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A PIONEER IN FORENSIC SCIENCE REFORM:
THE WORK OF PAUL GIANNELLI

Few can say, “I told you so,” to our entire criminal justice system. Being right about what is wrong with the use of evidence in criminal cases is not a bad thing, but being able to influence the growing response to the crisis in modern forensics must be still more gratifying. Paul Giannelli is one of the rare law professors who was far ahead of his time in anticipating serious problems in the law that were not noticed and not carefully studied. Giannelli has helped to bring the field around to an understanding of the real scope of those problems and he has tirelessly worked to advance our knowledge in scholarship and in policymaking. If the law has not adequately corrected all of the problems that Giannelli continues to play a pioneering role in bringing to light, that is through no inadequacy of his own diagnoses and recommended cures. It is an honor to have the opportunity to contribute to this tribute honoring his work on the occasion of his retirement.

A consistent observation in Giannelli’s work is that much of what passes for forensic science is not altogether sound science. His work has for some time detailed the shortcomings in forensic methods and practice and it has sounded the alarm for the judiciary to better review such evidence. For example, one strand of Giannelli’s work has focused on the need for a different structure for forensic science in the United States. A decade before the National Academy of Sciences report in 2009 called for the creation of an independent scientific entity to develop standards and regulate crime laboratories¹—a proposal that Giannelli correctly identified as a “centerpiece” of that report²—

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1. See COMM. ON IDENTIFYING THE NEEDS OF THE FORENSIC SCI. CMTY., NAT’L RESEARCH COUNCIL, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 19–20 (2009).
2. Paul C. Giannelli, Daubert and Forensic Science: The Pitfalls of Law Enforcement Control of Scientific Research, 2011 U. ILL. L. REV. 53, 53–54 (2011).

Giannelli called for independent crime laboratories and deplored the role of law enforcement influence on forensic science research.³

In 1993, Giannelli noted a problem with error rates and, in particular, results on proficiency tests in crime laboratories.⁴ It was not until 2016 that the Presidential Council of Advisors on Science and Technology report concluded that forensic analysis must be presented in court with evidence of error rates and of the proficiency of the forensic examiner.⁵ Giannelli's 2010 piece puts the problem succinctly in its very title: "*Forensic Science: Why No Research?*"⁶

Giannelli early on called for a more level playing field in which the due process right to defense expertise would be made more meaningful and would more broadly include forensic experts for the defense.⁷ To this day, little has been done to redress the one-sided presentation of so much forensic evidence in our criminal cases. Giannelli is one of the few to consistently push for evenhanded discovery in criminal cases, including of the underlying records relied on by analysts, such as bench notes and lab reports.⁸

Giannelli's work on forensic misconduct has brought to light terrible abuses. Illustrative of the dry wit with which he presents evidence of terrible injustices is this introduction to a piece: "Most people simply do not appreciate how difficult it is to fabricate laboratory and autopsy reports. It's definitely more of an art than a science."⁹ Giannelli has described for some time how misuse of forensic science can contribute to wrongful convictions. However, Giannelli's work has

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3. Paul C. Giannelli, *The Abuse of Scientific Evidence in Criminal Cases: The Need for Independent Crime Laboratories*, 4 VA. J. SOC. POL'Y & L. 439, 478 (1997) ("Independent crime labs should be established as part of an augmented Medical Examiner system.").
 4. Paul C. Giannelli, *Expert Testimony and the Confrontation Clause*, 22 CAP. U. L. REV. 45, 80 (1993) ("The proficiency test results of many common laboratory examinations are disturbing.").
 5. PRESIDENT'S COUNCIL OF ADVISORS ON SCI. AND TECH., EXEC. OFFICE OF THE PRESIDENT, *FORENSIC SCIENCE IN CRIMINAL COURTS: ENSURING SCIENTIFIC VALIDITY OF FEATURE-COMPARISON METHODS* 6 (2016).
 6. Paul C. Giannelli, *Forensic Science: Why No Research?*, 38 FORDHAM URB. L.J. 503 (2010).
 7. Paul C. Giannelli, *Ake v. Oklahoma: The Right to Expert Assistance in a Post-Daubert, Post-DNA World*, 89 CORNELL L. REV. 1305, 1416-19 (2004); Paul C. Giannelli, *Symposium on Science and Rules of Evidence*, 99 F.R.D. 188, 206-07 (1983).
 8. Paul C. Giannelli, *Criminal Discovery, Scientific Evidence, and DNA*, 44 VAND. L. REV. 791, 800-03 (1991); Paul C. Giannelli, *Bench Notes & Lab Reports*, CRIM. JUST., Summer 2007, at 50, 50-51.
 9. Paul C. Giannelli, *Fabricated Reports*, CRIM. JUST., Winter 2002, at 49, 49.

