I. Future Dangerousness in Virginia

In Virginia, the death penalty may be sought on the basis of two statutory aggravating factors: future dangerousness and vileness. Va. Code. § 19.2-264.2. The future dangerousness inquiry requires the fact finder decide whether "there is a probability that the defendant would commit criminal acts of violence that would constitute a continuing serious threat to society." Id.

Since the mid 90s, the use of statistical methods to assess the likelihood of future dangerousness in the prison environment has become routine. Dr. Mark Cunningham is the foremost expert on future dangerousness risk assessments and is frequently offered as an expert in Virginia and nationally. Prison violence risk assessment testimony is founded upon two important factors: (1) base rate and (2) context. The base rate is compiled statistical data of violence, or frequency of violence, in a given sample or population under specified circumstances over a given period of time. See Mark D. Cunningham & T.J. Reidy, Violence Risk Assessment at Federal Capital Sentencing: Individualization, Generalization, Relevance, and Scientific Standards, 29 CRIM. JUST. & BEHAV. 512 (2002). The base rate is described as "the single most important piece of information" in making accurate violence risk assessments. Id. In all valid risk assessments, the expert first identifies the base rate of violence by offenders with similar characteristics and in similar settings as the defendant, and he then adjusts that base rate upward or downward depending on additional factors that have been shown to be scientifically relevant, such as the defendants individual characteristics, record and offense. See, e.g., Mary Alice Conroy & Daniel C. Murrie, Forensic Assessment of Violence Risk: A Guide for Risk Assessment and Risk Management 235–53 (2007). Thus the use of a base rate serves as an essential anchor of reliability. Id. at 238–48.
A. **Porter and Morva**

Recent decisions from the Virginia Supreme Court have drastically altered the use of prison violence risk assessment expert testimony. In *Porter v. Commonwealth*, 276 Va. 203, 661 S.E.2d 415 (2008), the Court found that the trial court properly refused to appoint Dr. Cunningham because his proffered prison violence risk assessment testimony was not individualized to the defendant and because it did not focus on the statutory basis for the "future dangerousness" aggravating factor—namely, the defendant’s "prior history, conviction record and the circumstances of the crime." *Porter*, 276 Va. at 255, 661 S.E.2d at 441. The Court held that because Dr. Cunningham's statistical analysis of projected prison environment did not focus on the particular defendant the testimony was not admissible. *Id.*

Just one year later, in *Morva v. Commonwealth*, 278 Va. 329, 683 S.E.2d 553 (2009), the Court again held that Dr. Cunningham's prison violence risk assessment testimony was properly excluded because although "Dr. Cunningham proposed to provide testimony that concerns Morva’s history and background, prior behavior while incarcerated, age and educational attainment," Dr. Cunningham still proffered testimony that would included general evidence of prison life and security measures. *Morva*, 278 Va. at 351, 683 S.E.2d at 566. The Virginia Supreme Court held that because Dr. Cunningham's risk analysis was founded upon a "base rate" that applied to all prisoners and this statistic was not individualized to Morva, it was proper for the circuit court to refuse to appoint him as a defense expert. *Id.*

Thus, under *Porter and Morva*, any mention of a statistical base rate, the foundation upon which all scientifically reliable individualized risk assessments are built, will render the expert testimony inadmissible. This holding is based upon the Virginia Supreme Court's belief that prison violence base rate testimony is irrelevant to the individualized inquiry of future
dangerousness. These recent limitations to future dangerousness expert testimony call for a reexamination of this testimony under Virginia evidence law.

II. Evidence Law and Future Dangerousness

A. Barefoot

In 1983, Barefoot v. Estelle, the Supreme Court upheld expert testimony about future dangerousness even though the majority acknowledged the testimony was completely unsupported by scientific evidence. 463 U.S. 880, 898 (1983) (noting that the APA had concluded predictions about a defendant's future dangerousness were wrong two out of three times). In Barefoot, Dr. Grigson, nicknamed "Dr. Death", without ever examining Barefoot, testified that as a "matter of medical certainty" the defendant was the most extreme type of "psychopath" and that he was 100% certain the defendant would kill again if not executed. Id. The Barefoot court concluded that this testimony was properly admissible under the evidence rules and relevant, unprivileged evidence should be admitted and its weight left to the fact finder, who would have the benefit of cross examination and contrary evidence by the opposing party." Id.

