CRIMINAL LAW — ECONOMIC ESPIONAGE — NINTH CIRCUIT UPHOLDS FIRST TRIAL CONVICTION UNDER § 1831 OF THE ECONOMIC ESPIONAGE ACT OF 1996. — *United States v. Chung*, 659 F.3d 815 (9th Cir. 2011), *cert. denied*, No. 11-1141, 2012 WL 929750 (U.S. Apr. 16, 2012).

Congress enacted the Economic Espionage Act of 1996[1] (EEA or Act), the first federal statute criminalizing the misappropriation of trade secrets, to equip federal prosecutors with a potent weapon against foreign and domestic theft of commercial information. Despite a startling escalation in the rate and scale of economic espionage,[2] surprisingly few cases have been prosecuted under the Act.[3] Recently, in *United States v. Chung*,[4] the Ninth Circuit upheld the first trial conviction under § 1831 of the EEA.[5] Although *Chung* is a notable step in the battle against economic espionage, its precedential value is nominal: the court left every element of the § 1831 analysis equivocal, shed scant light on the purpose of the EEA, and offered little guidance regarding the relevance of civil trade secret jurisprudence for EEA interpretation. The doctrinal uncertainty left in *Chung*'s wake, combined with powerful federal disincentives to prosecute EEA cases in the face of ambiguity, threatens to thwart the EEA's deterrent purpose. Future courts, then, should take an active role in clarifying the Act. In interpreting the EEA and in deciding which civil trade secret standards to import to the EEA context, courts should uphold the Act's national security objectives by adopting an expansive reading of its terms.

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[1] Pub. L. No. 104-294, 110 Stat. 3488 (codified as amended at 18 U.S.C. §§ 1831–1839 (2006)).

[2] *See* OFFICE OF THE NAT'L COUNTERINTELLIGENCE EXEC., FOREIGN SPIES STEALING US ECONOMIC SECRETS IN CYBERSPACE: REPORT TO CONGRESS ON FOREIGN ECONOMIC COLLECTION AND INDUSTRIAL ESPIONAGE, 2009–2011, at i (2011) [hereinafter COUNTERINTELLIGENCE REPORT].

[3] At the time of the EEA's enactment, the FBI reported approximately 800 ongoing economic espionage investigations. *See Economic Espionage: Hearing Before the Subcomm. on Crime of the H. Comm. on the Judiciary*, 104th Cong. 7 (1996) [hereinafter *Espionage Hearing*] (statement of Louis J. Freeh, Director, FBI). Twelve years later, though, fewer than sixty cases had been prosecuted under the Act. R. Mark Halligan, *Protection of U.S. Trade Secret Assets: Critical Amendments to the Economic Espionage Act of 1996*, 7 J. MARSHALL REV. INTELL. PROP. L. 656, 667 (2008). A very small percentage has been prosecuted under § 1831. *See* William J. Edelman, Note, *The "Benefit" of Spying: Defining the Boundaries of Economic Espionage Under the Economic Espionage Act of 1996*, 63 STAN. L. REV. 447, 454 (2011) (summarizing the six § 1831 cases prosecuted as of January 2011).

[4] 659 F.3d 815 (9th Cir. 2011), *cert. denied*, No. 11-1141, 2012 WL 929750 (U.S. Apr. 16, 2012).

[5] *See id.* at 818. Section 1831 provides in pertinent part:

> Whoever, intending or knowing that the offense will benefit any foreign government, foreign instrumentality, or foreign agent, knowingly . . . receives, buys, or possesses a trade secret, knowing the same to have been stolen or appropriated, obtained, or converted without authorization . . . shall . . . be fined not more than $500,000 or imprisoned not more than 15 years, or both.

