The Image of Truth: Photographic Evidence and the Power of Analogy

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We have but Faith: We cannot know
For Knowledge is of things we see.

Alfred Tennyson, *In Memoriam*

Maxims that urge the power of images are cultural commonplaces with which we are all too familiar: "a picture's worth a thousand words," "seeing is believing," and so forth. The photograph, in

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2. Some research lends credence to these adages. See, e.g., Brad E. Bell & Elizabeth F. Loftus, *Vivid Persuasion in the Courtroom*, 49 J. PERSONALITY ASSESSMENT 659 (1985) (claiming that "vivid" testimony is more persuasive than "pallid" testimony); William C. Costopoulos, *Persuasion in the Courtroom*, 10 DUQ. L. REV. 384, 406 (1972) (suggesting that more
particular, has long been perceived to have a special power of persuasion, grounded both in the lifelike quality of its depictions and in its claim to mechanical objectivity.\(^3\) Seeing a photograph almost functions as a substitute for seeing the real thing. As Susan Sontag pointed out in her seminal musings on photography, "Photography furnishes evidence. Something we hear about, but doubt, seems proven when we're shown a photograph of it."\(^4\) Though Sontag meant "evidence" in the general sense of proof or knowledge, her claim holds equally true in the specifically legal context. Indeed, the use of photographs and other kinds of machine-produced visual images has become a routine evidentiary technique in the American courtroom. Visual evidence has played a central role in several of the highest-profile legal cases of the last few years—think, for example, of the infamous videotape of the Los Angeles police officers' beating of Rodney King,\(^5\) or of the damaging photographs admitted in the civil suit against O.J. Simpson showing him clad in Bruno Magli shoes.\(^6\) And it is by no means only in such sensational cases that photographs and other kinds of visual evidence are deployed; rather,
they are a taken-for-granted form of proof in many civil and criminal cases.\footnote{Indeed, Charles Scott, the author of the most significant treatise on photographic evidence, declared in 1942 that photographic evidence constituted a significant part of the proof in "nearly half of today's cases." CHARLES SCOTT, PHOTOGRAPHIC EVIDENCE § 1 (1942). Scott, however, provides no source to support this claim.}

Given the power of the photograph to provide strong representations—vivid displays that seem almost to compel belief—its frequent and growing use as evidence may not seem at all surprising. The origins of this significant form of evidence, however, have received almost no scholarly attention. A smattering of recent articles and notes have examined the evidentiary dilemmas raised by the emergence of new forms of visual evidence, such as "day-in-the-life" films and computer simulations.\footnote{This term is borrowed from ALEXANDER WELSH, STRONG REPRESENTATIONS (1992). Welsh uses the term specifically in relation to circumstantial evidence, which he finds to have become an especially significant mode of proof in the eighteenth century, both in literature and in law. To a certain extent, I want to use the term in the same way that Welsh does: to denote evidence that brings about emphatic conviction or belief. For Welsh, however, "strong representations" are explicitly circumstantial and unseen rather than visual; they make a "claim to know many things without anyone's having seen them at all." Id. at 9.} A few other pieces have analyzed the various doctrinal foundations that underlie the photograph's admissibility.\footnote{See, e.g., James A. Sprowl, Evaluating the Credibility of Computer-Generated Evidence, 52 CHI.-KENT L. REV. 547 (1976); Adam T. Berkoff, Comment, Computer Simulations in Litigation: Are Television Generation Jurors Being Misled?, 77 MARQ. L. REV. 829 (1994); Mario Borelli, Note, The Computer as Advocate: An Approach to Computer Generated Displays in the Courtroom, 71 IND. L.J. 439 (1996); Jennifer Robinson Boyle, Note and Comment, State v. Pierce: Will Florida Courts Ride the Wave of the Future and Allow Computer Animations in Criminal Trials?, 19 NOVA L. REV. 371 (1994); Karen Martin Cambell, Note, Roll Tape—Admissibility of Videotape Evidence in the Courtroom, 26 MEMPHIS ST. U. L. REV. 1445 (1996); Elaine M. Chaney, Note, Computer Simulations: How They Can Be Used at Trial and the Arguments for Admissibility, 19 IND. L. REV. 735 (1986); David B. Hennes, Comment, Manufacturing Evidence for Trial: The Prejudicial Implications of Videotaped Crime Scene Reenactments, 142 U. PA. L. REV. 2125 (1994); Joseph M. Herlihy, Note, Beyond Words: The Evidentiary Status of “Day-in-the-Life” Films, 66 B.U. L. REV. 133 (1986); Gregory T. Jones, Note, Lex, Lies & Videotape, 14 TEMP. ENVTL. L & TECH. J. 613 (1995); Jane Kalinski, Note, Jurors at the Movies: Day-in-the-Life Videos as Effective Evidentiary Tool or Unfairly Prejudicial Device?, 27 SUFFOLK U. L. REV. 789 (1993); Evelyn D. Kousoubris, Comment, Computer Animation: Creativity in the Courtroom, 14 TEMP. ENVTL. L. & TECH. J. 257 (1995); Benjamin V. Madison III, Note, Seeing Can Be Deceiving: Photographic Evidence in a Visual Age—How Much Weight Does It Deserve?, 25 WM. & MARY L. REV. 705 (1984); Craig Murphy, Note, Computer Simulations and Video Re-Enactments: Fact, Fantasy and Admission Standards, 17 OHIO N.U. L. REV. 145 (1990); Barry Sullivan, Comment, Computer-Generated Re-enactments as Evidence in Accident Cases, 3 HIGH TECH. L.J. 193 (1989).} But despite more than 125 years of photography's
sustained legal use, the history of photographic evidence remains almost entirely untold.\textsuperscript{11}

This Article takes a close look at the early use of photographic evidence in the American courtroom, providing a snapshot, if you will, of the legal use of photography in the second half of the nineteenth century. It reveals that photography was recognized, almost from the time of its invention, as a potentially powerful juridical tool—perhaps even a dangerously powerful tool. The meaning and epistemological status of the photograph were intensely contested, both inside and outside the courtroom. Furthermore, the history of the legal use of photography is intimately intertwined with the history of photographic technologies.\textsuperscript{12}

Moreover, this Article argues that the judicial response to photographic evidence helped to bring about broader changes in both courtroom practice and the conceptualization of evidence. Superficially, the legal use of photography steadily expanded: Within twenty years of its invention, the new technology was employed as evidence in courtroom settings, and by the turn of the century, photography had become a routine evidentiary tool. But when we look more closely at the tangled and contradictory ways in which photographs were understood, the photograph's evidentiary status becomes both more complex and more interesting.

In the second half of the nineteenth century, two competing paradigms governed the understanding of the photograph. One emphasized its ability to transcribe nature directly, while the other highlighted the ways in which it was a human representation. From the first perspective, the photograph was viewed as an especially privileged kind of evidence; from the second perspective, the photograph was seen as a potentially misleading form of proof. Although there was often forceful support for photographs as


\textsuperscript{12} See \textit{infra} notes 19-52 and accompanying text.
evidence, both in the cases and in the periodical literature, there was also grave concern about this novel form of proof. The doctrine that emerged from this marriage of enthusiasm and unease was a peculiar one, a precarious balancing act not wholly internally consistent. By linking photographs analogically to maps, models, and drawings, this new doctrine invented a pedigree for the new technology. Through the use of analogy, judges gave the photograph a history.13

The doctrine that developed to govern the admissibility of photographs resulted in the reconceptualization and invigoration of an entire category of evidentiary representations, ushering in a “culture of construction” in the courtroom. In the 1850s and before, legal evidence usually consisted of words—spoken testimony, written depositions, contracts, deeds, and the like. Those few images present in court were often those that had received explicit legal sanction, such as county-approved maps and surveys in land dispute cases, or drawings and diagrams in patent cases. When unofficial drawings were used, they were not thought to be evidence. Only with the advent of photography were these broader kinds of visual representations conceptualized as evidence, their evidentiary value deemed significant enough to be fought over, their improper inclusion or exclusion deemed worthy grounds for appeal. Indeed, by the end of the century, the use of visual evidence had blossomed, and images of many sorts, from photographs to diagrams to three-dimensional models, were frequently used in an effort to persuade the jury. Visual representation, not limited to photography, had become a significant persuasive technique in the courtroom. Now, an attorney or witness could not only locate evidence, but could create it himself. He could represent his side of the story with an elaborate visual image prepared especially for the lawsuit. These forms of visual evidence were especially persuasive because jurors and judges could see the evidence for themselves. To put it crudely, judicial response to the photograph brought into existence that category of proof we now know as “demonstrative evidence.”14 This Article suggests that understanding this “origin story” turns demonstrative evidence into a more comprehensible and a more interesting legal category than is generally recognized.

Finally, this Article endeavors to provide a case study of the processes through which new technologies are brought into the courtroom. With ever-increasing frequency, judges are required to make legal sense of new technological forms. In the process, judges

13. See infra Section III.C.
14. See infra Section IV.D.
often must determine whether or not they can appropriately analogize a new technology—such as electronic mail or DNA profiling or computer simulations—to an already existing one, and, if so, which one. Moreover, given the frequency with which judges do assimilate new technologies through the use of analogies, it seems worthwhile to inquire into the extent to which these analogies matter, and the extent to which they genuinely end up controlling legal understandings of the new technological form. Taking a detailed glance backwards to see how judges assimilated a significant new technology in the second half of the nineteenth century reveals the consequences of the judicially made analogy that linked the photograph to other evidentiary forms. And in this instance, although the analogy judges invoked certainly did affect legal uses and understandings of the photograph, it did not eradicate alternative (and contradictory) understandings.

In the case of photography, the analogy through which judges made sense of the new technology served several purposes. To a certain extent, the photograph's offer of verisimilitude was threatening; indeed, in its strongest form, the photograph threatened to make the factfinding portion of a trial redundant by providing the facts in an incontestable form. The analogy, therefore, provided judges with a form of domestication, a way to tame the new technology by linking it to already existing representational forms, like maps, models, and diagrams. Judges constructed an evidential category containing all of these representational forms as elements. The judicially constructed doctrine defused the institutional challenge posed by the photograph by disempowering the photographic image through the claim that, like a painting or diagram, it was mere illustration.

But this analogy had some unintended consequences. At a formal level, the photograph was indeed tamed. As evidence, it operated like a hand-drawn picture, as merely a visual appendage to someone's testimony. It was neither self-proving nor necessarily true and therefore threatened neither the judge's power to regulate evidence nor the jury's province of factfinding. But practically, the domestication was only partially successful, and the new technology operated as proof as well as illustration. In the process, the outlines of a new evidentiary category—what would later be called demonstrative evidence—came into being. Judges attempted to accommodate the new technology by pronouncing it an iteration of an existing phenomenon, but this assertion ended up transforming the preexisting categories to a significant degree. Although this back-and-forth process of accommodation and transformation may not represent a uniform model for the legal system's incorporation of new technologies as evidence, the case of photography offers a useful and significant instance. We can see, concretely, how the act of domes-
tication can bring about a transformation and how dramatic change can be wrought out of the very effort to accommodate new technologies without change. A study of the photograph, therefore, lets us see the process of common law change in action. Though there has been a resurgence of scholarly interest in the study of legal analogies in recent years, there have been no detailed case studies of their operation in practice. This Article elaborates both the power and the limits of analogic reasoning as a judicial strategy for coping with novelty.

Part I provides a brief overview of the use of photographic evidence in the nineteenth-century American courtroom, emphasizing the connections between technological changes and legal uses. Part II examines the kaleidoscopic understandings of the meaning of photographic evidence both inside and outside of the courtroom, showing how these mechanically generated images were simultaneously viewed as offering privileged access to truth and as potentially misleading and manipulable. It focuses on one legal setting in particular: spirit photographer William H. Mumler's preliminary hearing for fraud, which turned into a significant public forum for the exploration of the meaning of photographic evidence. Part III looks at the doctrine that emerged to govern photographic evidence and examines the tensions between the doctrine and actual practice. Part IV shows that this doctrine helped to bring about an expanded category of visual evidence in the courtroom. Part V offers some thoughts on the significance of this case study in understanding the judicial response to new technologies and the role of analogic reasoning as a judicial response to innovation.

I. USES OF PHOTOGRAPHIC EVIDENCE

Louis-Jacques Mandé Daguerre's 1839 invention of a way to fix images permanently onto a silver-coated copper plate caused tremendous excitement on both sides of the Atlantic. By the middle of the 1850s, Americans of all classes had sat for portraits, whether at a sumptuous and elegant photographic salon or in the makeshift studio of an itinerant photographer. By the 1860s, the widespread appreciation of paper photographs, inexpensive tin types, photographic calling cards (known as cartes de visites), and three-dimensional


stereoscopic images had brought a thriving photographic industry into existence. The subjects scrutinized by the camera were nearly unlimited: bourgeois ladies with bits of rouge hand-colored on the photographic plate; the dismal realities of the battlefield; America's natural wonders, from the Natural Bridge to Yellowstone; presidents and paupers. It seemed as if the whole world had become fodder for the photographer. Nor was the display of photographs limited to family albums, photo galleries, and front parlors; rather, photographs made their way into government reports, rogues' galleries, and even the courtroom.

The use of photography in the courtroom is necessarily linked with the history of photographic technologies. Until the early 1850s, the daguerreotype was the dominant photographic form. Daguerreotypes were produced directly onto silver-coated copper plates. They were not made from negatives and, therefore, were unique images—the only way to reproduce a daguerreotype was to take a daguerreotype of it. While this technology produced images of tremendous precision, daguerreotypes could be viewed only straight-on; from an oblique angle, the surface was reflective, like a mirror. Moreover, daguerreotypes were relatively expensive, especially in larger sizes. Although these factors certainly placed limits on its evidentiary utility, the daguerreotype might have been employed in the courtroom nonetheless. Indeed, in 1852 an American photographic journal reported that in France, "the lawyers are using daguerreotypes as a means of convincing the judge and jury more eloquent than their words." It also described an accident in which the victim's lawyer had used "pictures taken upon the spot, which from their reality,
explained the whole affair more lucidly than all the oratory of a Cicero or a Demosthenes." But in the United States, no appellate cases record the use of daguerreotypes for evidentiary purposes, and neither is there evidence in the photographic or legal periodical literature of their use in trials. Moreover, the subsequent coverage of legal uses of photography in the photographic press suggests its novelty. It is likely, therefore, that photographic images were rarely used in the American courtroom before the end of the 1850s.

In the early 1850s, a new paper photographic process was invented. The key innovation was a new collodion carrier that adhered to glass plates that functioned as photographic negatives. From these negatives, positive paper prints could be developed. Using this new process, multiple prints could be made from a single negative. The collodion process also quickly lowered costs. By the late 1850s, the process was in general use, and the spread of the innovation coincided with the first uses of photography as evidence in the American courtroom. In many of these earliest cases, photography entered the courtroom with little fanfare; we often know that a photograph was used only through an offhand reference. For example, in an 1857 case in which the boundaries of a land grant were in dispute, the district judge remarked of a particular oak tree: "The photograph exhibited in court shows that its size and isolated situation are such as to strike the eye and arrest the attention of the most casual observer." As this case wended its way through the legal system (it reached the Supreme Court three separate times), photographs continued to provide visual evidence of what the land looked like. Indeed, in the third Supreme Court hearing of the case, the Justices gazed upon seven photographic images that accompanied the deposition of photographer William Shew. Shew described the vantage points from which he had taken his images and attested that "they are correct representations of the appearances of the country as far as they can be represented by photographic views."

22. Id. Charles Scott also mentions that unspecified newspaper accounts claimed an extremely early use of the daguerreotype for legal purposes when a husband "succeeded in photographing his wife during a tryst without being discovered and winning a divorce when the daguerreotype was presented as evidence." SCOTT, supra note 7, § 1A, at 2 (2d ed. 1969). This story, however, is not at all credible. In 1839, cameras were simply too large and exposure times too long to be used without detection. Indeed, surreptitious photographs were not taken easily until the 1880s. See infra notes 42-45 and accompanying text.

23. See JENKINS, supra note 19, at 36-41; NEWHALL, supra note 17, at 47-50.


25. Deposition of William Shew, Transcript of Record, Fossat v. United States, 1864 (Case No. 4206, RG 267.3.2, National Archives, Washington, D.C.); see also The Fossat or Quicksilver Mine Case, 69 U.S. (2 Wall.) 649. The photographs themselves have not been preserved in the records.
In an 1859 land grant case in which the authenticity of the grant was at issue, photographic copies of a Mexican governor's official seal were used on appeal to the Supreme Court. Both the originals and the photographic copies had been before the trial court, but the photographs offered one distinct advantage over the originals: They allowed a number of different seals to be placed side by side on a single surface, so that indisputably authentic exemplars could easily be compared to the suspected forgery. On appeal, only the photographic copies were used. The Justices noted, "We have ourselves been able to compare these signatures by means of photographic copies, and fully concur (from evidence 'oculis subjecta fidelibus') that the seal and signatures are . . . forgeries."

In another case heard the same year, photographic copies of land grants and signatures were also used. The practice of using photographs to compare multiple exemplars was not limited to the federal courts. In 1860, well-known photographer Albert S. Southworth displayed to a Massachusetts jury photographs of enlarged handwriting samples. The case involved a promissory note on which the defendant claimed his signature had been forged. Southworth testified for the plaintiff as an expert witness, using the photographically magnified signatures to show why he believed the handwriting to be genuine. After the jury found for the plaintiff, the defendant appealed, based in part on the admission of the photographic evidence. This case, Marcy v. Barnes, marked the first time that the use of photographic evidence was the explicit subject of an appeal. The defendant argued:

The photograph specimens of the note in suit and of the admitted genuine handwriting of Barnes, made by the photographer, were not admissible and should not have been allowed to go to the Jury. . . . [T]his is comparing it with a magnified picture or representation of it, if it may not rather be

26. See Transcript of Record, Luco v. United States, 1859 (Case No. 3776, RG 267.3.2, National Archives, Washington D.C.); see also Luco v. United States, 64 U.S. (22 How.) 515 (1859). Several authors have erroneously stated that the photographic copies were used only on appeal in Luco, and not in the trial court. See Scott, supra note 7, § 1B, at 2-3 (2d ed. 1969); Allen, supra note 11, at 330. In fact, both the copies and the originals were used in the court below, but only the copies were sent to the Supreme Court.
27. Luco, 64 U.S. (22 How.) at 541.
29. Marcy v. Barnes, 82 Mass. (16 Gray) 161 (1860). Note, however, that this case did not mark the first time that Southworth had used photographic specimens in court. In an address before the National Photographic Association, Southworth claimed credit for "the idea of photographic disputed or questioned handwriting as an aid to its identification and authorship," and said that such photographs came to be used in the courts of Massachusetts, by his introduction, around 1857. Albert S. Southworth, An Address to the National Photographic Association of the United States, June 1870, reprinted in 2 Anthony's Photographic Bull. 343, 346 (1871).
called a caricature of it. This is an attempt to engrat a new
principle upon this branch of the law of evidence.\(^30\)

The plaintiff claimed that photographic enlargements were merely
equivalent to viewing the specimens through a magnifying glass, and
that the jury would have been allowed to examine the specimens in
this way.\(^31\) Although the court found for the plaintiffs on other
grounds, it entirely agreed with the defense's argument.\(^32\) The court
held: “Under proper precautions in relation to the preliminary proof
as to the exactness and accuracy of the copies produced by the art of
the photographer, we are unable to perceive any valid objection to
the use of such prepared representations.”\(^33\)

Over the next two decades, photographs were used in a variety of
legal contexts. Photographs of places described the terrain and the
exteriors of buildings in a land dispute case,\(^34\) and interior images of
a whiskey distillery were used to impeach defense witnesses in a
revenue case.\(^35\) Photographs illustrated the scene of an accident.\(^36\)
Photographic copies of documents and enlargements of signatures
continued to be used and, in at least one case, enlargements of
corpuscles of blood were used in an effort to distinguish human blood
from animal blood.\(^37\) By the 1870s, photographs were frequently used
in criminal cases to prove identity, either of the victim or of the
defendant.\(^38\)

Although photographs were common enough for one commentator
to assert in 1871 that, “as a witness in the courts of justice,
photography is constantly employed in detecting forgery, revealing
perjury, and in telling the truth,”\(^39\) photographs in the courtroom

\(^{30}\) Defendant's Brief, Trial Records, Marcy v. Barnes, 1860 (Supreme Judicial Court
Records, Social Law Library, Boston, Mass.).

