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NOTE

THE EVIDENTIARY VALUE OF AUTOMATICALLY TRANSCRIBED VOICEMAIL MESSAGES

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I. INTRODUCTION

In the summer of 2009, Google Inc. began a limited offering of a new service called Google Voice.¹ Google has since expanded the size of permitted users, allowing existing users to invite friends and family.² Google Voice utilizes customers' existing home, cellular, and work phone numbers to provide its users with a package of features that include cheap international calling, free conference calling, the ability to consolidate multiple phone lines into one Google Voice number, and free, automatic voicemail transcription.³ When a Google Voice customer receives a voicemail, a completely automated computer program converts the audio message into a text transcript, which the service then sends to the user's e-mail address or mobile device.⁴ This effectively allows a user to "search, sort, save, forward, copy and paste voice mail messages."⁵ If the software is not very confident about how well it transcribed certain words in a given message, the emailed transcript will display those words in a lighter gray.⁶ Google admits that while it expects the quality of the transcriptions to improve as the software "gets smarter," it is not perfect.⁷ Informal testing by one blogger revealed that the software struggles under commonplace circumstances, such as when a nearby air conditioner produces some background noise.⁸ Under more challenging conditions, such

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¹ Alex Pham, *Apple Deaf to Google Voice App*, L.A. TIMES, July 29, 2009, at B1.

² Craig Walker & Vincent Paquet, *Invite a Friend to Google Voice*, GOOGLE VOICE BLOG (Oct. 13, 2009, 10:59 AM), <http://googlevoiceblog.blogspot.com/2009/10/invite-friend-to-google-voice.html>.

³ David Pogue, *One Number to Ring Them All*, N.Y. TIMES, Mar. 12, 2009, at B1.

⁴ *Id.* at B8.

⁵ *Id.*

⁶ *Id.*

⁷ Basics: About Voicemail Transcriptions, GOOGLE VOICE, <http://www.google.com/support/voice/bin/answer.py?hl=en&answer=115986> (last visited Apr. 4, 2010) ("The quality of the transcripts will vary depending on the caller, the background noise, and whether the caller is using a microphone.")

⁸ See David Gallagher, *Help Us Test Google's Hearing*, GADGETWISE BLOG (June 26, 2009, 7:30 AM) <http://gadgetwise.blogs.nytimes.com/2009/06/26/help-us-test-googles-hearing/?hp>.

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as in cases involving thick accents or nonsensical words from Lewis Carroll's *Jabberwocky*, the transcripts can be extremely inaccurate.⁹

Despite these issues, automatic voicemail transcription stands to become more prevalent in the coming years. In addition to Google, several other companies already offer similar voicemail transcription services.¹⁰ Some in the communications industry predict that these services will be standard in the near future.¹¹ In this age of "instant information gratification," modern professionals have little patience for the many steps it takes to hear and respond to voicemails, especially when it is more efficient for them to read and respond to text messages.¹² Users of this transcription technology appear to include legal practitioners.¹³ In fact, at least one transcription service has actively marketed to law firms.¹⁴ As the CEO of SimulScribe points out, "We save law firms and other high-volume voice-mail users thousands of dollars by eliminating wasted time listening to voice-mail."¹⁵ These uses suggest that people will utilize voicemail transcription services in their professional and personal capacities as the technology becomes more widely available.

Although Google only recently joined the ranks of companies already

⁹ See David Gallagher, *Pushing the Limits of Google's Speech Recognition*, GADGETWISE BLOG (June 29, 2009, 6:01 PM), <http://gadgetwise.blogs.nytimes.com/2009/06/29/pushing-the-limits-of-googles-speech-recognition/>.

¹⁰ Jill Colvin, *You've Got Voice Mail, But Do You Care?*, N.Y. TIMES, Apr. 2, 2009, at E1.

