And then came Crawford v. Washington—the blockbuster decision that jettisoned twenty-five years of Confrontation Clause jurisprudence. Under Crawford, the critical inquiry governing admissibility of a hearsay statement became whether it is “testimonial” and not whether it is reliable. Following the basic principle articulated in Crawford, the holding five years later in Melendez-Diaz v. Massachusetts became a foregone conclusion: a crime laboratory report is simply an expert’s affidavit, and thus clearly testimonial. Even the outcome of Bullcoming v. New Mexico, where a surrogate expert introduced a lab report, could be considered inevitable—at least to Justice Scalia and the dwindling number of his colleagues who share his view of testimonial statements. However, Crawford now seems endangered, as the Court confronts yet another case involving expert testimony: Williams v. Illinois.

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3 Justice Scalia, who wrote the majority opinion, referred to the facts as a “rather straightforward application of our holding in Crawford.” Id. at 2533.


5 At the time this essay was submitted, Williams had not yet been decided. See People v. Williams, 939 N.E.2d 268, 279 (Ill. 2010) (“The evidence against the defendant was Lambatos’ opinion [of a DNA match], not Cellmark’s report, and the testimony was introduced live on the witness stand. Indeed, the report was not admitted into evidence at all. Rather, Lambatos testified to her conclusion based upon her own subjective judgment about the comparison of the Cellmark report with the existing ISP profile.”).
This essay starts with some thoughts about Federal Evidence Rules 703 and 705 and then makes a few observations about the constitutional issue. My thesis is that any Confrontation Clause jurisprudence involving these rules must appreciate their weaknesses. In particular, the Court has failed to appreciate the relationship between pretrial discovery and meaningful confrontation at trial. My concerns are practical, not doctrinal.  

I. RULE 703’S RATIONALE

An expert’s opinion is, of course, only as good as the basis on which it rests. If the jury rejects the basis, it should also reject the opinion on which it is based. The pre-Rules common law limited the bases of expert testimony to (1) personal knowledge of the expert or (2) assumed facts—typically presented to the expert in the form of a hypothetical question—if those assumed facts were supported by the record (known as the “record-facts requirement”). Although the hypothetical question had long been criticized, it had several distinct advantages. It informed the jury of the basis of an expert’s opinion prior to the giving of the opinion. In addition, the record-facts requirement ensured that the basis could be tested by cross-examination when the evidence concerning those facts was introduced at trial.

A. The Reliability Rationale

Rule 703, along with Rule 705, made the hypothetical

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*cert. granted, 131 S. Ct. 3090 (U.S. Jun. 28, 2011) (No. 10-8505).*


*See Paul C. Giannelli & Edward J. Imwinkelried, *Scientific Evidence* §5.05[b], at 309 (4th ed. 2007) (“[T]he hypothetical question has been criticized as a cumbersome and unwieldy device which often precludes the expert from fully explaining her opinion to the jury.”).*
question optional, but more importantly, these rules made it possible for an expert to base an opinion on out-of-court statements if it was typical for experts in the field to reasonably rely upon such statements. Thus, an expert opinion could be based on hearsay (nonrecord facts). The drafters offered a reliability rationale to support Rule 703—i.e., experts relied on nonrecord facts in their everyday practice and would not do so if the information was untrustworthy. The advisory committee provided an example most commonly associated with civil practice: a physician who makes life and death decisions based on X-rays, hospital records, blood tests, and other medical documents. Nevertheless, from its inception, Rule 703 was “controversial,” and a 2000 amendment made admissibility of hearsay more difficult.

B. The Discovery Rationale

In addition to the reliability rationale, there was another, perhaps less appreciated, justification for Rules 703 and 705:

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9 FED. R. EVID. 703 advisory committee’s note (1975):
In this respect the rule is designed to broaden the basis for expert opinions beyond that current in many jurisdictions and to bring the judicial practice into line with the practice of the experts themselves when not in court. Thus a physician in his own practice bases his diagnosis on information from numerous sources and of considerable variety, including statements by patients and relatives, reports and opinions from nurses, technicians and other doctors, hospital records, and X-rays. Most of them are admissible in evidence, but only with the expenditure of substantial time in producing and examining various authenticating witnesses. The physician makes life-and-death decisions in reliance upon them. His validation, expertly performed and subject to cross-examination, ought to suffice for judicial purposes.

