

Articles

TRIAL BY GOOGLE: JUDICIAL NOTICE IN THE INFORMATION AGE

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ABSTRACT—This Article presents a theory of judicial notice for the information age. It argues that the ease of accessing factual data on the Internet allows judges and litigants to expand the use of judicial notice in ways that raise significant concerns about admissibility, reliability, and fair process. State and federal courts are already applying the surprisingly pliant judicial notice rules to bring websites ranging from Google Maps to Wikipedia into the courtroom, and these decisions will only increase in frequency in coming years. This rapidly emerging judicial phenomenon is notable for its ad hoc and conclusory nature—attributes that have the potential to undermine the integrity of the factfinding process. The theory proposed here, which is the first attempt to conceptualize judicial notice in the information age, remedies these potential failings by setting forth both an analytical framework for decision, as well as a process for how courts should memorialize rulings on the propriety of taking judicial notice of Internet sources to allow meaningful review.

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INTRODUCTION

In a federal drug prosecution, a man is arrested on a corner across the street from an elementary school. The suspect is caught with 100 grams of cocaine.¹ Federal law provides a sentencing enhancement for drug possession in a “drug-free zone,” which is defined as the area within 1000 feet of a school.² The prosecutor asks the court to take judicial notice of the fact that the corner is within 1000 feet of the school.³ The judge does a quick Google search and finds that in fact the corner is exactly 50 feet from the school.⁴ The defense objects, but concedes that Google mapping

¹ See 21 U.S.C. §§ 841(a)(1), (b)(1)(B) (2012) (criminalizing possession of cocaine).

² See *id.* §§ 841(a)(1), (b)(1)(C), 860(a) (providing a statutory enhancement for distributing narcotics in a designated drug-free zone).

³ See FED. R. EVID. 201.

⁴ A “Google search” involves utilizing the web search engine created by Google. See *How Search Works*, GOOGLE, <http://www.google.com/insidesearch/howsearchworks/thestory> (last visited May 11, 2014). Several other web search engines, such as Yahoo! and Bing, offer similar information-gathering functions.

technology is an accurate measure of distances.⁵ Can the judge take judicial notice of this accurate, readily provable fact?

Computers are now a common sight in courtrooms.⁶ Judges sit behind screens. Litigants bring laptops and tablets to counsel table. Clerks and paralegals have access to smartphones, computers, and everything those devices can retrieve on the Internet. As a result, answers to factual questions that arise in court are now just one search away: Did the accident occur on a one-way street? Was the bank closed at the time of the robbery? Had the area flooded in the last year? Participants in the fact-finding process can now access a reliable, factually accurate answer by “Googling” it or using equivalent electronic search technology.⁷ A judge could pull up an image of the official road signs on the street in question. A prosecutor could show on the bank’s website that the bank is closed on Saturday afternoons. The insurance defendant could show past flood records from an official government page. Because of the vast amount of information on the Internet, facts are, more than ever before, capable of being “accurately and readily determined from sources whose accuracy cannot reasonably be questioned”⁸—the test for judicial notice under Federal Rule of Evidence 201 (and under the majority of state evidence codes).⁹

This Article presents a theory of judicial notice for the information age. It argues that the ease of accessing factual data now available on the Internet will allow judges and litigants to expand the use of judicial notice in ways that raise significant concerns about admissibility, reliability, and fair process.¹⁰ Factual reliability on the Internet is not uniform. Certain

⁵ See, e.g., *Kemp v. Zavaras*, No. 09-cv-00295-WYD-MJW, 2010 WL 1268094, at *2 n.3 (D. Colo. Mar. 29, 2010) (“A court may take judicial notice of the driving distance between two points located in the record using mapping services, such as Google Maps (<http://maps.google.com/>), whose accuracy cannot reasonably be questioned.”).

⁶ *Verizon Directories Corp. v. Yellow Book USA, Inc.*, 331 F. Supp. 2d 136, 142 (E.D.N.Y. 2004) (“Technology in litigation has changed enormously since the adoption of the Federal Rules of Evidence in 1975. . . . As one commentator put it, ‘[d]esktop portable computers now bedeck courtrooms like dandelions in May and, like dandelions, their number, use and application continue to grow.’” (quoting Edward A. Hannan, *Computer-Generated Evidence: Testing the Envelope*, 63 DEF. COUNS. J. 353, 362 (1996))).

⁷ This Article uses the term “Google search” as a generic term for a search on any Internet search engine. At the time of writing, Google is the number one search engine in the world. To “Google” a subject for inquiry has become recognized as a verb in the English language. See *Google*, DICTIONARY.COM, <http://dictionary.reference.com/browse/google?s=t> (last visited May 12, 2014) (“[T]o use a search engine such as Google to find information, a website address, etc., on the Internet.”).

⁸ FED. R. EVID. 201(b)(2).

⁹ See *infra* Part I; see also FED. R. EVID. 201; 21B CHARLES ALAN WRIGHT & KENNETH W. GRAHAM, JR., *FEDERAL PRACTICE AND PROCEDURE* § 5101.2 (2d ed. 2005) (discussing variations in state rules); Ellie Margolis, *It’s Time to Embrace the New—Untangling the Uses of Electronic Sources in Legal Writing*, 23 ALB. L.J. SCI. & TECH. 191, 200 (2013) (“All states have a similar rule” to Federal Rule of Evidence 201).

¹⁰ See *infra* Part III.

information sources from government websites, mapping services, or official reporting agencies may be sufficiently accurate, and thus “admissible” under the judicial notice doctrine.¹¹ Certain other sources, built by anonymous contributors, or aggregating information, may be much less accurate.¹² Drawing lines about which sources are accurate “enough” will in the first instance be left to judges, ill-equipped to make decisions under the time pressures of trial.¹³ Further, appellate courts will be unable to examine these choices without an established process to evaluate and record those evidentiary decisions.¹⁴ The theory proposed here addresses these uncertainties by setting forth both an analytical framework as well as a process for how courts should record and memorialize their decisions.

This Article develops a decisional framework for judges, litigants, and scholars to evaluate the appropriateness of judicial notice of adjudicative facts obtained from the Internet. It is a framework informed by the principles already established in the Federal Rules of Evidence, including, of course, the rule that specifically governs judicial notice, Rule 201. Concerns about reliability, authenticity, “best evidence,” and the proper judicial role in an adversary system run throughout the Federal Rules, establishing preferences for certain forms of evidence over others and procedures for evaluating admissibility.¹⁵ Efficiency is clearly prized in the Federal Rules, reflecting Oliver Wendell Holmes’s famous “concession to the shortness of life,” but not to the exclusion of other concerns, such as a distrust of hearsay, a preference for adversarial—not inquisitorial—presentation, and the importance of due process.¹⁶ These conflicting but fundamental principles ground the core of our approach to solving questions of judicial notice in the age of the Internet.

In assessing whether, in the language of Rule 201, a source proffered as worthy of judicial notice is one whose “accuracy cannot reasonably be questioned,” courts should look to three factors: (1) the source’s knowledge of the subject matter, (2) the source’s independence from relevant bias, and (3) the source’s motivation to ensure accuracy of the posted information.¹⁷ As applied, these framing principles avoid creating a static definition of acceptable sources. In an ever-evolving technological medium, identifying

¹¹ See *infra* Part II.A.

¹² See *infra* Part II.B.

¹³ This is not to say that judges cannot make such decisions. Most evidentiary matters are resolved quickly in trial without significant briefing or specific findings of fact. However, the use of Internet sources to take judicial notice of facts offers some cautionary lessons for trial courts. This Article seeks to help judges make those decisions quickly and consistently by providing a new framework for analysis.

¹⁴ See *infra* Part III.E.

¹⁵ See, e.g., FED. R. EVID. 102, 401–03, 901–02, 1001–08.

¹⁶ *Reeve v. Dennett*, 11 N.E. 938, 944 (Mass. 1887); see, e.g., FED. R. EVID. 801–07, 1002, 404(b)(2).

¹⁷ See *infra* Parts III & IV.

particular websites or information sources worthy of judicial notice is less valuable than developing a theory of how to evaluate particular sources. This approach can adapt as the number of available information sources expands in the coming decades.

This new framework is needed because judges and litigants are already relying on search engines to find facts, investigate witnesses, and prepare their cases before trial, even in the absence of a cohesive theory.¹⁸ Ignoring the ability to determine answerable facts within the construct of a formal trial process will not stop participants from learning the answers. As has been discussed by other scholars, jurors have taken to researching through the Internet, and judges have been known to resolve questions through independent Internet research.¹⁹ Failing to answer an answerable question does not mean that it will remain unanswered, but only that the court loses the ability to control the inquiry. This result is neither comforting, nor necessary, because a new framework can be designed to organize and categorize the potential information sources.

The proposed theory seeks to modernize the federal rule on judicial notice, not reject it. The Federal Rules of Evidence were designed to adapt to changing trial realities, and they offer useful insights into how a particular trial judge should evaluate a particular fact.²⁰ Examining the judicial notice rule through this lens offers a way to map the existing language onto the new world of instant information. It also raises a host of questions that courts will be forced to answer in the near future.²¹

¹⁸ See RICHARD A. POSNER, REFLECTIONS ON JUDGING 141–42 (2013) (“The Internet is not going away. The quality and quantity of online material that illuminates the issues in federal litigation will only grow. Judges must not ignore such a rich mine of information.”). See generally Thaddeus Hoffmeister, *Investigating Jurors in the Digital Age: One Click at a Time*, 60 U. KAN. L. REV. 611, 611–12 (2012) (discussing how litigants use the Internet and social media to investigate jurors during voir dire); Amy J. St. Eve & Michael A. Zuckerman, *Ensuring an Impartial Jury in the Age of Social Media*, 11 DUKE L. & TECH. REV. 1, 20–24 (2012) (surveying jurors on their use of social media during trials); Lior Jacob Strahilevitz, *Reputation Nation: Law in an Era of Ubiquitous Personal Information*, 102 NW. U. L. REV. 1667, 1688–94 (2008) (describing the global availability of personal information on the Internet); Ebony Nicolas, Note, *A Practical Framework for Preventing “Mistrial by Twitter,”* 28 CARDOZO ARTS & ENT. L.J. 385, 386 (2010) (discussing the impact of Twitter on juries and jury trials); Caren Myers Morrison, *Can the Jury Survive Google?*, CRIM. JUST., Winter 2011, at 4, 8 (discussing the problem of jurors conducting their own factual research through Internet sources).

¹⁹ See, e.g., Thaddeus Hoffmeister, *Google, Gadgets, and Guilt: Juror Misconduct in the Digital Age*, 83 U. COLO. L. REV. 409, 449 (2012); Caren Myers Morrison, *Jury 2.0*, 62 HASTINGS L.J. 1579, 1582 (2011); Elizabeth G. Thornburg, *The Curious Appellate Judge: Ethical Limits on Independent Research*, 28 REV. LITIG. 131, 159 (2008); Amanda McGee, Note, *Juror Misconduct in the Twenty-First Century: The Prevalence of the Internet and Its Effect on American Courtrooms*, 30 LOY. L.A. ENT. L. REV. 301, 303–04 (2010).

²⁰ See FED. R. EVID. 102 (“These rules should be construed so as to . . . promote the development of evidence law . . .”).

²¹ See *infra* Part III.

Part I of this Article surveys the history and purpose of the judicial notice doctrine.²² This early history demonstrates a rather flexible approach to judicial notice, which was quite deferential to judges' determinations of facts. The adoption of Federal Rule of Evidence 201 signaled a more restrictive approach limited to the finding of adjudicative facts.²³ Though the theory of judicial notice, both before and after the passage of Rule 201, was essentially a safety-valve doctrine allowing judges to fill in the gaps of certain evidence, in practice judicial notice was regularly taken in subjects that greatly expanded the scope of the doctrine.

Part II explores the intersection of new Internet information sources and the venerable judicial notice doctrine. In addition to canvassing the current state of judicial use of new information sources, this Part looks at the practical and evidentiary hurdles to admitting Internet information sources.

Part III sets out the new theory for judicial notice in the information age. Again, this framework suggests analyzing a source's knowledge, independence, and motivation before relying on it to take judicial notice of a fact. This framework acknowledges the important limiting principles in the Federal Rules of Evidence's restrictions on the judicial role and distrust of hearsay. Judicial notice, even when based on accurate and reliable sources, should not change the balance of the adversarial system or the protections built within the hearsay doctrine. The proposed approach instead seeks to work within existing guideposts established by the Federal Rules that have not yet adapted to modern technology. The purpose here is to set out an analytical structure that will guide courts and litigants when the issue of judicial notice arises. Depending on the fact and the source consulted, judicial noticeability may well change. However, the established structure should allow judges to defend their admittedly discretionary choices. Equally important, the analysis includes a procedural component, so that appellate courts can adequately review the arguments and sources that underlie judicial notice determinations.

Part IV concludes by applying the theory to four real world examples. Judges, lawyers, and scholars need a framework to decide difficult questions of judicial notice, and this proposal is the first to address this contested and evolving subject.

I. A BRIEF HISTORY OF JUDICIAL NOTICE

Judicial notice has an ancient pedigree. Although it was first referenced in treatises in 1824,²⁴ the process of judges taking notice of

²² See *infra* Part I.

²³ See FED. R. EVID. 201 (discussing adjudicative facts).

²⁴ JAMES BRADLEY THAYER, A PRELIMINARY TREATISE ON EVIDENCE AT THE COMMON LAW 279 & n.1 (1898) ("We are the less surprised, therefore, to find that it was not until Starkie printed his book on evidence, in 1824, that any special mention of this subject occurs in legal treatises on evidence; and

undisputed facts is likely as old as judging itself.²⁵ This Part briefly sets out the pre-Federal Rules history of judicial notice. As originally conceived, judicial notice existed as a broad grant of authority to trial judges.²⁶ The diversity and flexibility granted to trial courts, and the vast array of judicially noticed subjects in early cases, provides some insight into the potential of judicial notice in the information age.²⁷ Further, this background informs the adoption of Federal Rule 201 and its approach to judicial notice in federal and (as filtered through state evidence codes) state courts.²⁸ The challenge of judicial notice has always been how to balance efficiency and accuracy within the adversarial justice model.

A. *The Early Theory of Judicial Notice: Efficiency and Accuracy*

The concept of judicial notice emerged from a judge-centered, common-law tradition in order to make fact-finding more efficient and accurate.²⁹ As John Henry Wigmore summarized:

that [Starkie] has very little to say about it. . . . He concludes, *inter alia*, that a judge should be allowed 'at the instance of either party to pronounce, and, in the formation of the ground of the decision, assume, any alleged matter of fact as notorious,' subject to the right of the other party to deny the notoriety and call for proof."); John T. McNaughton, *Judicial Notice—Excerpts Relating to the Morgan-Wigmore Controversy*, in *ESSAYS ON PROCEDURE AND EVIDENCE* 56, 59 (Thomas G. Roady Jr. & Robert N. Covington eds., 1961) ("The expression 'judicial notice' is of obscure origin. Bentham discusses the subject in his works written between 1802 and 1812 but does not use the phrase 'judicial notice.' A variation of it appears, perhaps for the first time, in the sideheads of a treatise by Starkie in 1824." (citing Jeremy Bentham, *Rationale of Judicial Evidence*, in 6 *THE WORKS OF JEREMY BENTHAM* 208, 276–78 (John Bowring ed., 1843))).

²⁵ THAYER, *supra* note 24, at 277 ("The maxim that what is known need not be proved, *manifesta [or notoria] non indigent probatione*, may be traced far back in the civil and the canon law; indeed, it is probably coeval with legal procedure itself."); McNaughton, *supra* note 24, at 59–60 (footnote omitted) ("Bracton reported the maxim over seven centuries ago *ea que manifesta sunt, non indigent probacione* ('that which is obvious need not be proved'). Application of the principle to a fact was reported in the Year Books over six centuries ago.").

²⁶ THAYER, *supra* note 24, at 279 ("[Judicial notice is] woven into the very texture of the judicial function."); Arthur John Keeffe et al., *Sense and Nonsense About Judicial Notice*, 2 *STAN. L. REV.* 664, 664 (1950) ("We know that not every fact is proved during the course of a law suit—*manifesta probatione non indigent* (what is known need not be proved). This practice has its roots far back in the civil and canon law.").

²⁷ See, e.g., *Sprint Nextel Corp. v. AT&T Inc.*, 821 F. Supp. 2d 308, 325 n.29 (D.D.C. 2011) (taking judicial notice of Sprint's plan to sell the iPhone by relying on news reports on www.engadget.com and news.cnet.com). See generally Michael Whiteman, *The Death of Twentieth-Century Authority*, 58 *UCLA L. REV. DISCOURSE* 27, 55 (2010) (footnotes omitted) ("The federal courts and state courts seem to have an easier time extending judicial notice to online information produced by government entities than information found on private websites. Historically this is consistent with how courts usually treat information. Authority from government sources has generally been accorded judicial notice over authority from the private sector.").

²⁸ See *infra* Part I.C (discussing the creation of Federal Rule of Evidence 201).

