

DP  
C. Price

IN THE SUPERIOR COURT FOR THE DISTRICT OF COLUMBIA  
CRIMINAL DIVISION

UNITED STATES,  
  
v.  
  
DYLAN M. WARD,  
JOSEPH R. PRICE,  
and  
VICTOR J. ZABORSKY,  
  
Defendants.

Criminal Nos. 2008-CF1-26996  
2008-CF1-27068  
2008-CF1-26997

Judge Lynn Leibovitz

Status Hearing – May 5, 2010

**DEFENDANTS' REPLY IN SUPPORT OF DEFENDANTS' JOINT MOTION IN LIMINE TO EXCLUDE EXPERIMENT EVIDENCE AND TESTIMONY**

and

**DEFENDANTS' MOTION IN LIMINE TO EXCLUDE EXPERIMENT EVIDENCE CONDUCTED BY ROBERT SPALDING**

Defendants Dylan M. Ward, Joseph R. Price and Victor J. Zaborsky, by and through undersigned counsel, respectfully submit this Reply in Support of their Joint Motion *In Limine* To Exclude Experiment Evidence and Testimony; and respectfully also submit this Motion *In Limine* to Exclude Experiment Evidence Conducted by Robert Spalding.

**I. ARGUMENT**

**A. ADMISSION OF EXPERT EVIDENCE**

As we set forth in the our April 9, 2010 Joint Motion In Limine To Exclude Experiment Evidence and Testimony (hereinafter "*Motion in limine re Experiments*"),<sup>1</sup> in this jurisdiction, for experiment evidence to be admissible "the conditions surrounding the experiment" must be "substantially similar to those of the alleged occurrence." *Taylor v. United States*, 759 A.2d 604, 608 (D.C. 2000). As our Court of Appeals explained in *Taylor*, because so-called experiment

<sup>1</sup> Mot. *in limine re Experiments* at 3-4.



evidence has the obvious potential to “mislead, confuse, divert or otherwise prejudice the purposes of the trial”:

[T]he foundation for admissibility should be scrutinized closely to determine whether *the conditions surrounding the experiment were substantially similar to those of the alleged occurrence*. In applying the test of substantial similarity, the trial court should be guided by the following principles: Are the dissimilarities likely to distort the results of the experiment to the degree that the evidence is not relevant? Can the dissimilarities be adjusted for or explained so that their effect on the results of the experiment can be understood by the jury? In this connection the court must consider the purpose of the experiment and the degree to which the matter under experiment is a subject of precise science. Absolute certainty is not required if the experiment would be considered valid by persons skilled or knowledgeable in the field which the experiment concerns.

*Id.* (alteration in original) (citations omitted).

#### **B. MR. DEEDRICK'S EXPERIMENTS**

Douglas Deedrick, the government's designated hair and fiber expert,<sup>2</sup> conducted three experiments in an effort to create “evidence” that might support the government's theory that the knife found on the scene (Item 13) at 1509 Swann Street<sup>3</sup> was not the knife used to stab Robert Wone and that the knife actually used to stab him was a knife missing from a cutlery set recovered from 1509 Swann Street.<sup>4</sup>

In conducting his three experiments, Mr. Deedrick used: (a) a five inch Wusthof “boning knife,” (hereinafter “scene knife replica”), which the government contends is a replica of the knife, Item 13, found on the scene; (b) a four-and-a-half inch Wusthof “utility knife” (hereinafter “box knife replica”), which the government contends is a replica of a knife from a box-set (Item 199) of cutlery from 1509 Swann Street (the utility knife was missing from the box-set when the

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<sup>2</sup> See Govt's Expert Disclosures, 3-4 (Feb. 25, 2010), attached at Exhibit A.

<sup>3</sup> The knife, Item 13, was recovered from a nightstand next to the sofa bed on which Mr. Wone was found stabbed. See Crime Scene Examination Section Evidence Report, P89 (Aug. 3, 2006).