10 See ABA SECTION OF LITIGATION, EMERGING PROBLEMS UNDER THE FEDERAL RULES OF EVIDENCE 176 (2d ed. 1991) (“Rule 703 was a controversial rule when enacted, and it remains controversial.”).

11 Inadmissibility of the hearsay basis became the default position. The rule now reads: “But if the facts or data would otherwise be inadmissible, the proponent of the opinion may disclose them to the jury only if their probative value in helping the jury evaluate the opinion substantially outweighs their prejudicial effect.” FED. R. EVID. 703.
comprehensive pretrial discovery. According to the drafters, Rule 705 assumes that the cross-examiner has the advance knowledge which is essential for effective cross-examination . . . . Rule 26(b)(4) of the Rules of Civil Procedure, as revised, provides for substantial discovery in this area, obviating in large measure the obstacles which have been raised in some instances to discovery of findings, underlying data, and even the identity of the experts.  

Thus, informed of the basis of an expert’s opinion through discovery, an opposing party has the opportunity to challenge it. The combination of these two rationales—reliability and extensive pretrial discovery—made the enactment of Rules 703 and 705 an attractive reform in civil cases. Simplified trials coupled with extensive discovery ensured basic fairness.

Discovery in criminal cases, however, is not comprehensive. Indeed, it is meager, at best. Only a few states authorize pretrial discovery depositions of witnesses, much less experts.  

Interrogatories are unheard of. Although expert reports are discoverable in criminal litigation, these reports, as the Supreme Court reminded us in Melendez-Diaz, often are woefully inadequate. According to the Court, the laboratory report in that case contained only the bare-bones statement that ‘[t]he substance was found to contain: Cocaine.’ At the time of trial, petitioner did not know what tests the analysts performed, whether those tests were routine, and whether interpreting their results required the exercise of judgment or the use of skills that the analysts may not have possessed.

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12 Fed. R. Evid. 705 advisory committee’s note (1975).
13 See Gianelli & Imwinkelried, supra note 8, ch. 3 (discovery). In contrast, most jurisdictions have deposition procedures for the preservation of testimony if the witness might be unavailable for trial. Thus, depositions are used to preserve the testimony of a party’s own witnesses, not uncover the testimony of adverse witnesses.
The National Academy of Sciences’ recent report on forensic science makes the same point.\(^\text{15}\)

A rule justified (at least in part) on the basis of extensive pretrial discovery is extremely troublesome, to say the least, if that discovery is not provided. Meaningful “confrontation” of an in-courthouse expert without adequate discovery is often an insurmountable task.\(^\text{16}\)

Furthermore, the bare-bones lab reports in criminal cases are a product of the adversary system, not science. The *Journal of Forensic Sciences*, the official publication of the American Academy of Forensic Sciences, published a symposium on the ethical responsibilities of forensic scientists in 1989. One Article discussed a number of unacceptable laboratory reporting practices, including (1) “preparation of reports containing minimal information in order not to give the ‘other side’ ammunition for cross-examination,” (2) “reporting of findings without an interpretation on the assumption that if an interpretation is required it can be provided from the witness box,” and (3) “[o]mitting some significant point from a report to


As a general matter, laboratory reports generated as the result of a scientific analysis should be complete and thorough. They should contain, at minimum, “methods and materials,” “procedures,” “results,” “conclusions,” and, as appropriate, sources and magnitudes of uncertainty in the procedures and conclusions (e.g., levels of confidence). Some forensic science laboratory reports meet this standard of reporting, but many do not. Some reports contain only identifying and agency information, a brief description of the evidence being submitted, a brief description of the types of analysis requested, and a short statement of the results (e.g., “the greenish, brown plant material in item #1 was identified as marijuana”), and they include no mention of methods or any discussion of measurement uncertainties.