\(^{31}\) See id.

\(^{32}\) See Marcy, 82 Mass. (16 Gray) at 163.

\(^{33}\) Id.

\(^{34}\) See 14 Humphrey's J. 277 (1863).

\(^{35}\) See Photography in Court, 6 Phila. Photographer 322 (1869). The defense attempted
to offer a photographic view of the premises in Hollenbeck v. Rowley, 90 Mass. (8 Allen) 473
(1864), but it was rejected by the trial judge.

\(^{36}\) See Blair v. Pelham, 118 Mass. 420 (1875); Trial Records, Blair v. Pelham, 1875 (Supreme
Judicial Court Records, Social Law Library, Boston, Mass.); Photography in Court, 4 Phila.
Photographer 160 (1867).

\(^{37}\) See Photography a Detector of Crime, 15 Humphrey's J. 289 (1864).

\(^{38}\) For the routine and uncontested use of photographs for purposes of establishing identity,
see, for example, The Trial of Daniel McFarland for the Shooting of Albert D.
Richardson 35, 88 (New York, W.E. Hilton 1870); and The Trial of Emil Lowenstein
for the Murder of John D. Weston 135-36, 140 (Albany, William Gould & Son 1874). For cases
in which objections were raised to the use of photographs to establish identity, see, for example,
Luke v. Calhoun County, 52 Ala. 115 (1875); Wulff's Case, 11 Abb. Pr. (n.s.) 245 (N.Y. Sup. Ct.
1871); Udderzook v. Commonwealth, 76 Pa. 340 (1874); and The Goss-Udderzook Tragedy:
Being A Strange Case of Deception and Murder (Baltimore, Baltimore Gazette 1873).

\(^{39}\) Some of the Modern Appliances of Photography, 1 Photographic Times 33, 34 (1871).
were still rare enough for the photographic journals to note their use as something of a novelty. Until the 1880s, photographic techniques required that pictures be developed immediately upon exposure—if the collodion dried before development, the image would be ruined. Moreover, producing a photograph still required a high degree of skill. Taking outdoor photographs in particular required substantial advance preparation; a photographer literally had to carry his darkroom with him to the site and set it up prior to exposing the plate. It is not surprising, therefore, that in this period, studio-made photographs—such as copies of documents and portraits of victims and defendants—were seen more frequently in the courtroom than exterior images. Copies of documents were easily taken in any photography studio. And by the 1870s, many—if not most—Americans had sat for a photographic portrait, so it was a simple-enough matter, logistically, to use these extant photographs in the courtroom.

In the early part of the 1880s, however, the diffusion of a new photographic technology transformed the industry. After several decades of trying to create a stable dry plate for photographs, photographers and inventors succeeded at the end of the 1870s. This innovation meant that photographers no longer had to develop their images immediately; rather, they could take pictures out-of-doors and away from their studios and develop them upon their return. By the early 1880s, photographers could buy high-quality dry plates, and by the middle of the 1880s, photographers could send their plates to the Eastman Company for developing, printing, and enlarging. Taking basic photographs, therefore, came to require far less skill; no longer did the image-taker need to know how to develop the negative or print the image, much less how to coat the photographic plate himself.

Amateur photography began to flourish, and article after article described the anxiety engendered by roving photographers—"that rapidly increasing class of persons known as amateur instantaneous photograph cranks"—who threatened to make a permanent record of any instant. It had even become possible for a photograph to be

40. See, e.g., JENKINS, supra note 19, at 39 (noting that "the field photographer needed to be both technically oriented and also sufficiently muscular to bear the burden of his apparatus and small laboratory").

41. See RUDISILL, supra note 20; TAFT, supra note 16; see also A Voice from the West, 4 PHILA. PHOTOGRAPHER 15 (1867) (complaining that photographers would soon be out of work because "it cannot be denied that the great mass of the people in this country have had their pictures taken").

42. See JENKINS, supra note 19, at 109-12.

43. That Horrid Camera, PHOTOGRAPHIC EYE, AND THE EYE, Jan. 17, 1885, at 7, 7 (reprinted from S.F. POST); see also The Amateur Photography Craze, PHOTOGRAPHIC EYE, AND THE EYE, June 20, 1885, at 8 (reprinted from JUDGE) (describing how roving
taken without the subject’s knowledge. Reports began to circulate of people “caught in the act” by the camera, and incriminating photographs made their way into the courtroom, especially in breach of promise and divorce suits in which the faithlessness of a fiancée or a spouse was captured vividly by a photograph. More generally, the greater ease and increased flexibility brought about by dry-plate technology—and not long thereafter, by the advent of roll film—meant that photographs became more common in a variety of legal contexts. By the end of the nineteenth century, photographs were routinely used in the courtroom, though judges had declared that this form of evidence could be used only for illustrative purposes, rather than as independent proof. Despite this limitation, judges and juries examined enlarged exemplars of handwriting, eyed photographs to gauge resemblance in bastardy cases, saw photographs of property damage, sometimes even comparing images taken “before” and “after,” stared at images of victims as well as defendants, gazed upon scenes of crimes and sites of accidents, and scrutinized photographers may capture more than they bargained for; The Obtrusive Amateur, PHOTOGRAPHIC EYE, AND THE EYE, Dec. 9, 1885, at 9, 9 (reprinted from EXCHANGE) (recommending that the “remedy for the amateur photographer” is “to put a brick through his camera whenever you suspect that he has taken you unawares.”). For the role that amateur photography played in constructing a legal right to privacy, see Samuel D. Warren & Louis D. Brandeis, The Right to Privacy, 4 HARV. L. REV. 193, 195 (1890) (suggesting that “[i]nstantaneous photographs and newspaper enterprise have invaded the sacred precincts of private and domestic life” and have spurred the need for greater legal protection of the right “to be let alone”).

44. See, e.g., The Camera in Court, PHOTOGRAPHIC EYE, AND THE EYE, Oct. 17, 1885, at 3 (showing the use of surreptitiously taken photographs in a nuisance suit); Photographed on the Fly, THE PHOTOGRAPHIC EYE, AND THE EYE, Jan. 10, 1885, at 6 (describing a hidden camera used by a detective photographer to take pictures without the subject’s knowledge).

45. See The Amateur Photography Craze, supra note 43, at 8 (describing the potential for incriminating photographs to bring about divorce); Ada S. Ballin, Photographic Bye-Paths, PHOTOGRAPHIC EYE, AND THE EYE, Apr. 18, 1885, at 2, 2 (describing an “amusing instance” in which instantaneous photography captured the image of a wife with another man); That Horrid Camera, supra note 43 (describing a case in which a suspicious fiancé surreptitiously took an image of his betrothed).

46. Estimating with any precision the frequency with which photographs were used is a near-impossible task. By the end of the 1880s, however, the discussions of the legal uses of photography in the photographic press and the legal periodical literature make it clear that it had become common.

47. See In re Jessup, 22 P. 742 (Cal. 1889); Farrell v. Weitz, 35 N.E. 783 (Mass. 1894).


50. See, e.g., People v. Phelan, 56 P. 424 (Cal. 1899); Dyson v. New York & N.E.R.R., 17 A. 137 (Conn. 1888); Wabash v. Jenkins, 84 Ill. App. 511 (1899); Chicago & A.R.R. v. Myers, 86 Ill. App. 401 (1894); Cleveland, C.C. & St. L. Ry. v. Monaghan, 41 Ill. App. 498 (1891); Keyes v. State, 23 N.E. 1097 (Ind. 1889); Locke v. Sioux City & P.R.R., 46 Iowa 109 (1877);
pictures of wounds. The photograph had become a significant evidentiary tool.

II. MEANINGS OF PHOTOGRAPHIC EVIDENCE

But what did the photograph mean as evidence? How was it understood and interpreted, both within legal settings and more generally? In this Section, I explore the complex question of the photograph’s evidentiary power. Many viewed the photograph as an unmediated replication of nature and hence, as an especially privileged evidentiary form. Others, however, thought the photograph a form of artifice: manipulable, partial, and potentially misleading. How, then, were judges to interpret photographs in legal settings? In order to address these questions, I first look at the two paradigms for understanding the photograph in their most extreme forms, and then detail one of the earliest high-profile legal settings in which the meaning of the photograph as evidence was explicitly at issue. This case, in which a well-known spirit photographer was charged with fraud for selling ghostly images to the public, represents a moment in which the contradictory cultural understandings of the photograph were put to the test in the courtroom, a moment when not only judges and lawyers but the population at large reflected on just what kind of knowledge could be gleaned by peering at a photograph.

A. A Mirror with Memory

In 1859, a photograph provided the key to solving a dramatic murder. This was literally a dramatic murder, a murder that took place within a play; and the guilty man was caught in the act by a camera. As the jury calls for “[p]roof, proof,” one character notices a photographic plate sticking awkwardly out of a smashed camera. Although a Native American was on the verge of being condemned for the crime, the camera reveals the guilty party: Jacob M’Closky, the man who had called most vociferously for the other’s lynching, stared out from the plate, captured by the camera’s lens in the moment of the murder. The following exchange ensues:


52. It is worth noting that the dynamic we see in the case of the photograph—unreflective acceptance, followed by a certain wariness about the power of a new form of evidence, ultimately resulting in a more cautious approach—is not exclusive to photography. A number of other technologies of evidence—including, most notably, DNA profiling—follow a strikingly similar trajectory.
Scudder. You! You slew him with that tomahawk; and as you stood over his body with the letter in your hand, you thought that no witness saw the deed, that no eye was on you—but there was, Jacob M'Closky, there was. The eye of the Eternal was on you—the blessed sun in heaven, that, looking down, struck upon this plate the image of the dead. Here you are, in the very attitude of your crime!

M'Closky. 'Tis false!

Scudder. 'Tis true! the apparatus can't lie. Look there, jurymen. [Shows plate to jury.] Look there. O, you wanted evidence—you called for proof—Heaven has answered and convicted you.

M'Closky. What court of law would receive such evidence? [Going.]

Ratts. Stop; this would. You called it yourself; you wanted to make us murder that Injiun; and since we've got our hands in for justice, we'll try it on you.53

Before turning to the theater of the courtroom, we shall pause in this other theater to see what Dion Boucicault’s play illustrates about understandings of the nature of photographic evidence. This scene from a often-performed drama by a major nineteenth-century playwright reveals attitudes toward the photograph and its potential as evidence that resonated well beyond the walls of the theaters in which it was performed.

In Boucicault’s play, the photographic apparatus serves as a *deus ex machina* in a double sense. As a plot device, the camera is both improbable and crucial: The image miraculously appears, just in time to solve the murder and save an innocent man. But the camera also operates as one of the most literal Gods-in-a-machine ever to grace a stage. The camera is explicitly an agent of heaven, producing its image without any earthly creature’s intervention. No person works the apparatus: It is the finger of God that operates the machine. Indeed, Boucicault collapses God into the machine, setting up an equivalence between the eye of the Eternal and the lens of the camera. There is a point here beyond Boucicault’s playfully literal depiction of an ancient plot device. His rendering of the camera as a self-acting machine, capable of producing images untainted by human manipulation, reflects tropes common to cultural understandings of photography in late nineteenth-century America.

In Boucicault’s play, nature speaks directly—“the blessed sun” strikes the image upon the plate without any human assistance. Of course, no real camera could work in such a fashion; indeed, when the

play was first performed in 1859, the production of a photograph was an elaborate matter requiring substantial human labor at every stage from the preparation of the photographic plate to its development. But in making the camera self-acting, Boucicault exploits the conception, popular at the time, that what was significant about the photographic image was its mechanical provenance, its automatic duplication of whatever lay before the lens. Boucicault’s removal of the human being from the process of making the photograph was a fantasy, but it was a fantasy that resonated with popular perceptions of what made the photographic image special. Many of the early commentators on photography described the new process as if nature, or the sun, were the active agent. Daguerre, the inventor of the first photographic process, deemed his invention “not merely an instrument which serves to draw Nature; on the contrary it is a chemical and physical process which gives her the power to reproduce herself.” This kind of language, emphasizing that nature reproduced herself in a photograph, was routinely invoked in descriptions of the new technology. As one judge expressed it, photographs were “light printed pictures produced by the operation of natural laws and not by the hand of man.” Boucicault’s elimination of the human operator merely extended the suppression of human agency, commonplace in discussions of photography’s significance.

A consequence of viewing the photograph as nature copying nature was an emphasis on photographic accuracy. The photograph was often portrayed as a direct transcription, or, in Oliver Wendell Holmes’s colorful phrase, as “a mirror with a memory,” and hence, as infinitely faithful and precise. As a process borne of nature itself (with a bit of chemical and mechanical assistance), the photograph seemed to offer not merely a representation of reality, but a replication. Edgar Allan Poe labeled it “truth itself in the supremeness of its perfec-

54. See, e.g., TAFT, supra note 16, at 207. For a satirical account of the difficulties a photographer encountered in the making of an image, see The Total Depravity and Gymnastics of Inanimate Things Photographic, 2 PHILA. PHOTOGRAPHER 165 (1865).

55. JACQUES LOUIS MANDÉ DAGUERRE, DAGUERREOTYPE (Paris, Pollet, Scoupe, & Guillois 1839), reprinted in CLASSIC ESSAYS ON PHOTOGRAPHY 11, 13 (Alan Trachtenberg ed., 1980).

56. See, e.g., New Discovery in the Fine Arts, NEW YORKER, Apr. 20, 1839 (“These living pictures, by traversing lens and mirrors, are thrown down with double beauty on the table of the camera obscura by the radiant finger of light.”); New Discovery in the Fine Arts, NEW YORKER, Apr. 13, 1839 [hereinafter New Discovery in the Fine Arts I] (“Talk no more of ‘holding the mirror up to nature’—she will hold it up to herself.”); Nathaniel Willis, The Pencil of Nature, CORSAIR, Apr. 13, 1839, at 71 (declaring that with photography “all nature shall paint herself”). For secondary sources discussing this understanding of photography, see RUDISILL, supra note 20; and CAROL SCHLOSS, INVISIBLE LIGHT (1987).

57. Porter v. Buckley, 147 F. 140, 142-43 (3d Cir. 1906).

In the inaugural volume of the *Philadelphia Photographer*, one author described how the camera “sees everything and it represents just what it sees. It has an eye that cannot be deceived and a fidelity that cannot be corrupted.” If the photograph duplicated nature in an unmediated way, then the truthfulness of such duplications was an obvious corollary. Or, as Boucicault’s character put it, “the apparatus can’t lie.”

In Boucicault’s play, Ratts prevents M’Closky from leaving, declaring that this fictional court would indeed accept the photograph as evidence. If the photograph were fundamentally and necessarily truthful, then the photograph’s legitimacy as evidence followed axiomatically. Indeed, many believed that the photograph simply was evidence, proof in and of itself of what it represented. Early discussions of photography revealed two aspects to this belief in the photograph’s evidentiary nature. First, numerous writers saw the photograph as the representational—or perhaps even ontological—equivalent of whatever it displayed. As Oliver Wendell Holmes wrote, tongue only partially in cheek, upon the advent of photography: “Form is henceforth divorced from matter. . . . Give us a few negatives of a thing worth seeing, taken from different points of view, and that is all we want of it. Pull it down or burn it up, if you please.” If the photograph and its object were concomitant, then surely the one could stand as evidence of the other. But we need not merely infer this relation. A number of writers described the photograph in explicitly evidentiary language. In a later article, Holmes himself succinctly noted: “Tourists cannot be trusted; stereographs can.” Lady Elizabeth Eastlake called photography “the sworn witness of everything presented to her view,” a medium that could provide “facts of the most sterling and stubborn kind.” Reverend Morton termed it “a witness on whose testimony the most certain conclusions may be confidently founded.” Photographer James Ryder said the camera records “truth itself.” Ryder went on to say: “[W]hat [the camera] told me was as gospel. No misrepresen-

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61. BOUCICAULT, supra note 53, at 486.
62. Holmes, supra note 58, at 80; see also Poe, supra note 59, at 38 (describing the photograph as having “a perfect identity of aspect with the thing represented”).
65. Morton, supra note 60, at 39.
66. Id.
tations, no deceits, no equivocations. He saw the world without prejudices; he looked upon humanity with an eye single for justice. Using a vocabulary of evidence, writers emphasized the photograph's capacity to prove facts and its trustworthiness as a witness.

Judges and lawyers drew upon this understanding of photography as automatic, and hence reliable and legitimate as evidence. As one judge put it, regarding a photograph taken of an accident scene, "[a photograph] is a picture of the place made automatically, the spot being reflected as in a mirror, and the image chemically made permanent. . . . The photograph brings the spot to the jury. . . . a more correct and vivid idea being thus conveyed to the minds of the jury than could be done by any language of witnesses . . . ." In language less felicitous than Holmes's, a lawyer tried (unsuccessfully) to persuade a judge to admit photographic copies of some documents by analogizing photography to a mirror with memory. He wrote: "Until photography was discovered, nothing in nature was exactly like any other thing, except that thing's image reflected in a polished surface, which disappeared when the object was removed. . . . Science now steps forward and relieves the difficulty, by making permanent and materializing with minute exactness the reflected image." Judges and lawyers reiterated the trope of photography as the ultimate witness. One lawyer argued that "[t]he photograph is something more than a copy; it is a fac simile, and it is a perfect record of facts, not subject to prejudice, bias, or defective memory." In his defense of photographic evidence, a Georgia Supreme Court judge declared:

We cannot conceive of a more impartial and truthful witness than the sun, as its light stamps and seals the similitude of the wound on the photograph put before the jury; it would be more accurate than the memory of witnesses, and as the object of all evidence is to show the truth, why should not this dumb witness show it?

67. JAMES F. RYDER, VOIGHTLANDER AND I IN PURSUIT OF SHADOW CATCHING 16 (1902), quoted in SCHLOSS, supra note 56, at 18.
69. Ebom v. Zimpelman, 47 Tex. 503, 509 (1877) (argument of counsel); see also Kansas City, M. & B.R.R. v. Smith, 8 So. 43, 44 (Ala. 1889) (calling a photograph "a scientific reproduction of a fac simile of the original object in nature, by a mechanical art which is every day advancing towards perfection").
By this view, the photograph was not merely evidence, but the best kind of evidence imaginable: mechanical, automatic, and not subject to those biases and foibles that may cloud human judgment.72

A second explicitly evidential conception of the photograph can be seen in the extremely early recognition of its potential for capturing criminals in the act. In one of the very first popular articles on the subject written after Daguerre announced his invention in 1839, a writer in the New Yorker mused: “What will become of the poor thieves, when they shall see handed in as evidence against them their own portraits, taken by the room in which they stole, and in the very act of stealing!”73 A song that circulated in Britain shortly after the daguerreotype’s invention predicted:

The new Police Act will take down each fact
That occurs in its wide jurisdiction
And each beggar and thief in the boldest relief
Will be giving a color to fiction.74

A few years after Boucicault’s play was published, a legal journal also posited the view that this new technology could be used to expose crime. An article suggested that when photographic techniques were “perfected,” all of the streets and alleys of cities should be swept by surveillance cameras. The author hoped that these cameras would capture images of anyone rioting or disturbing the peace, for use in subsequent legal proceedings.75

Boucicault’s use of the camera invokes a constellation of related ideas surrounding the photographic image: a belief that it is produced by nature and science, an emphasis on its realism and truthfulness, and a confidence in its authority as a witness. By this view, the photograph was more than a representation; it was a transcription capable of offering uniquely objective knowledge about the world. It was not merely evidence, but the highest form of evidence: “O, you wanted evidence—you called for proof—Heaven has answered and convicted you.”76 The photograph, it would seem, was almost evidentiary ambrosia. As a judge in an 1871 murder case wrote in defense of the lower court’s decision to admit two photographs of an alleged murderer’s co-conspirators who drowned fleeing the site of a burglary:

72. This understanding of photographic objectivity resonates to a considerable degree with Daston and Galison’s discussion of the moralized conception of objectivity developed by 19th-century scientists. See generally Daston & Galison, supra note 3.