<sup>4</sup> The box set was recovered from inside a bedroom closet in 1509 Swann Street. *Id.* at P108.

box-set was recovered); (c) "portions of a white towel;" (d) "two tubes of equine blood;" and (e) a "pork loin."<sup>5</sup>

Mr. Deedrick originally produced a two-and-a-half page report ("Deedrick Report I"), attached at Exhibit B, which provided little information concerning his three experiments: (1) "Fabric Imprint Test"; (2) "Fiber Transfer Test"; and (3) "Stab Cut Test."<sup>6</sup> Subsequently, the government produced an additional seven-pages of information concerning Mr. Deedrick's experiments, ("Deedrick Report II"), attached at Exhibit C, that provides little additional information but contains a number of photographs, which are also of limited use.<sup>7</sup> On April 15, 2010, defense counsel met with Mr. Deedrick, and the information gained at the meeting confirms the infirmities of Mr. Deedrick's "experiments." On April 23, 2010, the government filed its Opposition to the Defendants' Motion in Limine to Exclude Experiment Evidence ("Opposition"), which purports to describe what Mr. Deedrick did in conducting his experiments.

Based on this additional information and an analysis of Mr. Deedrick's experiments by Dr. Henry C. Lee, Ph.D., Defendants' crime scene investigation and bloodstain pattern expert, whose declaration is attached at Exhibit D ("Lee Declaration"), it is clear that none of Mr. Deedrick's experiments are admissible because none of the experiments come close to being substantially similar to the circumstances of Mr. Wone's death. Each of the experiments performed by Mr. Deedrick lacks scientific merit and is therefore invalid and unreliable in the bloodstain pattern analyst community.

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<sup>5</sup> Letter from Deedrick to Martin, 1, (Mar. 24, 2010) ("Deedrick Report I"), attached at Exhibit B.

<sup>6</sup> Deedrick Report I at 2 - 3.

<sup>7</sup> Deedrick Report II at 1 - 7.

### 1. "Fabric Imprint Test"

Mr. Deedrick's "Fabric Imprint Test" actually consists of two separate experiments that he collectively refers to as a "Fabric Imprint Test."<sup>8</sup> Both involve analyzing bloodstain patterns, yet Mr. Deedrick has no expertise in bloodstain pattern analysis.<sup>9</sup> His *curriculum vitae*, attached at Exhibit E, indicates that he was formerly employed by both the FBI Laboratory and, more recently, the Metropolitan Police Department Forensic Science Services Division, where he specialized in "*Human/Animal Hair Identification*," "*Fiber/Fabric Examinations*," and "*Feather Identification*."<sup>10</sup> Nothing in his CV suggests that he has any experience, skill or education interpreting the bloodstain patterns made by fabric, human tissue and human muscle, or a combination thereof, on a knife blade.<sup>11</sup>

In its Opposition, the government contends that "[Mr.] Deedrick has been a forensic examiner for 33 years."<sup>12</sup> We do not contest the duration of Mr. Deedrick's career, but he spent it as a forensic *hair and fiber examiner*, not a bloodstain pattern analyst. Bloodstain pattern analysis is not hair and fiber analysis; it is a wholly separate forensic science discipline requiring significant and specialized education, training and skill before one can qualify as an expert in it.<sup>13</sup> Furthermore, Mr. Deedrick, who has published articles regarding hair and fiber analysis, has produced no scholarship or publications concerning bloodstain pattern analysis.<sup>14</sup> Finally the

<sup>8</sup> Deedrick Report I at 2; Deedrick Report II at 4.

<sup>9</sup> For expert testimony to be admissible the trial court must conclude, among other things, that the expert witness whose testimony is offered has "sufficient skill, knowledge, or experience in that field or calling as to make it appear that his opinion or inference will probably aid the trier in his search for truth." *Dyas v. United States*, 376 A.2d 827, 832 (D.C.), *cert. denied*, 434 U.S. 973 (1977).

<sup>10</sup> See Govt. Expert Disclosures, 3 - 4 (Feb. 25, 2010); Douglas Deedrick "Statement of Qualifications" at 1, (P2433-2435), attached at Exhibit E.

<sup>11</sup> Lee Decl. ¶ 7.

<sup>12</sup> Govt. Opp. at 4.

<sup>13</sup> "Evaluation [of bloodstains] requires many years of experience, usually learned little by little through practice . . ." Tom Bevel and Ross M. Gardner, *Bloodstain Pattern Analysis*, 7 (3d ed. 2008) (citation omitted), copies of cited material are attached at Exhibit F.