²⁹ Examples of courts taking notice of generally accepted facts can be found as far back as the fourteenth century. See THAYER, *supra* note 24, at 282 ("In 1302, in an assize of novel disseisin against John de Wilton and others, a plea in abatement for misnomer was put forward: . . . [']Sir John answers

The object of this rule is to save time, labor, and expense in securing and introducing evidence on matters which are not ordinarily capable of dispute and are actually not *bona fide* disputed, and the tenor of which can safely be assumed from the tribunal's general knowledge or from slight research on its part. . . . It thus becomes a useful expedient for speeding trials and curing informalities.³⁰

Initially arising as a means to soften strict pleading rules, in which the omission of a fact could result in the dismissal of a complaint,³¹ judicial notice became a useful shortcut in the ordinary course of trial.³²

Central to the legitimacy of the shortcut, however, was the correctness of the judicially noticed fact.³³ Judicially noticed facts were either "notorious"³⁴ (meaning obvious) or verifiable.³⁵ As Wigmore wrote,

and says that his name is John de Willington; judgment of the writ He is known through all England as Willington, and by no other name, and that well know we; and therefore as to John you shall take nothing by your writ.' This, as we have it, is giving judgment upon a point of ordinary fact as being notorious.").

³⁰ 1 JOHN HENRY WIGMORE, A POCKET CODE OF THE RULES OF EVIDENCE IN TRIALS AT LAW § 2120 (1910).

³¹ Lewis W. Beilin, Comment, *In Defense of Wisconsin's Judicial Notice Rule*, 2003 WIS. L. REV. 499, 503 ("James Bradley Thayer located the origins of judicial notice in summary judgment procedure under the early, strict pleading rules. According to Thayer, early American courts occasionally noticed obvious facts omitted from a pleading in order to avoid having to dismiss the claim outright." (citing THAYER, *supra* note 24, at 279)).

³² Kenneth Culp Davis, *Judicial Notice*, 55 COLUM. L. REV. 945, 951 (1955) ("[J]udicial notice 'is an instrument of great capacity in the hands of a competent judge; and it is not nearly as much used . . . as it should be. . . . [T]he failure to exercise it tends daily to smother trials with technicality and monstrously lengthens them out.'" (quoting THAYER, *supra* note 24, at 309)).

³³ Warren F. Schwartz, *A Suggestion for the Demise of Judicial Notice of "Judicial Facts,"* 45 TEX. L. REV. 1212, 1212 (1967) (Judicial notice is understood to be facts that are "so indisputably settled that although normally in the province of the fact finder (usually a jury) it can be resolved by the judge without hearing evidence. . . . The test for permitting judicial notice is whether the facts 'are so generally known or of such common notoriety within the territorial jurisdiction . . . that they cannot reasonably be the subject of dispute. . . . [or] are capable of immediate and accurate determination by resort to easily accessible sources of indisputable accuracy.'" (quoting UNIF. R. EVID. 9(2))).

³⁴ 1 WIGMORE, *supra* note 30, § 2130 (internal brackets omitted) ("The classes of matters which are authorized to be judicially noticed are as follows: A. Matters which are necessary for exercising the judicial functions and are therefore likely to be already known to the judge by virtue of his office; B. Matters which are actually so notorious in the community that evidence would be unnecessary; C. Matters which are not either necessary for the judge to know nor actually notorious, but are capable of such positive and exact proof, if demanded, that no party would be likely to impose upon the tribunal a false statement in the presence of an intelligent adversary."); 5 JOHN HENRY WIGMORE, A TREATISE ON THE ANGLO-AMERICAN SYSTEM OF EVIDENCE IN TRIALS AT COMMON LAW § 2571 (2d ed. 1923) ("The scope of facts that may be noticed includes: (1) Matters which are so notorious to all that the production of evidence would be unnecessary; (2) Matters which the judicial function supposes the judge to be acquainted with, either actually or in theory; (3) Sundry matters not exactly included under either of these heads; . . . neither actually notorious nor bound to be judicially known, yet they would be capable of such instant and unquestionable demonstration, if desired, that no party would think of imposing a falsity on the tribunal in the face of an intelligent adversary.").

A fact may be judicially noticed which, in view of the state of commerce, industry, history, language, science, or other human activity, is so notorious in the community that the introduction of evidence would be unnecessary. . . . *Illustrations.* That July 4 is the anniversary of the Declaration of Independence; that extreme cold is apt to be experienced in railway transportation in January but not in June; that the distance between Chicago and New York is nearly 1000 miles³⁶

The sources of these judicially noticed facts came from traditional forms of collected knowledge including almanacs, government documents, dictionaries, encyclopedias, maps, and judicial records.³⁷ Judges did not need to know the information personally, as long as they could reasonably rely on these traditional sources.³⁸ Judges expressly were not to rely on private experience or personal observation, but only on shared common knowledge.³⁹ The result was a patchwork of judicial notice rulings that covered the scope of human existence (and litigation needs).⁴⁰

³⁵ McNaughton, *supra* note 24, at 65 (“It should be clear that the desirability of confining decision to evidence offered by the parties must give way when the fact is patently indisputable. This is because adherence to the general adversary principle risks an obviously erroneous finding arguably leading to injustice in the particular case and certainly making the court appear ridiculous.”).

³⁶ 1 WIGMORE, *supra* note 30, § 2135.

³⁷ *Id.* § 2125 (“The judge may look at the statute-book, an almanac, a map, a dictionary, or the records of the court; and it is immaterial whether he finds the documents himself or looks at one supplied by a party publicly in court”); Thornburg, *supra* note 19, at 159 (“Until recently, judges and litigants typically used this provision to consult dictionaries, government documents, maps, encyclopedias, and well-recognized treatises.”).

³⁸ See *Brown v. Piper*, 91 U.S. 37, 42 (1875) (“Courts will take notice of whatever is generally known within the limits of their jurisdiction; and, if the judge’s memory is at fault, he may refresh it by resorting to any means for that purpose which he may deem safe and proper.”); 1 WIGMORE, *supra* note 30, § 2125 (“The judge may *investigate* or refresh his memory with any sources of information, for the purpose of ruling whether a fact is suitable and safe to be noticed; and, as a means therefor, may consult materials furnished by the parties themselves.”); James B. Thayer, *Judicial Notice and the Law of Evidence*, 3 HARV. L. REV. 285, 309 (1890) (“It is to be observed that much is judicially noticed without proof, of which the court at a given moment may in fact know nothing. A statute may have been passed within a few hours or days, and be unknown to the court at the trial In such cases not only may a court, as indeed it must, avail itself of every source of information which it finds helpful, but also, for the proper expedition of business, it may require help from the parties in thus instructing itself.”); *Recent Case, Auten v. Board of Directors of Special School Dist. of Little Rock*, 104 S.W. 130 (Ark.), 17 YALE L.J. 208, 208 (1908) (“Courts are not limited in their researches to legal literature, but may consult works on collateral sciences or arts, touching the topic on trial. . . . [B]ut judicial notice will not be taken of facts stated in [encyclopedias], dictionaries, or other publications unless they are of such universal notoriety and so generally understood that they may be regarded as forming part of the common knowledge of every person.”).

³⁹ 1 WIGMORE, *supra* note 30, § 2126 (“In determining that a fact should be judicially noticed the judge is not to consider any *information* acquired *from sources personal and private to his own experience* and not common to the parties and the public at large”); accord 5 WIGMORE, *supra* note 34, § 2569 (“Where to draw the line between knowledge by notoriety and knowledge by personal observation may sometimes be difficult, but the principle is plain.”).

⁴⁰ THAYER, *supra* note 24, at 301 (footnote omitted) (“Among such things are the ordinary usages and practice of their courts; the general principles and rules of the law of their jurisdiction; the ordinary

B. *The Early Common Law Practice of Judicial Notice*

Early commentators trying to synthesize the ad hoc decisions of common law courts reported a wide range of judicially noticed facts. In 1890, James Thayer cataloged an eclectic set of facts that were appropriately judicially noticed including, “that a freight car left in a highway is not likely to frighten horses of ordinary gentleness,”⁴¹ “what are the ‘nature, operation, and ordinary uses’ of the telephone,”⁴² “what is the meaning, upon a parcel, of C.O.D.,”⁴³ “that steamboats (first used in 1807) were in 1824 freely employed in transporting merchandise, and not merely passengers,”⁴⁴ and “that ‘habitual drunkenness’ as a ground for divorce, and being a ‘habitual drunkard’ as a ground for punishment, do not include habitual or common excess in the use of morphine or chloroform.”⁴⁵

In his influential 1955 article on judicial notice, Kenneth Culp Davis listed a similarly diverse series of facts judicially noticed by the Supreme Court, including, “air carriage has brought Hawaii closer to the continent,”⁴⁶ “newly developed electronic devices have greatly enhanced the effective use of air power,”⁴⁷ “that silica dust is harmful to lungs,”⁴⁸ “that many employees in New York are not citizens,”⁴⁹ and that “New York City produces more garments for interstate shipment than any other city in the Nation.”⁵⁰

Although case law provided few clear guidelines, several categories of fact were regularly judicially noticed, including geographic facts, scientific facts, historical facts, local facts, facts necessary to fulfill the judicial function (including interpreting words, court records, and law), and a broader (and more contestable) category of facts that were “commonly

meaning, construction, and use of the vernacular language; the ordinary rules and methods of human thinking and reasoning; the ordinary data of human experience, and judicial experience in the particular region; the ordinary habits of men.”); McNaughton, *supra* note 24, at 64 (“*What matters are noticed?*—The determination as to what information need not be adduced as formal evidence (*i.e.*, what may be judicially noticed) reflects a judgment of appropriateness made by the courts on the basis of experience over the years. The determination depends sometimes on the nature of the information itself and sometimes on the nature of the proposition that the information is offered to prove. The situation is confused and exception-riddled.”).

⁴¹ Thayer, *supra* note 38, at 307 (citing *Gilbert v. Flint & P.M. Ry. Co.*, 16 N.W. 868, 869 (Mich. 1883)).

⁴² *Id.* (citing *Wolfe v. Mo. Pac. Ry. Co.*, 11 S.W. 49, 51 (Mo. 1889)).

⁴³ *Id.* (citing *State v. Intoxicating Liquors*, 73 Me. 278, 279 (1882)).

⁴⁴ *Id.* (citing *Gibbons v. Ogden*, 22 U.S. (9 Wheat.) 1, 220 (1824)).

⁴⁵ *Id.* at 308 (citing *Youngs v. Youngs*, 22 N.E. 806, 808 (Ill. 1889); *Commonwealth v. Whitney*, 65 Mass. (11 Cush.) 477, 481 (1853)).

⁴⁶ Davis, *supra* note 32, at 975 (quoting *Stainback v. Mo Hock Ke Lok Po*, 336 U.S. 368, 375 (1949)).

⁴⁷ *Id.* (quoting *United States v. Reynolds*, 345 U.S. 1, 10 (1953)).

⁴⁸ *Id.* at 975–76 (citing *Urie v. Thompson*, 337 U.S. 163, 180 (1949)).

⁴⁹ *Id.* at 976 (citing *Fay v. New York*, 332 U.S. 261, 276 (1947)).

⁵⁰ *Id.* (quoting *D.A. Schulte, Inc. v. Gangi*, 328 U.S. 108, 120 (1946)).

known.”⁵¹ A brief analysis of these categories illustrates the themes of the early case law.

1. *Geographic Facts*.—Common law courts were willing to notice geographic facts involving the location of natural phenomena like rivers, mountain ranges, and geographic areas.⁵² Jurisdictional facts identifying counties, cities, towns, and other local divisions were also noticed, but not necessarily by their precise boundaries.⁵³ Courts declined to notice that a particular place was in a particular territory, even if the territory itself could be judicially noticed.⁵⁴ Perhaps because mapping technologies were imprecise, courts erred on the side of making generalized findings, rather than specific geographical determinations. For example, a judge might judicially notice the fact that a river existed in a particular jurisdiction, but refuse to judicially notice the exact coordinates of the river, because the former was generally known, and the latter was not.⁵⁵

2. *Scientific Facts*.—Common law courts judicially noticed scientific facts that encompassed both the working of nature⁵⁶ (e.g., “[t]he law of

⁵¹ See *infra* Part I.B.1–6 (discussing the categories and subjects that were traditionally judicially noticed in the common law).

⁵² Harry Lee Hudspeth, Note, *Fairall v. Sutphen*, 296 S.W.2d 309 (Tex. Civ. App.—Forth Worth 1956), 35 TEX. L. REV. 731, 732 (1957); see also *Dixie Motor Coach Corp. v. Fry*, 177 S.W.2d 992, 994 (Tex. Civ. App. 1944), *rev'd on other grounds*, 180 S.W.2d 135 (Tex. 1944) (taking judicial notice that “Rockwall lies some 26 miles to the east and north of Dallas”); *El Paso Elec. Ry. Co. v. Terrazas*, 208 S.W. 387, 390 (Tex. Civ. App. 1919) (taking judicial notice of the street where a particular railway runs); JOHN JAY MCKELVEY, HANDBOOK OF THE LAW OF EVIDENCE 25 (1st. ed. 1897) (“The divisions of a state into counties and towns are judicially noticed.”).

⁵³ 1 SIMON GREENLEAF, A TREATISE ON THE LAW OF EVIDENCE 8–9 & n.1 (10th ed. 1860) (“Courts also take notice of the territorial extent of the jurisdiction and sovereignty, exercised *de facto* by their own government; and of the local divisions of their country, as into states, provinces, counties, cities, towns, local parishes, or the like, so far as political government is concerned or affected; and of the relative positions of such local divisions; but not of their precise boundaries, farther than they may be described in public statutes. . . . But Courts do not take notice that particular places are or not in particular counties.”).

⁵⁴ THAYER, *supra* note 24, at 300 (“It is said sometimes that courts will notice the different counties, but not that any particular place is in a given county, or just where it is.” (citing *Deybel’s Case*, (1821) 106 Eng. Rep. 926 (K.B.) 928; *Brune v. Thompson*, (1842) 114 Eng. Rep. 306 (Q.B.) 307)).

⁵⁵ Thayer, *supra* note 38, at 305 (“A knowledge of certain great geographical facts will be assumed, as that Missouri is east of the Rocky Mountains, and that ‘such streams as the Mississippi, the Ohio, and the Wabash for some distance above its confluence with the Ohio, are navigable,’ but the point where they cease to be navigable is on a different footing.” (quoting *Neaderhouser v. State*, 28 Ind. 257, 267 (1867)) (citing *Price v. Page*, 24 Mo. 65, 67 (1856))).

⁵⁶ DAVID NASMITH, THE INSTITUTES OF ENGLISH ADJECTIVE LAW 87 (1879) (recognizing judicial notice for information such as “[t]he invariable course of nature. *E.g.*, the revolutions of the solar system, the seasons, the divisions of time according to the calendar, the ordinary period of gestation in the human race.”); see also MCKELVEY, *supra* note 52, at 30 (“Certain facts in nature and the physical sciences are so well established, and have become so much a part of our habits of thought and the ordering of our lives, that no one disputes them. To require proof of them would be absurd. The judges assume these facts, just as all men do, and act and think in accordance with them.”).

gravitation, certain qualities and properties of matter, the nature and effects of heat, cold, light, etc.”),⁵⁷ as well as accepted scientific conventions such as fixed weights and measures.⁵⁸ On occasion, courts noticed types of medicines,⁵⁹ mortality tables,⁶⁰ and other scientifically based conclusions.⁶¹ Of course, these judicially noticed facts were only as good as the existing science, and may in fact have been incorrect as a matter of scientific understanding today.⁶² At the same time, courts refused to notice facts that were not widely accepted (even if scientifically accurate).⁶³ Thus, although established medical and scientific facts were subject to judicial notice, both what was “established” and what was “scientific” were not always clear.

3. *Historical Facts.*—Common law courts judicially noticed historical facts that were commonly understood to be known by most people.⁶⁴ As Thayer explained, “Certain great facts in literature and in history will be noticed without proof; *e.g.*, what in a general way the Bible is, or Aesop’s Fables, or who Columbus was; but as to particular details of the contents of these books or of these books or of Columbus’s discoveries, it may well be otherwise.”⁶⁵ Courts routinely relied upon more localized

⁵⁷ MCKELVEY, *supra* note 52, at 30; *see also* 1 FRANCIS WHARTON, A COMMENTARY ON THE LAW OF EVIDENCE IN CIVIL ISSUES, § 335 (3d ed. 1888) (footnotes omitted) (“[T]he courts will take notice of the demonstrable conclusions of science. Thus a court will take notice of the movements of the heavenly bodies; of the graduations of time by longitude; . . . of the coincidence of days of the month with days of the week, of the order of the months . . .”).

⁵⁸ NASMITH, *supra* note 56, at 87 (allowing judicial notice for “[t]he standards of weight and measure, and the divisions of the currency”).

⁵⁹ State Bd. of Pharmacy v. Matthews, 90 N.E. 966, 967 (N.Y. 1910) (taking judicial notice that iodine, camphor, and arnica are medicines).

⁶⁰ Foerster v. Direito, 170 P.2d 986, 992 (Cal. Ct. App. 1946) (taking judicial notice of mortality tables).

⁶¹ *Recent Case*, *supra* note 38, at 208 (recognizing “that the court will take judicial notice, as a matter of common knowledge, that a great majority of medical writers and practitioners advocate vaccination as an efficient means of preventing smallpox”); *In re Holthausen’s Will*, 26 N.Y.S.2d 140, 142 (Sur. Ct. 1941) (taking judicial notice that human pregnancy is nine months).