73. New Discovery in the Fine Arts I, supra note 56.

74. Quoted in Helmut Gernsheim & Alison Gernsheim, L.J.M. Daguerre 105 (1956) (noting that the song was dedicated to “L.J.M. Daguerre Esquire of Photogenic Celebrity”).


76. Boucicault, supra note 53, at 486.
As well might we deny the use of the compass to the surveyor or mariner, the mirror to the truthful reflection of images; or spectacles to aid the failing sight, as to deny, in this day of advanced science, the correctness... to the photographic instrument, in its power to produce likenesses.77

It might thus seem that in legal settings a strong belief in photographic accuracy and truthfulness would make the photograph's evidentiary status unproblematic. However, the food of the Gods might not sit well in the stomachs of mere mortals. The more unquestionably accurate and truthful the process of photography, the more threatening photography might seem to factfinders and the judicial process. Notice that in Bouicault's play it is "Heaven" that has "answered and convicted." What need is there for judge or jury in the face of heaven's evidence? If photographs are indeed perfect representations, could they not obviate the need for a trial altogether, or at least determine its outcome? In the play, the photograph solves the case—it is not just a piece of evidence or a link in a causal chain. It is the determining evidence, evidence so strong that it renders any trial merely an unfolding of the inevitable.

But for all of the authority granted to the photograph in the play, not all of the characters presume its infallibility. When the photograph is first revealed, M'Closky, caught in the act by the all-seeing eye of the camera, asks dismissively, "[w]hat court of law would accept such evidence?"78 In the context of the play, this question is no more than a last-ditch effort to escape fate made by a desperate and guilty man. But from a cultural perspective, this question is not so absurd. When the play was first performed, the photograph's evidentiary status in the courtroom was still uncertain. Moreover, as we shall see in Part III, the doctrine developed to govern the admissibility of photographic evidence would not have allowed Bouicault's self-acting camera image into the courtroom at all, even had it been a technological possibility.

B. "A Most Dangerous Perjurer"

Existing alongside the strong realist understanding of the photograph as objective, machine-made truth was another constellation of attitudes toward these new kinds of images. Emphasizing the inherent distortions of photography, the human agency involved in

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77. Ruloff's Case, 10 Abb. Pr. (n.s.) 245, 290-91 (N.Y. Sup. Ct. 1871); see also Beardslee v. Columbia Township, 41 A. 617 (Pa. 1898) ("Photographs are competent evidence, and when properly taken are judicially recognized as of a high order of accuracy.").
78. Bouicault, supra note 53, at 486.
producing images, or the possibility of outright manipulation, some commentators highlighted the myriad ways in which the photograph was *not* simply the literal truth, perfectly rendered.

Photographs were necessarily imperfect representations, some authors insisted, because the photographic process itself inevitably produced distortions. Numerous photographers pointed out the ways in which the focal length of the lens affected the image. As one author noted:

> I need do no more than call to your minds the exaggerations in perspective which are most glaring in architectural subjects taken with a short-focus, wide-angle lens. I do so . . . to point out that the position claimed for photography as an infallible exponent of literal truth is quite untenable.

Those who focused on the technical ways in which photographs distorted their subjects generally saw the final product as mildly exaggerated, but not downright false—or, as one commentator put it, “not absolute truth, only adumbrations thereof.” Judges, however, occasionally saw the potential distortions of photography as significant enough to warrant its exclusion from the courtroom. For example, in an 1871 New York probate case in which photographic reproductions and enlargements of handwriting were at issue, the judge determined:

> Too many collateral issues are involved to render [photographs] reliable testimony. . . . The refractive power of the lens, the angle at which the original to be copied was inclined to the sensitive plate, the accuracy of the focusing, the skill of the operator, and the method of procedure, would have to be

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80. Croughton, *supra* note 79, at 41. Attorneys occasionally argued that the photograph was an inadequate substitute for the witness’s own vision. For example, in *Scott v. City of New Orleans*, 75 F. 373 (5th Cir. 1896), a tort suit involving a sidewalk accident, the plaintiff’s lawyer argued that even if the obstruction looked obvious in the photograph, it may not have looked obvious to a real-life person walking down the street. He pointed out that a photograph can reveal on an ancient manuscript “mysteries of inscription absolutely unsuspected by the eye” or “pustules of smallpox” on a face that looks entirely smooth to the human observer. *Id.* at 378. He continued:

> How irrational, therefore, to measure the human eye by the same criteria of judgment that we measure the camera; and hence how unjust to hold the retina to the same capacity of imaging, and to imaging with the same depth of shadows and shades . . . that the photograph is held to. . . . All that a man can be held to a responsibility for seeing, therefore, in respect to any particular object brought within his field of vision, is the image the object makes on his retina, and not the image it makes on the vastly more sensitized plate of the camera.

*Id.*

investigated to ensure the evidence as certain. The court would be obliged . . . to inquire into the whole science of photography.

When we reflect that by placing the original to be copied obliquely to the sensitive plate, the portion nearest to the plate may be distorted by being enlarged, and that the portion furthest from the plate must be correspondingly decreased, while the slightest bulging of the paper upon which the signature is printed may make a part blurred, and not sharply defined, we can form some idea of the fallacies to which this subject is liable.82

Others emphasized that it was only through the careful manipulations of the photographic operator that inaccuracies could be prevented:

We often hear from admirers of Photography that this young art represents the pure truth, the true counterpart of nature.

This sentence is repeated by thousands of thoughtless persons, and has almost become a dogma. We are willing to swear to the correctness of photographic representations, and even the courts of justice have admitted them as evidence.

But is the correctness of photographic representations really absolute? I venture to say no, even at the risk of being called a heretic.83

So declared Dr. H. Vogel in the *Philadelphia Photographer* in 1869. He went on to describe the complexities of proper lighting; those instances in which a decent photograph could be achieved only by retouching the negative; and finally, the distortions that resulted from rendering natural colors in shades of gray. Vogel granted that photographs could be made accurate, but insisted that "[i]t constitutes the art of photography to present the reality true and beautiful."84

Photographers, not surprisingly, often decried the perception that photographs were made automatically, asserting instead that human agency was essential to the photographic process. Indeed, the photographic press criticized Boucicault for his play's self-acting camera:

Our notions of photography hitherto have been, that it has been necessary, in order to take a photograph, that an operator who knows a little should prepare a plate, and pose the person, and develope [sic] it . . . . Really, Mr. Boucicault, you must think people are indeed ignorant of photography and its processes, if

82. *The Taylor Will Case*, 10 Abb. Pr. (n.s.) 300, 319 (N.Y. Sur. Ct. 1871); *see also* Geer v. Missouri Lumber & Mining Co., 34 S.W. 1099, 1101 (Mo. 1896).
84. *Id; see also* J.H. Kent, *Faithfulness in Pictures*, 1873 PHOTOGRAPHIC MOSAICS 116, 116 (arguing that good photography must go beyond "painfully vivid realisms" to make genuine artistic likenesses).
you think they can accept... [your] process as genuine photography.  

Photographers emphasized that well-constructed photographs resulted not from the miraculous automatism of the machinery, but through the expertise, skill, and artistic values of the photographer:

It is thought that photography is simply chemical and mechanical; that it goes with a crank, like a grindstone; that any man who owns a camera and possesses the secret of dark-room manipulations is a photographic artist. A landscape painter said to me, "Photographers have the same instruments and use the same chemicals, do they not? What, then, prevents one man from making as good pictures as another?..." I replied, "You knights of the brush all use the same canvas, and brushes, and paints; why does one man's work have greater value than another?"

"That answers me," he said; "but it never occurred to me before that the photographer had much to do with it." This prejudice is very deeply rooted in the minds of the community.

Emphasizing the significance of human agency and skill simultaneously highlighted the fact that the photograph was not a replication but a representation, a constructed—and hence fallible—image: "[I]t is no exaggeration to say that an artist and practised manipulator combined can do with the pencil of light pretty much the same as a painter who works with his brush and badger softener... a photograph is not necessarily a faithful portrait."

Judges frequently defended the admissibility of photographs by invoking this analogy to painting, which emphasized the photograph's fallibility. As one judge reasoned:

That a portrait or a miniature, painted from life and proved to resemble the person, may be used to identify him cannot be doubted, though, like all other evidences of identity, it is open to disproof or doubt.... There seems to be no reason why a photograph, proved to be taken from life and to resemble the
person photographed, should not fill the same measure of
evidence.\textsuperscript{88}

The judge's commentary both justified admitting the photograph and
diminished its value. If a photograph were admissible because it was
like a painting, photographs were themselves "open to disproof or
doubt."\textsuperscript{89} A New York case decided a few years later made this
People}, argued that a photograph was not, at root, different from any
other kind of testimony.\textsuperscript{90} No more than a painting or a written
deposition did a photograph necessarily recount truth, but like these
other types of evidence, the photograph \textit{might} be a true representa-
tion.

Most of evidence is but the signs of things. Spoken words and
written words are symbols. . . . So the signs of the portrait and
the photograph, if authenticated by other testimony, may give
truthful representations. When shown by such testimony to be
correct resemblances of a person, we see not why they may not
be shown to the triers of the facts, not as conclusive, but as aids
in determining the matter in issue, still being open like other
proofs of identity or similar matters, to rebuttal or doubt. A
witness who speaks to personal appearance or identity, tells in
more or less detail the minuten thereof as taken in by his eye.
What he says is a description thereof, by one mode of signs, by
words orally uttered. If his testimony be written instead of
spoken, and is offered as a deposition, it is a description in
another mode of signs, by words written; and the value of that
mode, the deposition, depends upon the accuracy with which his
words uttered are put into words written. Now if he has before
him a portrait or a photograph of the person, and it shows to him
a correct copy of that person, if it produce to his view a correct
description, which he testifies is a likeness, why may not that be
given to the jury, as a description of the person by the witness in
another mode of signs? \textit{The portrait and photograph may err, and
so may the witness. That is an infirmity to which all human
testimony is lamentably liable.}\textsuperscript{91}

\textsuperscript{88} Udderzook v. Commonwealth, 76 Pa. 340, 352 (1874); see also Luke v. Calhoun County,
52 Ala. 115, 117 (1875) (recognizing a photograph as "evidence of the same character as a
portrait or miniature").

\textsuperscript{89} Udderzook, 76 Pa. at 352.

\textsuperscript{90} See Cowley v. People, 83 N.Y. 464 (1881).

\textsuperscript{91} Cowley, 83 N.Y. at 478-79 (emphasis added). A similar argument was proffered in an
1864 British case, in which a judge admitted a photograph, declaring it "only a visible
representation of the image or impression made upon the minds of the witnesses . . . ; and,
therefore is, in reality, only another species of the evidence which persons give of identity when
they speak merely from memory." Reg. v. Tolson, 4 F. & F. 103, 104 (Cr. Ct. 1864). Other cases
analogizing a photograph to a word-picture include \textit{People v. Webster}, 34 N.E. 730 (N.Y. 1893);
The judge's reasoning explicitly described the photograph as a human construction; he debunked the myth of the self-operating camera, the direct transmission to the photographic plate. By labeling the photograph as just another form of human testimony, the judge validated its use only by dethroning it.

In Cowley, the judge's reasoning was based quite explicitly on a two-step analogy. First, the judge deemed portraits and photographs structurally equivalent. The judge never referred to the photograph by itself, but invariably discussed both portrait and photograph.92 Though in contemporary parlance, photographic portraits were sometimes simply called portraits, the judge's double references to the portrait and the photograph suggest that the portraits that he had in mind were not photographic ones. Instead, his language suggests that photographic and nonphotographic images provide the same kind and quality of evidence—that is, both provide descriptions of a witness's testimony through visual rather than verbal signs. Strictly speaking, the judge did not analogize the portrait to the photograph; rather, he presumed their equivalence. The second step of his argument is an explicit analogy: The judge reasoned that these kinds of visual depictions are relevantly similar to oral human testimony about a person's appearance. The portrait, the photograph, and verbal testimony all provide descriptions, made by a witness, through one or another form of communication, or "mode of signs."93 By making this analogy, the judge suggested that visual depictions are as legitimate a form of evidence as oral utterances. But he also suggested that visual evidence, like its oral counterpart, has its limits. Neither of these forms is conclusive, and each shares the risk of fallibility.

I have drawn particular attention to the form of analogical reasoning used in Cowley, because this oft-cited case provides a strong exemplar of the general doctrine regarding the admissibility of photographs that had begun to stabilize at the time of this opinion. Like Judge Folger, judges generally made sense of the photograph through analogy. The approach to photographic evidence that came to dominate judicial understanding differed slightly from Cowley's reasoning because it often rested upon one step of the two-step analogy, merely analogizing photographs to other kinds of visual evidence rather than explicitly analogizing all of these forms of visual depiction to verbal testimony more generally. But this alternative approach had the same effect as Cowley's two-step comparison: It

92. See Cowley, 83 N.Y. at 478.
93. Id.
emphasized that the photograph, like other kinds of visual evidence, was merely a witness’s description in visual form rather than independent, substantive evidence. Part III explores this dominant legal approach to photographic evidence in more detail.

It must be noted, however, that the rhetorical move exemplified by Cowley—equating the photograph with other descriptive forms, visual or verbal—risked, ironically, making the use of photographic evidence altogether suspect. If the photograph was properly understood as equivalent to any other form of human testimony, then the widespread belief in inherent photographic certainty might make the legal use of this new technology highly misleading. An anonymous article, published originally in the Photographic News and reprinted in several legal journals, made exactly this argument, pointing out that it was precisely the photograph’s reputation for truthfulness that risked making it “a most dangerous perjurer.”94 The author bemoaned “the general notion that a photograph must be, without question, an almost ideal of truthfulness,” when in fact, “the photograph may be made to speak for this or for that, according as the finger of mammon does point,” through the use of particular lenses, careful positioning, and other technical and logistical maneuvers.95 To those who believed the photograph to be at once highly manipulable and held in high regard, it was dangerous evidence indeed.

Concern that photographs were liable to manipulation echoed in other quarters as well. For example, photographer Henry Peach Robinson engendered a good deal of controversy with his “combination” photographs that represented scenes that had never actually existed:

In his finished picture he contrives to put together objects which are not together before the lens. Each individual object in the picture is delineated from nature by the sun; but the collocation is purely arbitrary. . . . There is no doubt that Mr. Robinson has produced some very beautiful pictures by this ingenious and laborious process; but his success has not prevented an energetic controversy both as to the legitimacy of the plan and its artistic value.96

Robinson himself advocated mixing “the real and the artificial in a picture,” arguing that “[i]t is not the fact of reality that is required, but the truth of imitation . . . . Cultivated minds do not require to

94. The Photograph as a False Witness, 10 VA. L.J. 644, 645-46 (1886) (reprinted in IRISH L. TIMES and CENTRAL L.J.; originally published in PHOTOGRAPHIC NEWS).
95. Id.
96. Photography, 9 PHOTOGRAPHIC J. 137, 143 (1864) (reprinted from QUARTERLY REV.).
believe that they are deceived, and that they look on actual nature, when they behold a pictorial representation of it.97 But even Robinson expressed concern that boundaries between deception and reality be preserved, that impossible combinations be avoided (like the head of Napoleon III on an eagle that an eager reader of Humphrey's Journal hoped to construct98), and that deceptions be stated as such.99 In practice, however, the boundary lines between realism and illusionism, deception and reality, and truth and manipulation were not always clearly marked.

C. Photographic Spirits and the Problem of Photographic Evidence

One of the earliest cases in which the photograph's legal status and meaning were explicitly at issue was a hearing before the Court of Special Sessions in New York City in 1869. Photographer William H. Mumler was charged with fraud for the production of "spirit" photographs, images that seemed to show hazy, ghostlike figures looming in the background (see Figure 1). Although Mumler's appearance before Judge Dowling was merely a preliminary hearing to assess whether there was sufficient evidence to send the case to a grand jury, the seven days of testimony and argument sparked the public's imagination. Though nearly forgotten now, the case received substantial attention in newspapers in New York and elsewhere, as well as in both photographic journals and those devoted to spiritualism. One newspaper reported:

The intensity of the interest manifested by the public in this case has perhaps never been surpassed in reference to any criminal investigation in this city, and yesterday, as on all previous hearings, the Court was densely thronged with anxious listeners, all of whom gave a critical and scrutinizing attention to the testimony elicited, and were evidently deeply engrossed with the mysterious nature of its details.100

In 1861, a London journal had lightheartedly suggested: "[W]e will believe even in the modern ghost if it can be fixed on paper."101 Shortly thereafter, across the Atlantic, a jewelry engraver in Boston seemed to take up the challenge. At the time, Mumler worked as an

98. See Letter to the Editor, 16 HUMPHREY'S J. 47 (1864).
99. See ORVELL, supra note 97, at 82.
100. Spiritualism in Court, N.Y. DAILY TRIB., Apr. 24, 1869, at 4.
engraver at the Boston jewelers of Biglowe Brothers & Kennard, and by his own admission was "a complete novice in the art of photography." He would, on occasion, visit a friend employed in a photographic gallery, and one Sunday, while experimenting with his friend's photographic equipment, he attempted to take a self-portrait. Although Mumler avowed that when he took the photograph "there was not a living soul in the room" besides himself, upon developing the image he discovered a second, indistinct form next to his own. He experimented further, and continued to find spirit "extras"—shadowy ghosts that appeared alongside the sitter—in his photographic portraits. Soon, Mumler devoted himself full time to the production of spirit photographs. For a certain period, he reaped acclaim and financial gain from his new profession. He received testimonials and endorsements from satisfied customers—among them "a number of the shrewdest business and literary men"—who often recognized the ghostlike figures on the photographs as deceased relatives or acquaintances. Several skeptical Boston photographers investigated Mumler's methods, but despite following him step-by-step through the creation of an image, they found no evidence of manipulation or fraud.

103. *Spirit Photographs—A New and Interesting Development*, 8 PHOTOGRAPHIC J. 214 (1863) [hereinafter *Spirit Photographs I*] (reprinted from SPIRITUAL MAG. and HERALD OF PROGRESS).
104. By Mumler's own account, his first spirit photograph appeared in 1861, and this is the date that generally has been repeated in later accounts of spirit photography. See JAMES COATES, PHOTOGRAPHING THE INVISIBLE at x (1911); SIR ARTHUR CONAN DOYLE, THE HISTORY OF SPIRITUALISM 128 (1926). However, a close look at the photographic literature suggests that the original photograph was produced a year later; Many of the articles describing Mumler's photographs appeared early in 1863 and date Mumler's first photograph as having been from several months earlier. See, e.g., C.B. Boyle, *Photographing Spirits*, HUMPHREY'S J., Apr. 15, 1869, at 307; *Spirit Photographs I*, supra note 103, at 214.
106. See Report of the Photographic Section of the American Institute, 6 ANTHONY'S PHOTOGRAPHIC BULL. 119 (1875); *Spirit Photographs—A New and Interesting Development*, 8 PHOTOGRAPHIC J. 324 (1863) [hereinafter *Spirit Photographs III*] (reprinted from SPIRITUAL MAGAZINE and HERALD OF PROGRESS); *Spirit Photographs—A New and Interesting Development*, 8 PHOTOGRAPHIC J. 268 (1863) [hereinafter *Spirit Photographs II*] (reprinted from SPIRITUAL MAGAZINE and HERALD OF PROGRESS); *Spirit Photographs I*, supra note 103; see also DOYLE, supra note 104, at 130-32; Boyle, supra note 104, at 307; Mrs. Henry Sidgwick, *On Spirit Photographs*, 7 SOC'Y FOR PSYCHICAL RES. 168 supp. (1891-92).
107. For the suspicion with which Mumler's photographs were received in England, see Tucker, supra note 101, at 32-33. Mumler's photographs were praised in articles in *Spiritual Magazine* in 1862 and 1863. For the skeptical reception of the photographic press in France, see *Photographic Spirits*, 14 HUMPHREY'S J. 312, 312 (1863) (quoting Moniteur de la Photographie which calls Mumler's images "a new farce").
FIGURE 1

William Mumler, Master Herrod in a trance. His spiritual body withdrawn & appears behind. Albumen print photograph, carte de visite format (approx. 2 ¼” x 4” overall), circa 1868. Wm. B. Becker Collection. Photo: Michael Sarnacki, New City Communications.
separate photographs Mumler had taken—and the supposed ghost was found to be a Boston resident who was still very much alive.108 Even his supporters were convinced that these particular photographs resulted from deception on Mumler’s part, and skeptics saw them as proof positive that Mumler’s spirit photographs were a sham.