¹¹ *Id.*

¹² *Id.*

¹³ See Richard M. Georges, *SimulScribe Signs Exclusive \$17 Million Partnership Agreement with Ditech Networks*, FUTURELAWYER (Sept. 11, 2009), <http://futurelawyer.typepad.com/futurelawyer/2009/09/simulscribe-signs-exclusive-17-million-partnership-agreement-with-ditech-networks.html> (Blogger and practicing lawyer Richard Georges discussing his use of Phonetag's voicemail transcription service and noting that "Phonetag's transcription is . . . the main reason I haven't had to suffer through listening to a complete voice mail message in over a year. . . . And, if you do it like I do, and have a transcription sent to you AND your secretary or assistant, you will have a written record of the call for your file. Someday, someone is going to tell me that they never said something, and I will pull out the written transcription.").

¹⁴ See Dick Dahl, *Free Court Decisions, Voice-Mail Text, Camera-Phone PDFs and More*, RHODE ISLAND LAWYERS WEEKLY, Apr. 7, 2008, <http://rilawyersweekly.com/blog/2008/04/07/free-court-decisions-voicemail-text-cameraphone-pdfs-and-more/>.

¹⁵ *Id.*

offering voicemail transcription, it seems uniquely positioned to become a dominant provider of such services.¹⁶ In addition to being free and offering the features already mentioned, Google Voice has “the potential to change the rules of the game because of their ability to bring . . . people into their new tools from their existing tools.”¹⁷ These advantages have some observers predicting hard times for competing transcription services.¹⁸ Because Google Voice seems likely to hold a significant market share relative to other companies offering these services, the following discussion will treat Google Voice’s completely automated voicemail transcription service as its model for automatic voicemail transcription.

With every new communications medium, it seems inevitable that litigation will eventually arise that involves, or even hinges on, information transmitted through that medium.¹⁹ Automatic voicemail transcription is somewhat of a hybrid of two existing mediums: email and voicemail. Nevertheless, its obvious function is still to memorialize information conveyed by the caller for immediate or later review by the recipient of the call. In addition, at least one user of this transcription technology retains such transcripts in contemplation of future disputes over the messages’ contents.²⁰ Historically, companies that have worked to prevent spoliation of evidence that may be important for future litigation have focused more on retaining and preserving email than voicemail.²¹ This is due to factors including: (1) the storage capacity required for retaining voicemail audio files, (2) the difficulty of searching voicemail audio files for relevant information, and (3) the fact that often the voicemail

¹⁶ See Miguel Helft, *Google’s Free Phone Manager Could Threaten a Variety of Services*, N.Y. TIMES, Mar. 12, 2009, at B9.

¹⁷ *Id.* (quoting Phil Wolff, editor of Skype Journal).

¹⁸ Pogue, *supra* note 3.

¹⁹ See, e.g., *The Convoy’s Wheat*, 70 U.S. 225, 230-31 (1865) (holding, in one of the earlier federal cases involving a telegram, that the master of a vessel hired to deliver wheat to a certain port should have telegraphed the consignees of the wheat in order to request instructions after delivery to the intended port became impracticable, and faulting the master for instead sending a demanding telegram only after deposing the cargo at an alternate port); *Ewan v. Tredegar Co.*, 88 F. 703, 704 (E.D. Va. 1882) (noting, shortly after the invention of the telephone, that although a ship owner claimed to have notified the charterer of the ship’s arrival by telephone, there was insufficient evidence to prove that the call occurred, weakening the owner’s case against the charterer for demurrage because of delays).

²⁰ See Georges, *supra* note 13.

²¹ Steven C. Bennett, *Voicemail, the next E-discovery challenge?*, 14 PRAC. LITIGATOR 33, 38 (2003).

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audio was stored by the telephone carrier rather than on-site with the company.²² This tendency to preserve email over voicemail, along with the increasing use of automatic voicemail transcription services, makes it plausible that the only existing record of certain voicemails will be the automatically generated transcripts residing on a company's email server or a personal computer. As early as 2003, practitioners foresaw that "[t]he ability to retain, search, and easily transcribe voicemails, in theory, might make it possible to use voicemail as a significant adjunct to (or in some regard, in lieu of) e-mail."²³