<sup>14</sup> While, as the government notes, "scholarship is not a prerequisite for eligibility to testify as an expert

government states, without substantiation, that “with respect to the fabric imprint test, Mr. Deedrick has been conducting such tests throughout the course of his career . . . [and] he has been qualified as an expert and testified about such testing a number of times.”<sup>15</sup> However, the government has not identified any cases in which Mr. Deedrick so qualified, and the limits of Mr. Deedrick’s prior qualifications have not been established. Accordingly, since Mr. Deedrick lacks any qualifications in the area of blood pattern or spatter, evidence of his experiments and any opinions resulting therefrom should be excluded.

Independently, even assuming *arguendo* that Mr. Deedrick could qualify as an expert in bloodstain pattern analysis, his experiments are nevertheless inadmissible. As a threshold matter, both experiments violate the cardinal rule of bloodstain pattern analysis (or, for that matter, any discipline that aspires to science), which is that “[t]he analyst cannot go looking for ‘his’ answer. It is data that defines the conclusion and not the conclusion that defines the data.”<sup>16</sup> Mr. Deedrick, having concluded very early in this investigation (despite not being an expert in bloodstain pattern analysis) that the bloodstain pattern on the knife from the scene was made by someone placing blood on a towel and then “swiping” the knife blade, set out to prove his theory by recreating the pattern himself. In conducting this experiment, Mr. Deedrick was not testing to see if a knife “swiped” through a bloody towel would exhibit a similar pattern as the knife recovered from the scene; rather, he was looking at the pattern on the knife from the scene and then purposefully trying to copy it. When simply swiping a knife blade did not create a pattern sufficiently similar to the pattern on the knife from the scene, Mr. Deedrick started “lightly touching” the blade with the blood-stained towel in order to make his recreation look more like

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witness,”<sup>14</sup> in the absence of any relevant education, training or experience, scholarship may serve to establish knowledge sufficient to permit qualification. Lacking any of these credentials, Mr. Deedrick is clearly not qualified to opine as a bloodstain pattern analyst.

<sup>15</sup> *Id.*

<sup>16</sup> Bevel, *supra*, at 367.

the pattern on the knife from the scene. Mr. Deedrick's ability to copy the pattern through various dabbing and swiping efforts in which he purposely controlled the amount of blood used has neither scientific nor forensic value. Indeed, it is well established within the community of bloodstain pattern experts that "given a little time and ingenuity the analyst can reproduce a particular pattern in any number of ways."<sup>17</sup> Copying a pattern is not the same thing as designing a controlled experiment to see if a particular event would, without predetermined notions, result in a similar pattern.

Indeed, Mr. Deedrick's experiments are a textbook example of what is known as "confirmation bias": Mr. Deedrick "start[ed] with a conclusion and then [sought] data that supports it. Rather than trying to disprove a possibility, which is the most effective function of scientific method, [Mr. Deedrick] simply seeks data to support his specific theory."<sup>18</sup> In order for these experiments to be scientifically valid, Mr. Deedrick would have had to design controlled experiments which tested all the "various reasonable events that could have produced the bloodstains in question,"<sup>19</sup> including the obvious possibility that the pattern was created by a stabbing event.

**a. T-shirts "fabric imprint" test**

In the first of his "Fabric Imprint" tests, Mr. Deedrick used two different t-shirts to make "imprint patterns" on the scene knife replica.<sup>20</sup> Neither of Mr. Deedrick's reports provides any meaningful information about how the "imprint patterns" were created nor do they explain

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<sup>17</sup> *Id.*

<sup>18</sup> *Id.* at 373.

<sup>19</sup> *Id.* at 369.

<sup>20</sup> *Id.*

exactly what Mr. Deedrick means by the term "imprint pattern."<sup>21</sup> Concerning the "imprint patterns," his second, lengthier report states only that:

Test imprints were performed with the "COMCAST" T-shirt fabric and with the "William & Mary" T-shirt fabric using the imprint kit.

One (1) imprint pattern of the "COMCAST" T-shirt and two (2) imprint patterns of the "William & Mary" T-shirt were made. The imprint patterns of these fabrics were not observed in photographs previously made of the crime scene knife (Item 13).<sup>22</sup>

During a meeting with defense counsel, Mr. Deedrick explained that equine blood was applied to the t-shirts, though how and in what quantity it was applied was not clear. Next, the t-shirts were used to create "imprints" on the scene knife replica, though, again, the manner in which this was done was not meaningfully explained. Mr. Deedrick contends that "imprint patterns" like those he created on the scene knife replica are not apparent in photographs of the knife recovered from the scene.<sup>23</sup> In other words, there are no patterns on the knife recovered from the scene that look like the "imprint patterns" that Mr. Deedrick created on the scene knife replica.