In 1868, Mumler moved to New York City and began once again to peddle his spirit photographs. But in April, 1869, he was arrested for fraud and brought before the Court of Special Sessions at the Tombs Police Court for a preliminary hearing. The prosecution accused Mumler of selling his photographs under false pretenses by claiming that they represented otherworldly apparitions when in fact they were the product of fakery and manipulation. A central issue in the case was the validity of spiritualism and its relation to the burden of proof. Was it the defense’s obligation to prove that the photographs were actually produced by spiritual means, or did the prosecution have the burden of proving that they were produced mechanically? A critical subtext in the hearing was the nature of the photograph. Just how manipulable were photographs? Were the photographs themselves proof that Mumler was in touch with the spirit world, or were they prima facie evidence of his deceit? What did photographs mean as evidence, and how ought they to be interpreted? For Mumler’s supporters, the photographs provided compelling and objective proof of the existence of ghosts—they were “real pictures of real spirits,”109 a literal rendition of shadows into substance. As one spiritualist put it, “[t]he pictures themselves furnish evidence in their gauze-like appearance, that has not been imitated.”110 But for those members of “the class of doubting Thomases” who “[did] not believe in spirits,” Mumler’s photographs offered evidence of nothing—except, perhaps, the ease with which photographs could deceive the unwary.111 The preliminary hearing offered the chance to place on trial not only William Mumler, but the nature of photographic evidence itself.

Mumler was charged with two felonies and a misdemeanor: fraud by false pretenses, cheating under the common law definition, and larceny by trick and device.112 Over a three-week period, testimony and argument were presented before Judge Dowling.113 The first

108. See Doyle, supra note 104, at 132-33.
110. Spirit Photographs II, supra note 106, at 268 (quoting Dr. Gardner’s address to the Boston Spiritual Conference).
111. Photographic Spirits, supra note 107, at 312.
112. See The Mumler “Spirit” Photograph Case, Argument of Mr. Elbridge T. Gerry 5-7 (1869) [hereinafter Gerry, Mumler Argument].
113. The New York press covered the case in detail. For a day-by-day summary, see Alleged
witness was New York City’s Chief Marshal, Joseph H. Tooker, who testified that in the course of investigating allegations of Mumler’s fraud, he had visited the studio under a false name and asked for a spirit photograph, hoping to find his deceased father-in-law’s presence upon his photographic portrait. According to Tooker, his own image was accurate enough, but “the likeness of the father-in-law was a most dismal failure; and although spectral and ghostly enough to have been a veritable emanation from the spirit land, bore not a ghost of a resemblance to the deceased gentleman”\(^\text{114}\)—nor, for that matter, to anyone else known by Tooker, living or dead. Tooker also testified that Mumler had asserted that he was a spiritual medium, that the photographs were produced by supernatural means, and that throughout the picture-taking process, Mumler had steered the conversation in a direction designed to lead Tooker to “confound the shadowy background picture with the well-remembered features of some departed friend.”\(^\text{115}\)

After Tooker’s testimony, the defense presented several photographers who testified that they had visited Mumler with the intention of discovering the means by which he produced his images. As one New York City photographer affirmed, “although I went prepared to scrutinize everything, I could find nothing which savored of fraud or trickery.”\(^\text{116}\) Other witnesses were satisfied customers who testified that Mumler had produced, as promised, remarkable spirit photographs of their deceased kin (see Figure 2). One identified the image “instantaneously” as an “unmistakable” likeness of his deceased wife;\(^\text{117}\) others described how their children, friends and neighbors had confirmed the spirit’s resemblance to a dear departed.\(^\text{118}\)

The most distinguished defense witness was undoubtedly John Worth Edmonds, a prominent attorney and former judge who had sat on several New York courts, including the court of appeals. Judge Edmonds displayed to Judge Dowling two photographs that Mumler

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\(^\text{Photographic Swindle, N.Y. DAILY TRIB., Apr. 13, 1869, at 8; The Spiritualist Photograph Swindle, N.Y. DAILY TRIB., Apr. 17, 1869, at 4; Spiritualism in Court, N.Y. DAILY TRIB., Apr. 22, 1869, at 2; Spiritualism in Court, N.Y. DAILY TRIB., Apr. 24, 1869, at 6; Spiritualism in Court, N.Y. DAILY TRIB., Apr. 27, 1869, at 2; N.Y. DAILY TRIB., Apr. 27, 1869, at 4; Spiritualism in Court, N.Y. DAILY TRIB., Apr. 29, 1869, at 2; Fayette R. Gridley, Are They Pictures of Spirits?, N.Y. DAILY TRIB., Apr. 30, 1869, at 2; Spiritualism in Court, N.Y. DAILY TRIB., May 4, 1869, at 2.}\(^\text{114}\)

\(^\text{Alleged Photographic Swindle, N.Y. DAILY TRIB., Apr. 13, 1869, at 8; see also Spiritualism in Court, N.Y. DAILY TRIB., Apr. 22, 1869, at 2.}\(^\text{115}\)

\(^\text{Alleged Photographic Swindle, N.Y. DAILY TRIB., Apr. 13, 1869, at 8.}\(^\text{116}\)

\(^\text{Spiritualism in Court, N.Y. DAILY TRIB., Apr. 22, 1869, at 2.}\(^\text{116}\)

\(^\text{Spiritualism in Court, N.Y. DAILY TRIB., Apr. 24, 1869, at 4 (testimony of Charles F. Livermore).}\(^\text{117}\)

\(^\text{See id. (testimony of Paul Bremond, David Hopkins, and Samuel R. Fanshaw).}\(^\text{118}\)
had recently taken of him; in the upper-right-hand corner of each appeared "a dim outline of a female face." Judge Edmonds was a leading spiritualist who had published a book on the topic in 1853, and he admitted on the stand that he believed in principle "that the camera can take a photograph of a spirit." Nevertheless, he avoided making any positive pronouncement about the validity of Mumler's photographs in particular, instead advocating a cautious, "wait and see" approach. Still, Edmonds's presence as a witness for the defense reminds us that, in 1869, belief in spiritualism, and belief in spirit photographs, crossed boundaries of class and professional attainment.

After the defense rested, the prosecution called additional witnesses, including well-known members of the photographic establishment who testified in detail about the numerous mechanisms and sleight-of-hand tricks through which ghostlike images could be produced on a photograph. The prosecution also called P.T. Barnum, who told the court that he had corresponded with Mumler some years earlier and had purchased several of Mumler's photographs for display in his museum, though he emphasized that he had never proclaimed them to be authentic spirit photographs. Barnum testified that he was convinced that Mumler's images were nothing but a humbug—and that he ought to know, "having devoted a portion of [his] life to the detection of humbugs."

But colorful and well-known witnesses like Barnum and Edmonds are, for our purposes, merely sideshows. Our central concerns with this trial are the interpretation of the photographs themselves, what the images were seen to prove, and how they were thought about as


120. See 6 DICTIONARY OF AMERICAN BIOGRAPHY 23 (Allen Johnson & Dumas Malone eds., 1931).


122. *Id.* Judge Edmonds justified his caution by explaining that "many years ago [I] made up my mind never to form an opinion without knowledge; invariably, when I have done so, I have made an ass of myself." *Id.* In the view of those skeptical of spiritualism, he may have proceeded to do just that when he recounted in detail a personal encounter with a spirit a few days earlier: In a courtroom in Brooklyn, while a life insurance case was under consideration, a spirit appeared before Edmonds and told him that the claimants ought not to collect on the policy, since he, the spirit, had committed suicide. Elbridge Gerry, the prosecutor, intimated on cross-examination that Edmonds was the unfortunate victim of hallucinations. *See id.*

123. Arthur Conan Doyle was another committed spiritualist, and spirit photography was central to his belief. Doyle thought that the existence of spirit photographs provided compelling evidence of the existence of ghosts. For extensive discussions of spiritualism in nineteenth-century England and America, see, for example, ANN BRAUDE, RADICAL SPIRITS (1989); DOYLE, supra note 104, at 30-170; and ALEX OWEN, THE DARKENED ROOM (1990).

evidence. In the testimony and arguments of the Mumler case we can tease out three distinct stances toward the significance of Mumler's photographs as evidence. First, some of the defense witnesses' testimony rested upon a strong version of photographic realism, but a realism disconnected from its mechanical underpinnings. Second, the prosecution and its witnesses combined an emphasis on photography's mechanical provenance with a focus on its manipulability. Although these two groups understood the photograph's evidentiary meaning in diametrically opposed ways, they shared an understanding of the photograph as evidence; that is, each group viewed the photographs themselves as providing evidence of something important to the case. By contrast, the lawyers for the defense endeavored to empty the photograph of evidentiary significance altogether, arguing that the photographs themselves simply did not constitute evidence.

I. Supernatural Realism

Several of the witnesses for the defense understood the photograph in fundamentally realist terms. They believed in the accuracy of the image depicted on the photograph precisely because it was depicted on a photograph. For example, William Silver, a New York photographer who rented Mumler his studio and equipment, started out as a skeptic but was transformed by the photographs into a believer, if not in spiritualism, at least in the authenticity of Mumler's images. During cross-examination, after Silver denied being a spiritualist, Elbridge Gerry asked him, "You do not become a convert to spiritualism notwithstanding all these forms?" Silver responded: "I believe in the picture; I believe the impressions produced are produced by spiritual means." Silver believed in the picture; the photographs themselves compelled his conviction. But the dominant justification for the photograph's authority, its capacity to duplicate precisely and mechanically that which lay before the eye, was not precisely Silver's justification. The spirits on the photographs had not been seen by any person in the room; clearly, the photograph did not merely reproduce what the eye could see. The photographs resulted not from mechanical replication, but from supernatural intervention. Even thus dislodged from a completely mechanical foundation, the photograph remained authoritative for Silver; we might, therefore, call his attitude "supernatural realism."

Another witness, Luthera Reeves, revealed a similar attitude in even starker form:

Q: Do you believe deceased persons revisit their friends?
A: I cannot say; I believe so by the pictures.
Q: Did you entertain belief in Spiritualism previous to the production of these pictures?
A: I did not.
Q: From these pictures you believe in supernatural powers?
A: Yes.\(^\text{126}\)

For Reeves and Silver, the photographs themselves provided the critical evidence for the existence of spirits; the images compelled their belief. To a certain extent, Reeves and Silver were the inheritors of the attitude portrayed in Boucicault’s play. They seemed to believe that “the apparatus can’t lie,” even when its depictions were most unearthly.\(^\text{127}\) Boucicault’s characters invoked God and heaven as photographic agents; in a similar fashion, Reeves and Silver believed that heavenly manifestations on the photographic plate provided material evidence of the spiritual. Though in this sense their photographic epistemology directly paralleled that of The Octoroon, their understanding deviated from the broader tradition in which The Octoroon was situated. In the prototypical nineteenth-century understanding of the photograph as authoritative, its incontrovertibility stemmed from its literal transcriptive power, its operation as a “mirror with memory.”\(^\text{128}\) Those witnesses in Mumler’s trial who deemed the pictures proof of spirits severed this link between photographic authority and unmediated replication. They believed in photographic truth even when the image showed more than the eye alone could verify as true.

2. Mechanical Illusionism

The prosecution and many of its witnesses understood the photographs in strikingly different terms from those of the “supernatural realists.” Instead of viewing the images as proof positive of the presence of spirits, they saw them as per se proof of fraud. Although not described explicitly in such terms, the prosecution’s case can be characterized as based on the doctrine of res ipsa loquitur—the thing speaks for itself—as if the photographs in and of themselves bespoke the trickery that must necessarily have accompanied their creation.\(^\text{129}\) Some of the witnesses simply assumed the impossibility of

\(^{126}\) Spiritualism in Court, N.Y. DAILY TRIB., Apr. 24, 1869, at 4 (testimony of Luthera Reeves).

\(^{127}\) BOUCICAULT, supra note 53, at 486.

\(^{128}\) Holmes, supra note 58, at 74.

\(^{129}\) Strictly speaking, the fraud with which Mumler was accused stemmed not from the photographs’ creation, but from his sale of them as authentic spirit photographs. But since Mumler admitted that he had sold the pictures and that he had claimed that they were authentic
genuine spirit photographs; ergo, Mumler's spirit photographs could not possibly be genuine. As Charles Boyle, a well-established photographer and member of the American Institute, testified, "I say these pictures of Mumler's are not spiritual pictures." "Why?" asked Mr. Townsend, one of Mumler's lawyers. "I believe two and two make four," responded Boyle. In Boyle's estimation, Mumler's photographs was an obvious truth, as incontestable as arithmetic.

But Boyle did not base his skepticism solely on the self-evident impossibility of spirit photographs. Rather, he and several other witnesses showed how the photographs themselves—not the mere fact of their existence, but the specific details of their construction—proved that they were the work of artifice rather than the Almighty. Boyle explained to the court that the shadows thrown by the spirits in one of Mumler's photographs fell differently from those thrown by the sitter, proving "therefore that it was impossible that the spirit form could have been in the field of the camera with the sitter; it clearly shows that it was taken from another picture." Five witnesses, each an amateur or professional photographer, showed how Mumler's photographs violated basic rules of light and shadow. Abraham Bogardus said of one of the most egregious images, "[i]t is, to speak emphatically, a transparent lie on its face, the shadow on the sitter being on one side, and the shadow of the spirit on the other; it shows that the two pictures must have been taken at different times."

By challenging the authority of Mumler's photographs, these witnesses emphasized the manipulability of photographic images. Indeed, the prosecution's case placed great emphasis on the myriad ways that photographs could be manipulated to produce seemingly ghostly results. Witness after witness described in detail these different methods, which ranged from relatively simple practices like exposing a single plate twice, to complex processes like the use of microscopic lenses. Photographs, then, were not necessarily what they seemed and could not automatically be relied on as truthful representations of reality. In this sense, the prosecution drew upon the

spirit photographs, the only fact at issue was whether or not the photographs were actually spirit photographs.

130. Spiritualism in Court, N.Y DAILY TRIB., Apr. 29, 1869, at 2 (testimony of Charles B. Boyle).
131. Id.
132. See Spiritualism in Court, N.Y. DAILY TRIB., Apr. 29, 1869, at 2; Spiritualism in Court, N.Y. DAILY TRIB., Apr. 27, 1869, at 2; Spiritualism in Court, N.Y. DAILY TRIB., Apr. 24, 1869, at 4.
133. Spiritualism in Court, N.Y. DAILY TRIB. Apr. 29, 1869, at 2 (testimony of Abraham Bogardus).
understanding of photography as a fallible and untrustworthy human construction, as a potential producer of illusions.

But the views of the photographers who testified for the prosecution were, on the whole, more complex than this emphasis on the manipulability of images suggests. In fact, these witnesses invoked photographic manipulability not to dismantle photographic authority, but to preserve it. Although they acknowledged the possibility of photographic fakery, they were careful to define its limits and to defuse its threat to the authority of photography by circumscribing its boundaries. This delineation took place in three different ways.

First, as we have already seen, the photographers' testimony showed how manipulation often left telltale traces on the photographs themselves. This made manipulation substantially less problematic by making it detectable. If the fake could be distinguished from the authentic simply by looking closely, faked photographs could become a trick, a parlor game, a curiosity. Just as forgery is threatening only when counterfeit money can be made to look real enough to pass for authentic currency,134 fake photographs are not alarming unless there is a risk that they might be confused with authentic ones. By arguing that the fact of manipulation could be revealed through a careful examination of light and shadow, photographers shored up their own claims to expertise. After all, not just anyone could perceive the subtle clues that revealed Mumler's photographs as manipulations; only those who knew how to look properly would see the giveaway signs. Therefore, photographers testifying for the prosecution freely granted that photographic images could be manipulated, but emphasized that their expertise could expose fraudulent photographs for what they were.

Second, even as photographers detailed the multiple ways in which photographs could be constructed to reveal ghostly images, they emphasized that photography was first and foremost a mechanical process. As Asher G. Mason testified, "It was impossible that the picture could have been taken by other than mechanical means."135 If invisible apparitions might come to light in the process of making a photograph, the technology could never be relied upon for a secure representation of what had been visible before the camera's lens. By methodically describing and illustrating those purely mechanical processes through which spirit photographs could be generated, the

134. In fact, the photograph prompted significant anxiety about forgery precisely because it seemed to offer a way of making perfect copies of money.
135. *Spiritualism in Court*, N.Y. DAILY TRIB. Apr. 29, 1869, at 2 (testimony of Asher G. Mason); see also *Spiritualism in Court*, N.Y. DAILY TRIB., Apr. 24, 1869, at 4 (testimony of Charles Frederick).
photographers rationalized them and made them mundane. They tried to show that photography was not a mystical, mysterious, or spiritual process, but rather necessarily followed the laws of nature. Photograph was ordinary, they declared—and hence reliable.

In Boucicault's play, the photograph was the pencil of God; more generally, as we have seen, the photograph was seen to be the pencil of nature. The photographers who testified at Mumler's hearing wanted to oust God from the machine—or, in this instance, to exorcise the ghost in the machine—and restore nature and mechanical processes as the exclusive rulers of the photograph. The photographers, then, were mechanical illusionists. They understood that photographs might well produce illusions, but no recourse to the supernatural was necessary to explain these illusions. Mechanical processes alone would suffice.

A third and related way that the photographers attempted to retain the authority of photographs despite the possibility of fakery was by implicitly suggesting that manipulation was an active process. Manipulated photographs did not simply occur. Rather, they required careful preparation and active intervention on the part of the photographer. All of the processes described by the prosecution's witnesses required forethought and planning—the preparation in advance of a positive image to be placed on the sensitive plate; the insertion of a microscopic picture of a spirit; the use of an extra glass slide with a spirit image on it; the double exposure of the plate. These processes were not happenstance; they occurred only through dint of will on the part of the photographer. No witness testified explicitly about the significance of this necessary labor. But the elaborate descriptions and illustrations of the methods suggested that although photographs could be faked, they could be faked only with substantial effort.

Moreover, the photographers' testimony suggested that the photographic community took seriously a commitment to expose fakers and manipulators who presented their shenanigans as authentic. Abraham Bogardus testified that he was connected with the National Photographic Association, and that this organization had been formed

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136. See Gerry, Mumler Argument, supra note 112, at 32-38.
138. See Gerry, Mumler Argument, supra note 112, at 32-38; Spiritualism in Court, N.Y. Daily Trib., Apr. 29, 1869, at 2; Spiritualism in Court, N.Y. Daily Trib., Apr. 27, 1869, at 2; Spiritualism in Court, N.Y. Daily Trib., Apr. 24, 1869, at 4.
“for protecting honest people in the trade from patents and for putting down any humbug we could discover.” \(^{139}\) Putting down humbugs was a boundary-patrolling activity. \(^{140}\) By unmasking fraud and fakery, photographers aspired to retain their professional credibility and that of their products. Indeed, after the Mumler trial had concluded, the Photographic Section of The American Institute passed a resolution denouncing Mumler: “Resolved, That the Photographic Section of the American Institute take the earliest opportunity to condemn all such methods of working upon the credulous and uninitiated.” \(^{141}\) Though they might not be able to prevent humbugs from plying their trade, photographers endeavored to maintain the integrity of their practices by publicly condemning charlatans.