Justice Blackmun wrote a livid dissent in Barefoot and stated that "[w]hen a person's life is at stake…a requirement of greater reliability should prevail. In a capital case, the specious testimony of a psychiatrist, colored in the eyes of an impressionable jury by the inevitable untouchability of a medical specialist's words, equate with death itself." Id. at 916–17.

Jurek v. Texas, 428 U.S. 262 (1976), had already determined the admissibility of future dangerousness predictions as a matter of constitutionality, and Barefoot went on to validate the testimony's admissibility as an evidentiary issue. But the landscape of evidence law has changed
since 1983 and has illuminated the importance of reliability, especially for expert testimony that has no empirical foundation yet masquerades as science.

B. Daubert

In 1993, Justice Blackmun wrote the majority opinion in Daubert v. Merrell Dow Pharmaceuticals, and vindicated the importance of reliability in the admission of expert testimony. 509 U.S. 579, 592 (1993) (articulating a two-step test that trial courts must use in determining whether evidence and expert testimony is admissible). Daubert held that the mention of "scientific…knowledge" in Federal Evidence Rule 702 implied only knowledge that was reliable should be admissible. Id. Under Daubert federal judges are now to be gatekeepers and are required to evaluate the scientific validity and the "fit" of expert testimony. Under this two-step test the court must first determine whether the expert’s testimony reflects valid and reliable "scientific knowledge" and "whether that reasoning or methodology properly can be applied to the facts in issue." Id. at 592–94 (noting a court should address "whether the theory or technique has been subjected to peer review and publication," and whether it has achieved general acceptance in the particular scientific community). Second, the court should move on to the "fit" prong and must ask whether the testimony is relevant to the task at hand and whether it will serve to aid the trier of fact. Id.

Daubert went on to list a set of factors that could be used to determine whether the proposed scientific testimony was scientific (reliable) knowledge that would be helpful (relevant) to the trier of fact in understanding the fact at issue. Id. at 593–94. The court noted that the factors were meant to be illustrative and not definitive or exhaustive: (1) Has the theory or technique been tested?; (2) Has the theory or technique been subjected to peer review and publication?; (3) What is the technique's known or potential rate of error?; (4) Are there
standards controlling the technique's operation that indicate its trustworthiness?; and (5) Has it been generally accepted in the relevant scientific community? Id.

Rule 702 applies to "scientific, technical, or other specialized knowledge," but Daubert limited its holding to "scientific knowledge." This left open the question about whether Daubert's gatekeeping function and reliability/relevance factors applied to expert testimony not based on the traditional "hard" science. In 1999, Kumho Tire held that Daubert's general principals apply to all expert testimony. Kumho Tire Co., Ltd. v. Carmichael, 526 U.S. 137, 148 (1999). Thus, "soft" sciences, such as psychology, must also be evaluated under Daubert's evidentiary standards for reliability.

C. Virginia

Daubert changed the landscape of federal evidence law and emphasized the importance of reliability, sweeping the pure "relevance" and "general acceptance" tests out of the picture. However, Daubert propounded an evidentiary principal, not a constitutional one; states are still free to adopt their own rules of evidence and reject the principals of Daubert.

Virginia has not adopted Daubert and has no clear set of Daubert-like factors in determining expert testimony admissibility; however, Virginia caselaw taken together does appear to place importance on both reliability and relevance. In criminal cases in Virginia, expert testimony is generally admissible if it concerns matters not within the common knowledge of the jury. If the average person would not be sufficiently well-versed in the field to make intelligent judgments then expert testimony has been considered essential and admissible. Compton v. Commonwealth, 219 Va. 716, 726–27 (1979). Expert testimony must be based on an adequate foundation and will be inadmissible if it is founded on assumptions that have an "insufficient factual basis." Keesee v. Donigan, 259 Va. 157, 161 (2000).
In 1993, Virginia adopted Federal Rule of Evidence 702 as part of the law of evidence in Virginia. Va. Code § 8.01-401.3. Under Rule 702, expert testimony is admissible if it will "assist the trier of fact to understand the evidence or to determine a fact in issue" and if a witness is qualified by "knowledge, skill, experience, training or education." Id. However, this statute only applies in criminal cases, not in civil. Payne v. Commonwealth, 277 Va. 531, 542–43 (2009); Friend, The Law of Evidence in Virginia § 17-4 (6th ed.). Although the language of Rule 702 may not technically apply in criminal cases, the Virginia Supreme Court has used language essentially identical to that of Rule 702 in assessing criminal experts. See Velazquez v. Commonwealth, 263 Va. 95, 103 (2002) (stating that the purpose of expert testimony is to "assist the trier of fact in understanding the evidence"); Board of Supyrs. V. Lake Servs., Inc., 247 Va.293, 297 (1994) (noting that "expert testimony is admissible only when specialized skill and knowledge are required to evaluate the merits of a claim").