What we do know about this experiment makes it readily apparent that it is inadmissible for several reasons. First, the circumstances under which the t-shirts were used to create a fabric imprint were nothing like the circumstances of the actual stabbing. The knife used to stab Mr. Wone passed through not only a t-shirt, but also through skin, tissue, muscle, organs, arteries and veins. By comparison, applying by hand blood to a knife using a t-shirt in an attempt to create some sort of pattern bears no resemblance to a stabbing and thus cannot be of any probative scientific value in this case. Second, scientific principles demand that any experiment be repeated in order to determine whether the results are consistent and reproducible.<sup>24</sup> Experts in

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<sup>21</sup> *Id.*; Deedrick Report I at 2.

<sup>22</sup> Deedrick Report II at 4.

<sup>23</sup> *Id.* at 4.

<sup>24</sup> Lee Decl. ¶ 11.

bloodstain pattern analysis have long recognized that experiments must be “done a number of times, simply to guarantee that the effect observed is reproducible. Reproducibility is a crucial requirement. As the reproducibility of the observed effect increases, the chance that the analyst has introduced some experimental error or is observing some random effect is reduced.”<sup>25</sup>

Here, Mr. Deedrick conducted the fabric imprint test only three times, hardly a sufficient number of tests to confirm that the same or similar fabric imprints would be created each time and with a degree of consistency that would render them useful in evaluating the pattern on the blade of the knife.<sup>26</sup> Having conducted the test only three times, it is evident that Mr. Deedrick did not account for and assess the impact of any variables. For example, no assessment was made to measure how a change in the velocity of the movement of the knife would impact any resulting pattern on the blade. To assess this and other variables that clearly would impact the pattern, e.g., temperature of the blood, amount of force used, etc., “demands engaging in multiple tests, as the analyst must control all variables and change only one variable in each test. Without this control, the analyst would not be able to state with any certainty how each variable altered the resulting pattern.”<sup>27</sup>

Third, the materials used in the experiment have not been established to be consistent with those that would have been involved in the actual stabbing. For example, Mr. Deedrick does not indicate when the equine blood used in his experiments was collected, how much anti-coagulant was added to the blood, whether it was stored in a refrigerator and, if so, for how long, or how the blood was transported to him. Each of these factors would affect the bloodstain pattern on the knife.<sup>28</sup> The degree to which these factors differed from the circumstances of the

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<sup>25</sup> Bevel, *supra*, at 368.

<sup>26</sup> Lee Decl. ¶ 12.

<sup>27</sup> Bevel, *supra*, at 368. *See also* Lee Decl. ¶ 12.

<sup>28</sup> Lee Decl. ¶ 12.

actual stabbing, e.g., the temperature of the equine blood compared to the temperature of Mr. Wone's blood following his stabbing, would necessarily impact blood transfer and therefore the patterns on the knives.<sup>29</sup>

Nor can Mr. Deedrick adjust for the unaccounted variables in his experiment through expert testimony. Having conducted no control tests for variables, he cannot explain how "the volume of blood involved, the nature of the impacting force, or the orientation of the [knife] to the wound site,"<sup>30</sup> among other variables, would have impacted the pattern created.

In short, this experiment is inadmissible because 1) the fabric imprint test was not conducted under circumstances substantially similar to those of the actual stabbings, 2) Mr. Deedrick cannot account for or explain the differences so that their effect on the results of the experiment can be understood by the jury, and 3) the experiment is considered invalid in the bloodstain pattern analyst community. *See Taylor*, 759 A.2d at 608.

#### **b. Towel "fabric imprint" test**

In his other "fabric imprint" test, Mr. Deedrick decanted two tubes of equine blood into a bowl, dabbed a towel into the blood, and then used the bloody towel to "swipe" the blade of the scene knife replica from the blade-tip to the blade-base.<sup>31</sup> Finally, "[t]he other side of the [scene knife replica] was lightly touched with the blood-stained towel on the bolster."<sup>32</sup> On the basis of this action, Mr. Deedrick opined that "the imprint patterns produced by the blood-stained loop-ends of the towel surface are similar in appearance to the stained areas (depicted in photographs)

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<sup>29</sup> *Id.*

<sup>30</sup> Bevel, *supra*, at 368.