Now that technology has made automatic voicemail transcription a reality, of what value are these transcripts to litigators? The following discussion will examine major obstacles that litigators will face in attempting to use such transcripts as evidence. With particular emphasis on federal law, I first examine whether the Federal Rules of Civil Procedure definition of electronically stored information is broad enough to allow parties to request or compel production of automatically generated voicemail transcripts. I conclude that the Rules' language and case law trends support including these transcripts among the types of discoverable, electronically stored information. The remainder of the discussion will then focus on the problems that litigators will face in getting such transcripts admitted as evidence. With primary focus on the Federal Rules of Evidence, I will analyze three concepts that pose peculiar challenges to any proponent of automatically generated voicemail transcript evidence: (1) the rule against hearsay, (2) the requirement of authentication or identification, and (3) Federal Rule of Evidence 403's exclusion of evidence that is low in probative value and high in prejudicial effect. I conclude that these transcripts are susceptible to classification as hearsay. Similarly, problems with the accuracy of these transcriptions may also prevent authentication in many cases. Finally, Federal Rule of Evidence 403 may exclude some automatic voicemail transcription from evidence. However, after examining analogous challenges to the admission of email, telephone, polygraph, and computer generated evidence, I argue that none of these challenges should operate as a per se bar to admissibility.

²² *Id.* at 35-36, 38.

²³ *Id.* at 38.

II. AUTOMATICALLY TRANSCRIBED VOICEMAILS AS DISCOVERABLE,
ELECTRONICALLY STORED INFORMATION

A. *Federal Rule of Civil Procedure 34*

For cases in which the Federal Rules of Civil Procedure control, whether or not automatically transcribed voicemails should be subject to discovery requires consideration of whether Rule 34 covers such transcripts. Rule 34 Provides in relevant part:

(a) In General. A party may serve on any other party a request within the scope of Rule 26(b):

(1) to produce and permit the requesting party or its representative to inspect, copy, test, or sample the following items in the responding party's possession, custody, or control:

(A) any designated documents or electronically stored information - including writings, drawings, graphs, charts, photographs, sound recordings, images, and other data or data compilations - stored in any medium from which information can be obtained either directly or, if necessary, after translation by the responding party into a reasonably usable form; . . .²⁴

As originally drafted, Rule 34 “focused on discovery of ‘documents’ and ‘things,’” and eventually was revised to include discovery of data compilations.²⁵ Even before the 2006 Amendment to Rule 34 added the words “electronically stored information,” the legal community interpreted the word “documents” to encompass electronically stored information like email “because it was obviously improper to allow a party to evade discovery obligations on the basis that the label had not kept pace with changes in information technology.”²⁶ In adopting the broad language of “electronically stored information,” the advisory committee acknowledged that “[t]he wide variety of computer systems currently in use, and the rapidity of technological change, counsel against a limiting or precise definition of electronically stored information.”²⁷ The advisory committee then stated, “Rule 34(a)(1) is expansive and includes *any* type of information that is stored electronically. . . . [It] is intended to be broad enough to cover all current types of computer-based information, and flexible enough to encompass future changes and

²⁴ FED. R. CIV. P. 34(a)(1)(A).

²⁵ FED. R. CIV. P. 34 advisory committee's notes to 2006 Amendment.

²⁶ *Id.*

²⁷ *Id.*

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developments.”²⁸ This expansive language and explicit intent to encompass future innovations suggests that Rule 34 should be read to include electronically stored transcripts of voicemails.

Just because such transcripts probably fall within Rule 34’s broad category of electronically stored information does not necessarily mean that any given transcript should be produced. As the advisory committee noted, “whether material that falls within this term should be produced, and in what form, are separate questions that must be addressed under Rules 26(b), 26(c), and 34(b).”²⁹ None of these rules, however, seems to present any problems that are peculiar to voicemail transcripts as a class of electronically stored information. Although the admissibility of such transcripts may be unclear, Rule 26(b) specifically provides that “[r]elevant information need not be admissible at the trial if the discovery appears reasonably calculated to lead to the discovery of admissible evidence.”³⁰ Rule 26(b)(2)(B) states that “[a] party need not provide discovery of electronically stored information from sources that the party identifies as not reasonably accessible because of undue burden or cost.”³¹ Because Google Voice transcripts are delivered via email and are likely stored along with other regularly delivered email, it is difficult to see how retrieving those particular emails that contain transcripts would be categorically more burdensome than retrieving other email. Finally, Rule 34(b) specifies the procedure for making and responding to discovery requests, and does not include any language that would act as a blanket bar to transcripts of voicemails.³² Thus, the Federal Rules of Civil Procedure and the discovery process these Rules established seem to encompass the transcripts produced by automatic voicemail transcription services, and do not act as a per se bar to the discovery of such documents.