The photographers’ claim that only those with skill and experience could delineate falsified photographs from authentic ones, could, in theory, have had implications for the legal use of photographic evidence. Specifically, it indicated a necessary role for the photographer in any trial in which photographic evidence was at issue. It suggested that photographs ought not to be allowed as legal evidence unless they had been certified by a properly qualified photographer as bearing no signs of manipulation. In several early cases, judges implicitly accepted this logic, ruling that photographs could be used only if the photographer himself testified about the process through which he had made the image and personally attested to its accuracy. \(^{142}\) But judges did not adhere to this rule for long. Over time, many had determined that the attesting witness need not be the photographer himself, nor even a photographer at all, but

\[139\] *Spiritualism in Court*, N.Y. DAILY TRIB., Apr. 24, 1869, at 4.


\[142\] See, e.g., Hollenbeck v. Rowley, 90 Mass. (8 Allen) 473 (1864); Defendant’s Brief, Trial Records, Blair v. Pelham, 1875 (Supreme Judicial Court Records, Social Law Library, Boston, Mass.) (“Photographs . . . verified by the oath of the photographer, are admissible.”).
could be anyone familiar with the subject matter depicted by the photograph.\textsuperscript{143}

3. Antievidentialists

The witnesses who testified that they believed in spirits because they had seen Mumler's pictures and the photographers who testified that they believed in Mumler's fraud because they had seen his pictures shared one important conviction: Both believed that Mumler's photographs provided compelling evidence about something important. Each group believed that the photographs themselves revealed evidence of their mode of production, whether by documenting spiritual intervention or by proving Mumler's manipulations. In contrast to both of these perspectives, Mumler's attorneys took the position that the photographic images lacked probative value. They claimed that the photographs themselves simply did not speak to the issue of Mumler's fraud, that the photographs were not evidence.\textsuperscript{144}

Their point was that the photographs themselves could not provide definitive evidence about their mode of manufacture; for this, it was necessary to look not at the product but at the process. The defense thus challenged the res ipsa loquitur basis of the prosecution, arguing instead that the photographs themselves proved nothing about the process that generated them. As one of the newspapers summarized the proceedings:

The feature in the "Spirit Photograph" trial yesterday was the testimony of an amateur expert that he had produced such photographs, substantially indistinguishable in character from those [of Mumler] . . . , and that he could do it so as to avoid detection even by practical photographers. Of course this only goes to show that other agencies may produce a result similar to what is claimed the spirits cause; it does not prove that the pictures now in question in court have not been produced by


\textsuperscript{144} The attorneys on Mumler's behalf did make a halfhearted attempt to claim the photographs had some evidentiary value for their side. In their brief to the court, the attorneys argued that "in the various attempts to imitate these pictures, and which some photographers claim are the same thing, there are essential points of difference, plainly to be discovered by the practical or the discerning eye, and which distinguish the genuine from the false, and which cannot be produced by the imitator." \textit{Gerry, MUMLER ARGUMENT, supra} note 112, at 11. The defense's ten arguments are printed in full in id. at 10-11. In other words, the defense transmuted the claim of the prosecution that faked photographs looked different from Mumler's authentic specimens. Mumler's lawyer, however, made this argument in passing, and the bulk of his defense rested on the fact that no one had been able to detect any trick or fraud.
spiritual influences. To prove that is to prove a negative—a task certainly not at all likely to be accomplished in this case.\textsuperscript{145}

According to the defense, the twenty photographs entered into evidence in the case were not evidence at all. Proof of fraud could not come from the photographs themselves. Yet the prosecution had provided no other proof of fraud. Therefore, the defense maintained, the action against Mumler had to be dismissed.

In the end, Judge Dowling agreed with the defense, albeit reluctantly. He decided not to send the case to the grand jury, explaining that “however he might believe that trick and deception had been practiced by the prisoner, yet, as he sat there in his capacity of magistrate, he was compelled to decide . . . [that] the prosecution had failed to prove the case.”\textsuperscript{146} In so deciding, Judge Dowling asserted that the photographs themselves did not provide evidence about their mode of production. If the photographs themselves proved neither the existence of ghosts nor the existence of fraud, Dowling had no choice but to dismiss the charges against Mumler.

The photographs in the Mumler case were atypical, not only because of their unusual subject matter, but because they themselves were at issue in the case. The photographs were not offered as evidence regarding the appearance of some external matter; rather, the entire legal proceeding centered around the images themselves and the method of their production. Nonetheless, the Mumler case illustrates two points important to the use of photographic evidence generally. First, it suggests the indeterminacy of photographic meaning. The tremendous variation in understandings of the images, as constituting proof of ghosts, proof of fraud, or no proof at all, reminds us that we cannot assume that a photograph has a singular and unproblematic meaning. Second, the Mumler case shows us how in practice, the paradigmatic understandings of the photograph—as a mirror with memory, or as a manipulable construct—became intertwined. The photographers who testified against Mumler thought that the photograph was capable of being both an instrument of illusion and an especially objective representation. Mumler’s defense lawyers argued that it was neither one.

These various perspectives can be reconciled by understanding the photograph as offering what Miles Orvell termed “artificial realism.” Orvell suggested that an understanding of photography as “true to nature without being wholly nature itself” was the dominant perspective on photography in the late nineteenth century.\textsuperscript{147} He argued

\begin{itemize}
\item\textsuperscript{145} Spiritualism in Court, N.Y. DAILY TRIB., Apr. 27, 1869, at 2.
\item\textsuperscript{146} Spiritualism in Court, N.Y. DAILY TRIB., May 4, 1869, at 2.
\item\textsuperscript{147} Miles Orvell, Almost Nature: The Typology of Late Nineteenth Century American
\end{itemize}
that Victorians "luxuriated" in the way that the photograph could be simultaneously real and illusionistic, "one moment celebrating its capacity for a seemingly literal imitation of reality and the next its use as a vehicle for fantasy and illusion." Orvell's analysis provides an especially useful perspective for making sense of the competing perspectives discussed at the outset of this Part: the conception of the photograph as fundamentally truthful and the alternative view that emphasized its artfulness and even its artifice. Orvell pointed out that the deep cultural fascination with the photograph was the product, at root, not of either one of these conceptions alone, but of their seemingly paradoxical coexistence. Like a daguerreotype that reveals a detailed image from one angle, but when looked at askance becomes as reflective as a mirror, the pleasure of photography was produced through its perpetual juxtaposition of mimesis with make-believe. To a certain extent, Orvell may have overstated this point—not everyone thought of the photograph as both real and artificial, and those who privileged one understanding over the other usually emphasized the photograph's capacity for truthful representation. His analysis alerts us not only to the centrality of the conception of the photograph as a producer of illusions, but to the way that the most sophisticated nineteenth-century viewers of photography reveled in a complex, multifaceted conception of the medium.

Ultimately, Orvell's rich explication of this aesthetic of photography emphasizes the difficulty that the new representational form posed in specifically legal contexts. In most settings, it was not terribly problematic to think of the photograph as offering both truth and artifice. In sitting rooms and studios, people could accept these competing notions and could even enjoy their internal contradictions. But the magistrate in the Mumler hearing—like other early judges confronting photographic evidence—did not have the option of relishing the paradox. To the extent that the photograph was understood as simultaneously natural and artificial, unmediated and constructed, a replication and a manipulation, its epistemological status became tricky indeed. As a natural, unmediated replication, this "dumb witness" could offer especially probative evidence: "We cannot conceive of a more impartial witness than the sun . . . ," as the judge quoted earlier put it.149 But as an artificial, constructed manipulation, the photograph deserved no privileged place in the

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148. ORVELL, supra note 97, at 77; see also JONATHAN CRAZY, TECHNIQUES OF THE OBSERVER (1990) (arguing that the stereoscope in particular was inherently illusionistic).

The puzzle, then, for using photographic evidence in the courtroom was how to keep these interwoven understandings in balance. If judges recognized photography's artifice, what limits ought they to place on its use as evidence? If they recognized its capacity for truthful representation, how could they exclude it from the courtroom? As we shall see below, judges and treatise writers came to agree with Judge Dowling. Though routinely used, the photograph was deemed, as a matter of formal doctrine, not to be independent evidence at all.

III. DOCTRINES FOR PHOTOGRAPHIC EVIDENCE

By the middle of the 1880s, doctrine governing photographic evidence had stabilized. By this time, the prevailing judicial approach to the photograph was to align it, by analogy, with maps, models, and diagrams. All of these were viewed as constructed visual aids that a witness could use to illustrate his testimony. These visual representations were viewed not as independent evidence but as illustrative evidence that could aid a witness in communicating his point. The justification for allowing such representations at all was that some matters were more easily explained visually than orally; therefore, witnesses should be allowed to use images whenever the use would clarify their points. As Wigmore explained in the evidence treatise that came to be "the Bible of the courts":

"It would be folly to deny ourselves on the witness-stand those effective media of communication commonly employed at other times as a superior substitution for words."

But Wigmore, like those judges who grappled with the status of photographic evidence, emphasized that these visual media of communication were not independent, substantive evidence. Rather, insofar as they were evidence at all, they were evidence because they

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151. See, e.g., Kansas City, M. & B.R.R. v. Smith, 8 So. 43 (Ala. 1889); Cunningham v. Fair Haven & W.R.R., 43 A. 1047 (Conn. 1899); Ortiz v. State, 11 So. 611 (Fla. 1892); Adams v. State, 10 So. 106 (Fla. 1891); Lake Erie & W.R.R. v. Wilson, 59 N.E. 573 (Ill. 1901); Rockford v. Russell, 9 Ill. App. 229, 233 (1881); State v. Hersom, 38 A. 160 (Me. 1897); Baustian v. Young, 53 S.W. 921 (Mo. 1899); State v. O'Reilly, 29 S.W. 577 (Mo. 1899); Wurmser v. Frederick, 62 Mo. App. 634, 636-37 (1895); Albierti v. New York, L.E. & W.R.R., 23 N.E. 35, 38 (N.Y. 1889); Archer v. New York, N.H. & H.R.R., 13 N.E. 318, 324 (N.Y. 1887); Hampton v. Norfolk & W.R.R., 27 S.E. 96 (N.C. 1897); Dederichs v. Salt Lake City R.R., 46 P. 656 (Utah 1896); 1 SIMON GREENLEAF, A TREATISE ON THE LAW OF EVIDENCE § 82 n.a (Boston, Little, Brown & Co. 15th ed. 1897); id. § 439h (Boston, Little, Brown & Co. 16th ed. 1899); FRANCIS WHARTON, A TREATISE ON THE LAW OF EVIDENCE IN CRIMINAL ISSUES §§ 544-545 (Phila., Kay & Brother 8th ed. 1880); 1 JOHN HENRY WIGMORE, A TREATISE ON THE SYSTEM OF EVIDENCE §§ 790-793 (1904).
152. Letter from John E. Blair, Attorney, to John Henry Wigmore (Feb. 12, 1906) (Correspondence re Evidence, Box 1, Wigmore Papers, Northwestern University Archives).
153. 1 WIGMORE, supra note 151, § 790.
constituted a witness's testimony in visual form. Wigmore wrote: "A photograph, like a map or diagram, is merely a witness’s pictured expression of the data observed by him and therein communicated to the tribunal more accurately than by words."154 This "pictured expression of the data," Wigmore stressed, "is evidence, like any other part of the witness's utterance."155 In other words, a photograph, map, model, or diagram could be used as evidence as long as an attesting witness proclaimed it a correct representation. The visual aid was evidence in the sense that it was the witness's own description in visual rather than oral form. The visual representation itself, however, was not to serve as proof that the witness's description was accurate, nor as independent or corroborative evidence.156 It was merely the witness's testimony rendered visually.

Although I have used Wigmore to explicate this doctrine, it was by no means his invention. It had become the dominant approach to photographs by the 1880s. Recall, for example, the virtually identical argument made in the 1881 New York case, *Cowley v. People*, comparing photographs to other kinds of portraits. Judges routinely justified the admission of a photograph by analogizing the photograph to other sorts of pictures, usually literal pictures, such as portraits or diagrams, but sometimes to "word-pictures" as well.157

Before a witness could use such a visual aid, he was required to authenticate the image and verify that it in fact offered a correct representation of whatever was at issue. Only thus would the picture be admissible as the witness's testimony. As Wigmore put it, any visual representation is, for evidential purposes simply nothing, except so far as it has a human being's credit to support it. It is mere waste paper—a testimonial nonentity. It speaks to us no more than a stick or a stone. It can of itself tell us no more as to the existence of the thing portrayed upon it than can a tree or ox. We must somehow put a testimonial human being behind it (as it were) before it can be treated as having any testimonial standing in court. It is somebody's testimony—or it is nothing.158

Judging the truth of the visual representation required exactly the same thing that judging the truth of any testimony required: an assessment of the credibility of the witness. The use of the explicit

\[154. \text{Id. § 791.}\]
\[155. \text{Id. § 790.}\]
\[156. \text{Id.}\]
\[157. \text{See, e.g., Baustian v. Young, 53 S.W. 921 (Mo. 1899); see also supra note 91 and accompanying text.}\]
\[158. \text{1 WIGMORE, supra note 151, § 790.}\]
analogy on which this doctrine was based was an assertion of similarity between the photograph and other kinds of visual representation. But implicitly, the doctrine followed the logic in Cowley v. People, in which all of these forms of evidence were understood as testimony in another "mode of signs."\textsuperscript{159}

One consequence of this doctrine was to make it logically unnecessary that it should be the photographer himself who authenticated a photographic image. If the photograph were neither to serve as corroborative evidence nor to function in the courtroom as an independent form of proof, this specialized ability to read photographic accuracy was unimportant. The authenticating witness could be anyone at all, so long as he was personally familiar with the matter depicted by the representation.

\textbf{A. Suppressed Truths}

As already noted, judicially created doctrine supporting photographic evidence was built upon an analogy between the photograph and maps, diagrams, portraits, and drawings. Indeed, judges asserted not merely an \textit{analogy} between a photograph and other kinds of visual representations, but, for evidential purposes, an \textit{identity} among them. That is, this doctrine did not merely claim that a photograph was \textit{like} other kinds of pictures, but that all kinds of pictorial representation were evidentially the \textit{same}.

There is nothing inherently surprising about a judicial turn to analogy as a tool for making sense of a novel form of evidence. Analogic reasoning is a legal mainstay, or as Cass Sunstein put it, legal culture's "most characteristic way of proceeding."\textsuperscript{160} Judges' particular expertise is in reasoning through comparison; this process is at the very heart of the common law.\textsuperscript{161} When confronting a novel form of evidence, then, why \textit{not} compare the new to the known?

But all analogies are not created equal. As writers on analogy have pointed out, the key to analogic reasoning is determining when two exemplars—be they fact patterns, cases, or forms of evidence—are \textit{relevantly} similar. Making this determination is at the core of reasoning by analogy: "For analogical reasoning to operate properly, we have to know that A and B are 'relevantly' similar, and that there are not 'relevant' differences between them. . . . The major challenge

\textsuperscript{159} People v. Cowley, 83 N.Y. 464, 478 (1881); see also \textit{supra} notes 90-93 and accompanying text.
\textsuperscript{160} Sunstein, \textit{supra} note 15, at 741.
\textsuperscript{161} See LEVIT, \textit{supra} note 15, at 2-3.
facing analogical reasoners is to decide when differences are relevant."  

But is there any disciplined way to determine when differences are relevant? In the most rigorous recent exposition of the nature of analogical reasoning, Scott Brewer argued that argument by analogy is not merely the result of a mystical process, but rather, can have a good deal of rational force. Brewer established a complex schema for describing how analogies do work—and how they should work if they are to be rationally compelling. In essence, Brewer acknowledges that analogic reasoning contains an imaginative moment in which the comparison is born. But he suggests that careful testing of any given analogy can rein in this semimystical moment of insight and give an analogy rational force. An analogic reasoner must first attempt to confirm or disconfirm the particular analogy under consideration. Then, the reasoner must articulate the rule that governs the application of an analogy, as well as the rationale that justifies the rule. Finally, the reasoner must examine whether the governing rule can be applied deductively to all similar instances. If so, Brewer claims, then the analogy can be viewed as having significant rational force. At a formal level, the analogic structure employed by judges in making sense of photography fulfills Brewer's conditions, which suggests that we should be inclined to grant this analogy a good deal of rational force.  

And yet, there is something discomfiting about this particular judicially made analogy. Although photographs share numerous characteristics with other kinds of visual evidence—they are all representational, humanly made, and subject to inaccuracies—there is a way in which a photograph is quite distinct from these other forms. For even though the photograph may be misleading or inaccurate, it may also make a special kind of truth-claim that these

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162. Sunstein, supra note 15, at 745.
163. See Brewer, supra note 15, at 934.
164. See generally id. Explaining Brewer's detailed and sophisticated terminology and schema is beyond the scope of this Article. For those already familiar with his argument, I shall attempt in the footnotes to place the photography example into Brewer's framework.
165. To put the example of photography in Brewer's terminology: We might say that the characteristics of the "source" of the analogy (a portrait or drawing) are that it is visual, representational, humanly made, and possibly inaccurate; and that the "target" (photography) shares these characteristics. What Brewer calls our "analogy-warranting rule," id. at 962-77, would state that when an object is visual, representational, humanly made, and possibly inaccurate, that provides sufficient warrant for inferring that it should be treated as illustrative rather than substantive evidence. At least at a logical level, this structure fulfills Brewer's "entailment" requirement, id. at 968-71, for analogy-warranting rules. The "analogy-warranting rationale" in this instance might be something like "all evidence that is visual and potentially misleading needs to be curbed or controlled to prevent bad results."
other forms of representational evidence cannot. The analogy that judges built ignored the photograph’s veridical power.

To make the consequences of this doctrine concrete, suppose a witness testified about the location of certain objects, and used a diagram or a photograph to show the location of these objects. According to the doctrine, whether he used a diagram or a photograph, whether the picture were “made solely by the hand of man, or through the agency of photography,”166 was irrelevant. Either way, the image only illustrated his testimony in visual form. The doctrine thus failed to confront an obvious distinction between a diagram and a photograph. The diagram, indeed, simply illustrated the witness’s argument. But to whatever extent the photograph was viewed as a replication and not merely a representation, it might in fact corroborate the witness. That is, a photograph might do more than illustrate; it might persuade. Yet the doctrine promoted one understanding of the photograph—the image as artifice—over the other—the image as replication.

The doctrine regarding the admissibility of photographs thus reified a conception of photography as a human construction—manipulable, fallible, and potentially untrustworthy. The widespread sense of photographic truthfulness, the belief that, unlike a drawing or a diagram, a photograph might be interpreted not just as a likeness but as reality depicted, was cast aside.

In practice, however, as an effort to make photographs the operative equivalent of other kinds of visual evidence, the doctrine was only partially successful. That is, even though the doctrine ignored the widespread belief in photographic truth, the awareness of the photograph’s special probative power could not be suppressed entirely. Thus, although the one strain of thinking—that photographs were humanly constructed representations—formally regulated the admission of photographic evidence, the other strain—that photographs often seemed to be unmediated transcriptions of reality—continued to exist within the cases as a counterpoint.

This alternative strain is sometimes visible in judges’ assertions in statements that make sense only in light of the submerged perspective. For example, in admitting a photograph, judges sometimes pointed out that no testimony in the record suggested that the photograph was incorrect or misleading.167 Doctrinally, whether or

166. See Ortiz v. Florida, 11 So. 611, 613 (Fla. 1892).
167. See, e.g., Archer v. New York, N.H. & H.R.R., 13 N.E. 318 (N.Y. 1887) (pointing out that the evidence of a photograph’s accuracy “was not disputed”); Nies v. Broadhead, 27 N.Y.S. 52, 53 (Sup. Ct. 1894) (stating that the evidence that the photographs offered correct representations “was not contradicted”); cf. Scott v. New Orleans, 75 F. 373 (5th Cir. 1896) (approving admission of a photograph that counsel forcefully suggested was inaccurate, but
not such testimony existed ought to have been irrelevant. That is, if a photograph were understood merely as someone's testimony in illustrated form, the fact that it was disputed by other testimony might affect its weight and credibility, but not its admissibility. As long as one sworn witness had verified that a relevant photograph was a correct representation of that which he had seen, the image ought to have been admitted—even if other witnesses (or, for that matter, other images) contested its accuracy. And yet, if the judges recognized that in practice a photograph did more than illustrate, that it might, in fact, be seen as proof of that which it represented, their concern with whether there was consensus about its accuracy becomes quite understandable. Similarly, judges were sometimes reluctant to admit photographs that they viewed as misleading, even when authenticated. According to judicial doctrine, the question of whether an authenticated photograph was misleading was a determination properly for the jury. Such caution was sound practice only if judges suspected that in practice photographs not only illustrated but certified.

Furthermore, the cases themselves show that as a matter of actual practice the use of photographs was not just to clarify testimony but to prove matters of fact. For example, in a Massachusetts larceny trial, Commonwealth v. Morgan, a dispute arose over whether the defendant, an alleged thief, had ever worn whiskers and a mustache. Witnesses for the defendant denied it, but a government witness supported his claim with a photograph of the defendant sporting whiskers. Clearly the photograph was intended not merely to illustrate the witness's testimony; rather, it was concrete evidence supporting the witness's assertion that the alleged thief had worn whiskers.

suggesting that the jury should be carefully instructed about the possibility that photographs could mislead; Dorsey v. Habersack, 35 A. 96, 96-97 (Md. 1896) (allowing a photograph even though one party insisted that it was an inaccurate representation).