<sup>31</sup> Deedrick Report II at 4; Govt. Opp. at 2.

<sup>32</sup> Deedrick Report II at 4. Mr. Deedrick's first, shorter report is confusing on this point as it states that Mr. Deedrick used a "white towel" which created "[a] dotted pattern . . . on the *test paper*," not the blade of the knife. Deedrick Report I at 2.

on the 'bolster' of the crime scene knife. Accordingly, a towel similar to the exemplar towel could have produced the stained pattern found on the crime scene knife (Item 13)."<sup>33</sup>

This bloodstain pattern experiment is inadmissible for the same reasons the t-shirt "fabric imprint" test is inadmissible. First, the experiment was designed to create evidence supportive of a predetermined theory rather than test the reasonable possibilities presented by the evidence at the scene.<sup>34</sup> Mr. Deedrick, using a towel and some blood, simply worked at copying the pattern on the knife from the scene until he got the desired result. As bloodstain pattern experts have cautioned, "given a little time and ingenuity the analyst can reproduce a particular pattern in any number of ways."<sup>35</sup> This experiment was not repeated (Mr. Deedrick conducted it only once) and no effort was made to control and account for a wide variety of variables in an actual comparison with what occurred in this case.<sup>36</sup> Third, it is unknown how much blood was used, when the blood used in the experiment was collected, how much anti-coagulant was added to the blood, whether it was stored in a refrigerator and, if so, for how long, or how the blood was shipped. Each of these factors would affect the bloodstain pattern on the knife.<sup>37</sup> Similarly, the report does not indicate the condition of the knife: whether it was new and consequently had grease on the blade, whether it had been washed, how many times it had been washed and how its condition compared to that of the knife recovered from the scene. Likewise, the report does not indicate anything about the condition of the towel used by Mr. Deedrick. Having failed to conduct experiments accounting and controlling for these variables, Mr. Deedrick's experiment

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<sup>33</sup> Deedrick Report II at 5.

<sup>34</sup> Lee Decl. ¶ 12.

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

is inherently unreliable and could not serve as a basis for informed expert opinion reasonably grounded in science.<sup>38</sup>

Because of the unaccounted-for variables, the experiment failed to approximate the actual stabbing. Because the towel fabric imprint test was not conducted under circumstances substantially similar to those of the actual stabbings, Mr. Deedrick cannot account for or explain the differences so that their effect on the results of the experiment can be understood by the jury. Again, because these experiments lack a scientific basis, they are inadmissible.

## 2. "Fiber Transfer Test"

In his "fiber transfer test," Mr. Deedrick used the scene knife replica to stab a pork loin draped in a t-shirt three times and then counted the fibers that accumulated on the blade from the t-shirt. This process was repeated two additional times, totaling nine stabs.<sup>39</sup> The number of fibers collected varied significantly: over twenty were collected in the first set of stabbings, over forty in the second set, and approximately fifteen in the third set.

Like Mr. Deedrick's other experiments, this one does not permit an expert to opine as to the number of fibers, if any, that would be found on a knife after stabbing multiple times through a t-shirt into a human being, because it was not conducted according to an established and accepted scientific method that would reasonably simulate the actual stabbing.<sup>40</sup> There were no controls, no repetition, and no effort to approximate the actual conditions of the stabbing. Moreover, among the three results that were obtained, there was such a range of difference (15 fibers versus 60 fibers) that the experiment demonstrably is not sufficiently reproducible to have any value as either the basis of an expert opinion or a guide for the jury.

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<sup>38</sup> *Id.*

<sup>39</sup> Deedrick Report II at 6-7.

<sup>40</sup> Lee Decl. ¶ 14.