⁶² *See e.g.*, Gilbert v. Klar, 228 N.Y.S. 183, 184 (App. Div. 1928) (taking “judicial notice that the X-ray is in common use and that the science and art thereof have been developed to a point where, in the hands of specialists, there is little or no danger”); Christopher Onstott, *Judicial Notice and the Law’s “Scientific” Search for Truth*, 40 AKRON L. REV. 465, 467 (2007).

⁶³ *See* Charles T. McCormick, *Judicial Notice*, 5 VAND. L. REV. 296, 301–03 (1952) (internal quotation marks omitted) (“[J]udicial notice of scientific facts can be taken only when such facts are generally recognized . . .”); Thornburg, *supra* note 19, at 158–59.

⁶⁴ MCKELVEY, *supra* note 52, at 36 (“Many historical facts of general, and even sometimes of local[] character, are judicially noticed.”); 1 FRANCIS WHARTON, A COMMENTARY ON THE LAW OF EVIDENCE IN CIVIL ISSUES, § 338 (2d ed. 1879) (footnote omitted) (“A court will also take judicial notice of the leading public events of its own country; and will permit works of history (though not by living authors) to be cited to this effect.”).

⁶⁵ Thayer, *supra* note 38, at 305.

historical facts found in almanacs⁶⁶ and calendars⁶⁷ to determine dates, temperatures, and other historic data on sunrises, sunsets, and precipitation.⁶⁸ Sometimes historical knowledge generally known in one era might be lost in another era. For example, in 1897, a Texas court stated, “[i]t is an historical fact, of which courts must take judicial knowledge, that, in the war between Texas and Mexico, Sam Houston held a high military office, and was actively engaged as a leader in the Texas army.”⁶⁹ Such knowledge may be historically accurate, but is no longer commonly known.

4. *Local Facts.*—Occasionally local facts, unknown outside of the local court system, would still be judicially noticed because of a shared common understanding.⁷⁰ For example, in 1919 a California court took judicial notice that Mission Street was in San Francisco’s business district.⁷¹ However, as Edmund Morgan noted in analyzing the same case, such an understanding could not be assumed anywhere except that local

⁶⁶ THAYER, *supra* note 24, at 307 (“The doctrine that almanacs may be referred to in order to ascertain upon what day of the week a given day of a month fell in any year, to learn the time of sunrise or sunset, and the like; and that, in order to prove facts of general history, approved books of history may be consulted, may also be regarded as illustrating the taking notice of the authenticity of evidential matters[]—of certain media of proof.”).

⁶⁷ *Id.* at 291–92 (“A well-known set of cases has to do with the calendar and certain sorts of facts ordinarily given in almanacs. When the books talk about ‘the calendar,’ they refer sometimes to the mere order and arrangement of days, and especially saints’ days and ecclesiastical feasts, by which the terms and days of court were regulated; and sometimes to the books or written or printed tables in which this order was set down. The courts of necessity recognized without proof the established order and arrangement of days; the phrase was that ‘the calendar was part of the law of England;’ and so it was said of ‘the almanac.’ In the multitude and multiplication of saints and saints’ days, and the intricacies attending upon the notion of movable feasts, and the arrangement of the Council of Nice fixing Easter by the relation of the moon to a certain date in March, it was no easy matter to find out the details of the calendar for any given year; so that the courts were assisted by written and printed tables of more or less authority.” (citing *Queen v. Dyer*, (1703) 87 Eng. Rep. 803 (B.R.); *Page v. Faucet*, (1687) 78 Eng. Rep. 482 (K.B.) 482; *Co. of Stationers v. Seymour*, (1677) 86 Eng. Rep. 865 (C.B.) 865)).

⁶⁸ Thayer, *supra* note 38, at 308–09.

⁶⁹ *Sargent v. Lawrence*, 40 S.W. 1075, 1076 (Tex. Civ. App. 1897).

⁷⁰ GREENLEAF, *supra* note 53, at 11 (“In fine, Courts will generally take notice of whatever ought to be generally known within the limits of their jurisdiction.”).

⁷¹ *Varcoe v. Lee*, 181 P. 223, 225 (Cal. 1919) (“The actual fact of the matter is, however, that Mission street, between Twentieth and Twenty-Second streets, is a business district, within the definition of the Motor Vehicle Act, beyond any possibility of question. It has been such for years. Not only this, but its character is known as a matter of common knowledge by any one at all familiar with San Francisco. Mission street, from its downtown beginning at the water front to and beyond the district of the city known as the Mission, is second in importance and prominence as a business street only to Market street. The probabilities are that every person in the courtroom at the trial, including judge, jury, counsel, witnesses, parties, and officers of the court, knew perfectly well what the character of the location was. It was not a matter about which there could be any dispute or question.”).

jurisdiction.⁷² Similarly, in 1957, Texas courts were willing to take judicial notice of local facts such as “the time that people in the country eat their dinner, the fact that a boy can stop a bicycle within a few feet, and the fact that most rural towns have tourist [camps].”⁷³ Though the location of an address in a jurisdiction can readily be established, the general habits of the residents or realities of local governments may demonstrate (or exceed) the limits of the appropriate use of judicial notice.⁷⁴

5. *Facts to Fulfill Judicial Responsibilities.*—In order to fulfill judicial responsibilities, courts regularly took judicial notice of judicial records⁷⁵ and existing state, federal, and foreign laws.⁷⁶ On occasion this notice was extended to other official government documents or reports.⁷⁷ In addition, the construction and interpretation of words also fell into

⁷² Edmund M. Morgan, *Judicial Notice*, 57 HARV. L. REV. 269, 276–77 (1944) (footnotes omitted) (“In *Varcoe v. Lee*, a judge resident in San Francisco would know, as would every resident of ordinary intelligence, that the property fronting on Mission Street between Twentieth and Twenty-second Streets was occupied by business buildings and was a business district. If the case were being tried in an Eastern state, the matter would certainly not be commonly known.”).

⁷³ Hudspeth, *supra* note 52, at 731 (citing *City of Fort Worth v. Lee*, 182 S.W.2d 831, 840 (Tex. Civ. App. 1944), *aff’d*, 186 S.W.2d 954 (Tex. 1945); *C.D. Shamburger Lumber Co. v. Delavan*, 106 S.W.2d 351, 356 (Tex. Civ. App. 1937); *Reisenberg v. Hankins*, 258 S.W. 904, 909 (Tex. Civ. App. 1924)).

⁷⁴ For a similar comparison, see *Wahrenbrock v. L.A. Transit Lines*, 190 P.2d 272, 274 (Cal. Ct. App. 1948) (taking judicial notice that Crenshaw Boulevard at 46th Street is heavily traveled); Richard H. Orman, *Rule 201: The Use of Hearsay in Establishing Facts Sufficient for Judicial Notice*, 22 COLO. LAW. 2535, 2535 n.2 (1993) (citing *Cole v. Colo. Springs Co.*, 381 P.2d 13, 18 (Colo. 1963) (judicial notice of the history of Colorado Springs as a matter of “common knowledge”)).

⁷⁵ *Bienville Water Supply Co. v. City of Mobile*, 186 U.S. 212, 217 (1902) (“[W]e take judicial notice of our own records, and, if not *res judicata*, we may, on the principle of *stare decisis*, rightfully examine and consider the decision in the former case as affecting the consideration of this.”).

⁷⁶ *Lamar v. Micou*, 114 U.S. 218, 223 (1885) (“The law of any State of the Union, whether depending upon statutes or upon judicial opinions, is a matter of which the courts of the United States are bound to take judicial notice, without plea or proof.”); *Owings v. Hull*, 34 U.S. (9 Pet.) 607, 625 (1835) (“That jurisprudence is then, in no just sense, a foreign jurisprudence, to be proved, in the courts of the United States, by the ordinary modes of proof by which the laws of a foreign country are to be established, but it is to be judicially taken notice of in the same manner, as the laws of the United States are taken notice of by these courts.”); 5 WIGMORE, *supra* note 34, § 2573 (footnote omitted) (“The *Federal laws* of the United States (as well as of Canada) are equally the laws of *each State*, and hence the Courts of one of the States notice them, whether ordinary public acts of Congress or treaties.”); *McNaughton*, *supra* note 24, at 62 (“A judge is frequently permitted on his own initiative to notice, for example, foreign law and facts indisputably true but which enjoy only local notoriety or which require resort to some reference book, and the judge is required to notice such matters, if at all, only if he is asked to do so and is provided with the necessary supporting informal information.”). *But see* 5 WIGMORE, *supra* note 34, § 2573 (“The laws of foreign nations and States—not being laws of the forum at all, except by casual adoption—will not be noticed.”).

⁷⁷ *Recent Case*, *Williams v. Brooks*, 109 Pac. 211 (*Wash.*), 20 YALE L.J. 76, 76–77 (1910) (citations omitted) (“[I]n general the courts will take judicial notice of matters relating to government and its administration. So judicial notice will be taken of the government surveys and the legal subdivisions of the public lands. And it is well established that judicial notice will be taken of the population of a town as shown by the United States census.”).

traditional categories of judicial notice.⁷⁸ As judges were routinely called upon to interpret legal documents such as contracts, wills, and deeds, the meaning of words could be noticed.⁷⁹ In addition, because language determined causes of actions in cases involving slander, threats, or sedition, courts were free to interpret the language at issue by virtue of their position.⁸⁰ As Thayer explained, “[T]he courts take notice of the ordinary meaning of language and of usual habits of speech; and they formerly took notice, not merely, as now, of the general meaning, but also of the local use of language.”⁸¹

6. *Commonly Known Facts.*—Perhaps the most amorphous category of judicial notice involves facts considered to be “general knowledge.”⁸² For example, one Colorado court found “[i]t is a matter of common knowledge that boys occasionally do fall from bicycles.”⁸³ Many courts took the opportunity to declare the intoxicating nature of beer, wine, whisky, brandy, and gin.⁸⁴ On the other hand, some courts stretched the concept of judicial notice to include facts relevant to a particular finding in a specific case. For example, one court judicially noticed the fact that a

⁷⁸ 5 WIGMORE, *supra* note 34, § 2581 (“Another common class of instances . . . is that of the meanings of words and phrases and written symbols. So far as these are notorious and unquestioned, they are constantly found noticed.”).

⁷⁹ THAYER, *supra* note 24, at 290–91 (“Nothing is more familiar than the spectacle of courts construing wills, deeds, contracts, or statutes upon their own knowledge of the import of words; and nothing is more necessary.”).

⁸⁰ Thayer, *supra* note 38, at 294 (“A . . . class of cases relates merely to the construction of writings or the interpretation of words. Here the courts take notice of the ordinary meaning of words, and, as some of the cases of slander already cited may indicate, they formerly took judicial notice, not merely, as now, of the general meaning, but also of the local use of language.”).

⁸¹ THAYER, *supra* note 24, at 286–87 (citing *M’Gregor v. Gregory*, (1843) 152 Eng. Rep. 811 (Q.B.) 815).

⁸² MCKELVEY, *supra* note 52, at 31 (“There is another group of facts of such a nature that courts are bound to judicially notice them. They relate to the language, customs, habits, actions, and lives of mankind.”); Lester B. Orfield, *Judicial Notice in Federal Criminal Procedure*, 31 *FORDHAM L. REV.* 503, 513 (1963) (“Judicial notice is taken of matters of common knowledge. It has been held that the common knowledge concept may be extended to knowledge common to those in a particular trade. Thus, the maritime practice of making up manifests from bills of lading has been judicially noticed.” (citing *United States v. Rappy*, 157 F.2d 964, 966 (2d Cir. 1946))).

⁸³ Orman, *supra* note 74, at 2535 n.3 (citing *Widefield Homes, Inc. v. Griego*, 416 P.2d 365, 366 (Colo. 1966)).

⁸⁴ 1 CHARLES FREDERIC CHAMBERLAYNE, *A TREATISE ON THE MODERN LAW OF EVIDENCE* § 714 (1911); E.H.M., Jr., Recent Case, *Intoxicating Quality of Beer*, 12 *TEX. L. REV.* 361, 361 (1934) (citing *People v. Anderson*, 123 N.W. 605, 605 (Mich. 1909); *Briffitt v. State*, 16 N.W. 39, 39–40 (Wis. 1883)); see also Recent Case, *Flanders v. Commonwealth*, 130 S.W., 809, 20 *YALE L.J.* 326, 326 (1911) (“Other intoxicants that may be judicially noticed are whiskey.” (citing *Freiberg v. State*, 10 So. 703, 704 (Ala. 1892) (whiskey); *Snider v. State*, 7 S.E. 631, 631 (Ga. 1888) (alcohol); *State v. Packer*, 80 N.C. 439, 441–42 (1879) (wine); *Johnston v. State*, 23 Ohio St. 556, 557 (1873) (ale); *State v. Wadsworth*, 30 Conn. 55, 59 (1861) (brandy); *Commonwealth v. Peckham*, 68 Mass. 514, 514–15 (1854) (gin)); Thayer, *supra* note 38, at 305 (“A knowledge will be assumed of the nature and effects of familiar articles of food or drink or ordinary use, and an infinite number of like matters.”).

particular streetcar had a “gong” because it was generally understood that most streetcars had gongs.⁸⁵ And, sometimes judicially noticed facts were simply incorrect. For example, the Supreme Court of Indiana stated: “[T]he Court knows, as matter of general knowledge, and is capable of judicially asserting the fact, that the use of beer . . . as a beverage, is not necessarily hurtful, any more than the use of lemonade or ice-cream.”⁸⁶ Or as the U.S. Supreme Court opined:

[W]hile [tobacco’s] effects may be injurious to some, its extensive use over practically the entire globe is a remarkable tribute to its popularity and value. We are clearly of opinion that it cannot be classed with diseased cattle or meats, decayed fruit or other articles, the use of which is a menace to the health of the entire community.⁸⁷

Such was the danger of generally understood facts, because sometimes the generally accepted knowledge of the time was, in fact, wrong.

7. *Summary of Common Law Judicial Notice.*—Judicial notice in its earliest form was limited to certain types of facts. Usually, the facts were objective, provable, and not contested in the case. Whether this caution was due to the relatively scarce information available through traditional information sources or a concern for judicial restraint in interfering with the adversarial system, the result was a narrow set of factual categories that qualified for judicial notice.⁸⁸

In addition, the legitimacy of taking judicial notice came more from the authority of the judge than from the source of the information. If, for example, there was a question about the existence of a river, it could be judicially noticed not because a map showed the fact (the map was unnecessary), but because the judge knew the river existed in that general location. The judge thereby acted as a proxy for the general knowledge of the community. Sources could support or confirm the judge’s preexisting general knowledge, but did not alter the underlying premise that the judge’s knowledge controlled.

The common law tradition of judicial notice provided a measure of flexibility in a world of comparably limited information sources. Common law commentators acknowledged this flexibility and the potential utility of judicial notice. Wigmore stated, “[Judicial notice] is an instrument of a usefulness hitherto unimagined by judges. Let them make liberal use of it;

⁸⁵ Recent Case, *Trial Court Reversed for Failure to Take Judicial Notice that Street Car Had Gong*, 60 HARV. L. REV. 299, 300 (1946) (“That street cars as a class possess gongs may be conceded, but it does not inevitably follow that any particular street car has this characteristic at any given time.”).

⁸⁶ *Beebe v. State*, 6 Ind. 501, 519–20 (1855).

⁸⁷ *Austin v. Tennessee*, 179 U.S. 343, 345 (1900); *see also* Onstott, *supra* note 62, at 467.

⁸⁸ To be clear, there were certainly outlier decisions among the various common law courts. *See supra* text accompanying notes 86–87. Judges, on occasion, reached out to judicially notice something that likely was beyond the scope of the understood common law rules. Yet, by and large, the reported cases follow these general categories.

and thus avoid much of the needless failures of justice that are caused by the artificial impotence of judicial proceedings.”⁸⁹ At the same time, others recognized the potential for abuse. Edmund Morgan called for caution in the use of this evidentiary short cut:

There is danger of misuse and abuse of judicial notice. A judge may ignorantly consider a generalization drawn from the segment of human experience known to him to be so notoriously true as to admit of no reasonable question. He may erroneously regard a source of information as of indisputable accuracy. He may treat a half-truth as if it were the whole truth. These inaccuracies may not appear in the record so as to be subject to correction on review.⁹⁰

The Federal Rules of Evidence responded to these concerns, in part, but did not provide much guidance beyond incorporating the common law tradition of judicial deference.⁹¹ The Federal Rules limited the types of facts that could be noticed, and did provide some procedural protections to the parties, but in large measure did not resolve the debate over whether to broaden or restrict the use of judicial notice.⁹²

C. Adoption of Federal Rule of Evidence 201

The Federal Rules of Evidence formalized the common law tradition of judicial notice governing adjudicative facts. They did so by leaving much of the line drawing to judges, providing only limited guidance about the type of information and sources that can be judicially noticed. Rule 201 cabins its reach to adjudicative facts, declining to comment on legislative facts.⁹³ Adjudicative facts are facts that “relate to the parties”—that is, “who did what, where, when, how, and with what motive or intent.”⁹⁴

⁸⁹ 5 WIGMORE, *supra* note 34, § 2583; *see also* THAYER, *supra* note 24, at 309.