Although Virginia has not adopted the principals of Daubert, where expert testimony is offered regarding scientific evidence, Virginia courts must make a threshold finding of fact with respect to the reliability of the scientific method offered. Spencer v. Commonwealth, 240 Va. 78, 97 (1990). The threshold finding required by Spencer coupled with the requirement that testimony be based on an "adequate foundation" and have a sufficient factual basis, is similar to Daubert's gatekeeping requirement of ensuring reliability and relevancy. See Keesee v. Donigan, 259 Va. 157, 161 (2000) (noting expert testimony will be inadmissible if it has an insufficient factual basis and is not based on an adequate foundation).

In Virginia, as long as the expert is not testifying as to a matter within the common knowledge of the jury, the relevance consideration should be satisfied if the expert testimony "assists the finder of fact in understanding the evidence." See Velazquez v. Commonwealth, 263

However, for indigent criminal defendants, this simple relevance standard is not enough to satisfy the requirements for the appointment of an expert. Criminal defendants must also show a "particularized need" which demonstrates that the expert's assistance will be a significant factor in the defense. See Husske v. Commonwealth, 252 Va. 203, 212 (1996).

The Spencer requirement of reliability appears to apply only when "scientific evidence" is offered. However, "scientific" has not been clearly defined in Virginia. In general, it appears that testimony is "scientific" if the expert uses a particular scientific, technical or other specialized theory. "Scientific evidence" is most usually applied when some highly specialized chemical, mechanical, electronic or other technique unfamiliar to the average person is being used by an expert. Friend, The Law of Evidence in Virginia § 14-1, at 556 (6th ed.) (noting that fingerprint evidence, radar evidence, breath and blood alcohol analysis, drug analysis, polygraph evidence, and general forensic evidence have all been analyzed under the Spencer rule).

The Frye "general acceptance" test has not been adopted in Virginia. Spencer, 240 Va. at 97 ("If admissibility were conditioned upon universal acceptance of forensic evidence, no new scientific methods could ever be brought to court. Indeed, if scientific unanimity of opinion were necessary, very little scientific evidence, old or new, could be used."). Additionally, Spencer stated that in making the reliability determination, "[w]ide discretion must be vested in the trial court to determine, when unfamiliar scientific evidence is offered, whether the evidence is so inherently unreliable that a lay jury must be shielded from it, or whether it is of such character that the jury may safely be left to determine credibility for itself." Id. at 98. Since Spencer
provides no Daubert-like factors to guide the reliability determination, a potential danger is that the threshold finding of reliability is too ambiguous to provide consistent protection.

Although Spencer was a case in which scientific evidence was offered at the guilt phase of a capital murder trial, the Virginia Supreme Court has held that the Spencer rule applies "to the use of scientific evidence in judicial proceedings generally" and there is no "relaxed standard of admissibility at sentencing." Billips v. Commonwealth, 274 Va. 805, 809–10 (2007) (applying the reliability threshold requirement to proof offered at the sentencing phase of a criminal trial). The burden is on the party offering the scientific evidence to make the required showing of reliability. Id.