18 U.S.C. § 1831(a).

Dongfan "Greg" Chung was born in China and became a U.S. citizen in 1972.[6] From 1964 to 2006, Chung worked at Rockwell and Boeing as a civil engineer on the U.S. space shuttle.[7] In 2006, federal agents discovered a letter addressed from a Chinese government official to Chung, in which the official requested information from Chung regarding airplanes and the space shuttle and thanked Chung for previously providing information to China.[8] A subsequent search of Chung's home revealed a "treasure trove" of information,[9] including briefings, numbered lists of information related to the space program, Chung's journals, and more than 300,000 pages of Boeing and Rockwell documents, many related to the space shuttle and the Delta IV rocket.[10] A grand jury indicted Chung in 2008 on ten counts, including six for violating the EEA, and the U.S. District Court for the Central District of California conducted a bench trial in 2009.[11]

At trial, the government identified in Chung's possession six Boeing documents that contained trade secrets: four relating to the space shuttle and two relating to the Delta IV rocket.[12] The trial court found that, under § 1831 of the EEA, Chung had committed economic espionage with respect to each of the documents.[13]

The Ninth Circuit affirmed.[14] Writing for a unanimous panel, Judge Graber[15] held that there was sufficient evidence to support the trial court's finding that Chung possessed the six trade secret documents with the intent to benefit China.[16] As Chung did not contest the trial court's finding that the two Delta IV rocket documents contained trade secrets,[17] the court first examined whether the four space shuttle documents contained trade secrets. Under § 1839 of the EEA, a "trade secret" is information that "the owner thereof has taken reasonable measures to keep . . . secret" and that "derives independent

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6 *Chung*, 659 F.3d at 818.

7 *Id.* at 818–19. Chung worked as a contractor for Boeing from 2003 to 2006. *Id.* at 819.

8 *Id.* at 819.

9 United States v. Chung, 633 F. Supp. 2d 1134, 1137 (C.D. Cal. 2009).

10 *Chung*, 659 F.3d at 819.

11 *Chung*, 633 F. Supp. 2d at 1137.

12 *Chung*, 659 F.3d at 823.

13 *See Chung*, 633 F. Supp. 2d at 1148. The court also convicted Chung of acting as an unregistered foreign agent, *see id.* at 1137, of conspiracy to commit economic espionage, *see id.* at 1149, and of making a false statement to federal agents, *see id.* at 1149. The court sentenced Chung to 188 months' imprisonment and three years of supervised release. *Chung*, 659 F.3d at 819–20.

14 *Chung*, 659 F.3d at 835.

15 Judges Goodwin and Kleinfeld joined Judge Graber's opinion.

16 *See Chung*, 659 F.3d at 828. The court also affirmed Chung's convictions on the other charges, *see id.* at 824, 830, affirmed the trial court's evidentiary admissions, *see id.* at 832–33, rejected Chung's claims under *Brady v. Maryland*, 373 U.S. 83 (1963), *see Chung*, 659 F.3d at 831, and affirmed the trial court's application of U.S. Sentencing Guidelines section 2M3.2, *see id.* at 834–35.

17 *Chung*, 659 F.3d at 828.

economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, the public."[18] Noting the sparsity of EEA case law, the court indicated that, since the EEA's definition of "trade secret" is derived from the definition in the Uniform Trade Secrets Act[19] (UTSA), the court "consider[ed] instructive interpretations of state laws that adopted the UTSA definition without substantial modification."[20]

The court thus looked to the UTSA for guidance in interpreting the requirement that the information be neither generally known to nor readily ascertainable by the public. It found that each of the four space shuttle documents in *Chung* contained information that was never made public.[21] Regarding the "readily ascertainable" prong, the court noted that, according to UTSA commentary, "information is readily ascertainable if it is available in trade journals, reference books, or published materials."[22] But as the court explained, whereas EEA § 1839 refers to the set of parties from whom proprietary information must be kept confidential as "the public,"[23] the UTSA more narrowly references "other persons who can obtain economic value from [the information's] disclosure or use."[24] The court noted that, as a result, there is "some conflict between circuits" regarding whether "the public" under the EEA identifies the general public or a subset of it.[25] Ultimately, though, because Chung did not contend that the secret information here was readily ascertainable, the court skirted the inquiry, holding that it "need not weigh in on this issue."[26]

The court also looked to the UTSA in interpreting the requirement that the owner of proprietary information have taken reasonable measures to maintain its secrecy. According to UTSA commentary, "reasonable efforts to maintain secrecy have been held to include advising employees of the existence of a trade secret, limiting access to a trade secret on [a] 'need to know basis,' and controlling plant ac-

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[18] 18 U.S.C. § 1839(3) (2006).