\(^{16}\) See Fed. R. Crim. P. 16 advisory committee’s note (“[I]t is difficult to test expert testimony at trial without advance notice and preparation.”); see also Paul C. Giannelli, Criminal Discovery, Scientific Evidence, and DNA, 44 Vand. L. Rev. 791, 798–99 (1991) (discussing the inadequate discovery of expert evidence in criminal cases).
trap an unsuspecting cross-examiner.” In other words, the reports are intended to make the trial confrontation of the expert more difficult.

As an example, imagine that a forensic pathologist testifies that a person died as a result of carbon monoxide poisoning. This opinion is based partly on an autopsy, which revealed a cherry-red skin color that is indicative of carbon monoxide poisoning, and the absence of any other cause of death. This personal knowledge is supplemented by two other sources of information. The first is the report of a toxicologist, which revealed the presence of quantifiable amounts of carbon monoxide in tissue samples taken from the decedent’s organs during the autopsy. The second is a police report regarding the scene where the body was found, which revealed that a gas stove was on and the windows were shut when the police entered the decedent’s apartment.

In a life insurance case involving a death benefit, Rules 703 and 705 would permit the pathologist to testify that the cause of death was carbon monoxide poisoning, without first disclosing the bases of her opinion. Neither the toxicologist (another expert) nor the first police responder (lay witness) would be required to testify. In contrast, the common law required both to testify at some point in the trial in order for the hypothetical question to be valid.

Under the discovery rules in civil litigation, the opposing party would be entitled to a comprehensive expert report, 

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18 This example is based on *State v. David*, 22 S.E.2d 633 (N.C. 1942).

19 On direct examination, the pathologist may be asked to provide the basis of her opinion because it would be more persuasive (not because of any evidence rule).

20 As a practical matter, the police officer would probably be called as a witness because his testimony is needed independently of the expert’s opinion.

21 The rule requires that the report must contain:

(i) a complete statement of all opinions the witness will express and
which might spur that party to retain its own expert. In addition, the opposing attorney could depose all three participants—the pathologist, the toxicologist, and the police officer. Interrogatories would probably precede these depositions. In contrast, in a criminal case, say for murder, most of this discovery is simply not authorized. As noted above, testing the reliability of the expert’s opinion is extremely difficult without pretrial discovery.

Now recall the hearsay problem inherent in Rule 703. The 2000 amendment to Rule 703 makes non-disclosure of the hearsay basis of an expert’s opinion the default position. This provides some protection, but the opposing party (i.e., the accused) is still disadvantaged. The only means of attacking the pathologist’s opinion may require disclosure of the hearsay basis on cross-examination, which the cross-examiner may not know ahead of time because of inadequate discovery. Moreover, disclosure may carry a high price: it might inform the jury that another expert (the toxicologist) supports the pathologist’s opinion regarding the cause of death. An instruction telling the jury to limit its consideration of this information to a non-hearsay purpose would most likely be ineffective.\(^2\) The jury

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\(^2\) Professor Mnookin has rejected the argument that the bases can be offered for a non-hearsay purpose:

The problem with this argument is that notwithstanding its frequent invocation by courts, it makes almost no sense. To be sure, the jury might have better grounds for evaluating the expert’s testimony if it hears about the data upon which the expert relied for her conclusion. But part of a rational evaluation of the expert will thus entail an evaluation of her sources—which will inevitably involve a judgment about the likelihood that the sources themselves are valid and worthy of reliance. In other words, to decide how
would probably not understand, much less adhere to, such an instruction in this context.\textsuperscript{23}

In sum, Rules 703 and 705 are problematic as evidence rules in criminal cases without even considering Confrontation Clause issues.

II. RULE 703’S “REASONABLE RELIANCE” REQUIREMENT

Rule 703 provides: “If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted.” What is considered “reasonable reliance” varies from field to field. For example, an arson investigator’s opinion on the origin and cause of a fire may be based in part on statements of eyewitnesses.\textsuperscript{24} In contrast, a psychiatrist who testifies in an insanity case may base her opinion in part on the post-crime statements of the defendant’s family and friends.\textsuperscript{25} Accordingly, the “reasonable reliance” requirement requires close scrutiny.

much to credit the expert’s sources, the jury should, logically, first assess the odds that they are reliable. And what is this but a judgment about the likely truth of their contents? Using the information for the permissible purpose of evaluating the expert thus necessarily requires a preliminary determination about the information’s truth. The permitted purpose is therefore neither separate nor separable from an evaluation of the truth of the statement’s contents.