168. See, e.g., Ortiz v. State, 11 So. 611 (Fla. 1892) (rejecting a photograph of an injury site because of its peculiar perspective, even though the photographer explained the angle from which it was taken); Cleveland, C.C. & St. L. Ry. v. Monaghan, 41 Ill. App. 498, 502 (1891) (rejecting a photograph of an obstructed railway track because the obstruction pictured, though supported by detailed testimony that it was "substantially the same" as the one at issue, was not identical); People's Passenger Ry. v. Green, 56 Md. 84 (1880) (rejecting a photograph of a street car accompanied by testimony that it was an "exact representation" of the car upon which an accident occurred because it was not in fact the car upon which the accident occurred); Gilbert v. West End St. Ry., 36 N.E. 60 (Mass. 1894) (rejecting a one-year-old photograph of the plaintiff introduced to give some idea of his age and health, accompanied by testimony that it was a "good likeness" and that his appearance had not changed in the intervening year, on the ground that photographs "may be taken to make the person appear younger and less infirm than he is"); Hampton v. Norfolk & W. Ry., 27 S.E. 96 (N.C. 1894) (approving the exclusion of photographs of the scene of injury because of the passage of time, although there was evidence that the photograph was accurate and the locality had not changed).

169. 34 N.E. 458 (Mass. 1893); see also Trial Records, Commonwealth v. Morgan, 1893 (Supreme Judicial Court Records, Social Law Library, Boston, Mass.).
Similarly, in a criminal case against a charitable organization for mistreating a child, the state supported its arguments with two photographs of the child, one showing him robust and healthy before he had been in the charity's care, the other revealing him to be emaciated and sickly as a result of the charity's negligence. These images, of course, did not simply illustrate what the witness meant when he said that the child looked unhealthy. They showed the transformation and allowed jurors to gaze upon the child's miserable condition with their own eyes.\textsuperscript{170}

In a probate case in which an illegitimate child of the deceased was suing for inheritance, a judge allowed a composite image showing a photograph of the child next to a photograph of the putative father.\textsuperscript{171} The purpose of admitting these photographs was not merely to illustrate testimony asserting resemblance between the two (indeed, such opinion evidence would not have been deemed admissible), but to show the resemblance. Although the judge indicated his discomfort with relying too heavily on resemblance to prove kinship, he did not exclude the photographs.\textsuperscript{172} In practice, whenever a photograph was introduced to explain a disputed fact rather than to provide the jury with a general visual sense of the scene of a crime or accident, it inevitably operated as both illustration and documentation. The photograph not only displayed but verified. Occasionally, courts explicitly acknowledged this double role. One judge, for example, gave the standard doctrinal explanation, declaring photographs:

\begin{quote}
not in themselves evidence at all, but representing to the eye what the witness declares was the real appearance of the thing at the time he saw it. Diagrams, drawings, and photographs are resorted to only because the witness cannot, with language, as clearly convey to the minds of the court and the jury the scene as the light printed it on the retina of his own eye, at the time of which he is testifying.\textsuperscript{173}
\end{quote}

But two paragraphs earlier, the judge pointed out that while a photograph's accuracy must be determined by testimony, "after that foundation has been laid, the photograph speaks with a certain probative force in itself."\textsuperscript{174} Occasionally judges openly declared that photographs provided compelling, independent proof, like the

\begin{footnotes}
\item[170.] See Cowley v. People, 83 N.Y. 464, 476-77 (1881).
\item[171.] See In re Jessup, 22 P. 742, 744 (Cal. 1889).
\item[172.] See id.
\item[173.] Baustian v. Young, 53 S.W. 921, 922 (Mo. 1899).
\item[174.] Id.
\end{footnotes}
Georgia judge who admitted, "We cannot think of a more impartial and truthful witness than the sun . . . ."175

Most judges were not so explicit. In general, the official doctrine operated in tandem with the unofficial—and unacknowledged—reality. Photographs were formally admitted as illustrations, as no more than a witness's testimony in visual form. But in practice, these same photographs may well have been independently persuasive, a form of proof. As the author of a practical treatise on photographic preparation and presentation later put it:

When the accuracy of a photograph taken during or immediately after the event in controversy has been proved, no judge or jury really considers the photograph as a mere map or diagram of the situation. . . . [T]he circumstances under which such photographs are made often give them attributes of spontaneity and veracity that no hand-drawn picture can ever have.176

The doctrine, then, must be understood as a legal fiction, a formal rule that coexisted with a reality that contradicted it. Such fictions are necessarily uneasy. If the reality that contradicts the rule becomes too apparent, the rule itself may founder. Or, as occurred in the case of photographic evidence, the gap between the formal rule and the reality may lead to uncomfortable outcomes.177

B. The Problem of Posed Photographs

Posed photographs became a serious problem for courts in the last two decades of the nineteenth century. Beginning in the 1880s, a number of cases involved photographs that had been carefully constructed to illustrate the placement of relevant people or objects. These photographs were staged, after-the-fact reconstructions purposefully designed to illustrate one side's theory of the case. Often these photographs showed the scene of the accident or crime, with individuals (sometimes those actually involved, sometimes not) carefully positioned in the places where the parties claimed they had been at the time of the crime or accident.178 On other occasions, witnesses made marks on the photograph to indicate the placement

176. SCOTT, supra note 7, § 602 (2d ed. 1969).
177. Note that in Brewer's conception of how analogies should operate, unacceptable outcomes should lead to a change in the "analogy-warranting rule." See Brewer, supra note 15, at 1023. In practice, of course, as the history of photographic evidence suggests, it is not so simple. Judges often ignore or finesse the rule or the outcome that an analogy suggests rather than rethinking the analogy itself.
178. See, e.g., Shaw v. State, 9 S.E. 768 (Ga. 1889); Rodick v. Maine Cent. R.R., 85 A. 41 (Me. 1912); Fore v. State, 23 So. 710 (Miss. 1898); State v. O'Reilly, 29 S.W. 577 (Mo. 1894); People v. Jackson, 19 N.E. 54 (N.Y. 1888); State v. Kelley, 24 S.E. 60 (S.C. 1896).
of specific people at the time in question. According to the doctrine governing photographic admissibility, such staged images should not have presented any difficulty. These photographs allowed witnesses to show the jury pictorially that which they had seen, in order to make their testimony clearer and more vivid. This was precisely the purpose for which photographs, maps, models, and diagrams were supposed to be used.

Some courts did admit these staged or marked photographs. In one case, after a photograph was taken of the scene of the murder, the state’s attorneys made marks upon it to indicate where witnesses said that the victim and the defendant had been. The defense attorney objected to the admission of these marked photographs, but the judge overruled the objection. The appeals court agreed with the trial judge: “We may assume that every one now understands the limitations upon the use of the photograph. It presents but one point of view, and may sometimes make an unfair representation of the points at issue.” Just because a photograph represented the point of view of a particular party was no reason, doctrinally, to exclude it. Another judge had equally little difficulty admitting a photograph taken after a shooting, showing the interior of the saloon where the murder had taken place, “on which were grouped three prearranged figures” to indicate the positions of the accused, the deceased, and the deceased’s father. Another court defended the admission of a staged photograph as “indicating in a general way the impression left upon the mind of the witness,” and “aiding his oral statement.” All of these decisions followed quite naturally from an application of the doctrine equating a photograph with other kinds of diagrams or illustrations.

But a number of judges vehemently opposed the admission of these posed pictures. As one judge wrote:

To be admissible, photographs should simply show conditions existing at the time in question. But photographs taken to show more than this, with men in various assumed postures, and things in various assumed situations, in order to illustrate the claims and contentions of the parties, should not be admitted. . . . They would serve merely to illustrate certain theories of the defendant

179. See, e.g., People v. Crandall, 57 P. 785 (Cal. 1899).
180. Id. at 787.
181. O’Reilly, 29 S.W. at 578.
182. Jackson, 19 N.E. at 55.
183. See, e.g., Babb v. Oxford Paper Co., 59 A. 290 (Me. 1904); Stewart v. St. Paul City R.R., 80 N.W. 855 (Minn. 1899); Fore v. State, 23 So. 710 (Miss. 1898).
as to how the accident happened. They were properly excluded as a matter of law.\(^\text{184}\)

Despite the judge's adamance, he neither explained the legal principle upon which these photographs were barred nor cited any precedents. Another judge confronted his discomfort with these images more directly. In holding such photographs inadmissible, he wrote:

They were not simply reproductions of the scene of the homicide. They were photographic representations of tableaux vivants, carefully arranged by the chief witness for the state, whereby his version of the tragical occurrence should be brought vividly before the mind's eye of the jury, and be impressed upon the jury as the view of the actual occurrence, and not as the mere statement of the facts . . . . Their effect if not their purpose, was, by photographic processes, to strengthen and bring out in striking captivating fashion . . . [his] version . . . . Their only effect was to graven upon the jury's memory the account of the homicide given by the witness,—an account at variance with that of at least two other eyewitneses . . . . Indeed, with the average jury, these dumb witnesses, created by the joint efforts of the state's leading witness and the photographic artist, might go far to secure a verdict for the party offering them.\(^\text{185}\)

According to this judge, staged photographs were dangerous and unfair. In the guise of illustrating, they could persuade. But the doctrinal justification for admitting the photograph denied the image its ability to tell a story in "striking captivating fashion." A conflict among the states over whether staged photographs should be permitted persisted at least until the 1950s, though gradually more and more states admitted such images.\(^\text{186}\) Although the judicial consensus was, in the end, congruent with the general doctrine governing the admissibility of photographs, the disputes over staged photographs dramatically highlighted the fiction of the formal doctrine.\(^\text{187}\)

\(^{184}\) Babb, 59 A. at 292.  
\(^{185}\) Fore, 23 So. at 712.  
\(^{187}\) The formal doctrine also posed significant difficulty when x-rays were first brought into the courtroom as evidence. Authentication requires a witness to assert that a representation is correct based on personal knowledge. In the case of an x-ray, no one could have actually observed the body's internal structure and the bones depicted; hence authentication was impossible. Moreover, that which a physician illustrated by means of an x-ray he had learned
C. Explaining the Legal Fiction: How Judges Defused Novelty Through Analogy

Given the awkwardness and tension that unavoidably adhered to the official doctrine, why did this legal fiction emerge? Why, we might ask, did the courts keep the photograph's visual power partially hidden from sight? What explains the doctrinal insistence that photographs were not independent evidence, but merely "a witness's pictured expression of the data observed by him"? To begin to answer this question, we must first break it down into two distinct parts: first, why courts felt the need for an authentication requirement for the photograph; and second, why they refused to acknowledge that the authenticated photograph could have independent probative force. The first question is the easier one to answer. As we have seen, the possibility that photographs could be misleading or manipulated was widely recognized; this fact by itself suggests the need for testimony attesting to the photograph's accuracy. A photograph could not merely be presumed accurate; it had, as Wigmore put it, to be sponsored by testimony. Had judges not required authentication, they would have allowed the photograph to be literally self-proving as a form of evidence. A photograph's mere existence would have provided evidence of that which it depicted. But just as Judge Dowling in no way believed that Mumler's photographs themselves proved the existence of ghosts, judges in general were not willing to assert that a photograph proved its own contents. Moreover, authentication was required for all documentary or real evidence. "The necessity of authentication . . . applies equally well to a knife, from the x-ray itself; the x-ray was not an illustration of that which he already knew or observed. Nonetheless, as early as 1897, courts did deem x-rays admissible. See Smith v. Grant, 29 Chicago Legal News 145 (1896); Bruce v. Beall, 41 S.W. 445 (Tenn. 1897); Evidence: The X Ray, 31 AM. L. REV. 268 (1897). Although the earliest cases tended to admit radiographs based on vague laudings of the modern miracles of science, over time courts dispensed with authentication in the strict sense, and substituted a requirement that a person testify that "the instrument or process is known to be a trustworthy one," both in general and in the specific case. 1 WIGMORE, supra note 151, § 795. In other words, judges replaced a substance-oriented understanding of authentication for a process-oriented one. Eventually, judges took judicial notice that properly taken x-rays resulted in correct representations, so that admitting an x-ray required only testimony establishing that in the instance at issue it had been properly taken and interpreted. But if admitting an x-ray required testimony only about process and not about product, why should a photograph not be the same? Why could a witness not testify merely that the photograph was a product of a properly functioning camera and therefore should be admissible? In fact, such a theory did develop in the 1960s in order to make admissible the images taken from regiscopes and surveillance cameras. These moments of doctrinal transformation lend support to a realist, rather than a formalist, understanding of legal categories and legal change.

188. 1 WIGMORE, supra note 151, § 792.
189. See supra Section II.B.
190. See 1 WIGMORE, supra note 151, § 790.
a horse, a coat, or a machine, as to a letter or other writing.\textsuperscript{191} Especially given the possibility of manipulation, there was no \textit{affirmative} reason to exempt photographs from this requirement.

The puzzle concerns judges' reluctance to acknowledge that a photograph with testimonial sponsorship might have independent probative value; it might, indeed, be \textit{evidence}. Judges could have required that photographs be authenticated, but granted that, once proved genuine, they had independent evidentiary force. To put the problem concretely, why did the courts not treat a photograph more like a deed than a diagram? Four partial answers intersect at several points. Most significantly, judges were unlikely and sometimes unwilling to innovate, preferring instead to analogize the photograph to familiar forms. But the judicial turn to this particular analogy also reflects other anxieties distinctive to photographic evidence. For example, judges may have been inclined to value words in the courtroom more than images, and the analogy that they created both reflected and preserved this hierarchy. Moreover, judges may have been threatened by the potential institutional challenge posed by evidence that promised (or threatened) a high degree of certainty. By declaring photography mere illustration, they limited its challenge to traditional judicial authority. Finally, judges may have wished to preserve their authority over the decision to admit individual photographs rather than to delegate the authority to photographers. By analogizing the photograph to other kinds of visual evidence, judges insured that they, rather than extrajudicial experts, would control which images were admitted into evidence.

\textbf{1. Defusing Novelty Through Analogy}

Perhaps the most compelling explanation for the judicial reluctance to acknowledge doctrinally the veridical power of the photograph is the desire of judges \textit{not} to innovate. Judges may have wanted to assimilate this new technique to existing forms, to defuse its novelty by equating it with established methods. Understanding the photograph as a new path to truth in the courtroom was threatening; viewing it as another example of a known category tamed the medium. By declaring the photograph to be like a painting or a verbal description, merely a "description in another mode of signs,"\textsuperscript{192} not fundamentally different from any other description, oral or written, judges gave to the photograph both kin and ancestry. It acquired legitimacy.

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\textsuperscript{191} 3 \textit{id.} § 2130.

\textsuperscript{192} Cowley v. People, 83 N.Y. 464, 478 (1881).
As one judge wrote, "From time immemorial it has been customary to use diagrams and plans in the trial of criminal as well as civil cases..."\(^{193}\) In fact, diagrams and plans had been used within the courtroom only in circumscribed ways.\(^ {194}\) Still, a genuinely new form of evidence could be disruptive and destabilizing; better, then, for a judge to conceptualize the photograph as another iteration of already established representational forms. By analogizing the photograph to maps and drawings, judges were able to finesse questions about the admissibility of a new form of evidence. If this new form of evidence were substantially the same as already existing forms, it raised no troubling questions; indeed, it need hardly be deemed new. Thus, in the official doctrine, there was little intellectual space for the recognition of either photography's mechanical nature or its transcriptive power, both of which distinguished the new technology from its kin. The analogy itself constricted the vision of photographic evidence.

The following three explanations for the emergence of this doctrine focus on why the particular constricted understanding of the photograph may have appealed both to the judges making sense of photography and to the lawyers who were bringing photographs to court.

2. **Protecting the Reign of Words**

One explanation for the formal devaluation of photographic evidence may be that the courts were uncomfortable granting images pride of place within the courtroom. A trial, at its core, is a battle of language. In the adversarial model of the trial, well entrenched by the nineteenth century, truth emerges, at least in theory, through each side's presentation of its story and interrogation of its opponent's narratives. The opportunity to cross-examine—to probe, to call into question, to challenge the words of the other side's witnesses—is crucial to the system's functioning. Non-verbal evidence, from alleged murder weapons to blood-streaked clothing could be admitted, but only upon adequate authentication by a human being who could be cross-examined. One ongoing concern about the admission of photographs was that they were structurally impossible to cross-examine. Unlike a witness, who was under oath and "subject to examination, ... the photograph may testify falsely with im-

\(^{193}\) State v. O'Reilly, 126 Mo. 597, 599 (1894) (statement of counsel); see also 1 GREEN-LEAF, supra note 151, § 439g (Boston, Little, Brown & Co. 16th ed. 1899) ("That a witness may properly communicate his knowledge in the form of a map, drawing, or diagram, has never been doubted.").

\(^{194}\) See infra Section IV.A.
Only if a photograph were deemed nothing more than the testimony of its human sponsor could this difficulty be avoided. Of course, blood-streaked clothing and written contracts are structurally impossible to cross-examine as well. But photographs, unlike murder weapons, are themselves representations, and potent ones. They tell a story about the world, making a difficult-to-refute claim about how a particular location looked at one instant. The story may be indeterminate; it may be capable of multiple interpretations, but to whatever extent this visual depiction is not tied to testimony, a competing, nonverbal account enters a space where the words of witnesses—and lawyers—are supposed to reign. Deeds, contracts, and other forms of documentary evidence may also be representational, but they are verbal, not visual. A document cannot prove the truth of its own contents in the way that a photograph might. No one would ever call a document “a witness on whose testimony the most certain conclusions may be confidently founded.” As Roland Barthes wrote in his reflections on photography, “the Photograph’s essence is to ratify what it represents,” to confirm to the viewer that “That-has-been.” Perhaps as representations that suggested the possibility of substantiating their own contents, photographs threatened the hegemony of testimony. If photographs had probative force, they could evade the web of words. Nineteenth-century lawyers and judges may have endeavored to fasten them securely to human beings by labeling photographs mere communicative aids, illustrative of testimony. In short, judges kept words in the picture.

195. Defendant’s Brief, Trial Records, Gilbert v. West End Highway, 1893 (Supreme Judicial Court Records, Social Law Library, Boston, Mass.) (“It may be said that the description of a witness may be as misleading as the portrait, but the witness is under oath, subject to examination, and the false lines in his verbal description may be corrected, but the photograph may testify falsely with impunity.”); see also State v. O’Reilly, 29 S.W. 577 (Mo. 1894).

196. As Roland Barthes wrote:
Photography’s Referent is not the same as the referent of other systems of representation. I call “photographic referent” not the optionally real thing to which an image or a sign refers but the necessarily real thing which has been placed before the lens, without which there would be no photograph. Painting can feign reality without having seen it. Discourse combines signs which have referents, of course, but these referents can be and are most of the “chimera.” Contrary to these imitations, in Photography I can never deny that the thing has been there. There is a superimposition here: of reality and of the past. And since this constraint exists only for Photography, we must consider it, by reduction, as the very essence, the noeme of Photography.
BARTHES, supra note 3, at 76.

197. Morton, supra note 60, at 190.

198. BARTHES, supra note 3, at 85.

199. Id. at 77.

200. For suggestive accounts of the uneasy relation between images and law at the moment of the common law’s foundation in the early modern period, see PETER GOODRICH, OEDIPUS LEX (1995). For a discussion of the discomfort of modern-day lawyers with the visual sphere, see ETHAN KASCH, LAW IN A DIGITAL WORLD (1995).
3. A Fear of Certain Evidence

Let us return, very briefly, to *The Octoroon*. Scud asserted as he showed the photographic plate to the jurymen: "Look there. O, you wanted evidence—you called for proof—Heaven has answered and convicted you." This line contains the seed of another possible reason for judicial discomfort with photographic evidence: Judges may have felt that photographs risked being overly authoritative, too certain. Once heaven has convicted someone, what need is there for an earthly trial? Would not perfect evidence make a trial unnecessary? More generally, if there exists evidence both absolutely probative and utterly irrefutable, the trial itself is rendered a formality, the playing out of the inevitable rather than a site for decisionmaking and the exercise of judgment. To put the issue in its starkest form, if a photograph caught a perpetrator in the act, why would one need a jury (or lawyers or a judge) at all? In such an instance, when the photograph itself displayed the facts with "an eye that cannot be deceived and a fidelity that cannot be corrupted," what theoretical purpose would there be for a factfinder? How could a jury do anything other than certify "truth itself in the supremeness of its perfection"? Evidence that offered an exceptionally high degree of certainty was at one and the same time the ideal toward which the system strove and the El Dorado that might threaten the system altogether.