[19] UNIF. TRADE SECRETS ACT (amended 1985), 14 U.L.A. 529 (2005). The Uniform Trade Secrets Act is model civil legislation adopted at least in part by forty-seven jurisdictions. *See* 14 U.L.A. 71–72 (Supp. 2011).

[20] *Chung*, 659 F.3d at 825.

[21] *See id.* at 826–27.

[22] *Id.* at 825 (quoting UNIF. TRADE SECRETS ACT § 1 cmt., 14 U.L.A. at 539) (internal quotation marks omitted).

[23] *Id.* (quoting 18 U.S.C. § 1839(3)(B) (2006)) (internal quotation marks omitted).

[24] *Id.* at 825 n.7 (quoting UNIF. TRADE SECRETS ACT § 1(4)(i), 14 U.L.A. at 538).

[25] *Id.* at 825. *Compare* United States v. Hsu, 155 F.3d 189, 196 (3d Cir. 1998) (interpreting "the public" as "the general public"), *with* United States v. Lange, 312 F.3d 263, 267 (7th Cir. 2002) (interpreting "the public" as potentially meaning "the economically relevant public" as defined in the UTSA (emphasis omitted) (internal quotation marks omitted)).

[26] *Chung*, 659 F.3d at 825.

cess."[27] Without articulating either a bright-line legal rule or a clear balancing test, the court simply described a range of practices commonly regarded under the UTSA as constituting reasonable efforts, including "[s]ecurity measures, such as locked rooms, security guards, and document destruction methods," and "confidentiality procedures, such as confidentiality agreements and document labeling."[28] In *Chung*, "[a]lthough none of the documents was kept under lock and key," Boeing implemented physical security measures, instructed employees not to share documents, required employees to sign confidentiality agreements, and marked two of the documents as proprietary.[29] The court thus concluded that Boeing had taken reasonable measures to keep the four documents secret.[30]

Regarding the requirement that the information derive independent economic value from being kept secret, the court again did not articulate a clear rule or test. Noting that "the analysis is fact-intensive and will vary from case to case,"[31] the court explained that, in interpreting the economic value requirement under the UTSA, courts "most often consider the degree to which the secret information confers a competitive advantage on its owner" and have also sometimes "considered the cost and effort necessary to develop the secret information."[32] The court found that some of the information here would offer competitors insight into Boeing's space shuttle designs and development costs and that the other information, relating to a project for which Boeing had no competitors, "could assist a competitor in . . . figuring out how [to underbid Boeing] on a similar project in the future."[33] As a result, the court concluded that the four documents derived independent economic value from being kept secret.[34]

Concluding that there was thus sufficient evidence that the four space shuttle documents contained trade secrets, the court then examined whether Chung's possession of those documents and the two Delta IV rocket documents satisfied § 1831's foreign-benefit prong.[35] The court held that "ample evidence" that Chung had intended to benefit China by transmitting technical information to Chinese officials in the 1980s and 2000s supported the finding that Chung possessed the six trade secret documents with the intent to benefit China.[36]

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27 UNIF. TRADE SECRETS ACT § 1 cmt., 14 U.L.A. at 539.
28 *Chung*, 659 F.3d at 825.
29 *Id.* at 827.
30 *See id.*
31 *Id.* at 826.
32 *Id.*
33 *Id.* at 827.
34 *See id.*
35 *See id.* at 828; *see also* 18 U.S.C. § 1831(a) (2006).
36 *See Chung*, 659 F.3d at 828.

Given the devastating evidence presented in this case, there is no doubt that *Chung* was correctly decided. Paradoxically, though, it is the obvious correctness of the court's holding that limits the case's contribution to the development of EEA doctrine. Section 1831 case law, as the *Chung* court recognized, is acutely underdeveloped.[37] Yet the court left every element of the § 1831 offense equivocal,[38] and in its heavy reliance on the UTSA, the court evaded a rigorous investigation into the distinct policy rationales underlying the EEA. Moreover, while the *Chung* court engaged with UTSA jurisprudence in interpreting the EEA, the court did not delineate the scope of the UTSA's relevance as an analogous body of law. The result is that, in the wake of *Chung*, § 1831 jurisprudence remains a vague amalgam of UTSA precedent and EEA terminology, with significant ambiguity regarding both the parameters of EEA protection and the extent to which UTSA standards shape those parameters. Due to powerful federal disincentives to prosecute § 1831 cases in the face of ambiguity, § 1831's doctrinal uncertainty poses a formidable barrier to future EEA prosecutions. Given the importance of EEA prosecutions to preserving the competitiveness of American industry and protecting national security, future courts should both clarify § 1831 and interpret it expansively, importing to the EEA context only those UTSA standards that support the EEA's broad deterrence objective.