B. The Lessons of Email and Voicemail E-Discovery

1. Email

Automatically transcribed voicemail messages are, in many ways, hybrids of email and voicemail, with the transcribed contents of a voicemail conveyed via email.³³ A look at how these more traditional communications are handled

²⁸ *Id.* (emphasis added).

²⁹ *Id.*

³⁰ FED. R. CIV. P. 26(b)(1).

³¹ FED. R. CIV. P. 26(b)(2)(B).

³² *See* FED. R. CIV. P. 34(b).

³³ *See* Pogue, *supra* note 3.

suggests that voicemail transcripts will be viable targets for e-discovery requests. Provided that the information within them is sufficiently relevant, courts have held that emails are just as subject to disclosure as are paper documents.³⁴ Noting that “[b]road discovery is a cornerstone of the litigation process contemplated by the Federal Rules of Civil Procedure. . . ,”³⁵ courts have held that “this is true not only of electronic documents that are currently in use, but also of documents that may have been deleted and now reside only on backup disks.”³⁶

Because of the confidential nature of many emails and the fact that internet service providers often make assurances as to the privacy of email, one might expect strong privacy claims against forcing litigants to disclose emails.³⁷ Courts analyze this expectation of privacy with reference to the Fourth Amendment and federal and state statutes regarding internet communications.³⁸ Generally, Fourth Amendment privacy protections do not apply to discovery orders in suits involving private litigants.³⁹ Nevertheless, some courts have considered Fourth Amendment protections when judging the reasonableness of discovery orders.⁴⁰ Regardless of whether privacy expectations have any bearing on email’s susceptibility to disclosure requirements, “[g]enerally, courts have found no reasonable expectation of privacy in e-mail messages.”⁴¹ While “[i]ndividuals generally possess a reasonable expectation of privacy in their home computers. . . . [t]hey may not,

³⁴ See *Rowe Entm’t, Inc. v. William Morris Agency Inc.*, 205 F.R.D. 421, 428 (S.D.N.Y. 2002) (referring to paper documents that defendant previously produced to plaintiffs, the court noted, “[T]hose documents are plainly pertinent to the plaintiffs’ claims. To the extent that the defendants’ e-mails contain similar information, they are equally discoverable. Electronic documents are no less subject to disclosure than paper records.”).

³⁵ *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 311 (S.D.N.Y. 2003) (citing *Jones v. Goord*, No. 95 Civ. 8026, 2002 WL 1007614, at *1 (S.D.N.Y. May 16, 2002)).

³⁶ *Zubulake*, 217 F.R.D. at 317.

³⁷ See *United States v. Maxwell*, 45 M.J. 406, 417-19 (C.A.A.F. 1996) (noting that for Fourth Amendment purposes, a transmitter of an email message enjoys a reasonable expectation of privacy against its interception under certain circumstances, but that once the email reaches the recipient, “the transmitter no longer controls its destiny.”).

³⁸ 103 AM. JUR. *Trials* 123, §15 (2009).

³⁹ See *Doe v. Senechal*, 725 N.E.2d 225, 231 (Mass. 2000) (Plaintiff lacked authority for the proposition that a judge’s discovery order could constitute an unreasonable search and seizure in a civil suit between private clients).

⁴⁰ *Id.* at 231 n.13.

⁴¹ Mitchell Waldman, Annotation, *Expectation of Privacy in Internet Communications*, 92 A.L.R.5TH 15, § 2[a] (2001).

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however, enjoy such an expectation of privacy in transmissions over the Internet or e-mail that have already arrived at the recipient.”⁴² Courts have also been unwilling to find a reasonable expectation of privacy in relation to emails sent and received using an employer’s office computer, particularly when the employer discloses in advance that it reserves control over such systems.⁴³ Although courts have, in some circumstances, found that reasonable expectations in the privacy of emails do exist,⁴⁴ the finding depends largely on the specific circumstances of a given case, such as the recipient of the email or the type of email at issue.⁴⁵ Thus, case law indicates that privacy concerns have not posed a general hindrance to compelled email discovery.