In practice, of course, such concerns would arise only when a photograph actually displayed the critical moment at issue in a trial, as did the miraculous photographic plate in *The Octoroon*. But recall that the judicial doctrine governing photographs was cemented in the 1880s, exactly when instantaneous and even surreptitiously taken photographs had become feasible, a moment when the fear of photographic "cranks" from whom nothing could be kept secret circulated widely. Moreover, the idea that the photograph would capture criminal instants for the purpose of legal proof is nearly as old as photography itself. Of course, post-Rodney King, we can no longer believe that photographs offer certain and incontestable narratives; we are more likely to agree with Susan Sontag that a photograph's meaning comes about only through the relation between the image and its caption or its context. And as the Mumler trial
illustrates, even in the nineteenth century, the conception of photographic realism had its limits. As a medium capable of offering displays that could affect the jury in a "striking captivating fashion," machine-generated visions with an aura of certainty and incontestability, photographic evidence posed a threat to the very process of the trial.\textsuperscript{206} By declaring photographs the equivalent of other representational forms, judges ensured that they would not provide an institutionally threatening degree of certainty.

No nineteenth-century judge or attorney declared forthrightly that he viewed the photograph as an institutional threat, that its promise of too-certain evidence worried him. But it is a plausible way of understanding judicial reluctance to grant what was so freely acknowledged outside of the courtroom: that photographs were indeed evidence. By understanding the photograph as the pictured expression of a witness rather than as independent evidence, judges demoted the photograph from the nearly irrefutable to the merely illustrative. In so doing, they preserved not only the jury's factfinding function, but also the courtroom as a place for judgment.

4. Letting Judges Judge Photography

A fourth possible explanation for the judicial decision to view photographs as nothing more than eyewitness testimony in visual form may have stemmed simply from the recognition that photographs could be manipulated. Photographers, judges, and many others understood that photographs did not necessarily represent reality in a truthful or complete manner. Photographs could lie, making any presumption of accuracy unwarranted.

Recall from the discussion of the Mumler trial that photographers claimed a particular expertise in the interpretation of photographs.\textsuperscript{207} It would seem, then, that if photographs were to be admitted into the courtroom as substantive evidence, they should first be certified by a photographer—a qualified expert—as worthy of belief. Without such a certification, judges might admit into evidence images that were as misleading as they were persuasive. This was precisely the fear of the author who labeled photographs "a most dangerous perjurer."\textsuperscript{208}

But any certification scheme adopted to authenticate photographs would have presented problems. Photographers were not a well organized professional group. Some kinds of photographers had downright shady reputations—itinerant photographers in particular

\textsuperscript{206} Franklin v. State, 69 Ga. 37, 43 (1882).
\textsuperscript{207} See supra notes 137-141 and accompanying text.
\textsuperscript{208} The Photograph as a False Witness, supra note 94.
were often portrayed as shiftless and untrustworthy. How then, were judges to know which photographers ought to be able to certify a photograph’s accuracy? This is, of course, merely one instance of a pervasive phenomenon: judges have difficulty assessing expert qualifications in any specialized branch of knowledge. The problem would have been especially acute in this instance, however, because the lack of substantial professional organization on the part of photographers would have made reliable photographic experts hard to find. Officially approved photographs might also have been viewed as especially trustworthy, even conclusive. The approach would thus have delegated a great deal of power to the certifiers. Judges may have preferred to ensure that they and they alone retained the discretion to designate a particular photograph admissible or inadmissible.

No suggestion for a formal certification scheme appeared in late-nineteenth-century sources. But in several early cases, it was deemed necessary for the photographer himself to authenticate the photograph. In later cases, once a photograph was understood to be illustrative of testimony, anyone who had personally observed what was depicted could legitimately authenticate the image. If the photograph had been viewed as substantive, independent evidence, only someone able to certify the photograph’s accuracy would have been a legitimate authenticator—such as a professional photographer. Thus, by analogizing photographs to other kinds of visual evidence, judges kept for themselves the power of judging.

IV. THE EMERGENCE OF DEMONSTRATIVE EVIDENCE AND A “CULTURE OF CONSTRUCTION”

A. The Limited Use of Visual Evidence Prior to Photography

One of the reasons why judges made sense of the photograph by analogy was to provide the new technology with a history. This judge-made heritage was, if not disingenuous, at least far less obvious than many of the judges made it seem. In the first two-thirds of the nineteenth century, there existed no well-developed general evidentiary category of “models, maps, and diagrams.” Rather, it appears that maps and plats were routinely used in only one sort of case: those in which boundaries were at issue, normally cases involving trespass or land disputes. Often, the maps or plats used were official

209. See TAFT, supra note 16.
210. See supra note 142 and accompanying text.
211. See supra note 143 and accompanying text.
ones, such as state-approved surveys. Alternatively, the court might appoint a surveyor to make a plan of the land at issue, with both parties present. But occasionally, a question arose concerning the admissibility of a plan made by a surveyor who was neither court-appointed nor acting in a quasi-official capacity. The general rule appears to have been that such surveys "[could] never be used but as chalk."\textsuperscript{212} As a judge put it in an 1827 land dispute, such "a representation in the form of a plot presenting to the eye, a picture, as it were . . . cannot be evidence. But although not legal proof, it may be used by the parties to explain the evidence."\textsuperscript{213} The language in these cases often sounds like that later appropriated by the courts for the more general category of photographs, models, maps, and diagrams. As one judge said, a surveyor could use a plat "to make his testimony more intelligible to the jury";\textsuperscript{214} in the words of another, "although such survey may not within itself be evidence . . . that he may illustrate his evidence by the survey so made, we entertain no doubt."\textsuperscript{215}

Prior to the 1880s, diagrams were used at the trial level in some cases,\textsuperscript{216} but beyond land disputes they were very rarely made the subject of appeal.\textsuperscript{217} Other evidence, moreover, suggests that "maps, models, and diagrams" was not a broad evidentiary category, but rather a narrowly defined grouping generally thought to apply only to specific categories of cases. In an 1858 libel case, in which a dissatisfied patient published an advertisement in the newspaper claiming that a particular dentist was "a miserable bungler, and a disgrace on the profession," the defendant tried to illustrate what the dentist had done to his teeth with an engraving representing his teeth before and

\textsuperscript{212} Bearce v. Jackson, 4 Mass. (3 Tyng) 408, 410 (1808). This is the earliest case I have located where such a plan is at issue.

\textsuperscript{213} Johnston v. Kirkland, 6 Mart. (n.s.) 337, 339 (La. 1827); see also Shook v. Pate, 50 Ala. 91 (1873); Carter v. Doe, 21 Ala. 67 (1852); Cundiff v. Orms, 7 Port. 58 (Ala. 1838); Rose v. Davis, 11 Cal. 133 (1858); Mincke v. Skinner, 44 Mo. 92 (1869).

\textsuperscript{214} Cundiff, 7 Port. at 61.

\textsuperscript{215} Carter, 21 Ala. at 71.

\textsuperscript{216} This assertion is based on a perusal of several dozen early-19th-century trial transcripts published in pamphlet form, as well as a complete reading of three volumes of American State Trials. For an example of the uncontested use of a diagram, see, for example, Trial of Judge Wilkinson, Dr. Wilkinson, and John Murdaugh for Murder, 1839, in 1 AMERICAN STATE TRIALS 132, 243 (1914).

\textsuperscript{217} In one murder case, a surveyor, as a witness for the defense, exhibited during his testimony a map he had made of the area, illustrating various routes and localities connected with the alleged crime. The court did allow this use, and it was upheld on appeal, the judge asserting that as a general rule "a witness may use a plat, diagram or map, made in any way, to explain or make himself intelligible to a jury." State v. Castleberry, 23 Ala. 44, 83 (1853). And in one other murder case, a physician's use of a diagram to illustrate his testimony—a representation of blood components—was sanctioned by the appellate court. See State v. Knight, 43 Me. 11, 132 (1857).
after the dental work. The judge refused to admit the drawing. The plaintiff's attorney, arguing that this refusal was no error, stated,

[This] was not a case in which engravings or drawings would be necessary to communicate the facts intended. It was not an action of ejectment, in which a survey and plat, by an authorized surveyor, would be admissible to show boundaries. It was not a case of patent right of some complicated machinery, where a drawing might be useful to show the exact infringement complained of. Nor was the witness an expert, called upon to demonstrate some scientific fact not understood by common minds, wherein drawings might be useful to illustrate such fact. He was not deaf and dumb, that signs and pictures were necessary for the communication of his ideas.  

The court agreed with the attorney, asserting that "this is not a case in which a drawing was necessary to illustrate the fact asserted." In the middle of the nineteenth century, courts did not accept that witnesses had a general privilege to use such visual representations. Instead, their use as a matter of right was confined to those circumstances in which they were not merely useful but "necessary."

In reports of patent cases, the reporters sometimes apologized for the inclusion of drawings in their report:

The learned Justice . . . refers to the "large museum of exhibits in the shape of machines and models" which had "been presented to the court," . . . to give . . . a proper understanding of the merits of the controversy. . . . Drawings—of which but three can here be given—supply imperfectly originals thus advantageously presented. Without them, however, no idea at all can be had of the case, and the reporter trusts that . . . he will be excused for encumbering a book of law reports with drawings, which in the eyes of a casual observer, will give to it the aspect of a treatise on physical science, more than the aspect of one on the science of jurisprudence.  

Of course, to receive a patent, an applicant was required by law to submit drawings and a model of his invention. These extant and legally required visual representations were essential in patent disputes. Indeed, in both categories of cases in which visual representations were frequently used and habitually the subject of appeal, the visual representations predated the lawsuit and had official legal sanction. Official surveys were acknowledged as evidence, and judges

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219. Id. at 537.
had explicitly held that juries could look to the drawings and visual representations submitted with patent applications to interpret a patent. Visual representations were made the subject of appeal when the representations were understood to be evidence—or, as in those cases involving unofficial maps in land disputes, when the visual representations hovered close to the boundaries of evidence.

Finally, it is worth pointing out that in nineteenth-century treatises on evidence written prior to the 1880s, unofficial models, maps, and diagrams were not discussed at all, though official surveys did receive attention. For example, Simon Greenleaf’s treatise provided no discussion of either photographs or unofficial maps until the thirteenth edition, published in 1876. In this edition, the author mentioned photographs for the first time, within the section on proof of disputed handwritings, but he did not discuss maps, models, and diagrams as illustrative aids. In the fifteenth edition, published in 1892, he gave photographs somewhat more attention, within a discussion of the “best evidence” rule. The treatise called photographs “an appropriate aid to the jury in applying the evidence in the same manner as drawings, diagrams and maps,” although the treatise still did not comment on these other “aids to the jury.” It was only in the sixteenth edition, in which the treatise was substantially revised, enlarged and annotated by John Wigmore, that “maps, drawings, diagrams [and] models” actually received treatment within the text.

It appears that when judges placed the photograph within a general framework of visual representations as explanatory aids, they were

222. See, e.g., 1 GREENLEAF, supra note 151, § 139 (Boston, Little, Brown & Co. 13th ed. 1876); JAMES F. STEPHENS, A DIGEST OF THE LAW OF EVIDENCE (St. Louis, F.H. Thomas 2d ed. 1879). Treatises do discuss official, registered surveys or official town maps, but these, as substantive evidence, were not equivalent to the unofficial representations at issue here.
223. See 1 GREENLEAF, supra note 151, § 581 n.1 (Boston, Little, Brown & Co. 13th ed. 1876). He also mentions that courts have taken judicial notice of photographic accuracy. See id. § 6 n.5.
224. Id. § 82 n.a (15th ed. 1892).
225. Id. § 439g (16th ed. 1899); see also Robert D. Brain & Daniel J. Broderick, The Derivative Relevance of Demonstrative Evidence: Charting its Proper Evidentiary Status, 25 U.C. DAVIS L. REV. 957 (1992). Although their article contains much of interest, Brain and Broderick misread the early history of demonstrative evidence. They accurately detail the failure of many early evidence handbooks and treatises in England and America, see JEREMY BENTHAM, RATIONALE OF JUDICIAL EVIDENCE (London, Hunt & Clarke 1827); GEOFFREY GILBERT, THE LAW OF EVIDENCE (Dublin, Sarah Cotter 1754); GREENLEAF, supra note 151, to discuss demonstrative evidence. But Brain and Broderick misinterpret this across-the-board omission. In Gilbert’s case they call it an “error,” and in Bentham’s “a perplexing and significant” omission. Brain & Broderick, supra, at 990, 991. By treating the omission as a mistake, they fail to historicize the understanding of what constitutes evidence. That is, they miss the crucial point: These kinds of exhibits were not considered to be evidence. These scholars did not inadvertently leave the subject out, but they did not think that it belonged in an evidence treatise.
doing more than simply linking this new technology to a well-established category. They were, in part, inventing the category, or at least expanding it dramatically. This conceptual expansion also proved to be a practical invigoration. In the 1880s and 1890s, not only were photographs frequently used in the courtroom and made the subject of appeals, but models, maps, and unofficial diagrams also became popular courtroom devices.

B. The Rise of Visual Representations

The photograph—and the resulting construction of a broad category of models, maps, and diagrams—triggered a swell of visual representations in the courtroom. These diagrams and models, of course, were in no way technologically dependent upon the photograph; that is, it was perfectly possible to construct such images well before the 1880s. Yet it was only with the advent of photography as an evidentiary aid that these visual representations became ordinary courtroom tools. Even more significant, it is only with the advent of photography that the use of these other representational forms came to be viewed as worthy of contestation and appeal.

After 1880, models, maps, and unofficial diagrams were not only used with frequency, but often were made the explicit subject of appeals to higher courts. A sampling includes diagrams of allegedly defective railroad crossings;226 diagrams of the locality of a murder;227 diagrams or sketches of the scene of an accident;228 diagrams of the location where a railroad car ran over and killed a horse;229 diagrams of the buildings where a burglary took place, also showing the direction of the tracks left by the offender;230 a model of an allegedly defective railroad engine;231 a model of a coal bucket that injured a plaintiff;232 and an elaborate scale model of the church where a murder took place.233

The language used in these cases makes it clear that by the 1880s, diagrams and maps had become a widely accepted form of representation in the courtroom, not at all limited to particular classes of

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227. See Fuller v. State, 23 So. 688 (Ala. 1897); Burton v. State, 22 So. 585 (Ala. 1896); Commonwealth v. Hourigan, 12 S.W. 550 (Ky. 1889).
228. See Southern Pac. Co. v. Hall, 100 F. 760 (9th Cir. 1900); Western Gas Const. Co. v. Danner, 97 F. 882 (9th Cir. 1899); Bunker Hill & S. Mining & Concentrating Co. v. Schmelling, 79 F. 263 (9th Cir. 1897); County Comm'r v. Wise, 18 A. 31 (Md. 1889).
232. See Pennsylvania Coal Co. v. Kelly, 40 N.E. 938 (Ill. 1895).
233. See People v. Durrant, 48 P. 75 (Cal. 1897); see also John Wigmore, The Durrant Case, 30 AM. L. REV. 29 (1896).
cases. As one judge put it in 1889: "Diagrams and maps illustrating the scene of a transaction, and the relative location of objects, . . . are always admissible, at the instance of either party, in order to enable the court and jury to more clearly understand and apply the facts in evidence."\(^{234}\) Other judges called the use of such representations "frequent practice,"\(^{235}\) "common . . . and clearly legitimate,"\(^{236}\) and "too common . . . to meet with anything but our approval."\(^{237}\) In addition, by the 1880s, the use of such images was not a matter of the trial judge's discretion; unjustifiably excluding a relevant diagram, map, or model verified by a witness amounted to error.\(^{238}\)

The emergence of photography thus led to the generalization and articulation of a new evidentiary category, whose boundaries and effects stretched beyond the technology that spurred it. Maps, models, drawings, and diagrams were carried into the courtroom on the photograph's coattails. Once the general category was established, all of these representational forms began to be understood in evidentiary terms. Prior to the advent of the photograph, drawings, maps, and models, unless they were officially sanctioned, were not conceptualized as evidence; they were thought of as merely illustrative. As we have seen, the photograph itself, in the formal judicial understanding, was also viewed as an illustration rather than as evidence. And yet, despite this doctrinal declaration, it proved impossible for the photograph not to be understood as evidence. The photograph was conceptually viewed as evidence almost from the moment of its invention—it was "a witness on whose testimony the most certain conclusions may be confidently founded."\(^{239}\)

The sheer force of doctrine alone could not keep the photograph secure in a box labeled "illustration"; the strong realist conception could not simply be left behind at the courthouse door. A major consequence of linking photographs to models, maps, and diagrams was that all of these forms of representation began to acquire the sheen of evidence. Instead of defusing the photograph by declaring it mere illustration, the doctrine brought into existence a new epistemological category:

\(^{235}\) State v. Whitaker, 3 S.E. 488, 489 (N.C. 1887).
\(^{236}\) Poling v. Ohio River R.R., 18 S.E. 782, 786 (W. Va. 1893).
\(^{237}\) Jordan v. Duke, 53 P. 197, 200 (Ariz. 1898); see also Western Gas. Const. Co. v. Danner, 97 F. 992, 996 (9th Cir. 1899) (concluding that it is "a common and proper practice . . . to receive models, maps, and diagrams, or sketches, drawn on paper, or traced with chalk on a blackboard, for the purpose of giving a representation of objects and places which cannot otherwise be as conveniently shown or described by the witnesses to the jury.").
\(^{238}\) See, e.g., Commonwealth v. Hourigan, 12 S.W. 550, 552 (Ky. 1889); State v. Whitaker, 3 S.E. 488 (N.C. 1887). In earlier land-related cases, it was often thought to be a matter of the court's discretion whether to allow a witness to use unofficial maps or surveys. See, e.g., Brantly v. Huff, 62 Ga. 532, 533 (1879).
\(^{239}\) Morton, supra note 60, at 181.
visual representations, not officially proof but nonetheless compelling. Though photographs are not technically evidence, treatises on evidence from the 1890s onwards invariably discuss them. And the rash of appeals involving all of these categories suggests that lawyers and clients deemed them important enough to contest. Thus the photograph—and the judicial response to it—brought into existence a new epistemic category that hovered uncomfortably on the boundary between illustration and proof.

C. The Emergence of a Culture of Construction

A significant consequence of this new epistemic category was a change in the process of assembling evidence. Some of the photographs used in legal cases existed prior to the case itself. Sometimes, the photograph was an image taken years or months before. But more often—especially in the 1880s, once dry-plate technology was in widespread use—photographs were taken especially for use in court. In the many cases that used diagrams, drawings, and elaborate scale models, these demonstrative forms were often created specifically for the trial. Witnesses, attorneys, plaintiffs, and defendants actually went out and made evidence themselves. Preparing for a case no longer involved merely locating appropriate people and objects; it was now likely to involve actively creating a representation. Evidence was something to be constructed as well as collected. More and more often, presenting a case entailed not only telling a story, but depicting it visually, whether through photographs, diagrams, or models, in order to bring matters directly to the senses of the jury. The controversial posed photographs discussed earlier are a clear example of this process of evidence construction.240 But it was not only when parties staged photographs that they constructed evidence post hoc. Every time someone took a photograph after a suit had begun, or prepared a diagram or a scale model, they were, in a sense, manufacturing evidence.

These forms of visual evidence were often especially persuasive, for they let jurors see for themselves, rather than hearing secondhand the reports of percipient witnesses. Photographs offered a convenient way of capturing—and framing—the outside world and bringing it directly before the jury’s eye. “The photograph brings the spot to the jury,” explained one judge, in defending the use of a stereographic representation of the scene of the accident.241 Indeed, these forms of

240. See supra notes 178-187 and accompanying text.
241. Of course, jurors often were allowed to view the locus in quo. This kind of out-of-court site visit turned the jurors into firsthand witnesses of the scene to an even greater degree than when they peered at photographic depictions of the site.
evidence turned jurors themselves into virtual witnesses, able to see the evidence for themselves, directly with their own eyes.