Furthermore, it is obvious that the conditions under which the experiment were conducted (e.g., stabbing a pork loin, which contains no blood, organs, arteries or veins) would not simulate the conditions of stabbing a live human being. In its Opposition, the government argues that "Mr. Deedrick chose materials that most closely approximated the circumstances of the stabbing. Using pig flesh in such an experiment is nothing new. See Robertson, James; Greive, Michael, Forensic Examination of Fibers, at 75-76 (Ellis Horwood Ltd. 1999)<sup>41</sup> (citing fiber studies utilizing pig flesh 'as a model tissue to simulate the human body.')<sup>42</sup> This is an inaccurate representation of the authors' conclusions. In fact, *Forensic Examination of Fibers* states in pertinent part that:

Some researchers have used instruments to attempt to imitate the stabbing action used by a would be assailant. . . . Robertson (1997) also used pig rib carcass as a model tissue to simulate the human body. Heuse (1982) replaced the use of pig flesh in his experiments with a relatively realistic artificial body consisting of rice. Although producing valuable information, *the translation of these findings to forensic casework is more problematic. This is because of the innumerable variables involved in a crime scenario that are unknown or cannot be replicated.* Simulated experiments either using simulators or with hand-inflicted damage are at best indicative. The limitations inherent because of uncontrollable variables must be recognized and considered in reaching any conclusions.<sup>43</sup>

As is evident from this quoted language, the authors reach no conclusion that "pig flesh" is an effective (never mind substantially similar) substitute in a fiber transfer study where the actual stabbing involved a living human being. Indeed, the author says nothing about fiber transfer, but does note, as does Dr. Lee, that because of the innumerable unknown or non-replicable variables, the use of such experiments for forensic case work is unreliable.

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<sup>41</sup> The text cited by the government is cited herein as: Jane M. Taupin et al., *Forensic Examination of Fibers*, 75 - 76 (James Robertson & Michael Grieve eds., 1999).

<sup>42</sup> Govt. Opp at 8.

<sup>43</sup> Jane M. Taupin et al., *Forensic Examination of Fibers*, 76 (James Robertson & Michael Grieve eds., 1999) (emphasis added), copies of the cited portions are attached at Exhibit G.

In any event, whether "pig flesh" is or is not a useful substitute for human flesh in certain research, it is axiomatic that the number of fibers transferred while stabbing a t-shirt-draped pork loin has no meaningful relevance to the fiber transfer that occurs when a living human being is violently stabbed through a t-shirt. The fact that human blood would be deposited and removed from the surface of the blade in the course of a real stabbing makes any results from Mr. Deedrick's experimental stabbing of a pork loin unreliable and irrelevant to this case.

Finally, in his experiment, Mr. Deedrick immediately examined the knife after each set of three stabbings. In this case, Mr. Deedrick did not examine the crime scene knife until over four months after it was recovered from the crime scene. The knife was out in the open at the crime scene for several hours while police officers photographed and examined the scene. It was then handled by any number of crime scene technicians before Mr. Deedrick had an opportunity to view it. The circumstances under which Mr. Deedrick obtained the crime scene knife, and the hair/fiber evidence that might have come into contact with crime scene knife or been removed from that knife are in no way similar to those relating to the knife Mr. Deedrick used in his experiment. For this reason as well, the experiment is an unreliable indicator of what an expert can opine to have occurred in this case.

### 3. "Stab Cut Test"

In the "stab cut test," Mr. Deedrick placed two t-shirts over foam blocks. Mr. Deedrick then made three cuts into the front of each shirt using the scene knife replica, and three cuts into the back of each shirt using the box knife replica. Mr. Deedrick then recorded the length of each stab cut. The cuts varied little in length, ranging from 10/16" to 16/16" long.<sup>44</sup> According to Mr.

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<sup>44</sup> Deedrick Report II at 2 - 3.

Deedrick's report, prior measurements of the cuts in the t-shirt Mr. Wone was wearing when stabbed range from 8/16" to 12/16".<sup>45</sup>

In its Opposition, the government states these results are "inconclusive"<sup>46</sup> and therefore the government will not seek to admit the results, though the government indicates it "may elicit the fact that [Mr. Deedrick] performed this test to demonstrate that he undertook a number of independent experiments to help shed light on some of the physical evidence recovered from the scene."<sup>47</sup> The reason the government will not seek to introduce the results is because they do not support its predetermined theory that the knife found on the scene was not the knife used to stab Mr. Wone.