Mnookin, \textit{supra} note 7, at 816.

\textsuperscript{23} See Krulewitch \textit{v.} United States, 336 U.S. 440, 453 (1949) (Jackson, J., concurring) (“The naive assumption that prejudicial effects can be overcome by instructions to the jury, all practicing lawyers know to be unmitigated fiction.” (citation omitted)); Dunn \textit{v.} United States, 307 F.2d 883, 886 (5th Cir. 1962) (“[I]f you throw a skunk into the jury box, you can’t instruct the jury not to smell it.”).

\textsuperscript{24} See United States \textit{v.} Lundy, 809 F.2d 392, 395–96 (7th Cir. 1987) (“[H]earsay and third-party observations that are of a type normally relied upon by an expert in the field are properly utilized by such an expert in developing an expert opinion. . . . [The expert] presented uncontroverted evidence that interviews with many witnesses to a fire are a standard investigatory technique in cause and origin inquiries.” (citing \textit{Fed. R. Evid.} 703; United States \textit{v.} Lawson, 653 F.2d 299, 301–03 (7th Cir. 1981))).

\textsuperscript{25} These witnesses may provide important information about the accused’s conduct leading up to the crime.
A. Supervising Toxicologist

A pre-Crawford case, *Reardon v. Manson*,\(^26\) illustrates the kinds of problems that the “reasonable reliance” requirement raises. In that case, a toxicologist, Dr. Reading, testified about the identity of a seized substance (marijuana) based on tests performed by a chemist working under his supervision. The Second Circuit upheld the practice: “Expert reliance upon the output of others does not necessarily violate the confrontation clause where the expert is available for questioning concerning the nature and reasonableness of his reliance.”\(^27\)

*Reardon* raises numerous issues. First, the term “under the supervision” is troublesome. In 1983, Saks and Duizend published a study on the use of scientific evidence. Part of their investigation involved case studies of different forensic techniques. The drug case in their study is the *Reardon* prosecution. They comment:

In this case, the laboratory in question had three doctorate-level toxicologists and 22 or 24 less-credentialed chemists. The volume of tests performed (about 20,000 annually) left the toxicologist an average of only a few minutes per day to attend to any given test. Is this adequate involvement to justify testifying to the findings?\(^28\)

In other words, the toxicologist was “supervising” fifty cases

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\(^{27}\) *Reardon*, 806 F.2d at 42.

a day. As the federal district court noted, “[I]t strains credulity to assert that Dr. Reading could personally ‘supervise’ some 50 of these tests daily.” Here, the line between a supervising expert and a surrogate witness, as in *Bullcoming*, is blurred, if not erased.

An understanding of the laboratory procedures demonstrates how this blurring occurred. According to the toxicologist, his laboratory used three different tests to identify marijuana: (1) a microscopic test to determine the presence of cystolithic hairs that are characteristic of marijuana, (2) a chemical color test, and (3) thin layer chromatography (TLC). Dr. Reading admitted, however, that his opinion was not based on the first test; he “never personally examined the substance under the microscope.” He further testified that the TLC and color tests were sufficient to identify marijuana. In other words, Dr. Reading claimed that a microscopic test required by his laboratory’s protocol, that he presumably directed his subordinate to perform, was unnecessary!

Dr. Reading also explained that the TLC and color tests “were conducted out of his immediate presence by laboratory chemists under his supervision and on oral or hand-written

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29 Reardon, 617 F. Supp. at 936.

30 “The briefs and the opinions focused on the laboratory procedures, both technical and administrative, without real evidence of the workloads and methods, and reached various differing conclusions about the directness of the supervising toxicologist’s observations under the given circumstances.” Saks & Van Duzend, supra note 28, at 49.

31 See Bruce Stein et al., *An Evaluation of Drug Testing Procedures Used by Forensic Laboratories and the Qualifications of Their Analysts*, 1973 Wis. L. Rev. 727, 771 (“Cystolith hairs are small hairs on the leaves resembling ‘bear claws.’ . . . The major difficulty with this test is that many plants have cystolith hairs. . . . In the subclass dicotyledon, . . . 600 species . . . contained cystolith hairs.”).