III. Admissibility of Dangerousness Experts under Evidence Law

A. Dr. Death Type Testimony

Future dangerousness testimony based solely on clinical judgement has been overwhelmingly shunned by the profession (and so fails peer review, publication, and the general acceptance prong of Daubert). See Erica Beecher-Monas & Edgar Garcia-Rill, Danger at the Edge of Chaos: Predicting Violence Behavior in a Post-Daubert World, 24 CARDOZO L. REV. 1845, 1857 (2003). Since such predications are wrong more often than they are right, they also cannot meet the error rate inquiry of Daubert. However, although the unreliability of Dr. Death type testimony is well established, the Supreme Court has not yet reconsidered Barefoot since the Daubert change in evidence law. Thus, many states, like Virginia, are left with antiquated caselaw founded on Barefoot that shuns reliability.

In Edmonds v. Commonwealth, 229 Va. 303, 311 (1985), Virginia first held that a purely clinical prediction of future dangerousness by Dr. Centor was admissible under Barefoot. During the 90s, when this type of Dr. Death testimony was frequently being offered by the
prosecution, the Virginia Supreme Court repeatedly reaffirmed the Edmonds holding and held that it was for the jury to decide how much credibility to give the testimony. See e.g., Savino v. Commonwealth, 239 Va. 534, 544–45 (1990) (holding that Dr. Centor's testimony was admissible under Barefoot and Edmonds); Saunders v. Com., 242 Va. 107, 115 (1991) (same).

In Virginia, the Spencer reliability rule has never been applied when determining the admissibility of Dr. Death type expert testimony. This is most likely because there is nothing "scientific" about a purely opinion based prediction of future dangerousness. Though this type of expert testimony appears to have lost its appeal to Virginia prosecutors, under Virginia evidence law, clinical assessments of future dangerousness are still admissible.

**B. Risk Assessment Testimony**

Prison violence risk assessment based on group statistical data has been the dominant form of future dangerousness expert testimony in capital sentencing trials across the county since the early 2000s. See Mark D. Cunningham & T.J. Reidy, Violence Risk Assessment at Federal Capital Sentencing: Individualization, Generalization, Relevance, and Scientific Standards, 29 Crim. Just. & Behav. 512 (2002). This form of violence risk assessment enjoys strong empirical support and general scientific acceptance (and so would succeed the peer review, publication and general acceptance prongs of Daubert). See id. at 513 (noting that the use of group statistical techniques (base rate) has been used in other fields such as insurance, medicine and pharmacology).

Under Virginia evidence law, risk assessment testimony would most likely be considered "scientific" under the Spencer rule since it is based on a specialized statistical technique that is unfamiliar to the average person. Although Spencer does not give the trial judge much guidance
in how he comes to a reliability determination, it seems clear that Dr. Cunningham's risk
assessment expert testimony is reliable and would be admissible.1

C. Porter / Morva type Risk Assessment Testimony

In Porter and Morva, The Virginia Supreme Court has held that no mention of the base
rate or testimony about the prison environment is to come in. This holding is based upon the
Supreme Court's belief that testimony of this nature is irrelevant to the individualized inquiry of
future dangerousness. However, in its mistaken ruling on relevancy, the Court is also sacrificing
reliability.

Despite the holdings of Morva and Porter, it is clear that under Virginia evidence law,
prison violence risk assessment evidence is relevant to the future dangerousness inquiry. The
Virginia Supreme Court has held that the future dangerousness inquiry affects not only prison
argument that the future dangerousness inquiry should be limited to prison society). Prison
violence risk assessment testimony is at least relevant to prison society, even if it does not
address the entire future dangerousness inquiry. In Bell v. Commonwealth, 264 Va. 172, 201
(2002), the Virginia Supreme court noted that although general evidence of prison conditions
may not be relevant, prison evidence particularized to the defendant in terms of his future
adaptability and ability to adjust to prison life was very relevant to the future dangerousness
inquiry. This is exactly the evidence that is offered by Dr. Cunningham in an attempt to predict
the defendant's future dangerousness in prison societal context he will be placed in. As the
dissent in Morva stated, "the majority fails to recognize that when calculating the risk of future

1 If the Dr. Death/Centor type testimony is admissible under Virginia law, it seems obvious that
the much more reliable risk assessment testimony would also be admissible under Virginia law.