In any event, the stab cut test experiment is not admissible because, as Dr. Lee explains, stabbing a stationary foam block is not comparable to stabbing a human body: human skin has elasticity; human muscle is very fibrous; and both of these characteristics would impact the entry of the knife and the associated damage to any fabric penetrated by it.<sup>48</sup> Moreover, the limited scientific study of the dimensions of fabric cuts associated with stabbings establishes that such measurements are not forensically reliable, as the authors of *Forensic Examination of Fibers* explain:

It has also been shown that stab-cut dimensions in clothing do not accurately reflect the knife blade width (Cosello and Lawton, 1990). Stuart and others (unpublished) have conducted detailed studies on textile severance damage and its interpretation. This work has been reported in brief by Robertson (1997). Using a stabbing simulator which enabled the angle of penetration, blade orientation and stabbing motion to be varied, it was shown that the dimensions of a cut vary in a complex way under the influence of these variables and the contribution of the fabric construction. The authors conclude that great caution needs to be taken in excluding a possible implement based on small differences in stab-cut dimensions. These authors also found that reproducibility of measurement could

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<sup>45</sup> *Id.* at 3.

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> Lee Decl. ¶ 10.

be a significant issue with measurements taken by a single individual over a period of time and between individuals. *This once again demonstrates the limitations on using numerical measurements without fully understanding the variables which may produce apparent differences.*<sup>49</sup>

This research demonstrates that Mr. Deedrick's experiment is wholly unreliable for any forensic purpose. Moreover, as we set forth in our Motion *in limine* re Experiments, a host of circumstances surrounding Mr. Wone's stabbing remain unknown, thereby precluding Mr. Deedrick from successfully conceptualizing experimental circumstances that would be substantially similar to those of the stabbing, even if such an experiment could otherwise be shown to have scientific merit.<sup>50</sup>

Nor can the differences be explained or accounted for by Mr. Deedrick during his expert testimony. As the authors of the aforementioned *Forensic Examination of Fibers* note, "few studies have been published associating weapons with damage to clothing."<sup>51</sup> As a result, there is not a body of existing scientific data to guide and account for factors not included in such an experiment. By comparison, the science of accident reconstruction, the subject of *Butts v. United States*, 822 A.2d 407, 414 (D.C. 2003), relied upon by the government,<sup>52</sup> permits an expert in that field to account for various factors that may not be incorporated in an accident reconstruction experiment. For example, where an accident recreation is done during daylight hours, where the actual accident occurred at night, existing data concerning the impact of varying light conditions on visibility would enable the expert to opine with reasonable certainty as to the impact on his or her experiment of the difference in lighting conditions, allowing the jury to adjust for them.

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<sup>49</sup> Taupin, *supra*, at 75 (emphasis added).

<sup>50</sup> Mot. *in limine* re Experiments at 4-7.

<sup>51</sup> Taupin, *supra*, at 75.

<sup>52</sup> Govt. Opp. at 6.

The same is not possible here. There is no substantial similarity to the actual stabbing and the significant variances cannot be adjusted or compensated for by expert testimony or explanation by Mr. Deedrick. Accordingly, evidence and argument concerning the stab cut test experiment are inadmissible.

### C. MR. SPALDING'S EXPERIMENTS

Robert Spalding, the government's designated "blood spatter expert," also conducted two experiments, described in a report prepared by Mr. Spalding for the government, ("Spalding Report", attached at Exhibit H). We expect the government to proffer Mr. Spalding to testify regarding that report.<sup>53</sup> In one experiment, Mr. Spalding put blood on the scene knife replica and wiped it on a towel represented to be the same brand as a towel recovered from the scene (Item 16).<sup>54</sup> Mr. Spalding did the same thing with the box knife replica.<sup>55</sup> His stated purpose was to determine if either knife could be the source of one of three bloodstains he observed on Item 16. He concluded that the scene knife replica "produced a swipe pattern consistent in width with the area 1 stain."<sup>56</sup> In a second experiment, Mr. Spalding applied blood to the towel and put it on the knife in an effort "to determine if the blotting type transfer pattern on the choil of the [scene knife replica] could have been produced by a fabric such as the material comprising the Item #16 towel."<sup>57</sup> Mr. Spalding concluded that it could.<sup>58</sup>

We submit that these experiments suffer from the same deficiencies as Mr. Deedrick's efforts to copy the pattern on the knife from the scene. As set forth in Dr. Lee's affidavit, Mr. Spalding's experiment with the towel and knife was "pre-selective,"

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<sup>53</sup> Govt. Expert Disclosures at 11, attached at Exhibit A.