⁹⁰ Morgan, *supra* note 72, at 292; *see also id.* at 274 (“That there is *a priori* a high degree of probability of the truth of a particular proposition may be a good reason for putting upon the party asserting its untruth the burden of producing credible evidence, or of persuading the trier, of its untruth, but it cannot justify a tribunal in taking judicial notice of its truth. To warrant such judicial notice the probability must be so great as to make the truth of the proposition notoriously indisputable among reasonable men.”); *see, e.g.*, Beilin, *supra* note 31, at 504 (“In Iowa, 1905, for example, everyone knew that the disease known as Texas or splenic fever was contagious, but most people today not involved in agriculture have probably never heard of the condition.” (citing *Dorr Cattle Co. v. Chi. & G.W. Ry. Co.*, 103 N.W. 1003, 1005 (Iowa 1905))); Keeffe et al., *supra* note 26, at 665 (“What is *true* and what is *undisputed* are two different things. Prior to 1492 counsel would not have disputed that the world was flat. Yet since that date it is equally undisputed that the world is round. Nor would it have been disputed by Bostonians in the seventeenth century that witches and their curses were an imminent peril to the community. What one generation regards as beyond dispute the next may well laugh at!”).

⁹¹ FED. R. EVID. 201(b) Advisory Committee’s Note.

⁹² *See e.g.*, John T. McNaughton, *Judicial Notice—Excerpts Relating to the Morgan–Wigmore Controversy*, 14 VAND. L. REV. 779, 787 (1961).

⁹³ FED. R. EVID. 201(a) Advisory Committee’s Note.

⁹⁴ *Id.* (“What, then, are ‘adjudicative’ facts? Davis refers to them as those ‘which relate to the parties,’ or more fully: ‘When a court or an agency finds facts concerning the immediate parties—who

Further, these adjudicative facts must be the type of fact “not subject to reasonable dispute,”⁹⁵ mirroring the type of facts traditionally noticed.

Federal Rule of Evidence 201(b)(1) incorporated the traditional view that it was appropriate to notice facts “generally known within the trial court’s territorial jurisdiction.”⁹⁶ This general knowledge category meant that the traditional common law cases and commentary remain persuasive. Under the Federal Rules, judges still have the authority to determine if a fact is so well known that it can be introduced without proof.⁹⁷

Second, Rule 201(b)(2) clarified that courts could notice facts that “can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned.”⁹⁸ This category reflected the common law practice of judges relying on accurate sources to determine facts that they personally may not have known. But this rule also broadly expanded the categories of judicially noticeable facts. In part, this expansion was necessary to accommodate new scientific facts that might be precisely ascertained, even if not generally known.⁹⁹ Now, under Rule 201(b)(2), a fact does not have to be generally known if it can be accurately sourced.

Finally, Rule 201(e) provided a procedural notice protection in order to give parties an opportunity to object to the proposed judicial notice. This procedural protection enabled a party to contest the issue and preserve the argument for appeal.¹⁰⁰ Rule 201(f) further provided that in civil cases, the court must instruct the jury to accept any judicially noticed fact “as conclusive,” but in criminal cases, the judge must instruct the jury that “it may or may not accept the noticed fact as conclusive.”¹⁰¹

did what, where, when, how, and with what motive or intent—the court or agency is performing an adjudicative function, and the facts are conveniently called adjudicative facts. . . . Stated in other terms, the adjudicative facts are those to which the law is applied in the process of adjudication. They are the facts that normally go to the jury in a jury case. They relate to the parties, their activities, their properties, their businesses.” (citing 2 KENNETH CULP DAVIS, ADMINISTRATIVE LAW TREATISE § 15.03 (1958)); *see also id.* (“Adjudicative facts are simply the facts of the particular case.”).

⁹⁵ FED. R. EVID. 201(b).

⁹⁶ *Id.* 201(b)(1).

⁹⁷ *See, e.g.,* *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 592 n.11 (1993) (“[T]heories that are so firmly established as to have attained the status of scientific law, such as the laws of thermodynamics, properly are subject to judicial notice under Federal Rule of Evidence 201.”).

⁹⁸ FED. R. EVID. 201(b)(2).

⁹⁹ Thornburg, *supra* note 19, at 158–59 (“The drafters of the evidence rules were deeply influenced by academic discussion of judicial notice, which, in the mid-twentieth century, advocated a broader use of the device. . . . Judges and scholars were concerned that juries, left to their own devices, would refuse to conform their verdicts to developing science, as when blood type evidence demonstrated that a man could not be the biological father of a child. Based on these arguments, modern judicial notice rules allow specialist information to be judicially noticed, as long as it meets the requirements of indisputability and its source is unquestionably accurate.”).

¹⁰⁰ FED. R. EVID. 201(e) and accompanying Advisory Committee’s Note.

¹⁰¹ *Id.* 201(f).

A great deal of scholarly commentary prefaced the adoption of Rule 201, drawing on the well-publicized debate among Morgan, Thayer, and Wigmore about whether judicially noticed facts could be disputed by the parties at trial.¹⁰² Since then, thousands of reported cases have utilized Rule 201 (or equivalent state rules) to judicially notice facts in trials with a wide variety of results.¹⁰³ The debate over the proper use of judicial notice has evolved, but not ended. For purposes of this Article, three facets of this shift from the common law to the federal rules are particularly important to consider in determining how judicial notice should apply in the information age.

First, the types of facts to be judicially noticed are largely the same. The phrase “not subject to reasonable dispute” mirrors the common law categories, and necessarily exempts many disputed facts that are central to any adversarial trial. Thus, the modern use of judicial notice tracks many of the same subject areas as the traditional common law approach involving geographical, scientific, medical, or other notorious or verifiable facts.

Second, the addition of Rule 201(b)(2) alters the focus of judicial notice from *the fact* to *the source of the fact*. Whereas Rule 201(b)(1) focuses on whether a fact is generally known, Rule 201(b)(2) provides an alternative judicial notice mechanism based on the source involved. A judge may have no idea of a particular fact, but if an undisputable source is available, the provision allows for (or even mandates) judicial notice of that fact.¹⁰⁴

Third, Rule 201(b)(2) subtly shifts the locus of authority for judicial notice from the judge to the available sources. Again, the traditional general knowledge requirement turned on the judge’s determination of whether a particular fact was generally known. Judges took notice of facts they actually knew to be true or could be assured were true. Rule 201(b)(2)’s emphasis on sources shifts the analysis away from the judge’s authority to the authority of the source to determine whether a fact can be judicially noticed.

¹⁰² See, e.g., McNaughton, *supra* note 24, at 56 (“Wigmore, following Thayer, insists that judicial notice is solely to save time where dispute is unlikely and that a matter judicially noticed is therefore only ‘prima facie,’ or rebuttable, if the opponent elects to dispute it. . . . Morgan on the other hand defines judicial notice more narrowly, and his consequences follow from his definition. He limits judicial notice of fact to matters patently indisputable. And his position is that matters judicially noticed are not rebuttable.”); Morgan, *supra* note 72, at 283–87 (criticizing the Thayer–Wigmore rationale that allows judicially noticed facts to be contradicted); Thayer, *supra* note 38, at 309 (“Taking judicial notice does not import that the matter is indisputable. It is not necessarily anything more than a *prima-facie* recognition, leaving the matter still open to controversy.”).

¹⁰³ See *infra* Part II (discussing cases). A Westlaw search of the federal courts database for references to Rule 201 and “judicial notice” in the same paragraph returns over 10,000 opinions.

¹⁰⁴ See 29 AM. JUR. 2D *Evidence* § 26 (2008) (footnote omitted) (“Since judicial notice is not limited by the actual knowledge of the individual judge, judges may refresh their memories of matters properly subject to judicial notice from encyclopedias, textbooks, dictionaries, or similar publications of established authenticity.”).

These last two shifts open the door to the virtually unbounded potential of judicial notice in the Information Age. New sources of material now exist to provide accurate facts for courts to judicially notice.¹⁰⁵ Although still limited to the types of facts not subject to reasonable dispute, a wide variety of relevant facts can now be determined through online sources.

This reality necessitates this article's new vision of judicial notice. At the time of the drafting of the Federal Rules of Evidence, available information sources were closer to the common law reality than the current Information Age reality. In 1824 and 1975, dictionaries, maps, encyclopedias, and medical references were all paper-based products.¹⁰⁶ The Federal Rules' language addressing accurate sources could not contemplate crowdsourced, collective digital encyclopedias and the like. The rise in new information sources available anywhere, to anyone, blurs the line between facts generally known within a jurisdiction and facts that can be accurately and readily determined from reliable sources.

This issue foreshadows the difficulties that arise at the intersection of traditional evidence rules and new technologies. In the next Part we address the initial meeting of judicial notice and the Information Age.

II. JUDICIAL NOTICE IN THE INFORMATION AGE

The boundless avenues for fact-finding presented by the novel combination of an expansive judicial notice rule and the Internet's vast repository of information are already on display in American courts. The ubiquitous practices of "Googling" unfamiliar people and things, checking weather and geography online, and seeking supplemental information on any topic through a click of a mouse are predictably moving from our personal lives onto the pages of judicial reports.¹⁰⁷ The importance of judicial notice to this phenomenon is its ability to sweep away a series of evidentiary hurdles that might otherwise frustrate efforts to bring information obtained on the Internet into the courtroom.

As lawyers well know, finding information is not the same as being able to introduce that information in court. Though the Internet is breaking down barriers to counsel's access to information, a wholly separate set of

¹⁰⁵ POSNER, *supra* note 18, at 141–43.

¹⁰⁶ The first modern Internet browser that allowed easy access to resources on the Internet was created in the early 1990s. Development of online dictionaries, maps, encyclopedias, etc., followed this innovation. See Maayan Y. Vodovis, Note, *Look over Your Figurative Shoulder: How to Save Individual Dignity and Privacy on the Internet*, 40 HOFSTRA L. REV. 811, 821 (2012) ("Tim Berners-Lee conceived of the idea of a World Wide Web and created the first Internet browser in 1989; and in 1992, Marc Andreessen and Eric Bina developed another browser called 'Mosaic' that would serve as a precursor for more user-friendly browsers.").

¹⁰⁷ Allison Orr Larsen, *Confronting Supreme Court Fact Finding*, 98 VA. L. REV. 1255, 1291 (2012) (describing digital revolution as "a game changer" for courts that brings information "just fingertips and a Google search away"); Thornburg, *supra* note 19, at 159.

barriers restricts the flow of online information to judges and jurors. These barriers consist primarily of evidentiary rules—rules that sometimes make little sense when applied to facts gleaned online.

The first hurdle to presenting online sources to jurors is authentication. A website can only be introduced into evidence if it is “authentic.” At its core, authentication is “a special aspect of relevancy”;¹⁰⁸ a website is only relevant if it “is what the proponent claims it is.”¹⁰⁹ Although much is made of this hurdle in the Information Age, it is, as with any relevance question, an easy one to surmount.¹¹⁰ Success generally depends not on legal or factual arguments, but rather the amount of time and resources a litigant devotes to the problem. A litigant offering a website as evidence can establish that the site is “authentic” by relying on the usual forms of proof: testimony of a witness who explains how the website was located;¹¹¹ distinctive characteristics of the site such as a logo or web address;¹¹² and, if necessary, testimony from a knowledgeable witness who can link the site’s IP address to the sponsoring authority.¹¹³

Authentication of online sources is an evidentiary hurdle that primarily necessitates an expenditure of resources (sometimes great, sometimes meager) and court time for little purpose. It is hard to imagine many good faith disputes about whether proffered evidence really is a page from Google Maps or WebMD. Malfeasance would be foolish. The opposing party can simply go to the website to verify its authenticity, and if fraud is detected, the consequences for the offering party are dire. Wigmore’s views on judicial notice fit quite neatly here. Wigmore opined that facts are appropriate for judicial notice when they are “capable of such instant and unquestionable demonstration . . . that no party would think of imposing a falsity on the tribunal in the face of an intelligent adversary.”¹¹⁴

¹⁰⁸ FED. R. EVID. 901(a) Advisory Committee’s Note.

¹⁰⁹ *Id.* 901(a).

¹¹⁰ Jeffrey Bellin, *eHearsay*, 98 MINN. L. REV. 7, 20 n.55, 27 n.77, 50–51 & n.167 (2013) (discussing authentication of electronic evidence); Aviva Orenstein, *Friends, Gangbangers, Custody Disputants, Lend Me Your Passwords*, 31 MISS. C. L. REV. 185, 222–24 (2012) (discussing authentication of online sources); Ira P. Robbins, *Writings on the Wall: The Need for an Authorship-Centric Approach to the Authentication of Social-Networking Evidence*, 13 MINN. J.L. SCI. & TECH. 1, 16–35 (2012) (discussing authentication of online social media evidence).

¹¹¹ FED. R. EVID. 901(b)(1). For example, if the website address is advertised on television (“click or call”).

¹¹² *Id.* 901(b)(4).

¹¹³ Some websites are self-authenticating under the Federal Rules of Evidence. “Official publications” wherever found are self-authenticating so long as they “purport[] to be issued by a public authority.” FED. R. EVID. 902(5); *Williams v. Long*, 585 F. Supp. 2d 679, 687–90 & n.4 (D. Md. 2008) (finding government websites to be self-authenticating); *Lorraine v. Markel Am. Ins. Co.*, 241 F.R.D. 534, 555–56 (D. Md. 2007) (describing methods that would likely be used to “authenticate exhibits containing information from internet websites”). Newspapers and periodicals are also self-authenticating; their online versions will easily be authenticated under the rules. FED. R. EVID. 902(6).

¹¹⁴ 21B WRIGHT & GRAHAM, *supra* note 9, § 5106.1 (quoting 9 WIGMORE, *supra* note 34, § 2571).

The other evidentiary hurdle to the admission of online sources is the prohibition of hearsay.¹¹⁵ Websites, like other written documents, consist of “out-of-court statements.”¹¹⁶ Consequently, if information from the website is offered for the truth of the matter that information “asserts,” it will be subject to a hearsay objection.¹¹⁷ Various hearsay exceptions may apply, but the parties will need to expend resources and utilize court time to establish their applicability. For example, the parties can subpoena Google or WebMD employees to attempt to lay a foundation for the introduction of a printout from the website as a business record.¹¹⁸ In many cases these efforts will be unavailing, however, because no hearsay exception will apply.¹¹⁹ Further, the relative confusion among litigants and judges about the workings of the hearsay rule, particularly as applied to novel electronic sources, generates uncertainty and inconsistency that can cause even admissible sources to be excluded (or vice versa).¹²⁰

When a party either lacks the time or resources to establish the authenticity of a pertinent website, or cannot lay the foundation for an exception to the hearsay prohibition, the legal effort to admit information gleaned from the website runs into a dead end. Often the dead end will seem pointless, bizarre and unfair. The online information may be extremely reliable, highly relevant, and for all practical purposes unobjectionable. Judges and jurors might happily rely on the information in their daily lives (e.g., a depiction of an intersection on Google Maps), but it is inadmissible nonetheless.

Judicial notice provides a sensible path through this legal obstacle course. By taking judicial notice of information contained on pertinent websites, courts can sweep away authentication and hearsay hurdles—an acceptable practice, under the Federal Rules of Evidence, so long as the judicially noticed source is one whose “accuracy cannot reasonably be questioned.”¹²¹ Consequently, as attorneys, judges and jurors become more

¹¹⁵ FED. R. EVID. 801, 802.

¹¹⁶ *Id.* 801(c).

¹¹⁷ *Id.* (defining hearsay as an out-of-court statement offered “to prove the truth of the matter asserted in the statement”). A handful of the many exceptions to the broad ban on hearsay evidence will be useful in this context. *See, e.g., id.* 801(d)(2) (statements of a party); *id.* 803(6) (business and public records of regularly conducted activities); *id.* 803(17) (market reports and commercial compilations).

¹¹⁸ *Id.* 803(6)(D) (establishing that the foundation for admission of business records under the rule can be “shown by the testimony of the custodian [of the records] or another qualified witness”).

¹¹⁹ *Cf. Bellin, supra* note 110, at 9–10 & n.12 (2013) (discussing the need for a new hearsay exception that addresses proliferation of electronic statements).

¹²⁰ *Id.* at 26 n.75, 53–58 (discussing erroneous court rulings applying hearsay rules to electronic communication); Jeffrey Bellin, *Facebook, Twitter, and the Uncertain Future of Present Sense Impressions*, 160 U. PA. L. REV. 331, 344–45 (2012) (highlighting confusion created by the emergence of electronic communication previously unimagined by the drafters of the Federal Rules of Evidence).

¹²¹ FED. R. EVID. 201(b)(2). The overarching requirement of the rule is that the fact not be “subject to reasonable dispute”; one of the two means of meeting that standard under the Rule is if the fact can

comfortable with the reliability of information found on the Internet, and lawyers recognize the power of Rule 201 to provide a legal hook for its admission, judicial notice could become a ubiquitous mechanism for introducing the knowledge of the Internet to litigation. In fact, existing case law already provides a window into the online future of judicial notice.