32 State v. Reardon, 376 A.2d 65, 66 (Conn. 1977) (“Dr. Reading testified at length . . . as to the manner in which drug identifications were conducted in the state toxicological laboratory in this and other similar cases. A microscopic test, a thin-layer chromatography test and a chemical test were conducted.”).

33 Reardon v. Manson, 491 F. Supp. 982, 984 (D. Conn. 1980).
reports from [the] chemists." Therefore, he lacked personal knowledge about issues such as the chain of custody and adherence to proper procedures during the time the subordinate had possession of the evidence. Notably, these closely resemble the practices condemned in *Bullcoming*.

Second, the procedure sanctioned in *Reardon* misleads a jury into believing that a well-trained toxicologist with a Ph.D. has performed the tests personally, when that is not the case. The district court noted that substitution of the toxicologist for the chemist had become “routine” in Connecticut. According to that court,

> it is likely that the State was hoping to take strategic advantage of their absence. By not producing the actual chemists, the State effectively screened these less-experienced witnesses from the rigors of cross-examination. Moreover, in their place, the State substituted a witness with great experience both on the witness stand and in the practice of forensic medicine, whose testimony . . . was buttressed by his doctorate degree.

This practice may be more misleading than it first appears. The Second Circuit refers to the subordinates as “chemists,” which one might assume is someone with a bachelor’s degree in chemistry. But this is not necessarily true. The district court pointed out that the “record is absolutely devoid of any evidence as to the qualifications of the chemists who actually performed the tests.” A more accurate description may be the one used by Saks and Duizend, who referred to them as “technician[s].”

Finally, discovery is once again a problem. The Second Circuit justified its *Reardon* holding in part on the defendant’s

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34 *Id.*

35 “As to other tests where he himself observed the results of the experiments, he still was required to assume that the substances tested were in fact the substances in question, that the tests had been performed correctly, and that the appropriate standards had been used.” *Id.* at 985.

36 *Id.* at 987.

37 *Reardon*, 806 F.2d 39, 41 (2d Cir. 1986).


39 SAKS & VAN DUIZEND, supra note 28, at 49.
pretrial access to the underlying data, asserting that in-court confrontation of a supervising expert is sufficient “where the defendants have access to the same sources of information through subpoena or otherwise.”\(^{40}\) The “otherwise” presumably refers to discovery but, as discussed above, such discovery often does not exist.

In sum, the “supervision” cases should not all be treated alike. \textit{Reardon} seems only a step (and a very short one, at that) away from what the Court found unacceptable in \textit{Bullcoming}.

\section*{B. DNA Cases}

Even DNA cases are not all the same. In the typical case only one laboratory is involved. However, \textit{Williams} is not the typical DNA case. The crime scene analysis was farmed out to a private DNA lab, Cellmark. Although Sandra Lambatos, a state DNA analyst, testified that she made an independent assessment of the Cellmark report, she also testified that she was not familiar with Cellmark’s protocols and that Cellmark had different matching rules than her lab. Moreover, Lambatos was incapable of answering important questions about the Cellmark laboratory. Among these questions were those about personnel and procedures. According to DNA Advisory Board requirements, each DNA analyst must undergo proficiency testing\(^{41}\)—how did the Cellmark expert perform on these proficiency tests? Each laboratory must undergo audits\(^{42}\)

\(^{40}\) \textit{Reardon}, 806 F.2d at 42.

\(^{41}\) The DNA Identification Act of 1994 required proficiency testing and the creation of a DNA Advisory Board to set standards. 42 U.S.C. § 14131 (2006); see also DNA ADVISORY BD., QUALITY ASSURANCE STANDARDS FOR FORENSIC DNA TESTING LABORATORIES 13.1 (1999) [hereinafter DAB STANDARD], available at http://www.cstl.nist.gov/strbase/dabqas.htm (“Examiners and other personnel designated by the technical manager or leader who are actively engaged in DNA analysis shall undergo, at regular intervals of not to exceed 180 days, external proficiency testing in accordance with the standards. Such external testing shall be an open proficiency testing program.”).