Congress enacted the EEA to address an alarming threat to American industry and national security[39] — a threat that is, by all indications, growing at a disquieting pace.[40] In fact, the FBI estimates that economic espionage generates the loss of billions of dollars each year,[41] and the budding use of cyberspace as a forum for business activity heightens U.S. vulnerability to attack.[42] Yet federal prosecutors have taken a markedly tentative approach toward prosecuting § 1831 offenses. Particularly telling is the clear pattern that emerges from the record of EEA prosecutions: of the few cases prosecuted under § 1831

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[37] *See id.* at 825.

[38] It remains unclear, for instance, from what set of parties proprietary information must be kept confidential, how difficult it must be for those parties to ascertain the information, what minimum measures corporations must take to protect the secrecy of their trade secrets, and what degree of economic value secrecy must confer.

[39] *See, e.g.*, 142 CONG. REC. 2065 (1996) (statement of Sen. Kohl); *see also Economic Espionage: Joint Hearing Before the S. Select Comm. on Intelligence and the Subcomm. on Terrorism, Tech., & Gov't Info. of the S. Comm. on the Judiciary*, 104th Cong. 1 (1996) (statement of Sen. Specter, Chairman, S. Select Comm. on Intelligence) (alluding to the EEA in a mention of bills introduced to combat economic espionage).

[40] *See* COUNTERINTELLIGENCE REPORT, *supra* note 2, at 1.

[41] *See Economic Espionage*, FBI, http://www.fbi.gov/about-us/investigate/counterintelligence/economic-espionage (last visited May 3, 2012).

[42] *See* COUNTERINTELLIGENCE REPORT, *supra* note 2, at 1.

rather than under § 1832,[43] most have been filed in California,[44] nearly all have involved China,[45] and — perhaps most importantly — nearly all have been "open-and-shut" cases.[46] In other words, *Chung*, by virtue of its patently nonambiguous outcome, falls squarely within the government's prosecutorial mold for § 1831 cases.

Such conspicuous consistency supports the notion that the government is pursuing a tried-and-true approach.[47] Whether prosecutors are testing the waters of the EEA pending the development of a solid body of EEA case precedent[48] or withholding tenuous EEA issues in a strategic ploy to tempt courts to interpret the Act expansively,[49] the upshot is the same: EEA ambiguity disincentivizes prosecution of cases at the margin. What is more, EEA ambiguity generates a vicious cycle. Failing rigorous clarification of the EEA, EEA prosecutions will continue to feature a progression of open-and-shut cases, which will afford future courts scarce opportunity to develop EEA doctrine, the continued ambiguity of which will in turn discourage future prosecution of EEA cases at the margin.

A standstill in EEA prosecutions is untenable. The existence of other criminal economic espionage statutes does not justify underprosecution of the EEA, as Congress enacted the EEA precisely to fill

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[43] Section 1832 differs from § 1831 primarily in that it authorizes lesser maximum penalties and does not include a foreign-benefit prong. *Compare* 18 U.S.C. § 1832 (2006), *with id.* § 1831.

[44] *See* Mark L. Krotoski, *Common Issues and Challenges in Prosecuting Trade Secret and Economic Espionage Act Cases*, U.S. ATT'YS' BULL., Nov. 2009, at 2, 7 tbl.

[45] *See* Edelman, *supra* note 3, at 454 (showing Chinese involvement in all but one § 1831 prosecution). The exclusive focus on China is curious given that U.S. counterintelligence has identified twenty-three state perpetrators of economic espionage, *see Espionage Hearing*, *supra* note 3, at 10 (statement of Louis J. Freeh, Director, FBI), and has collected substantial information on the economic espionage activities of at least six countries other than China, *see* Edwin Fraumann, *Economic Espionage: Security Missions Redefined*, 57 PUB. ADMIN. REV. 303, 305–06 (1997).