A. *Judicial Notice and Public Information on Government Websites*

Judicial notice of online sources frequently involves public information on government websites. Courts often take judicial notice of such information with little discussion (or apparent recognition) of potential objections to doing so. In *Askew v. Secretary of Health & Human Services*, the Court of Federal Claims took judicial notice of the symptoms of an unusual medical condition, as reflected in an online publication by the National Institutes of Health.¹²² Armed with this knowledge, the court concluded that the plaintiff would not have known (for statute of limitations purposes) of the nature of his claim at the onset of symptoms because of the ambiguous nature of the disorder's typical symptoms.¹²³

Often, as in *Askew*, judicially noticed facts are central to resolving critical issues. A district court in Texas took judicial notice of "the appraised fair-market value of the property" at issue in the litigation as "published on [the] Harris County Appraisal District's website."¹²⁴ In *Wells Fargo Bank, N.A. v. Favino*, the district court for the Northern District of Ohio dismissed a claim against Wells Fargo because the statute underlying the claim did not apply to "national banks," and the court, after reviewing a list on the "Office of the Comptroller of the Currency's website," took judicial notice that Wells Fargo is, in fact, a "national bank."¹²⁵ Courts have taken judicial notice of demographic information published online by the Census Bureau, such as "the racial breakdown for the Memphis metropolitan area population."¹²⁶ In *Davis v. Nice*, the court took judicial

be "accurately and readily determined from sources whose accuracy cannot reasonably be questioned." *Id.*

¹²² No. 10-767V, 2012 WL 2061804, at *1 n.3, *5 (Fed. Cl. May 17, 2012).

¹²³ *Id.*; see also *Gent v. CUNA Mut. Ins. Soc'y*, 611 F.3d 79, 84 n.5 (1st Cir. 2010) (taking judicial notice of description of Lyme Disease published on "the website of the Center for Disease Control and Prevention ('CDC'), a U.S. federal agency under the Department of Health and Human Services").

¹²⁴ *Kew v. Bank of Am., N.A.*, No. H-11-2824, 2012 WL 1414978, at *3 n.4 (S.D. Tex. Apr. 23, 2012).

¹²⁵ No. 1:10 CV 571, 2011 WL 1256771, at *9 (N.D. Ohio Mar. 31, 2011); see also *Global BTG L.L.C. v. Nat'l Air Cargo, Inc.*, No. CV 11-1657 RSWL (JCGx), 2011 WL 2672337, at *1 (C.D. Cal. June 29, 2011) (taking judicial notice of a "print-out of an internet search for business entities on the California Secretary of State website").

¹²⁶ *Wilson v. Ill. Cent. R.R.*, No. 09 C 7392, 2012 WL 135446, at *3 (N.D. Ill. Jan. 12, 2012) (employment discrimination case brought under Title VII of the Civil Rights Act); see *J&J Sports Prods., Inc. v. Cal City Post No. 476*, No. 1:10-cv-00762 AWI JLT, 2011 WL 2946178, at *8 n.5 (E.D. Cal. July 21, 2011) (taking judicial notice of city populations obtained from "the Internet website for the United States Census Bureau"); *Benavidez v. City of Irving, Tex.*, 638 F. Supp. 2d 709, 721 (N.D.

notice that the defendant was, “[a]ccording to the City of Akron Police Department website,” the “current Akron Chief of Police.”¹²⁷ A tax court took judicial notice of facts found in a PowerPoint presentation located on a local government website.¹²⁸ The presentation discussed the general implications of donating property to the fire department, and the court relied on that discussion to support its conclusion as to the legal consequences of a specific taxpayer’s donation.¹²⁹ Perhaps the most inventive example of judicial notice to date comes from a court that, after noting the tracking number of an employment discrimination plaintiff’s right-to-sue letter, “went to the United States Postal Service’s website and entered the tracking number, which revealed [the date] that the right-to-sue letter was delivered.”¹³⁰ The court then deemed the plaintiff’s suit untimely because it was filed more than ninety days after the letter was received (according to the Internet).¹³¹

B. Judicial Notice from Nongovernmental Websites

Courts are also taking judicial notice of information contained on nongovernmental websites. Courts take judicial notice of medical information published on sites like the MayoClinic website,¹³² stock prices reflected in Yahoo! Finance,¹³³ facts contained in news reports found on websites of CNN, BBC, and Yahoo!,¹³⁴ and information contained in online

Tex. 2009) (taking “judicial notice of [a] Census Bureau’s February 2009 publication” located on the website www.census.gov).

¹²⁷ No. 5:12cv1002, 2012 WL 3961236, at *1 n.1 (N.D. Ohio Sept. 10, 2012).

¹²⁸ *Patel v. Comm’r*, 138 T.C. 395, 416 n.21 (2012).

¹²⁹ *Id.*; see also *Pickett v. Sheridan Health Care Cent.*, 664 F.3d 632, 649 (7th Cir. 2011) (suggesting that trial court could properly have relied on the “Laffey Matrix . . . a chart of hourly rates for attorneys and paralegals in the Washington, D.C. area that was prepared by the United States Attorney’s Office for the District of Columbia to be used in fee-shifting cases” to calculate attorney’s fees, but the court had to provide parties an “opportunity to respond” to the court’s use of the matrix); *Denius v. Dunlap*, 330 F.3d 919, 926 (7th Cir. 2003) (ruling that district court erred in declining to take judicial notice of fact that was readily confirmable on a federal government website—that “the NPRC maintains medical records of military personnel”); *Joyce v. N. Metro Task Force*, No. 10-cv-00649-CMA-MJW, 2011 WL 2669162, at *1 n.2 (D. Colo. July 7, 2011) (taking judicial notice “of the fact that HIDTA is a program within the Office of National Drug Control Policy” via website maintained by federal government regarding efforts to suppress traffic in illegal drugs).

¹³⁰ *Ananias v. Stratton*, No. 11-3274, 2012 WL 1434880, at *2 (C.D. Ill. Apr. 25, 2012).

¹³¹ *Id.*; see 42 U.S.C. § 2000e-5(f)(1) (2012) (setting ninety-day time limit for suit).

¹³² *Pérez v. Saint John’s Sch.*, 814 F. Supp. 2d 102, 111 n.7 (D.P.R. 2011).

¹³³ *Grimes v. Navigant Consulting, Inc.*, 185 F. Supp. 2d 906, 913 (N.D. Ill. 2002).

¹³⁴ *Chhetry v. U.S. Dep’t of Justice*, 490 F.3d 196, 199–200 (2d Cir. 2007) (citation omitted) (stating, in an immigration appeal, that the Board of Immigration Appeals (BIA) could take judicial notice of “changed country conditions based on news articles found on *yahoo.com*, or the websites of CNN and BBC News,” and indicating that the BIA, like the Second Circuit itself, could “exercise independent discretion to take judicial notice of . . . changes in a country’s politics” because the articles accessed on the Internet came “from reputable news organizations”); see also *Ceglia v. Zuckerberg*, No.

flight schedules.¹³⁵ In a trademark suit, a court took judicial notice of the fame and notoriety of “The Terrible Towel”—a symbol of the Pittsburgh Steelers football team.¹³⁶ The court relied on the “Wikipedia Free Internet Encyclopedia” for this finding, which noted that the towel “has been taken to the peak of Mount Everest and into space on the International Space Station and that ‘it is clearly the most famous sports rally towel in use.’”¹³⁷ To rebut a Congressman’s claim that a recently enacted law was damaging his standing among his constituents, a court relied on a political almanac available online to take judicial notice of the high percentage of the vote the candidate won in a recent election.¹³⁸

Corporate websites containing pertinent information are another common source of information that is judicially noticed. A court took judicial notice of corporate relationships between insurance companies involved in the litigation before it, as delineated on one of their websites, a source “whose accuracy cannot reasonably be questioned.”¹³⁹ In a parole revocation proceeding, a trial court “did a Google search” to confirm the suspicion that many variants of yellow hats are available for sale (the parole revocation was based on a bank robbery by a person wearing a yellow hat).¹⁴⁰ Another court visited Facebook to take judicial notice of the steps necessary to sign in for a Facebook account.¹⁴¹

For judges who anticipate avoiding the pitfalls of online judicial notice by ignoring the concept, it is worth noting that the judicial reports include a prominent opinion reversing a trial court for *refusing* to take judicial notice of Internet sources. In *O’Toole v. Northrop Grumman Corp.*, the Tenth Circuit reversed a district court’s ruling with respect to damages because “the district court abused its discretion by failing to take judicial notice of the actual earnings history provided by Northrop Grumman on the [I]nternet.”¹⁴² After all, Rule 201 states that a court “must take judicial

10-CV-00569A(F), 2012 WL 503810, at *11 & n.10 (W.D.N.Y. Feb. 14, 2012) (taking judicial notice of worth of Facebook via article available on Wall Street Journal’s internet site).

¹³⁵ *United States v. Allick*, No. 2011-020, 2012 WL 32630, at *4 n.7 (D.V.I. Jan. 5, 2012) (taking judicial notice of airline flights between Puerto Rico and St. Croix reflected on “www.flightstats.com” to refute defendant’s claim that flights between the two locations were uncommon).

¹³⁶ *AVS Found. v. Eugene Berry Enter.*, No. 11 CV 01084, 2011 WL 6056903, at *6 (W.D. Pa. Dec. 6, 2011).

¹³⁷ *Id.*

¹³⁸ *Schaffer v. Clinton*, 240 F.3d 878, 885 n.8 (10th Cir. 2001).

¹³⁹ *Total Benefits Planning Agency Inc. v. Anthem Blue Cross & Blue Shield*, 630 F. Supp. 2d 842, 849 (S.D. Ohio 2007).

¹⁴⁰ *United States v. Bari*, 599 F.3d 176, 178, 180 (2d Cir. 2010) (“The District Court’s independent Internet search served only to confirm this common sense supposition.”).

¹⁴¹ *Fteja v. Facebook, Inc.*, 841 F. Supp. 2d 829, 834–35 (S.D.N.Y. 2012).

¹⁴² 499 F.3d 1218, 1225 (10th Cir. 2007).

notice” once it is “supplied with the necessary information,” and there is no exception for online information.¹⁴³

1. *Google Maps*.—Probably the most common online source of judicially noticed facts is Google Maps. Numerous judicial opinions in both civil and criminal cases reflect trial and appellate courts¹⁴⁴ taking judicial notice of information found on the website.¹⁴⁵ Courts often rely on Google Maps to establish the distance between two geographic points (e.g., a defendant’s location and the scene of the crime) referenced in the litigation.¹⁴⁶ Judicial uses of Google Maps are varied, and the case law

¹⁴³ FED. R. EVID. 201(c)(2).

¹⁴⁴ *People v. Clark*, 940 N.E.2d 755, 767 (Ill. App. Ct. 2010) (emphasizing that taking judicial notice on appeal cannot substitute for any failing in prosecution’s case at trial, and concluding that “we take judicial notice that the park is, generally, north of the intersection, but *only* for the purpose of *understanding* the statements made *at trial* by the witnesses and by the trial court”). See generally 1 CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, FEDERAL EVIDENCE § 2:8 (3d ed. 2007).

¹⁴⁵ *Rindfleisch v. Gentiva Health Sys., Inc.*, 752 F. Supp. 2d 246, 259 n.13 (E.D.N.Y. 2010) (“Courts commonly use [I]nternet mapping tools to take judicial notice of distance and geography.”); *Kemp v. Zavaras*, No. 09-cv-00295-WYD-MJW, 2010 WL 1268094, at *2 n.3 (D. Colo. Mar. 29, 2010) (taking judicial notice of driving distance between “two points located in the record using mapping services, such as Google Maps (<http://maps.google.com/>), whose accuracy cannot reasonably be questioned”); *United States v. Brown*, 636 F. Supp. 2d 1116, 1124 n.1 (D. Nev. 2009) (“Courts have generally taken judicial notice of facts gleaned from [I]nternet mapping tools such as Google Maps or Mapquest.”); *Clark*, 940 N.E.2d at 766 (stating “case law supports the proposition that information acquired from mainstream Internet sites such as Map Quest and Google Maps is reliable enough to support a request for judicial notice”).

¹⁴⁶ *McCormack v. Hiedeman*, 694 F.3d 1004, 1008 n.1 (9th Cir. 2012) (relying on judicial notice of Google Maps information that “[i]t is about 138 miles from Bannock County, Idaho to Salt Lake City, Utah”); *United States v. Harmon*, 871 F. Supp. 2d 1125, 1160 (D.N.M. 2012) (relying on Google Maps to take judicial notice that “[t]he distance between San Francisco and Albuquerque is approximately 1,086 miles traveling on Interstate Highway 40”); *Hooper v. Clark*, No. CIV S-08-1773-TJB, 2011 WL 445510, at *9 (E.D. Cal. Feb. 8, 2011) (evaluating tactical choice of counsel in part by determining, through Google Maps, that the witness’s testimony would have placed the defendant close to a burglary scene—a precise distance of “approximately 0.4 miles . . . or an eight minute walk”); *United States v. Sessa*, Nos. 92-CR-351(ARR), 97-CV-2079 (ARR), 2011 WL 256330, at *25 (E.D.N.Y. Jan. 25, 2011) (rejecting claim that reports constituted Brady material because discrepancies in addresses pertained to locations that, according to Google Maps, were “merely a few miles apart”); *Access 4 All, Inc. v. Boardwalk Regency Corp.*, Nos. 08-3817 (RMB/JS), 08-4679 (RMB/JS), 2010 WL 4860565, at *6 n.13 (D.N.J. Nov. 23, 2010) (taking judicial notice via Google Maps that “all three beach towns are located over one hour from Atlantic City”); *Rindfleisch*, 752 F. Supp. 2d at 259 n.13 (taking judicial notice of travel distances in evaluating request for change of venue); *Warwick v. Univ. of the Pac.*, No. C 08-03904 CW, 2010 WL 2680817, at *3 n.8 (N.D. Cal. July 6, 2010) (taking “judicial notice that Ukiah is approximately 100 miles from San Quentin, a drive of approximately two hours” and citing Google Maps); *Super 8 Motels, Inc. v. Rahmatullah*, No. 1:07-cv-01358-DFH-DML, 2009 WL 2905463, at *8 (S.D. Ind. Sept. 9, 2009) (taking judicial notice via Google Maps and Google Earth of distance between franchises in contract dispute); *People v. Stiff*, 904 N.E.2d 1174, 1183 (Ill. App. Ct. 2009) (taking judicial notice of short distance victim travelled after injuries to support conclusion that victim’s statement should have been allowed as an excited utterance). Courts do this even for locations in foreign countries. See, e.g., *Rezende v. Citigroup Global Mkts. Inc.*, No. 09 Civ. 9392(HB)(DF), 2011 WL 1584607, at *20 n.27 (S.D.N.Y. Mar. 11, 2011) (taking “judicial notice that ACF Rivera Center is approximately a 10-minute drive from Rezende’s home address” and citing Google Maps).

reflects reliance on not just the basic map feature, but also Google's satellite imagery to discern the physical contours of an area and nearby landmarks.¹⁴⁷ Courts also take judicial notice of the estimates of driving (or walking) times provided by the website.¹⁴⁸ In at least one case, a court appeared to rely on information that could only be obtained through Google Street View, which provides street level photographs of various locations.¹⁴⁹

By taking judicial notice, courts (and litigators) skip over thorny evidentiary questions such as: are the maps accurate (or in authentication terms, do they reflect what they purport to show) and what hearsay exception allows the court to consider out-of-court statements by Google as to relative locations, driving distances, and so on, for the truth of the matter asserted. Further, judicial notice allows the parties to introduce information procured from the Internet without the expense and delay of subpoenaing Google employees.

In the opinions to date, there seems to be little controversy as to the propriety of using Google Maps to judicially notice facts that would otherwise be proven by the parties. Courts see the practice as self-evidently proper, often citing Justice Jackson's assertion in a 1952 case: "We may, of course, take judicial notice of geography."¹⁵⁰ The steady march of technology has rendered the implications of Justice Jackson's view that judges could recognize that driving to New York City was impossible

¹⁴⁷ *United States v. Perea-Rey*, 680 F.3d 1179, 1182 n.1 (9th Cir. 2012) (taking judicial notice of "a Google map and satellite image" for "the purpose of determining the general location" of a home that was the subject of a suppression motion); *United States v. Lente*, 759 F. Supp. 2d 1305, 1317 n.7 (D.N.M. 2010) (taking judicial notice "of the geographic data contained on the Isleta Pueblo's website as well as Google maps of the Isleta Pueblo and surrounding areas" for purposes of concluding at sentencing that a drunk driver's conduct created a high danger to others); *United States v. Sedillo*, No. CR 08-1419 JB, 2010 WL 965743, at *3 n.2 (D.N.M. Feb. 19, 2010) (taking judicial notice sua sponte that a road was well traveled in evaluating suppression motion, based on "the Court's personal experience [of] . . . New Mexico, supplemented by a search via Google Maps to pinpoint precisely where, on Louisiana Boulevard, 330 Louisiana is located"); *United States v. Stewart*, No. 3:07cr51, 2007 WL 2437514, at *1 (E.D. Va. Aug. 22, 2007) (taking judicial notice of features of area for purposes of suppression motion).

¹⁴⁸ *Dynka v. Norfolk S. Ry. Corp.*, No. 09-4854, 2010 WL 2490683, at *1 n.2 (E.D. Pa. June 15, 2010) ("The distances listed here are driving distances, and were calculated using Google Maps (www.maps.google.com, last accessed June 13, 2010), as is common practice.").

¹⁴⁹ *Daniels v. 1710 Realty L.L.C.*, No. 10-CV-0022 (RER), 2011 WL 3648245, at *1 n.2 (E.D.N.Y. Aug. 17, 2011) (taking judicial notice, based on Google Maps, that with respect to a property at issue in the litigation "the commercial units occupy the ground [story], and the residential units occupy the top three [stories]").