\(^{42}\) DAB STANDARD 15.1 (“The laboratory shall conduct audits annually in accordance with the standards outlined herein.”); \textit{ld.} at 15.2 (“Once every two years, a second agency shall participate in the annual audit.”).
keep a corrective action file\textsuperscript{43}—what kind of problems had Cellmark experienced, as recorded in the corrective action file? If confrontation is going to be meaningful, the defense must have the opportunity to confront a witness who knows the answers to critical questions, such as those left unanswered in Williams. It also needs access to such information before trial.

III. NOTICE-AND-DEMAND STATUTES

One final point deserves mention. The adequacy of pretrial discovery has an impact on a related Crawford expert issue. In Melendez-Diaz, the Court seemed to approve one type of notice-and-demand statute.\textsuperscript{44} Such statutes permit the admission of a laboratory report if the defense is notified that the prosecution intends to introduce the report and the defense fails to demand the presence of the analyst as a witness.\textsuperscript{45} In other words, failure to demand the analyst’s presence constitutes a waiver of the right of confrontation. Defense counsel, however, cannot intelligently waive the presence of the analyst unless she understands the basis of the analysis. In short, waiving a client’s right of confrontation without knowing far more about the

\textsuperscript{43} Id. at 14.1 (requiring corrective action procedures “whenever proficiency-testing discrepancies and/or analytical errors are detected”).

\textsuperscript{44} Melendez-Diaz v. Massachusetts, 129 S. Ct. 2527, 2534 n.3 (2009) (“The right to confrontation may, of course, be waived, including by failure to object to the offending evidence; and States may adopt procedural rules governing the exercise of such objections.”); Id. at 2541 n.12 (“It suffices to say that what we have referred to as the ‘simplest form [of] notice-and-demand statutes,’ is constitutional; that such provisions are in place in a number of States; and that in those States, and in other States that require confrontation without notice-and-demand, there is no indication that the dire consequences predicted by the dissent have materialized.” (citation omitted)).

\textsuperscript{45} The Court has yet to directly consider notice-and-demand statutes. In Briscoe v. Virginia, 130 S. Ct. 1316 (2010) (per curiam), the Court vacated the judgment of the Supreme Court of Virginia and “remand[ed] the case for further proceedings not inconsistent with the opinion in Melendez-Diaz.” Although that statute gave the accused the “right to call” the forensic analyst “as a witness,” it did not require the Commonwealth to call the analyst in its case-in-chief. See Cypress v. Commonwealth, 699 S.E.2d 206, 208 (Va. 2010). On remand, the Virginia Supreme Court held the statute unconstitutional. Id. at 211–13.
analysis than is typically provided in criminal discovery would be ineffective assistance of counsel.

CONCLUSION

In Pennsylvania v. Ritchie, a 1987 decision, a plurality of the Supreme Court took the position that the right of confrontation is a trial right and “does not include the power to require the pretrial disclosure of any and all information that might be useful in contradicting unfavorable testimony.” It seems likely, given this holding, that the Supreme Court may continue to fail to account for the inadequacy of pretrial discovery in its Confrontation Clause jurisprudence. The Court should revisit this issue. The provision of adequate discovery is critical to meaningful trial confrontation.

47 Id. at 52–53. In a concurring opinion, Justice Blackmun, who cast the deciding vote, disagreed with the plurality: “In my view, there might well be a confrontation violation if, as here, a defendant is denied pretrial access to information that would make possible effective cross-examination of a crucial prosecution witness.” Id. at 61–62 (Blackmun, J., concurring in part and concurring in the judgment). In dissent, Justices Brennan and Marshall agreed:

The creation of a significant impediment to the conduct of cross-examination thus undercuts the protections of the Confrontation Clause, even if that impediment is not erected at the trial itself. In this case, the foreclosure of access to prior statements of the testifying victim deprived the defendant of material crucial to the conduct of cross-examination.

Id. at 71 (Brennan, J., dissenting). Justices Stevens and Scalia dissented on procedural grounds. Id. at 72–78 (Stevens, J., dissenting); see also United States v. Bagley, 473 U.S. 667, 674–78 (1985) (rejecting the Court of Appeals’ right of confrontation approach in favor of a due process analysis).