Relevancy is not the only consideration, however. The admission of scientific expert testimony in Virginia must also survive a reliability examination. Spencer v. Commonwealth, 240 Va. 78, 97 (1990). By Dr. Cunningham's own explanation, the base rate is an essential factor in the reliability of the risk analysis testimony. See Mark D. Cunningham & T.J. Reidy, Violence Risk Assessment at Federal Capital Sentencing: Individualization, Generalization, Relevance, and Scientific Standards, 29 Crim. Just. & Behav. 512, 517 (2002). "The distinction between individualized as opposed to group methods is a false dichotomy. Such a contrast reflects a fundamental misunderstanding of the nature of risk assessment . . . there is no individualized assessment of a particular person that does not rest on group data of one sort or another." Id. at 517. However, this is the exact "fundamental misunderstanding" that the Virginia Supreme Court has made in limiting any mention of the group statistical (base rate) data that a risk assessment dangerousness prediction is founded on and that provides reliability to the methodology.

Thus the question is: has the Virginia Supreme Court undercut a risk assessment expert's reliability under Spencer by holding any information about base rate data is irrelevant and inadmissible? At the very least this limitation undercuts the credibility of the expert because it is confusing and misleading for a jury to hear risk analysis evidence without understanding (or even having an awareness of the existence) the underlying base rate. Cunningham explains that "[b]y allowing the capital jury the benefit of being able to directly scrutinize the group incidence (base rate) of violence, as well as its scientific basis, a formal group statistical methodology has the least likelihood of misleading or confusing the jury." Id. at 519.
However, in terms of evidentiary reliability under *Spencer*, the expert testimony may still satisfy the reliability requirement. This is because there is a difference between a risk analysis expert that cuts out the base rate from their analysis all together and an expert that is merely prevented from explaining the methodology to the jury. See *Tittsworth v. Robinson*, 252 Va. 155 (2005) (holding that expert opinions that are too speculative and contain too many disregarded variables should be excluded); *Vasquez v. Mabini*, 269 Va. 155 (2005) (noting that expert testimony is inadmissible if the expert fails to consider all the variables). As a matter of Virginia common law an expert is required to reveal the basis for his opinion to the jury. *Simpson v. Commonwealth*, 227 Va. 557 (1984). An exception to this rule, however, is if part of the expert's opinion is based on hearsay or facts not in evidence. *Simpson*, 227 Va. at 566 (retaining the common law prohibition that expert opinion testimony in criminal cases may not be based on facts not in evidence.) Virginia case law, at least in civil cases, allows the expert to consider the hearsay matters in forming his opinion, while preventing the proponent of an expert's testimony from eliciting the hearsay bases on direct examination. See *Lawrence v. Commonwealth*, 279 Va. 490 (2010); *Commonwealth v. Wynn*, 277 Va. 92 (2009); But see, *Corado v. Commonwealth*, 47 Va. App. 315, 328 (2005) (noting that in criminal cases, material not in evidence cannot be relied upon by an expert); *Funderburk v. Commonwealth*, 6 Va. App. 334, 338 (1988) (admission of an expert's opinion that identified the victim's blood type even though the opinion was based in part on studies and statistical tables that were not admitted into evidence was upheld).

However, the hearsay analogy is not a perfect fit here because the exclusion of an expert's hearsay opinion basis is not a complete roadblock. An alternative way to get the hearsay basis information admitted is to call the witnesses or the informants and allow cross-
examination. But for the risk assessment expert, *Porter* and *Morva* have completed foreclosed all avenues of base rate admission.

When assessing the admissibility of future dangerousness risk assessment expert testimony in Virginia, relevancy is not the only consideration. The trial court must also analyze risk assessment expert testimony under *Spencer* and make a threshold finding that the scientific method underlying opinion is reliable. *Spencer v. Commonwealth*, 240 Va. 78, 97 (1990).

**D. Additional Considerations**

By taking the statistical foundation away from Dr. Cunningham's testimony, his opinion becomes almost indistinguishable from the pure clinical opinion testimony of Dr. Centor (Dr. Death type testimony). This is a potential problem because the Dr. Death type testimony is arguably still admissible under Virginia evidence law. Thus, there is an argument that the risk assessment testimony would no longer be analyzed under the *Spencer* reliability rule since the scientific foundation has been held irrelevant and inadmissible.

A second problem is that if this *Porter* / *Morva* limited risk assessment testimony is analyzed under *Spencer* and is found to be unreliable (since it is founded on inadmissible base rate evidence) a solution could be to exclude the testimony all together.