¹⁵⁰ *Boyce Motor Lines, Inc. v. United States*, 342 U.S. 337, 344 (1952) (Jackson, J., dissenting); see, e.g., *Perea-Rey*, 680 F.3d at 1182 n.1 ("We take judicial notice of a Google map and satellite image . . . for the purpose of determining the general location of the home."); *Dynka*, 2010 WL 2490683, at *1 & n.2 (noting driving distances calculated by Google Maps).

without passing through “either tunnels, viaducts or bridges,”¹⁵¹ far more sweeping than the Justice likely could have imagined.

2. *Wikipedia*.—Opposite Google Maps on the spectrum of online sources accepted by courts is Wikipedia. “Citing Wikipedia is as controversial as it is common.”¹⁵² Wikipedia is a user-generated online encyclopedia, which means that, with limited exceptions, anyone can edit its entries.¹⁵³ Though courts often cite Wikipedia to support their reasoning, they have generally declined requests to take judicial notice of facts found within its entries.¹⁵⁴ Although written analysis is sparse, courts may be concluding that Wikipedia is not a “source[] whose accuracy cannot reasonably be questioned.”¹⁵⁵ At least one commentator agrees.¹⁵⁶ Lee Peoples reviewed hundreds of cases that referenced Wikipedia and located two where judicial notice, via Wikipedia, was granted. In one, a court relied on Wikipedia to take judicial notice that “urea is an acid having a very low pH.”¹⁵⁷ In another, a court relied on Wikipedia to take judicial notice of the “fact that the South Philadelphia Sports Complex houses the city’s professional sports teams, and incorporates the currently-named Wachovia Center, Wachovia Spectrum, Lincoln Financial Field, and Citizens Bank Park.”¹⁵⁸ Professor Peoples criticizes these cases, arguing that Wikipedia is not a source “whose accuracy cannot be reasonably questioned,”¹⁵⁹ and thus “information obtained from Wikipedia should not be judicially noticed in the future.”¹⁶⁰ Aside from the few examples noted above, the courts so far seem to agree.

III. A FRAMEWORK FOR JUDICIAL NOTICE IN THE INFORMATION AGE

Courts are already taking judicial notice of information found online.¹⁶¹ The real concern is the haphazard and poorly theorized method by

¹⁵¹ *Boyce Motor Lines*, 342 U.S. at 344 (Jackson, J. dissenting).

¹⁵² *Fire Ins. Exch. v. Oltmanns*, 285 P.3d 802, 807 (Utah Ct. App. 2012) (Voros, J., concurring).

¹⁵³ *About*, WIKIPEDIA, <http://en.wikipedia.org/wiki/Wikipedia:About> (last updated May 14, 2014).

¹⁵⁴ Lee F. Peoples, *The Citation of Wikipedia in Judicial Opinions*, 12 YALE J.L. & TECH. 1, 7–13 (2009) (“Most courts have wisely refused to take judicial notice of Wikipedia content.”).

¹⁵⁵ FED. R. EVID. 201(b)(2).

¹⁵⁶ Peoples, *supra* note 154, at 14–15 (“Wikipedia entries are not proper subjects for judicial notice under Federal Rule of Evidence 201(b) because they are not indisputable.”).

¹⁵⁷ *Id.* at 13 (quoting *Helen of Troy, L.P. v. Zotos Corp.*, 235 F.R.D. 634, 639–40 (W.D. Tex. 2006)).

¹⁵⁸ *Id.* at 14 (quoting *Aquila v. Nationwide Mut. Ins. Co.*, No 07-2696, 2008 WL 4899359, at *1 n.4 (E.D. Pa. Nov. 13, 2008)).

¹⁵⁹ *Id.* at 16.

¹⁶⁰ *Id.* at 14.

¹⁶¹ See Margolis, *supra* note 9, at 194 (arguing that the “time for lamenting the changes wrought by the Internet and resisting the use of electronic materials has passed” and that it is now “time to develop more nuanced norms for when and how electronic materials should be used”).

which courts apply judicial notice rules to the Internet.¹⁶² The blame for this does not fall solely on the courts. The absence of a framework for the application of judicial notice is a tradition that predates the Internet. Treatises mirror the case law they describe, providing, “with some trepidation,” ad hoc samplings of the “numerous and varied” examples of judicial notice in the cases, but little analysis of patterns in the jurisprudence or guidance about the propriety of these rulings.¹⁶³ Outside of the treatises, scholars have grown silent on the topic of judicial notice, a notable change for a topic that was once a central battleground of academic debate.¹⁶⁴ A framework for judicial notice is long overdue. This new framework could bring consistency and clarity to judicial notice in the digital era, while also tethering the process to Rule 201. Channeling the application of judicial notice through the proposed framework will enhance fairness and legitimacy and, potentially, improve “the search for truth.”¹⁶⁵ After first highlighting some potential benefits of a consistent and rational application of judicial notice to Internet sources, this Part sketches the contours of a proposed framework for analyzing judicial notice in the Information Age.

A. *Potential Benefits of Judicial Notice of Internet Sources*

Several factors make the prospect of more widespread and rational judicial notice of online sources attractive. Most obviously, the exercise can bring reliable information into the decision-making process, leading to more accurate determinations. In addition, online information is available to everyone and easy to access.¹⁶⁶ Counsel need not worry about whether the Internet will cooperate, assert a Fifth Amendment privilege, or slant its story when approached by one party or the other to litigation. Google Maps cooperates with all on equal terms—it does not change its story based on the inquirer. Further, using the Internet is largely free of charge (or, more precisely, free of incremental costs). Even websites that do assess a fee are

¹⁶² Thornburg, *supra* note 19, at 161 (noting that “the law regarding judicial notice is . . . untidy”); 21B WRIGHT & GRAHAM, *supra* note 9, § 5103.3 (noting that “[o]ne of the impediments to developing the scope of Rule 201” is that in “many cases . . . courts take judicial notice without mentioning Rule 201 and without explaining why it does not apply”).

¹⁶³ 2 MICHAEL H. GRAHAM, HANDBOOK OF FEDERAL EVIDENCE § 201:3 (7th ed. 2012) (providing “typical and by no means exclusive illustrations” of judicial notice based on sources whose accuracy cannot reasonably be questioned); 21B WRIGHT & GRAHAM, *supra* note 9, § 5106.3 (“We follow with some trepidation the practice of treatises that collect and categorize cases holding that facts were properly or improperly noticed as ‘ascertainable facts.’”).

¹⁶⁴ See *supra* Part I.C.

¹⁶⁵ *United States v. Nixon*, 418 U.S. 683, 710 (1974).

¹⁶⁶ See LEE RAINIE, PEW INTERNET & AM. LIFE PROJECT, THE INTERNET AS A DIVERSION AND DESTINATION 6 (2011), available at http://www.pewinternet.org/files/2011/12/PIP_Logging-on-for-fun.pdf; cf. *Plyler v. Doe*, 457 U.S. 202, 216 n.14 (1982) (expressing “constitutional understanding that each person . . . is entitled to equal justice under the law”).

generally less expensive than analogous sources of information, such as experts. An overburdened, under-motivated, resource-strapped public defender can review, and seek judicial notice of, the same websites as the most high-powered, well-funded white-collar defender. Finally, by removing unnecessary evidentiary obstacles, judicial notice preserves court time and resources, while also decreasing the burden on witnesses who might otherwise have to testify on uncontroversial points, such as the authenticity of a printout from Google Maps or the owner of the website, “www.mcdonalds.com.”

Another consideration is that jurors already have independent access to online information. There is, consequently, no guarantee that courts can shut off access to the Internet even if they want to. Jurors confused about the geography where an incident took place, the weather on the date in question, or the chemical properties of a substance will be sorely tempted to look it up themselves. The temptation has always existed for jurors to do independent research, but the ease with which they can do so has changed dramatically.¹⁶⁷ Judges warn jurors not to visit the crime scene, and jurors (mostly) comply.¹⁶⁸ But will they visit the crime scene remotely via Google Maps? It may be better to funnel this curiosity through an open, transparent and (more likely) accurate process of judicial notice, than to leave it unregulated and in the shadows.

B. Deriving the Contours of a New Framework

Once the necessity for a modern framework to regulate judicial notice is accepted, the next question concerns the contours of that framework. The framework’s parameters in turn depend on a recognition of the dangers of introducing online information into courts. Many of those dangers are familiar. Principally, courts ought not take judicial notice of inaccurate information. Inaccuracy can result from the poor quality of the source material or bias on the part of its authors. Because taking judicial notice usually precludes cross-examination of the material’s creator and the material will have a judicial imprimatur, inaccuracy is a critical concern. Online sources are often authored anonymously and not (necessarily) by experts in the subject matter. Websites can be maintained fairly cheaply, and their editors may not possess sufficient resources to determine information accurately, being satisfied instead to publish information that is possibly true, “truthy,”¹⁶⁹ or close enough. Other dangers are new, or exacerbated, in the online world. Information on the Internet changes rapidly and can be manipulated more readily than physical sources. For example, it is unlikely that an interested party could write and publish a

¹⁶⁷ Hoffmeister, *supra* note 19, at 422; Morrison, *supra* note 19, at 1586–88.

¹⁶⁸ *Sherman v. Smith*, 89 F.3d 1134, 1135 (4th Cir. 1996) (en banc) (reviewing challenge to murder conviction based on juror’s unauthorized visit to crime scene).

¹⁶⁹ *Truthiness*, WIKIPEDIA, <http://en.wikipedia.org/wiki/Truthiness> (last modified Apr. 16, 2014).

book, sell the book to a nearby library, and subsequently seek judicial notice of information from the book in the course of a judicial proceeding. Someone could, however, create a website in a short time frame solely to influence ongoing litigation.¹⁷⁰

Identifying the principal dangers of judicial notice of online material goes a long way toward signaling the types of factors that courts should focus on when determining whether judicial notice is proper. This is not, however, an exercise in policymaking. Any approach to judicial notice must be faithful to the text and intent of Rule 201. And although the rule is sparse, it provides guidance nonetheless.

C. The Framework

A much-needed new framework for analysis would increase predictability and consistency in judicial rulings and ensure that courts taking judicial notice of online sources adhere to the requirements of Rule 201.¹⁷¹ This Part articulates a new framework for judicial notice in the Information Age. Importantly, the proposed framework does not require any changes to existing law. It simply guides courts as they apply the familiar dictates of Rule 201 to unfamiliar forms of online evidence.

Assuming a relevant “adjudicative fact”¹⁷² can be gleaned from an online source, the propriety of judicial notice hinges on the reliability of the source. Rule 201 requires a court to take judicial notice upon request if the fact sought to be noticed “is not subject to reasonable dispute because it . . . can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned.”¹⁷³ A vast array of facts available online may be capable of being “accurately and readily determined” in ways that were likely never imagined when Rule 201 was drafted. The key analytical question is whether the reliability of the source from which the fact can be determined can “reasonably be questioned.”

To answer this question, courts should examine at least three attributes of the online source: (1) knowledge of the subject matter, (2) independence from relevant bias, and (3) incentive to ensure accuracy. No source, online or otherwise, is without possibility of error. A candid assessment of these three factors, however, will result in numerous determinations that

¹⁷⁰ E.g., Teri Thompson et al., *News Uncovers Bizarre Plot by Melky to Use Fake Website and Duck Drug Suspension*, N.Y. DAILY NEWS, Aug. 19, 2012, at 4 (“Melky Cabrera created a fictitious website and a nonexistent product designed to prove he inadvertently took [a] banned substance . . .”).

¹⁷¹ 21B WRIGHT & GRAHAM, *supra* note 9, § 5106.2 (2d ed. Supp. 2013) (noting that “[s]ome courts, without any consideration of the issues raised, have used Internet materials as sources of judicial notice”).

¹⁷² For a discussion of “adjudicative facts,” see *supra* Part I.C.

¹⁷³ FED. R. EVID. 201(b)(2). Judicial notice is also required if the fact is not subject to reasonable dispute and “is generally known within the trial court’s territorial jurisdiction.” *Id.* 201(b)(1).

reputable Internet sources come within Rule 201's scope and can, thus, help fact-finders resolve disputes in courtrooms across the country.¹⁷⁴

1. Knowledge of the Subject Matter.—The most obvious criterion for evaluating the reliability of an Internet source is to assess the expertise of its author. Many websites exist solely to disseminate the findings of exceedingly qualified experts to the public.¹⁷⁵ Websites maintained by the National Oceanic and Atmospheric Administration¹⁷⁶ or other weather forecasting sites fall into this category, as do other government sources such as the Bureau of Justice Statistics.¹⁷⁷ Medical websites like WebMD also provide expert knowledge to the masses.¹⁷⁸ In assessing whether the accuracy of information drawn from these sites can “reasonably be questioned” under Rule 201, the author’s expertise is of critical importance. Courts should be less willing to take judicial notice of information appearing on websites run by anonymous or relatively unknown authors, or authors who possess no discernible expertise.

The benefit to the fact finder of hearing from witnesses with pertinent knowledge or specialized expertise is well accepted and constitutes a recurring theme in the evidence rules. The Federal Rules require all witnesses, other than experts, to testify from “personal knowledge.”¹⁷⁹ Rules 701 and 702 bar most witnesses from providing opinion testimony, but exempt “[a] witness who is qualified as an expert” from that prohibition.¹⁸⁰ Expert witnesses are given wide latitude in testifying; unlike

¹⁷⁴ Cf. *Wells Fargo Bank, N.A. v. Favino*, No. 1:10 CV 571, 2011 WL 1256771, at *9 n.2 (N.D. Ohio Mar. 31, 2011) (stating that courts have interpreted Rule 201 to permit the taking of judicial notice of “public records and government documents available from reliable sources on the Internet”).

¹⁷⁵ *City of Monroe Emps. Ret. Sys. v. Bridgestone Corp.*, 399 F.3d 651, 655 n.1 (6th Cir. 2005) (taking judicial notice of relevant definition in the case by reference to the National Association of Securities Dealers, Inc. (NASD) website).

¹⁷⁶ E.g., NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, <http://www.noaa.gov/wx.html> (last visited May 14, 2014).

¹⁷⁷ E.g., BUREAU OF JUSTICE STATISTICS, <http://bjs.gov/> (last visited May 14, 2014); see also *Gent v. CUNA Mut. Ins. Soc’y*, 611 F.3d 79, 84 n.5 (1st Cir. 2010) (taking judicial notice of “information . . . taken primarily from the website of the Center for Disease Control and Prevention (‘CDC’), a U.S. federal agency under the Department of Health and Human Services” and explaining that the information is “not subject to reasonable dispute”); *J&J Sports Prods., Inc. v. Cal City Post*, No. 476, No. 1:10-cv-00762 AWI JLT, 2011 WL 2946178, at *8 n.5 (E.D. Cal. July 21, 2011) (“The United States Census Bureau is a source whose accuracy cannot reasonably be questioned, and . . . the Internet website for the United States Census Bureau, and facts included therein, are subject to judicial notice.”); *Favino*, 2011 WL 1256771, at *9 (taking judicial notice of fact that the Wells Fargo is a “national bank” by reviewing a list on the “Office of the Comptroller of the Currency’s website”); *Total Benefits Planning Agency Inc. v. Anthem Blue Cross & Blue Shield*, 630 F. Supp. 2d 842, 849 (S.D. Ohio 2007) (citations omitted) (“Public records and government documents are generally considered ‘not to be subject to reasonable dispute.’ This includes public records and government documents available from reliable sources on the Internet.”).

¹⁷⁸ WEBMD, <http://www.webmd.com> (last visited May 14, 2014).

¹⁷⁹ FED. R. EVID. 602.

¹⁸⁰ *Id.* 702.

all other witnesses, experts can base their testimony on hearsay and other inadmissible information.¹⁸¹ These rules do not apply directly to the judicial notice inquiry, of course, but their emphasis on the importance of pertinent knowledge and expertise support the broader connection between knowledge or expertise and the reliability of a particular source.

2. *Independence from Relevant Bias.*—In assessing whether the accuracy of a source can “reasonably be questioned,” courts should next consider potential bias. A source may possess the requisite knowledge, but nevertheless be unreliable because it presents information in a misleading manner.¹⁸² Potential bias will, consequently, often be fatal to a request for judicial notice because the judicial notice rules do not contemplate subsequent argument and cross-examination about the noticed facts. The Supreme Court’s classic response in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* to the argument that Rule 702 (as interpreted) allowed too much “junk” science into evidence hinged on the notion that simply admitting expert testimony does not mean it will be taken as true by the jury.¹⁸³ Instead, “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”¹⁸⁴ In the context of judicial notice, the adversary system cannot remedy the admission of “shaky” evidence. In fact, Rule 201 commands that in civil cases “the court must instruct the jury to accept the noticed fact as conclusive.”¹⁸⁵ Consequently, in circumstances where a knowledgeable source has an incentive to shade the facts presented in a manner that matters to the litigation, judicial notice becomes problematic. Straightforward examples include efforts to take judicial notice of information contained on websites for trade associations, companies, and political advocacy groups.¹⁸⁶

Importantly, for bias to matter in this context, it must be “relevant” bias. If the potential bias cuts against (rather than in the same direction as) the judicial notice sought, it can be discounted—although not ignored completely. For example, the New York City Police Department’s website

¹⁸¹ *Id.* 701–03; *accord id.* 602 (requiring witnesses to testify based on “personal knowledge,” but stating that the rule “does not apply to a witness’s expert testimony under Rule 703”).