Judges tried to tie these visual representations to testimony, but—as the discomfort that some judges expressed with posed photographs indicated—they had a power and a potency beyond the word. The judges’ insistence that photographs were neither novel nor troubling rings hollow. The late nineteenth century thus witnessed the birth and development of a new way of establishing truth: the emergence of a “culture of construction” within the courtroom. Evidence was now something not only to be found, but to be made.

Even contemporary commentators recognized that a qualitative change had occurred. In an eight-part article entitled Practical Tests in Evidence, Irving Browne wrote,

In the early and rude ages there was a strong leaning toward the adoption of demonstrative and practical tests upon disputed questions. Doubting Thomases demanded the satisfaction of their senses... As society grew civilized and refined, it seemed disposed to despise these demonstrative methods, and incline more to the preference of a narration, at second-hand, by eye and ear witnesses. But in this busy century there seems to have been a relapse toward the earlier experimental spirit, and a disposition to make assurance doubly sure by any practicable method addressed to the senses. And so in recent days the instances have been numerous, and are constantly growing more numerous, of a resort to exhibitions, experiments, and tests made out of court and proved by testimony, or in court before the eyes and ears of the jury called on to pronounce upon the issue of fact.243

Browne did not distinguish between direct presentations, such as the exhibition of a wound, and representations, such as photographs and diagrams. But he showed that a change in the mode of proof had indeed taken place; that proving something now often required letting a jury see for itself, appealing to jurors not only through argument, but directly through the senses. The corollary of appealing directly to the eye of the jury was that those involved in lawsuits had to manufacture demonstrative evidence: put together the exhibits, shoot the photographs, draft the diagrams, and build the models. At least to a certain extent, seeing had become believing.

242. See supra Section III.B.
243. Irving Browne, Practical Tests in Evidence (pt. 1), 4 GREEN BAG 510, 510 (1892); see also Irving Browne, Practical Tests in Evidence (pts. 2-8), 4 GREEN BAG 555 (1892); 5 GREEN BAG 13, 60, 129, 185, 222, 268 (1893).
D. Demonstrating Evidence to the Senses and Sensing

Demonstrative Evidence

The emergence of this epistemic category is an origin story of sorts for what we now refer to as "demonstrative evidence." Although definitions of demonstrative evidence vary, it is generally understood as "[t]hat evidence addressed directly to the senses without intervention of testimony. . . . Such evidence . . . [that] illustrate[s] some verbal testimony and has no probative value in itself." According to such a definition, demonstrative evidence sounds like precisely the epistemic category that emerged from the judicial response to the photograph.

To assert baldly that the photograph and the doctrine invented to govern its admissibility brought "demonstrative evidence" into being is, however, slightly to overstate the historical case. For "demonstrative evidence," so-named, did not yet have a stable meaning by the turn of the century. In the later part of the nineteenth century, judges still used "demonstrative evidence" primarily to refer to that evidence that offered the highest possible degree of proof, evidence established through deduction from agreed-upon premises, evidence that therefore produced complete certainty of knowledge. As a federal judge wrote in 1886, "nothing should be accepted as sufficient, except upon the most indisputable and demonstrative evidence." "Demonstrative" was, in this usage, essentially a synonym for "conclusive," often with explicitly mathematical overtones. As the American and English Encyclopedia of Law explained it, "None but mathematical truth is susceptible of that high degree of evidence called demonstration, which excludes all possibility of error, and which, therefore may reasonably be required in support of every mathematical deduction . . . . In the ordinary affairs of life we do not require demonstrative evidence."

244. BLACK'S LAW DICTIONARY 432 (6th ed. 1990).
246. See, e.g., The Telephone Cases, 126 U.S. 1, 477 (1888) (counsel describing evidence as "ample, complete and demonstrative"); Manning v. Hayden, 16 F. Cas. 645, 650 (C.C.D. Or. 1879) (No. 9043) ("The coincidences are most convincing, but one is almost demonstrative."); Ward v. The Fashion, 29 F. Cas. 181, 188 (C.C.D. Mich. 1854) (No. 17,154) (referring to "intelligent, demonstrative, and conclusive evidence"); Delachaise v. Maginnis, 11 So. 715 (La. 1899); Allison Bros. v. Allison, 38 N.E. 956, 959 (N.Y. 1894) (quoting Chancellor Kent as saying that "the most demonstrative proof" was required before a court should find a mutual mistake to have been made in a contract).
248. 9 AMERICAN AND ENGLISH ENCYCLOPEDIA OF LAW 218 (2d. ed. 1898) (quoting
The example of demonstrative evidence was sometimes used in judges' instructions to juries describing that which was not needed for a conviction:

What circumstances will amount to proof can never be a matter of general definition; the legal test is the sufficiency of the evidence to satisfy the understanding and conscience of the jury. Absolute, metaphysical and *demonstrative* certainty is not essential to proof by circumstances; it is sufficient if they, with all the other evidence, produce moral certainty to the exclusion of every reasonable doubt.\(^{249}\)

This conception of demonstrative evidence had nothing whatever to do with that category of proof that we have been discussing; rather, it was that which resulted from strict logical deduction.

But by the early part of the twentieth century, "demonstrative evidence" was beginning to be used in a second sense as well: to refer to evidence that expressed itself directly to the senses. In this second sense, several lawyers and judges stated explicitly that photographs were a species of demonstrative evidence. One attorney argued before the Ohio Supreme Court that photographs

> are often useful to enable courts and juries to comprehend readily the question in dispute as affected by the evidence, but we think that the use of photographs has always been considered as secondary or demonstrative evidence, the latter in the sense that the photograph is competent whenever it is important that the place, object, person or thing be described to the jury.\(^{250}\)

This second meaning of demonstrative evidence seems to have corresponded to that category of visual representations—maps, models, diagrams, and photographs—under discussion in this Article, with the further inclusion of in-court experiments, jury views, and sometimes "real" evidence as well.\(^{251}\) A second conception of

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249. Myers v. Florida, 31 So. 275, 280 (Fla. 1901) (quoting the trial judge's instructions). This instruction seems to have been standard practice in Florida. See, e.g., Jenkins v. State, 18 So. 182 (Fla. 1895); Kennedy v. State, 12 So. 858 (Fla. 1893); Whetston v. State, 12 So. 661 (Fla. 1893). This language comes directly from 1 *THOMAS STARKIE, A PRACTICAL TREATISE ON THE LAW OF EVIDENCE* 447-48 (Philadelphia, P.H. Nicklin & T. Johnson 5th ed. 1834) (emphasis added). For nearly identical language, see also *Carlton v. People*, 37 N.E. 244 (Ill. 1894), and *Onter v. People*, 76 Ill. 149 (1875).

250. Cincinnati, H. & D. Ry. v. De Onzo, 100 N.E. 320 (Ohio 1912); *see also* Milton v. Cargill Elevator, 144 N.W. 434 (Minn. 1913); Stewart v. St. Paul City Ry., 80 N.W. 855 (Minn. 1899). 251. I do not mean to suggest, however, that this category was consistently defined; for example, the century edition of the *American Digest*, published in 1897, included under the category of "demonstrative evidence" models, enlargements, exhibitions of persons, wounds, and real evidence, while photographs, maps, and diagrams were designated as a species of
demonstrative evidence, understood not as mathematical, conclusive proof but as proof that demonstrated something directly to the senses of the jury, had begun to take hold.

Early in the twentieth century, some judges and commentators began to blend together the two meanings of demonstrative evidence, suggesting that evidence that presented itself to the senses was an especially secure form of proof. As a Florida Supreme Court judge explained in a disputed document case involving the photographic reproduction of signatures:

In the use of demonstrative evidence, one relies upon the evidence of his own senses. It is therefore evidence of the highest rank. It is the ultimate test of truth. To this class belongs mathematics, because a proposition of mathematics may be established by the evidence of one's own senses.\(^{252}\)

The judge declared demonstrative evidence to be especially certain, drawing upon the long tradition of mathematics as "demonstrative," but transformed the rationale upon which such a declaration had traditionally been based from deduction by logical means to the (erroneous) claim that mathematics could be confirmed by one's own senses. This conflation was neither random nor careless. Rather, it stemmed from a sense that demonstrative evidence, defined as evidence that presented itself directly to the senses, could indeed provide a compelling form of proof. Nor was this conflation simply the confusion of a single judge; in his influential *Treatise On Facts*, Charles Moore declared under the heading "demonstrative evidence," "The highest proof of which any fact is susceptible is that which presents itself to the senses of the court or jury."\(^{253}\)

An interesting oscillation in doctrine and practice appears in such reasoning. Demonstrative evidence such as maps, models, diagrams, and photographs offered only secondary evidence—testimony in visual form. But at the same time demonstrative evidence, as "evidence of one's own senses, furnish[ed] the strongest probability and, indeed, the only perfect and indubitable certainty of the existence of any sensible fact."\(^{254}\) Demonstrative evidence was thus seen both as a

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\(^{252}\) Boyd v. Gosser, 82 So. 759, 761 (Fla. 1919).
\(^{253}\) *Id.* Note, however, that this preference for direct sense perception is itself far older than the category "demonstrative evidence." For an early-19th-century case articulating this preference directly, from which Moore quotes in describing and explicating demonstrative evidence, see *Gentry v. McMinnis*, 33 Ky. (3 Dana) 382, 386 (1835).
privileged form of proof and as mere illustration with no independent probative value.

Demonstrative evidence has continued to hover awkwardly on the boundary between illustration and proof. In their analysis of the topic, Robert Brain and Daniel Broderick described the tremendous conceptual confusion that still besets "demonstrative evidence," pointing out that "there is not even a settled definition of the term." Some commentators define demonstrative evidence to include all evidence that consists of "things" rather than testimony, "all phenomena which can convey a relevant firsthand sense impression to the trier of fact." Others limit its definition to those displays "principally used to illustrate or explain other testimonial, documentary, or real proof . . . a visual (or other sensory) aid." Some definitions deem it substantive, independent evidence, while others insist it serves merely the secondary, derivative purpose of illustration.

Exploring the origins of the category sheds light on the ongoing theoretical confusion. From its beginnings, demonstrative evidence challenged evidential categories, operating as more than illustration but less than proof. Understanding the central role played by photography in provoking the articulation of the more general categories of visual and demonstrative evidence reveals a significant source of this confusion. The dissonance between formal definition and practical function that the photograph embodied carried over into the more general category of demonstrative evidence. And the conception of this category both as mere illustration and as the ultimate form of proof was further legitimated by a semantic conflation of two senses of demonstrative evidence. We might even say that the instability of the epistemic category was the ultimate result of the judicial analogy between photography and hand-drawn images. This genealogy of demonstrative evidence thus makes it into a more comprehensible—and a more interesting—category than is generally recognized.

V. CONCLUSION

The story of photography's routinization in the courtroom offers a case study in analogic reasoning. Viewed from this perspective, the
history of photographic evidence is simultaneously an account of the power of analogies and a cautionary tale about their limits. That judges responded to the photograph with an analogy is not, in and of itself, either surprising or interesting; the common law is fundamentally built on analogic thinking. Yet analogizing the photograph to other forms of visual representation resulted not merely in treating the photograph like a map or diagram for evidentiary purposes, but in transforming the treatment and understanding of the entire category of visual representations. In other words, the very category was a product of the analogy. As we have seen, once the photograph was analogized to the diagram, not only was the photograph deemed admissible evidence, but diagrams, maps, and models were themselves treated differently. The analogy thus affected the legal status not only of the new element—what Brewer, in his discussion of analogic reasoning, calls the “target”—but of the already existing ones as well—what Brewer refers to as the “sources.” In this sense, the history of photography in the courtroom provides a compelling example of the transformative powers of analogy.

This case study simultaneously reveals the limits of analogies. By analogizing photography to other kinds of visual representations, judges confined the photograph to a secondary status as illustrative evidence, rather than recognizing it as independent proof. They contended that the photograph illustrated testimony rather than corroborated it. Their analogy reified a conception of the photograph as a human construction, not fundamentally different from other species of man-made visual representations.

Yet, in practice, their analogy could not function as a straitjacket. The widespread belief—within the general population and the judiciary—in photographic truth, the notion that a photograph was more authoritative than other kinds of visual depiction, could not be suppressed by analogic fiat. Even as judges insisted on their mere illustrative function, photographs often operated as independent, substantive proof of an especially persuasive kind. Moreover, the understanding of the photograph as “evidentiary” exerted a pull on the entire category of which it was an element, giving visual representations in general a peculiar status at the boundaries of evidence, affirming them as persuasive even if not quite proof. In this sense, the judicially made analogy not only failed to keep the photograph in its

259. See id. at 754, 781.
260. See supra Sections IV.B-D.
261. See supra Section IV.B.
place, but it gave authority and significance to categories of representations that had not previously been deemed noteworthy.263

Brewer's discussion of analogic reasoning details the way that argument by disanalogy—argument that focuses on characteristics that items do not share—often transforms our understanding of the source of the disanalogy. Disanalogies, he explains, "rewrite the rule articulated by the earlier judge (the judge of the source case) by adding new conditions to the bundle of jointly sufficient conditions in the original rule."264 In other words, after a disanalogy, the original rule looks different; the making of a distinction implicitly adds a new condition to the original rule, and thus transforms it. But neither Brewer nor Sunstein, the two most thoughtful recent commentators on the legal use of analogies, notice the way that analogies themselves can transform not only the target but the source. In the case study presented here, precisely such a bidirectional transformation took place. Analogizing the photograph to other kinds of pictures affected the way that the other kinds of images were understood at least as much as it affected the understanding of the photograph.

This case study in analogic reasoning suggests that in practice, we—as jurors, judges, lawyers, and participants in legal culture—may be able to tolerate a good deal of ambiguity in our construction of legal concepts. In Brewer's model of analogic reasoning, the rational force that analogies may have depends to a significant degree on our willingness to engage in "reflective adjustment" of our analogies in light of the conclusions that they generate. Put simply, Brewer suggests that if we do not like a result implied by an analogy, we had better be willing to change the analogy, and if we deeply believe in the rationale for an analogy, we had better be willing to live with the results it generates.265 This case study suggests that, in practice, judicial action may not actually be so reasoned or so reasonable. Judges may ignore an analogy in a particular instance—as some judges did with staged photographs—without discarding the analogy in principle. Or they may use the analogy and recognize its inadequacy at the same time, like those judges who allowed photographs into evidence as illustration, knowing that they would operate to some extent as substantive evidence as well. Despite the tensions that inhered in it, the judicially made analogy survived. Recognizing the endurance of problematic analogies does not diminish Brewer's formal model as a formal model. But it provides a concrete illustration of a

263. See supra Section IV.C.
265. See id. at 1023.
point that Sunstein notes in passing: "Analogical reasoning may perpetuate confusion . . . where reflective equilibrium would not."

The vestiges of the nineteenth-century understanding of photographic evidence survive even now. Arguing that it illustrates a witness's testimony continues to provide one method for laying a foundation for the use of a photograph in the courtroom today. However, the significance of this "illustrative" approach to photography has been whittled away. Over the course of the twentieth century, an alternative theory for the admissibility of photographs has emerged—a "silent witness" theory that recognizes photographs to be substantial evidence. This alternative theory and the "illustrative evidence" theory have not been—and probably cannot be—fully reconciled, for they represent two quite distinct understandings of the kind of evidence photographic images can provide. But judges and lawyers have muddled along; the conceptual confusion has not often hindered actual practice. This is not to suggest that the formal doctrine matters not at all, but rather that evidentiary practices can be made to work even when incompletely theorized.

Judges, of course, continue to grapple with the legal status of new technologies, and a frequent judicial trope focuses on the appropriate analogy or metaphor for comparing the new to the known. Over

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266. Sunstein, supra note 15, at 783.
267. See MCCORMICK, supra note 256, § 214, at 394.
268. For cases relying on and explicitly discussing a silent witness theory, in which a photograph is acknowledged to "speak for itself," and is admitted into evidence on the basis of the reliability of the process rather than an eyewitness's testimony, see United States v. Gostee, 389 F. Supp. 490 (W.D. Pa. 1975); Midland Steel Prods. v. International Union, 573 N.E.2d 98 (Ohio 1991); State v. Pulphus, 465 A.2d 153 (R.I. 1983); and Ferguson v. Virginia, 187 S.E.2d 189 (Va. 1972). See also MCCORMICK, supra note 256, § 214, at 395-96; 3 WIGMORE, supra note 151, § 790, at 220 n.4 (Chadboum rev. 1970) (arguing for the reception of photography as a silent witness); Berger, supra note 10 (supporting the silent witness theory if an adequate foundation is laid); Gardner, supra note 10 (advocating the treatment of photography as a silent witness).
269. See, e.g., JAMES BOYLE, SHAMANS, SOFTWARE AND SPLEENS: LAW AND THE CONSTRUCTION OF THE INFORMATION SOCIETY at x (1996) (arguing that we should shed our "image of the romantic author" when rethinking intellectual property rights in an information society); Vincent M. Brannigan, Biotechnology: A First Order Technico-Legal Revolution, 16 HOFSTRA L. REV. 545, 549 (1988) (attempting to model the dynamics of technico-legal change and suggesting that the key theme is that legal change requires reinterpretations of existing rules with different "groups stak[ing] out claims as to which prior legal analogy is most relevant" to the legal assimilation of the new technology); E. Donald Eliott, Against Ludditism: An Essay on the Perils of the (Mis)Use of Historical Analogies in Technology Assessment, 65 S. CAL. L. REV. 279 (1991) (arguing that reasoning by analogy to the familiar when confronted with novel technologies is inevitable but perilous); A. Michael Fromkin, The Metaphor is the Key: Cryptography, the Clipper Chip, and the Constitution, 143 U. PA. L. REV. 709 (1995) (showing the effects of different metaphorical conceptions of cryptography, such as analogizing it to a car, a safe, a language, or a house); Trotter Hardy, The Proper Legal Regime for "Cyberspace," 55 U. PITT. L. REV. 993 (1994) (focusing on how to determine when previously existing categories and legal analogies can be mapped onto cyberspace without difficulty and when cyberspace in fact raises new or different legal problems); David R. Johnson & Kevin A. Marks, Mapping Electronic Data Communications onto Existing Legal Metaphors: Should We Let Our Conscience (and Our Contracts) Be Our Guide?, 38 VILL. L. REV. 487 (1993) (arguing that cyberspace can
the past century, judges (and legislatures) have confronted technological novelty and its legal consequences countless times, often debating whether to assimilate a new technological product to an already existing one: automobiles to carriages; computer programs to literary works; DNA profiling to fingerprinting; and so forth. Currently, the legal status of cyberspace and the appropriate set of analogies for its regulation are much at issue.

This study of the history of photographic evidence in the courtroom offers three broad lessons for analysis of the legal reception of new technologies. It shows, first, that the legal assimilation of new technology cannot take place in a vacuum, because broader cultural conceptions of the technology's meaning necessarily affect its legal status. Second, analogies may have transformative effects in both directions, changing understanding not only of the novel entity, the target, but also of the sources, the preexisting entities that form the basis for the analogy. Domestication may result in transformation; by trying to avoid change, judges may end up bringing it about. And third, this study suggests that analogies matter, but they are not all that matters. The evidentiary understanding of the photograph was not fully bounded by the analogy that formed the basis for its formal status. The categories we choose may confine us but constraint derived from classification is never complete. Analogies may guide us but they do not provide an iron cage.

be mapped by too many metaphors for analogic reasoning to be useful); Pamela Samuelson, Law and Computers: The Quest for Enabling Metaphors for Law and Lawyering in the Information Age, 94 Mich. L. Rev. 2029 (1996) (book review discussing how recent books on information technology urge readers to jettison “disabling metaphors” of the past when confronted with technological change).

270. See, e.g., Doherty v. Inhabitants of Ayer, 83 N.E. 677, 678 (Mass. 1908) (holding that an automobile, though “a carriage in the broad sense of the word” was not so under a particular statute).


273. See, e.g., Hardy, supra note 269; Johnson & Marks, supra note 269; Samuelson, supra note 269.