always also turned from those abuses to their systemic causes in criminal procedure, evidence law, and criminal justice institutions.

Shortly after *Daubert* was decided, Giannelli observed that if the case does stand for “stringent gatekeeping” in criminal cases, that will mean a real improvement, but if not, then once again, “junk science will be the winner.”¹⁰ He noted reasons to be concerned—including that the very cases that the Supreme Court picked as examples of cases in which known rates of error were discussed—were cases involving voice-print comparison, in rulings that ignored the conclusions of a National Academy of Sciences report finding that discipline to be so unreliable that it should never be the basis for expert evidence in court.¹¹ The citations to those cases were a significant warning sign. Giannelli was right to be concerned, as the experience under *Daubert* and even under the rewritten Federal Rule 702 has illustrated. Giannelli also carefully observed how the rulings in the federal courts were not the whole story: a culture shift resulted, under the influence of *Daubert* and Rule 702, and new funding for empirical research, new scientific reports, and improved standards in forensics, all flowed from the attention that forensic science increasingly received.¹²

These are just a few of Giannelli’s prodigious contributions in the over one-hundred articles that he has written. Giannelli, together with Edward Imwinkelried, are also co-authors of a leading scientific evidence treatise. That treatise includes some of the most careful and detailed discussions of the research on the uses and the limitations of any number of forensic disciplines, from latent fingerprint comparisons, to firearms comparisons, to DNA. In his own writing, Giannelli illuminated the limits of methods from bite mark evidence,¹³ to microscopic hair comparisons,¹⁴ to firearms identification,¹⁵ to problems with confirmation bias, including short, accessible pieces written for practicing lawyers.¹⁶ Giannelli has written about other types of evidence gone

10. Paul C. Giannelli, *Daubert: Interpreting the Federal Rules of Evidence*, 15 CARDOZO L. REV. 1999, 2026 (1993).

11. *Id.* at 2023–24.

12. *See generally* Paul C. Giannelli, *Forensic Science: Under the Microscope*, 34 OHIO N.U. L. REV. 315 (2008).

13. Paul C. Giannelli, *Bite Mark Analysis*, 43 CRIM. L. BULL. 930, 940–42 (2007).

14. Paul C. Giannelli, *Microscopic Hair Comparisons: A Cautionary Tale*, 46 CRIM. L. BULL. 531 (2010).

15. Paul C. Giannelli, *Firearms Identifications*, 21 CRIM. JUST. 28 (Winter, 2007).

16. Paul C. Giannelli, *Confirmation Bias*, 22 CRIM. JUST. 60 (Fall, 2007).

wrong as well. His review of John Grisham's nonfiction book, *The Innocent Man*, recounts the unreliability of informant evidence.¹⁷

If today's forensic science is in a "transformative period" as Giannelli has put it, his own tireless work is to be credited.¹⁸ A second generation of forensic science reform has begun to push towards third-generation reforms which he has long advocated, involving increased regulation of crime laboratories and research to validate the underlying forensic disciplines. The mass of tainted cases that continue to be uncovered at crime laboratories around the country, and the pressing raft of recommendations made by scientific commissions, are a testament to the ongoing urgency of the problem and the solutions that Giannelli has long forcefully proposed. Giannelli has told us so, and he has told us how to move forward. If we are finally making some progress, we in no small part have Giannelli to thank.

17. Paul C. Giannelli, *The Innocent Man*, 22 CRIM. JUST. 46 (Winter, 2008).

18. Giannelli, *supra* note 12, at 315.