[46] Halligan, *supra* note 3, at 672 (internal quotation marks omitted).

[47] *See* Robert C. Van Arnam, Comment, *Business War: Economic Espionage in the United States and the European Union and the Need for Greater Trade Secret Protection*, 27 N.C. J. INT'L L. & COM. REG. 95, 112 & n.123 (2001) (describing "intentional selectivity by the government seeking to prosecute only clear cases of theft," *id.* at 112).

[48] Doctrinal ambiguity, on this theory, disincentivizes prosecutions because it affords prosecutors little assurance of victory. The prosecutorial preference for victory is hardly unique to EEA cases. *See* William J. Stuntz, *The Pathological Politics of Criminal Law*, 100 MICH. L. REV. 505, 534 (2001) (describing the "fairly obvious proposition" that "prosecutors have a substantial incentive to win the cases they bring"). The preference for victory is only magnified in the EEA context, in which investigations are costly, extensive, and high profile and trials are infrequent. *Cf. id.* at 534 n.119 (noting that "the opportunity cost of a single blown trial is much higher" when "trials are rare and expensive").

[49] Such a strategy would not be unreasonable. *See* Maxwell L. Stearns, *Standing and Social Choice: Historical Evidence*, 144 U. PA. L. REV. 309, 319 (1995) ("[S]tare decisis affords those who control the order of case presentation . . . the power to determine . . . the substantive content of case decisions."). Nonetheless, it could be counterproductive: presented only with cases such as *Chung*, in which overwhelming showings of inculpatory evidence yield straightforward holdings under even the narrowest of interpretations, courts may in fact choose to read the EEA narrowly.

a perilous gap in federal[50] and state[51] criminal law. Nor does the existence of civil trade secret statutes sanction underprosecution. Congress explicitly deemed civil trade secret statutes inadequate to deter the economic espionage threat,[52] but even were civil statutes able to supply sufficient deterrent value, it would be neither practical nor desirable to entrust the deterrence of economic espionage to corporate actors, whose decisions to litigate trade secret cases rarely track the national security concerns that gripped the EEA's drafters.[53]

There is urgent need, then, for clarification of the EEA. In the absence of legislative amendment, it is clear that courts — not prosecutors — are best positioned to catalyze EEA prosecutions. In elucidating § 1831, though, courts must be wary of chilling EEA prosecutions by circumscribing too tightly the elements of the offense.[54] Given the sheer magnitude of the espionage threat and the sweeping policy goals of the EEA, where ambiguous language of the EEA plausibly supports more than one interpretation, courts should as a general rule resolve the ambiguity in favor of the broadest reading.[55] In this regard, the *Chung* court's effortless transplantation of the UTSA into the EEA context is troubling. To be sure, courts should capitalize on the valu-

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[50] *See Espionage Hearing*, *supra* note 3, at 14 (statement of Louis J. Freeh, Director, FBI).

[51] Only some states have criminal economic espionage statutes, and "most state laws in this area punish only by misdemeanors and are rarely used by prosecutors." Christopher A. Ruhl, Note, *Corporate and Economic Espionage: A Model Penal Approach for Legal Deterrence to Theft of Corporate Trade Secrets and Proprietary Business Information*, 33 VAL. U. L. REV. 763, 789 n.123 (1999).

[52] *See* 142 CONG. REC. 27,112 (1996) (statement of Sen. Specter) ("[A]vailable civil remedies may not be adequate to the task . . . ."); *id.* at 27,118 (statement of Sen. Hatch) ("Until now, there has been no meaningful deterrent . . . .").

