempts six times less DNA was recovered than quantified by the State laboratory. These data were provided previously.

It was left to the court to calculate that it would take approximately 90 attempts at opening the hood to deposit the amount of DNA recovered by the Wisconsin State laboratory. *i.e.*, from 15 attempts 0.288 nanograms was recovered: therefore to deposit 1.9 nanograms it would take approximately 6 times as many trials, 15 x 6 or 90 attempts at opening the hood.

6. The court made several errors in fact, detailed above, in its response to the defendant's motion for post-conviction relief. It is hoped that the clarification and adjustments herein will help the trier of fact to more correctly understand the laboratory and testing results in this case.

**FURTHER AFFIANT SAYETH NAUGHT**




Karl Reich, Ph.D.

Subscribed and sworn before me  
this 20<sup>th</sup> day of October, 2017.

  
Notary Public

STATE OF ILLINOIS  
COUNTY OF DUPAGE

Sworn to and subscribed before me  
this 20<sup>th</sup> day of October, 2017

  
Allan Suyosa Notary Public  
My Commission Exp. March 30, 2018