¹⁸² *Cf.* *Exxon Shipping Co. v. Baker*, 554 U.S. 471, 501 n.17 (2008) (declining to rely on studies regarding inconsistency of punitive damage awards because the underlying “research was funded in part by Exxon”).

¹⁸³ 509 U.S. 579, 595 (1993).

¹⁸⁴ *Id.* at 596.

¹⁸⁵ FED. R. EVID. 201(f).

¹⁸⁶ *United States ex rel. Dingle v. BioPort Corp.*, 270 F. Supp. 2d 968, 973 (W.D. Mich. 2003) (declining to take judicial notice “of information posted on three private websites dedicated to the anthrax vaccine” because the “information contained on these websites is subject to reasonable dispute” and “the Court could not verify the information found on these websites for accuracy or authenticity”).

constitutes a plausible source for statistics regarding crime in the city.¹⁸⁷ A critic, however, might argue that the NYPD has an incentive to skew these statistics to suggest less crime than actually exists.¹⁸⁸ If, then, a public defender seeks to use the crime statistics to show the *prevalence* of crime in a certain neighborhood, the identified bias cuts against the fact sought to be established, and a court could reasonably conclude that the identified bias does not undermine the evidentiary value of the proffered information.¹⁸⁹ The concept of allowing evidence from biased sources so long as the potential bias cuts against the proffered showing is familiar in the rules. Hearsay exceptions, for example, often permit statements from biased out-of-court speakers if the statements cut against the grain of the witness's bias, but not otherwise.¹⁹⁰

3. *Motivation to Ensure the Accuracy of the Posted Information.*—A well-informed source, free from bias, may still disseminate inaccurate information. Incentives matter. Taking the time to collect and post accurate information is an arduous task. Those websites that are more likely to invest the resources to get information right are sites that will suffer consequences when the information they disseminate is inaccurate. Different websites operate under different incentives. The primary incentive for accuracy on the Internet, however, is monetary. Websites thrive on viewers, seeking “hits” to maintain advertising revenue and prestige. The websites that attract viewers based on the reliability of their information have an incentive to ensure accuracy.¹⁹¹ Websites are tested countless times a day, and visitors will not return if the sites fail to provide the accurate information they seek. Google Maps must accurately portray the desired route, or people will turn elsewhere (to other Internet sources or other mapping services entirely, including paper maps), and Google will

¹⁸⁷ See generally *Crime Statistics*, N.Y.C. POLICE DEP'T, http://www.nyc.gov/html/nypd/html/crime_prevention/crime_statistics.shtml (last visited May 14, 2014).

¹⁸⁸ E.g., Raymond Paternoster, *How Much Do We Really Know About Criminal Deterrence?*, 100 J. CRIM. L. & CRIMINOLOGY 765, 796 (2010) (“[Q]uestions have been raised about the veracity of the NYPD’s crime statistics program . . .”); Joseph Goldstein, *Audit of City Crime Statistics Finds Mistakes by Police*, N.Y. TIMES, July 3, 2013, at A21.

¹⁸⁹ *O’Toole v. Northrop Grumman Corp.*, 499 F.3d 1218, 1225 (10th Cir. 2007) (trial court should have taken judicial notice of earnings information from Northrop Grumman’s website and asserting that Northrop Grumman had failed to explain “why its own website’s posting of historical retirement fund earnings is unreliable”).

¹⁹⁰ FED. R. EVID. 801(d)(2) (exempting various forms of “opposing party’s statement[s],” including co-conspirator statements, from hearsay ban); *id.* 804(b)(3) (statements against interest); *cf. id.* 803(6); *Palmer v. Hoffman*, 318 U.S. 109, 113 (1943) (business records inadmissible when prepared for purposes of litigation).

¹⁹¹ I MUELLER & KIRKPATRICK, *supra* note 144, § 2:5 (recognizing “continual use” and “commercial pressure” as mechanisms that may ensure the accuracy of Internet sources to a degree that judicial notice is proper).

lose revenue.¹⁹² “Weather.com” will quickly fade from prominence if on days when freezing rain creates hazardous conditions, the site predicts it will be sunny and clear. A website that purports to be the “periodic table on the web”¹⁹³ will have trouble maintaining its existence if it incorrectly represents the atomic number of boron. None of this, of course, is to say that information contained on these websites is always correct. But a strong incentive to ensure the accuracy of factual information posted on a website strengthens the claim that a source is one whose “accuracy cannot reasonably be questioned” under Rule 201.

Similar to bias, an independent incentive to maintain the accuracy of data is a familiar consideration in the evidence rules. This is the primary consideration in the privileged position given to “public records” and “business records” in the hearsay rules. These data compilations are admissible even if hearsay, and can often be self-authenticating.¹⁹⁴ The rationale for these exceptions is that “such documents have a high degree of reliability because businesses [and government officials] have incentives to keep accurate records.”¹⁹⁵ A similar sentiment can be found in the hearsay exception for “[m]arket quotations, lists, directories, or other compilations that are generally relied on by the public or by persons in particular occupations.”¹⁹⁶ The Advisory Committee notes to the exception explain that the “basis of trustworthiness” for this type of evidence is “general reliance by the public or by a particular segment of it, and the motivation of the compiler to foster reliance by being accurate.”¹⁹⁷ The sentiment seamlessly maps onto the judicial notice analysis.

4. *Other Factors.*—The above considerations are not exhaustive. Rule 201 makes no claim to cabin the factors that can be considered in assessing the propriety of judicial notice. Consequently, a court can take into account other factors in determining whether an online source’s

¹⁹² See David Pogue, *A Map App, as Sleek as iPhone 5, Is Often Off*, N.Y. TIMES, Sept. 27, 2012, at B1.

¹⁹³ See *Periodic Table of the Elements*, WEBELEMENTS, <http://www.webelements.com> (last visited May 14, 2014).

¹⁹⁴ FED. R. EVID. 803(6)–(10) (hearsay exceptions); *id.* 902(1)–(2) (authentication); *id.* 902 (self-authentication); *cf. id.* 702 advisory committee’s notes (noting as a factor in determining reliability of expert testimony, whether the expert will testify “about matters growing naturally and directly out of research they have conducted independent of the litigation”).

¹⁹⁵ *Timberlake Constr. Co. v. U.S. Fidelity & Guar. Co.*, 71 F.3d 335, 341 (10th Cir. 1995); *United States v. Snyder*, 787 F.2d 1429, 1433–34 (10th Cir. 1986) (“The business records exception is based on a presumption of accuracy, accorded because the information is part of a regularly conducted activity, kept by those trained in the habits of precision, and customarily checked for correctness, and because of the accuracy demanded in the conduct of the nation’s business.”).

¹⁹⁶ FED. R. EVID. 803(17).

¹⁹⁷ *Id.* Advisory Committee’s Notes. Interestingly, this obscure hearsay exception provides some authority for admitting online information over a hearsay objection, although it does not appear to have received any attention from scholars or courts.

accuracy can “reasonably be questioned.” The source may have a history of unreliability, it may unintentionally announce its inaccuracy through apparent errors, or consciously highlight its own pertinent flaws.¹⁹⁸ The existence of parallel sources (online or not) through which a fact can be verified,¹⁹⁹ or a history of courts taking judicial notice of a certain website, may also be persuasive.

Like there were in the common law history of judicial notice, there will inevitably be errors in application of this framework. But the key factor is to provide straightforward guidance for trial court analysis and a clear record for appellate review. To this end, Rule 201 requires that parties, upon request, have an opportunity “to be heard on the propriety of taking judicial notice.” In the hearing, a party opposed to judicial notice of the fact should be able to raise any plausible objection. The court’s inquiry should be akin to a common variant of the “reasonable doubt” instruction in criminal cases: “a doubt for which you can give a reason.”²⁰⁰ All sources can be impugned in fanciful and speculative ways. The question for a court confronted with a request to take judicial notice of a fact found on the Internet is simply whether there is some reason to question the source’s accuracy. If there is, such as a relevant potential bias, a lack of subject matter expertise, a history of unreliability, or an absence of incentive to maintain accurate records, the request must be denied.

D. Submitting Information to Support a Finding of Judicial Notice

As a general matter, the proponent of judicial notice will need to provide the judge with the “necessary information” establishing the accuracy of the proffered source.²⁰¹ The information establishing accuracy need not be admissible and can consist of documentation from the site, articles and descriptions of the website appearing in the media, and other sources.²⁰² An analogy can be drawn to Rule 104, which states that a court is “not bound by evidence rules” in deciding whether evidence is admissible.²⁰³ Rule 201 helpfully states that judicial notice must be taken if

¹⁹⁸ See, e.g., *Heist v. Cnty. of Colusa*, 213 Cal. Rptr. 278, 285 (Ct. App. 1984) (refusing to take judicial notice of information contained in document that contained disclaimer as to factual accuracy).

¹⁹⁹ 1 MUELLER & KIRKPATRICK, *supra* note 144, § 2:5 (noting that judicial notice is more appropriate where a fact is “stated over and over again in countless sources” and so can be verified easily enough by opposing parties).

²⁰⁰ See, e.g., *Vargas v. Keane*, 86 F.3d 1273, 1277 (2d Cir. 1996).

²⁰¹ 1 MUELLER & KIRKPATRICK, *supra* note 144, § 2:3 (party requesting judicial notice has burden of proving elements of Rule 201(b)).

²⁰² 21B WRIGHT & GRAHAM, *supra* note 9 § 5108 (“[T]he writers all suppose that Rule 201 and its state clones permit the use of inadmissible evidence in determining the propriety of judicial notice,” as was the case at common law).

²⁰³ FED. R. EVID. 104(a).

“the court is supplied with the necessary *information*,” anticipating a free flow of information to the judge, unconstrained by the rules of evidence.²⁰⁴

E. *The Process of Preserving Internet Sources*

The Federal Rules of Evidence do not mandate any set procedure to judicially notice a fact.²⁰⁵ However, the fleeting nature of Internet sources requires the development of a new process to memorialize the fact and source at issue.²⁰⁶ This process both guides judges’ analysis of expertise, independence, and motivation, and preserves that analysis and the source material for appellate review.

Assuming a judge chooses to “Google” a source and take judicial notice of a fact, the following procedures should be adopted as a matter of best practices. Primarily, they involve memorializing formal findings on the record. Although not mandatory, such a procedure would ensure a measure of accountability at both the trial and appellate stages.

First, in assessing the *expertise* of a new source of information, the trial court should make formal findings regarding several factors, including whether the expertise is based on experience, education, training, reputation, or specific research or knowledge in a particular discipline or subject area.²⁰⁷ These categories should be quite familiar because trial judges must routinely make similar decisions in admitting the testimony of expert witnesses.²⁰⁸ In the judicial notice context, however, the judicial task is more challenging because the determination is made without the adversarial process. There can be no voir dire of experts, no substantial exploration of qualifications, credentials, or relevant experience or knowledge. Faced with this reality, judges should make as detailed a record as possible of why this source is sufficiently expert to be relied upon. These findings will provide a concrete starting point for review on appeal.

Concerning *independence*, courts should make formal findings about why a particular source is independent enough to be judicially noticed. This process would be similar to evaluating a witness’s bias and motives to fabricate. The evaluation would include assessing possible financial

²⁰⁴ *Id.* 201(c)(2) (emphasis added).

²⁰⁵ The only requirements in the Rules involve: (1) how the court should take judicial notice, *id.* 201(c); (2) when the court should take judicial notice, *id.* 201(d); and (3) a provision allowing the opposition to be heard, *id.* 201(e).

²⁰⁶ See generally Patricia A. Broussard, *Now You See It Now You Don’t: Addressing the Issue of Websites Which Are “Lost in Space,”* 35 OHIO N.U. L. REV. 155, 156–57 (2009) (discussing the concern of scholarship based on websites that no longer exist); Raizel Liebler & June Liebert, *Something Rotten in the State of Legal Citation: The Life Span of a United States Supreme Court Citation Containing an Internet Link (1996–2010)*, 15 YALE J.L. & TECH. 273, 278 (2013) (finding that 29% of hyperlinks in Supreme Court opinions no longer function).

²⁰⁷ The findings should also include any other considerations that the trial court relied on in reaching the determination to take judicial notice.

²⁰⁸ See e.g., *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999).

interests, reputational interests, personal connections, and the like. Such a process is quite similar to ordinary credibility findings that judges make about witnesses, focusing on the clarity of information, consistency, believability, and appearance of honesty.²⁰⁹ Although courts cannot judge the “demeanor” of an online source, many of the same considerations are at play in evaluating impartiality. These findings should be recorded for analytical clarity and the record on appeal.

Finally, courts should make findings about *motivations*. As already stated, the rules of evidence are full of motivational considerations—statements against penal interest, present sense impressions, excited utterances. All are considered reliable because of the motivations behind the statements. Courts are well attuned to the practice of determining motivations, and can make accurate findings about these issues. For purposes of judicial notice, courts should evaluate the motivations for accuracy and memorialize this reasoning in formalized findings.

In addition to these findings, courts should also preserve a copy of the source material or memorialize it in some way. A printout of the source, including the time and date of the viewing, should be made part of the record. In this way, the source material will be preserved for appeal.²¹⁰ This type of transparency, preservation of the source, and judicial findings justifying reliance on the source will produce an accurate and reviewable record of judicial notice rulings as the practice evolves with Internet sources.

F. *The Sixth Amendment and Judicial Notice in Criminal Cases*

As a concession to the jury’s special constitutional role in criminal cases, Rule 201(f) requires a judge in a criminal trial to instruct the jury that it “may *or may not* accept” any judicially noticed fact as conclusive.²¹¹ This preserves the “spirit of the Sixth Amendment right to a jury trial” in criminal cases, and allows defense counsel to contest facts judicially noticed at trial.²¹² The Sixth Amendment right to confrontation raises additional concerns when the prosecution requests judicial notice to assist

²⁰⁹ Cf. *Marshall v. Lonberger*, 459 U.S. 422, 434 (1983) (“Face to face with living witnesses the original trier of the facts holds a position of advantage from which appellate judges are excluded.” (quoting *United States v. Or. State Med. Soc’y*, 343 U.S. 326, 339 (1952))).

²¹⁰ Having a preserved copy is important to this process, be it digital or in paper form, to be compared and discussed on appeal.

²¹¹ FED. R. EVID. 201(f) (emphasis added).

²¹² H.R. REP. NO. 93-650, at 7 (1973) (discussing Rule 201(g), which has been subsequently renumbered to Rule 201(f)); see also *United States v. Garland*, 991 F.2d 328, 333 (6th Cir. 1993) (“[I]n criminal cases, the parties may contest facts judicially noticed”); COMM. ON RULES OF PRACTICE & PROCEDURE OF THE JUDICIAL CONFERENCE OF THE U.S., PRELIMINARY DRAFT OF PROPOSED RULES OF EVIDENCE FOR THE UNITED STATES DISTRICT COURTS AND MAGISTRATES (1969), reprinted in 46 F.R.D. 161, 204–05 (discussing the distinction that in criminal cases the jury is not required to treat judicially noticed facts as adjudicative).

in proving a criminal case. In such circumstances, the defense may object that providing information to the jury authored by a witness who cannot be cross-examined violates the defendant's right to "be confronted with the witnesses against him."²¹³

After *Crawford v. Washington*, however, any objection to the judicial notice of Internet sources seems doomed.²¹⁴ In *Crawford* and its progeny, the Supreme Court determined that the Confrontation Clause only applies to "testimonial" evidence,²¹⁵ defined as statements "procured with a primary purpose of creating an out-of-court substitute for trial testimony."²¹⁶ Although not specifically addressed in the handful of post-*Crawford* Confrontation Clause cases, it seems unlikely that this definition will apply with any regularity to judicially noticed information from Internet sources. In rare circumstances where information appearing on the Internet was prepared for purposes of litigation, the Confrontation Clause may prohibit its introduction via judicial notice. In the vast majority of circumstances, however, Internet material is not created with this primary purpose, and so can be a proper subject of judicial notice, even if requested by the prosecution in a criminal trial.²¹⁷

IV. THE FRAMEWORK APPLIED: FOUR EXAMPLES

The previous Part sketches a framework that courts can use to assess the propriety of taking judicial notice of information found online under Rule 201. To illustrate its application, this Part applies the framework to examples using common online sources: Google Maps, WebMD, Zillow, and a website for a retail company. These examples are intended to represent a broad array of online sources so as to maximize their value in assessing analogous online sites.

²¹³ U.S. CONST. amend. VI; *see, e.g.*, *United States v. Kuai Li*, 280 F. App'x 267, 269 (4th Cir. 2008) (rejecting the contention that the district court violated the confrontation clause by taking judicial notice).

²¹⁴ 541 U.S. 36 (2004).

²¹⁵ *Whorton v. Bockting*, 549 U.S. 406, 419–20 (2007) (clarifying that Confrontation Clause is not implicated by nontestimonial statements); *Crawford*, 541 U.S. at 68–69 ("Where testimonial statements are at issue, the only indicium of reliability sufficient to satisfy constitutional demands is the one the Constitution actually prescribes: confrontation.").