[53] *See* Aaron J. Burstein, *Trade Secrecy as an Instrument of National Security? Rethinking the Foundations of Economic Espionage*, 41 ARIZ. ST. L.J. 933, 937–38 (2009) ("Private parties generally do not have the incentives to protect their information at a level commensurate with national security concerns."). As a general matter, a victim corporation will not litigate unless it internalizes a loss generated by the trade secret misappropriation — for instance, if the stolen information is used in markets in which the firm competes. *See id.* at 989. Even then, though, the unique hazards of trade secret cases may deter litigation. A publicly traded corporation, for instance, may fear that the resulting publicity might adversely affect its stock price. *See* Chris Carr & Larry Gorman, *The Revictimization of Companies by the Stock Market Who Report Trade Secret Theft Under the Economic Espionage Act*, 57 BUS. LAW. 25, 52 (2001). Corporations may also fear that the stolen trade secrets will be further disseminated as a result of the litigation itself. *See Espionage Hearing*, *supra* note 3, at 94 (statement of Thomas W. Brunner, Partner, Wiley, Rein & Fielding).

[54] A prime example of such circumscription is the U.S. District Court for the Northern District of California's narrow interpretation of "benefit" "to refer to the benefits ordinarily associated with 'espionage.'" *See* United States v. Lee, No. CR 06-0424 JW, slip op. at 8 (N.D. Cal. May 21, 2010).

[55] *Cf.* United States v. Yang, 281 F.3d 534, 543 (6th Cir. 2002) (affirming a § 1832 conviction in part on the ground that limiting the government's ability to enforce the EEA "would eviscerate the effectiveness of the [EEA]," the purpose of which "was to provide a comprehensive tool for law enforcement personnel to use to fight theft of trade secrets").

able foundation that the UTSA offers. Yet the EEA is patently distinct from the UTSA both in its text and in its legislative purpose.[56] Indeed, Congress deliberately drafted portions of the EEA to be more expansive than are their civil counterparts.[57] Thus, in determining whether to import a UTSA standard to the EEA context, courts should not treat the rich UTSA jurisprudence as a substitute for careful development of the EEA, but rather should determine on a provision-by-provision basis whether the given UTSA standard aligns with the EEA's deterrence objective or whether the standard instead would subvert the EEA's effectiveness.

To illustrate, consider the EEA's "readily ascertainable" prong. The EEA's test explicitly departs from UTSA terminology in its reference to "the public." As the *Chung* court noted, a circuit split on this issue yields two reasonable inferences: either the departure is solely semantic or the EEA deviates from the UTSA in its conception of the set of parties who might know or ascertain the information. The choice between these inferences is a serious one. If the EEA does in fact reference the general public rather than the industry insiders conceptualized under the UTSA, then it is easier under the EEA than under the UTSA to prove the existence of a trade secret. Adopting the UTSA standard thus could constrain the EEA's flexibility to tackle espionage. In fact, as increasing exploitation of online information-sharing platforms facilitates communication between industry insiders, narrowly construing "the public" under the EEA could saddle the government with a prohibitive burden of proof. In accordance with the EEA's legislative purpose, courts should thus interpret the "readily ascertainable" prong to refer more expansively to the general public.[58]

As the digital age progresses, technological advances will no doubt amplify the EEA's ambiguity.[59] Given prosecutorial disincentives to pursue § 1831 cases, courts should be cognizant both of their power to effectuate the promise of the EEA and of their capacity — by inaction — to hasten the EEA's obsolescence.

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[56] In the prefatory note to the UTSA, the UTSA's drafters emphasize not national security but "the commercial importance of state trade secret law to interstate business." UNIF. TRADE SECRETS ACT prefatory n. (amended 1985), 14 U.L.A. 529, 531 (2005).

[57] *Compare, e.g.*, *id.* § 1(4), 14 U.L.A. at 538 (defining a "trade secret" as "including a formula, pattern, compilation, program, device, method, technique, or process"), *with* 18 U.S.C. § 1839(3) (2006) (including intangible information within the definition of "trade secret" and protecting information regardless of how it is stored or compiled).

[58] *Cf.* Edelman, *supra* note 3, at 474 (arguing that the text and legislative history of the EEA call for an expansive reading of "benefit" that corresponds to the defendant's mens rea).

[59] *See, e.g.*, United States v. Hsu, 40 F. Supp. 2d 623, 630 (E.D. Pa. 1999) (noting that however "the public" is defined, "[w]ith the proliferation of the media of communication . . . what is . . . 'reasonably ascertainable' to the public at any given time is necessarily never sure").