<sup>54</sup> Spalding Report, 11 (Feb. 25, 2009) (P1178), attached at Exhibit H.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

meaning that he started with a pre-designated conclusion and tested only for that possibility. Such experiments are contrary to scientific principles which require scientists to consider the world of possibilities and to either include or eliminate those which the experiment excludes. For example, Mr. Spalding used only a towel in his experiment rather than comparing the bloodstain pattern with patterns created using a sponge, a human body, a t-shirt, or than comparing it with bloodstain patterns from other stabbing cases, among other things.<sup>59</sup>

Moreover, no quantitative information has been provided concerning the experiment that would allow other experts to evaluate the experiment both in terms of its scientific merit and the degree of similarity to the actual circumstances of this case. For example, Mr. Spalding "does not disclose the type of blood he used, how much blood he used, the condition of the knives, the condition of the towel, or how much force or pressure he exerted when conducting the experiment."<sup>60</sup>

Mr. Spalding's conclusion that he was able to recreate a "similar" pattern is also impossible to evaluate because there is no way to determine what "similar" means. "[A] comparison of his result to a photograph of a knife, rather than the actual knife, is not enough: photographs are subject to variances due to lighting, exposure, and other camera-specific details."<sup>61</sup>

Furthermore, as with Mr. Deedrick's experiments, it does not appear 1) that any variable controls were employed as part of Mr. Spalding's experiments, 2) that the experiments were carried out repeatedly to assure consistency and reproducibility and 3) that any effort was made to assess whether the pattern observed in the photos of the knife from the scene would be "similar" to a pattern created by stabbing through a t-shirt, tissue, muscle and veins/artries. "Mr. Spalding's experimentation to determine whether one or both of the knives in question could have been involved in creation of the stain areas and patterns on the white towel (item 16)

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<sup>59</sup> Lee Decl. ¶ 6.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

is not an experiment that would be generally accepted by experts in the field of bloodstain pattern analysis because it violates the scientific principles and consequently would not permit an expert to assert a reasonable, scientific opinion as to its results.”<sup>62</sup>

In short, having predetermined that the patterns on the towel and knife on the scene were created by “swiping” the knife with a towel, Mr. Spalding’s efforts were limited to proving his theory by merely copying the pattern, rather than developing scientifically sound experiments that would eliminate various possibilities and lead to a reasonably certain conclusion. Lacking in scientific merit, sharing no similarity with the actual occurrence at issue, and being unacceptable as a basis for expert evidentiary opinion in the bloodstain pattern community, Mr. Spalding’s experiment evidence should not be admitted.

#### CONCLUSION

For these reasons, the Defendants respectfully move to exclude all expert testimony and evidence concerning or based on the experiments conducted by Mr. Deedrick and reported in his Report of Examination, dated March 24, 2010, and conducted by Mr. Spalding and reported in his report of February 25, 2009.

Respectfully Submitted,

*Bernard S. Grimm (BS)*

Bernard S. Grimm (DC Bar # 378171)

**Cozen O'Connor**

1627 I Street, N.W., Suite 1100

Washington, D.C. 20006-4007

Telephone: 202-912-4835

Facsimile: 877-260-9435

Email: [bgrimm@cozen.com](mailto:bgrimm@cozen.com)

*Counsel for Defendant Joseph R. Price*

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<sup>62</sup> Lee Decl. ¶ 5.

*David Schertler*

David Schertler (DC Bar # 367203)  
Robert Spagnoletti (DC Bar # 446462)  
**Schertler & Onorato LLP**  
601 Pennsylvania Ave., N.W., 9<sup>th</sup> Fl.  
Washington, D.C. 20004  
Telephone: 202-628-4199  
Facsimile: 202-628-4177  
Email: [dschertler@schertlerlaw.com](mailto:dschertler@schertlerlaw.com)

*Counsel for Defendant Dylan M. Ward*

*Thomas G. Connolly (es)*

Thomas G. Connolly, Esq. (DC Bar # 420416)  
Amy Richardson, Esq. (DC Bar # 472284)  
**Wiltshire & Grannis, LLP**  
1200 18<sup>th</sup> St., N.W., 12<sup>th</sup> Floor  
Washington, D.C. 20036  
Telephone: 202-730-1339  
Facsimile: 202-730-1301  
Email: [tconnolly@wiltshiregrannis.com](mailto:tconnolly@wiltshiregrannis.com)

*Counsel for Defendant Victor J. Zaborsky*