²¹⁶ *Michigan v. Bryant*, 131 S. Ct. 1143, 1155 (2011); *see also* Jeffrey Bellin, *The Incredible Shrinking Confrontation Clause*, 92 B.U. L. REV. 1865, 1867–68 (2012) (describing the "dramatic" evolution of Confrontation Clause jurisprudence from *Crawford* to *Bryant*).

²¹⁷ *Bryant*, 131 S. Ct. at 1155 & n.9 (emphasizing Confrontation Clause's inapplicability to statements "not [procured] to create a record for trial" and "not procured with a primary purpose of creating an out-of-court substitute for trial testimony"). As Confrontation Clause scrutiny wanes, the Supreme Court has hinted that amorphous "due process" protections may take its place. *See id.* at 1162 n.13. There are few signs, however, that these due process protections will have significant teeth. *See* Jeffrey Bellin, *Applying Crawford's Confrontation Right in a Digital Age*, 45 TEX. TECH L. REV. 33, 47–49 (2012) (analyzing the role for due process in protecting defendants from the introduction of unreliable, unconfuted hearsay after *Crawford*).

A. *Basic Geography Using Google Maps*

Consider a situation in which a prosecutor seeks to prove the distance between a defendant selling drugs and an elementary school. Such evidence is often critical to establish certain crimes and enhancements.²¹⁸ The prosecutor will presumably have already introduced evidence pinpointing the location of the drug sale. At this point, the prosecutor could ask the judge to take judicial notice, using Google Maps, to establish that the alleged drug deal took place adjacent to a school.

To determine the propriety of judicial notice, the judge should evaluate the source's reliability by considering the factors sketched out in the previous section: (i) knowledge of the subject matter, (ii) independence from relevant bias, and (iii) incentive to ensure accuracy. In most instances where counsel offers online sources for purposes of judicial notice, the proponent will need to make an affirmative showing on these factors.²¹⁹ Google Maps may be different. The website is so well known and enjoys such broad use that it may have achieved a status akin to Webster's Dictionary, permitting judicial notice of the accuracy of the site itself.²²⁰ If the judge does not consider Google Maps' accuracy to be "commonly known," counsel can offer journalistic descriptions of Google Maps' process as well as information provided by the site that can inform the reliability assessment.²²¹ Defense counsel must be provided an opportunity "to be heard on the propriety of taking judicial notice."²²² The judge should consider any defense objections pertaining to why the proximity of the alleged drug deal to the school is not a fact that "can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned" under Rule 201.²²³

Assuming a basic understanding of the workings of Google Maps, a judge will likely be convinced that judicial notice of the proximity of the alleged drug deal to the elementary school via the website is proper. The

²¹⁸ *E.g.*, *United States v. Robles*, 814 F. Supp. 1249, 1253 (E.D. Pa. 1993) (discussing federal sentencing enhancement for selling drugs near a school and methods of proving the same). For an example of a statutory violation that is dependent upon geographical location, see CAL. PENAL CODE § 3003.5(b) (West 2011) ("[I]t is unlawful for any person for whom [sex offender] registration is required . . . to reside within 2000 feet of any public or private school, or park where children regularly gather."). Geography is important in many other cases as well, such as providing information about the likelihood that a person arrested in one location might have committed a crime at another location.

²¹⁹ See *supra* Part III.D.

²²⁰ 21B WRIGHT & GRAHAM, *supra* note 9, § 5106.2 (noting that in some circumstances, "the accuracy of the source may be judicially noticed as 'commonly known'").

²²¹ See Alexis C. Madrigal, *How Google Builds Its Maps—and What It Means for the Future of Everything*, ATLANTIC MONTHLY (Sept. 6, 2012, 3:27 PM), <http://www.theatlantic.com/technology/archive/2012/09/how-google-builds-its-maps-and-what-it-means-for-the-future-of-everything/261913/> (describing process by which Google ensures accuracy of its maps).

²²² FED. R. EVID. 201(e).

²²³ *Id.* 201(b)(2).

first factor for consideration is Google Maps' knowledge of the subject matter. Here, it is clear that the authors of the information on Google Maps have a comprehensive knowledge of local geography gleaned from official maps and first-hand observation.²²⁴ In addition, the employees at Google Maps are experts in applying a process of mapmaking designed with numerous safeguards, including cars that patrol for errors, or what Google calls "ground truthing" its maps.²²⁵ With respect to the second consideration, bias, there is no plausible argument that Google Maps is biased in any relevant way in its presentation of geography. As for incentive to be accurate, Google Maps has a powerful financial incentive to ensure the accuracy of its maps and possesses the resources necessary to act on that incentive.²²⁶ If Google Maps is consistently inaccurate, people will not use the site, and Google will suffer reputational harm and financial loss.

Given this analysis, and in the absence of counterarguments that the online map is unreliable in this instance, the court should take judicial notice under Rule 201. Because this is a criminal case, the jury will be instructed that it "may or may not accept the noticed fact as conclusive," leaving wiggle room for the defense counsel to argue any flaws in the prosecution's low-effort, although highly convincing, method of proof.²²⁷ As noted *supra*, a judge in the common law era, familiar with the geography of the case, may very well have taken judicial notice of this same fact, but without Google Maps.²²⁸ Technology, and the tireless efforts of Google's employees, makes the process more sophisticated, more accurate, and more transparent

B. Medical Information from WebMD

Imagine that the parties in a civil suit are litigating an allegation that the plaintiff, suffering from migraine headaches and sensitivity to bright lights used in the workplace, was fired in violation of the Americans with Disabilities Act. Could a court, confronted with a dearth of expert testimony on the subject, take judicial notice of the symptoms of migraines as described on WebMD, including "sensitivity to light, noise or odors"?²²⁹

²²⁴ Madrigal, *supra* note 221.

²²⁵ *Id.*

²²⁶ Scott DeCarlo, *The World's 25 Most Valuable Companies: Apple Is Now on Top*, FORBES (Aug. 11, 2011, 10:27 AM), <http://www.forbes.com/sites/scottdecarlo/2011/08/11/the-worlds-25-most-valuable-companies-apple-is-now-on-top/> (listing Google as the twelfth most valuable company in the world).

²²⁷ FED. R. EVID. 201(f).

²²⁸ See *supra* Part I.B.

²²⁹ *Migraines & Headaches Health Center*, WEBMD, <http://www.webmd.com/migraines-headaches/tc/migraine-headaches-symptoms> (last visited May 14, 2014) [hereinafter *Migraines*].

The question, again, comes down to whether the existence of these symptoms is a fact that “can be accurately and readily determined from” a source “whose accuracy cannot reasonably be questioned.”²³⁰ With respect to knowledge, medical experts edit WebMD, and the page in question notes the name of its reviewer (a medical doctor) and the date of the last review.²³¹ The reviewer’s credentials are provided on a separate page on the WebMD site.²³² With respect to the symptoms of migraines, there is no obvious reason to question the site’s impartiality. As to accuracy, WebMD, like Google Maps, depends on visitors for income, and the site will lose those visitors (and subsequently money from advertising revenue) if its information is perceived to be inaccurate.²³³ An additional factor is that the typical symptoms of migraines can be found in any number of sources, located on the Internet and elsewhere.²³⁴ If these sources do not agree that sensitivity to light is a common symptom of the affliction, opposing counsel can easily raise that point and derail the judicial notice effort.

If there are any reasons to question the accuracy of WebMD on this point, they are not apparent and will have to be raised by the party opposing the request for judicial notice. In the absence of any challenge, and given the fairly conventional information at issue, the trial court should take judicial notice of the above-described symptoms of migraine headaches based on the WebMD source. These symptoms of a migraine headache are a proper subject of judicial notice. They are “not subject to reasonable dispute” because they can be “accurately and readily determined from sources whose accuracy cannot reasonably be questioned.”²³⁵

C. Property Values on Zillow

A third example of applying the judicial notice framework concerns the value of a house listed on the popular real estate website, Zillow.²³⁶

²³⁰ FED. R. EVID. 201(b)(2).

²³¹ *Migraines*, *supra* note 229; see also Art Chimes, *Website of the Week—WebMD*, VOICE OF AM. <http://www.voanews.com/content/a-13-2008-09-12-voa20/405489.html/> (last updated Nov. 1, 2009) (stating that “everything is reviewed by experts” and quoting the WebMD Chief Medical Editor that “every piece of content on our site actually goes through a doctor’s eyes. A board-certified physician will look at the content, make sure it’s up to date, accurate, and doesn’t have anything misleading that might be misconstrued by a lay audience”); *Editorial Policy*, WEBMD, <http://www.webmd.com/about-webmd-policies/about-editorial-policy> (last visited May 15, 2014).

²³² E.g., *Biography of Melinda Ratini*, DO, WEBMD, <http://www.webmd.com/melinda-ratini> (last visited May 15, 2014).

²³³ Chimes, *supra* note 231 (“WebMD is an advertiser-supported site.”).

²³⁴ 1 MUELLER & KIRKPATRICK, *supra* note 144, § 2:5 (noting that judicial notice is more appropriate where a fact is “stated over and over again in countless sources” and so can be verified easily enough by opposing parties).

²³⁵ FED. R. EVID. 201(b)(2).

²³⁶ See generally Aurindom Mukherjee, *Zillow Revenue Surges as Users Flock to Property Site*, REUTERS, Feb 14, 2013, available at <http://www.reuters.com/article/2013/02/14/us-zillow-results-idUSBRE91D10Q20130214> (reporting that Zillow had “45.9 million unique users” in January 2013 and

Could a judge rely on Zillow to take judicial notice of a home's value in a dispute about the damages from a failed real estate transaction? Here, the answer is no.

Zillow provides “Zestimates” of a house's value based on sales of nearby houses. Importantly, the Zestimate is not calculated using individual home appraisals by Zillow employees, but is “calculated from public and user submitted data.”²³⁷ Realtors, homeowners, and others submit data to the website and to local government agencies, and Zillow collects the data and runs it through a secret algorithm to estimate the value of properties.²³⁸

Applying the framework proposed above, Zillow's Zestimate of the house's value fails to attain the requisite status as a fact “that can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned.”²³⁹ With respect to the value of an individual house, Zillow is no expert. Like Google Maps, Zillow's expertise lies in a process of collating data. But unlike Google Maps, which works “on the ground,” Zillow does not itself obtain the data or test it for accuracy. As Zillow explains, “[o]ur accuracy depends on the home data we receive.”²⁴⁰ Consequently, the real author of the information about a particular home's value is not Zillow, but another whose knowledge, biases, and motives are unknown. Data underlying a particular Zestimate will include important details like square footage and the number of bedrooms that may be submitted by homeowners or others with an incentive to inflate.

These flaws are even more apparent on other crowdsourced sites like Wikipedia and UrbanDictionary.²⁴¹ (To the extent, however, that dictionary definitions or slang are not “adjudicative” facts, they fall outside the scope of Rule 201 and this Article).²⁴² There is no guarantee that the underlying

“provides online housing value appraisals known as ‘Zestimates’”); ZILLOW, <http://www.zillow.com/> (last visited May 15, 2014).

²³⁷ *Definition of Zestimate*, ZILLOW, <http://www.zillow.com/zestimate/> (last visited May 15, 2014) [hereinafter *Definition of Zestimate*].

²³⁸ *Id.*

²³⁹ FED. R. EVID. 201(b)(2).

²⁴⁰ *Definition of Zestimate*, *supra* note 237.

²⁴¹ A recent *New York Times* article reported on judicial reliance on an online slang dictionary in civil and criminal litigation to define terms that crop up in witness testimony. Leslie Kaufman, *For the Word on the Street, Courts Call Up an Online Witness*, N.Y. TIMES, May 21, 2013, at A1. For an example case, see *State v. Lumpkins*, 348 Wis. 2d 264, at ¶ 2 n.2 (Ct. App. April 2, 2013) (relying on Urban Dictionary to define “jack” to mean “steal, or take from an unsuspecting person”). Urban Dictionary, like Wikipedia, is a crowdsourced site where anyone can contribute definitions. As the website boldly proclaims, “Urban Dictionary is the dictionary you write.” URBAN DICTIONARY, <http://www.urbandictionary.com> (last visited May 15, 2014); *see also Web Site Terms of Use*, URBAN DICTIONARY, <http://www.urbandictionary.com/tos.php> (last visited May 15, 2014) (“The Company does not and cannot review all Content posted to or created by users accessing the Website, and is not in any manner responsible for the content of these communications or the activities of these users.”).

²⁴² FED. R. EVID. 201(a) (restricting the Rule's scope to an “adjudicative fact only, not a legislative fact”); *see id.* 201 Advisory Committee's Note (discussing adjudicative versus legislative facts and

information comes from a knowledgeable source, incentivized to be accurate, and free from relevant bias. Given a crowdsourced website, a judge will have difficulty assessing the source's reliability on any particular question.

It is important to stress that this analysis does not depend on an assumption that crowdsourced websites are less reliable than other sites. Rather, skepticism toward crowdsourced websites is driven by the anonymity of the contributors, which almost universally ensures that their reliability on any particular point can reasonably be questioned. A judge refusing to take judicial notice of a Zestimate or Wikipedia entry would not be ruling that the information presented there is necessarily inaccurate. Rather, the judge would be unable to assess its reliability for the purposes of Rule 201, making judicial notice improper. If the context changes, and information is presented to the court establishing the reliability of a crowdsourced site on a particular point, the assessment may change. At the end of the day, the question is not how the site came by its information, but whether the site's reliability can reasonably be questioned.²⁴³

D. Restaurant Menus and Framing the Noticed Fact

The last example illustrates another type of online source (a retail company website) as well as a concept (framing of the noticed fact) that could increase courts' comfort level in taking judicial notice in the Information Age. Imagine that a party seeking to corroborate a witness's testimony asks a court to judicially notice the fact that a fast food restaurant's menu (as indicated on the restaurant's website) includes a particular item. The company that created the website clearly has the requisite knowledge of its own menu offerings, and some incentive to be accurate on this point, but could arguably be biased in favor of puffing the number or type of items offered. The court will likely have little information about the historical accuracy of the site, or the effort devoted to keeping it up to date. In contrast to the WebMD example discussed *supra*, the restaurant's offerings are also not something that can be easily verified with reference to independent sources.

Simply reframing the fact to be judicially noticed can assuage doubts about the reliability of the source with respect to the menu offerings.²⁴⁴ Rather than taking judicial notice that the restaurant "sells a [particular item]," the judge could judicially notice "the contents of the restaurant's

other "non-evidence facts"); Margolis, *supra* note 9, at 209 (suggesting that dictionary definitions fall somewhere in a gray area between legislative and adjudicative facts).

²⁴³ FED. R. EVID. 201(b).

²⁴⁴ 1 MUELLER & KIRKPATRICK, *supra* note 144, § 2:3 ("Whether the indisputability criterion is met or not depends in important ways on the degree of specificity with which the proposition to be noticed is stated.").

online menu,” allowing a printout of the menu to be shown to the jury.²⁴⁵ Doing so would allow the court to comply with Rule 201, which mandates in a civil case that the court “instruct the jury to accept the noticed fact as conclusive,”²⁴⁶ without overstating the judge’s confidence in the fact noticed. The jury could take the menu as some evidence that corroborates the witness’s testimony, while allowing for the possibility (and argument of counsel) that the online menu does not, in fact, accurately reflect the restaurant’s actual offerings. This ability to frame the judicially noticed fact in a manner that most precisely reflects the judge’s level of confidence in its accuracy will make judicial notice of online sources more palatable, and permit courts to put pertinent online information before jurors even when there is some doubt about the underlying accuracy of the information itself.

CONCLUSION

Judicial notice of information contained within Internet sources offers an efficient and accurate shortcut to resolve many issues in trial. Courts should embrace this new innovation on an old subject. Indeed, many courts are already taking judicial notice of Internet sources, and this trend will only accelerate over time. Jurors, too, will be increasingly tempted to (improperly) access online sources during trial as they do in their everyday lives. The real question, then, is not whether to allow online information to influence legal outcomes, but how to regulate the inevitable flow of that information to fact-finders.

The framework articulated in this Article provides a flexible approach to regulating the flow of Internet material to fact-finders through the tool of judicial notice. It does so using traditional evidentiary principles and remains tethered to Rule 201 and the Advisory Committee Notes.

Judicial notice, of course, will never replace the adversarial process, nor should it. The phenomenon of “Trial by Google” will merely be a time-saving mechanism for particular points of fact. Mirroring real life, search engines will be tools that assist fact-finders in determining pertinent, discrete facts, but will not replace other forms of information gathering and analysis. The judicial notice doctrine, encapsulated in Rule 201, already reflects the requisite balance between efficiency and fairness. The framework proposed here simply applies this preexisting balance to a new, now-prevalent source of information that was unimaginable when the Rule was enacted.

²⁴⁵ In essence, the court would be taking judicial notice of the fact that the *online* restaurant menu contains the offering. Another way to conceptualize the effect of judicial notice in this context is as the court taking judicial notice that the menu is authentic and falls within a hearsay exception, such as a business record. *Cf. Davis v. Nice*, No. 5:12cv1002, 2012 WL 3961236, at *1 n.1 (N.D. Ohio Sept. 10, 2012) (“According to the City of Akron Police Department website, defendant Nice is the current Akron Chief of Police.”).

²⁴⁶ FED. R. EVID. 201(f).