2. Voicemail

The audio of voicemails themselves is an increasingly sought-after target in e-discovery.⁴⁶ “The capacity of such evidence to have a major impact on the outcome of a litigation (either affecting the substantive result, or putting pressure on a party to settle) means that voicemail is a natural target for discovery by parties in hard-fought litigation.”⁴⁷ Particularly now that sound recordings are included amongst the types of electronically stored information listed in Rule 34(a),⁴⁸ “[t]hese previously untouched pieces of evidence are now fully discoverable . . . [and] now unmistakably fall under the same constraints to pinpoint process and disclose as do other permutations of ESI [electronically stored information].”⁴⁹ Technological advances in the storage of voicemails mean that many companies now use systems that integrate

⁴² United States v. Lifshitz, 369 F.3d 173, 190 (2d Cir. 2004).

⁴³ See Doe v. XYZ Corp., 887 A.2d 1156, 1165-66 (N.J. Super. Ct. App. Div. 2005) (citing United States v. Simons, 206 F.3d 392, 398 (4th Cir. 2000) (employee did not have a reasonable expectation in the privacy of emails drafted and received on employer’s computer, where employer’s email policy stated that all emails composed, sent or received on company computers were the property of the employer, not the employee)).

⁴⁴ Waldman, *supra* note 41, at § 3[a].

⁴⁵ United States v. Maxwell, 45 M.J. 406, 418-19 (C.A.A.F. 1996) (“Expectations of privacy in e-mail transmissions depend in large part on the type of e-mail involved and the intended recipient.”).

⁴⁶ Christopher Danzig, *Hearing Aid: Audio Files Have Entered the E-Discovery Arena, Adding New Risks for In-House Lawyers*, INSIDE COUNSEL, May 2009, at 44.

⁴⁷ Bennett, *supra* note 21.

⁴⁸ FED. R. CIV. P. 34(a)(1)(A).

⁴⁹ Michael Swarz, *Voicemail, Web Conferences and Beyond: How Sound Recordings Are Influencing the Way Corporate Counsel Conduct eDiscovery*, 23 No. 13 CORP. COUNS., May, 2009, at 5.

telephone and computer systems.⁵⁰ “These . . . systems sometimes use e-mail notices that identify the caller, date, time, and duration of the call—which provides the firm (or a litigation adversary) with the ability to trace an employees’ receipt of messages, and can lead to additional burdensome discovery demands.”⁵¹ Digital voicemail recordings that are accompanied by email notification are more like emails than traditional voicemail, and identical production obligations will probably apply to them during discovery.⁵²

Though commentators predict the inevitable rise of voicemail as a commonplace spoil of e-discovery,⁵³ case law is only starting to reflect the shift towards audio discovery. “[D]igital voicemail [e-discovery] disputes have yet to play a prominent role in reported decisions. . . .”⁵⁴ Nevertheless, even before the 2006 Amendment to Federal Rule of Civil Procedure 34,⁵⁵ courts indicated that “discoverable electronically stored data includes voice mail.”⁵⁶ While disputes over voicemail in e-discovery do not feature prominently in case law, more recent cases involving recorded phone conversations may also impact future decisions.⁵⁷ In *In re Seroquel*, the plaintiffs moved for discovery sanctions, accusing defendants of, among other things, “purposeful sluggishness” in the production of documents and data from certain custodians.⁵⁸ In granting plaintiffs’ motion, the district court was

⁵⁰ Mark Sidoti & Paul Asfendis, *Haunted by Voices?*, L. TECH. NEWS, May, 2009, at 26 (col. 1).

⁵¹ *Id.*

⁵² *Id.*

⁵³ See *supra* notes 46-52 and accompanying text.

⁵⁴ Sidoti & Asfendis, *supra* note 50; see also Sasha K. Danna, Note, *The Impact of Electronic Discovery on Privilege and the Applicability of the Electronic Communications Privacy Act*, 38 LOY. L.A. L. REV. 1683, 1702 (2005) (“[F]ederal case law addressing discovery disputes over electronically stored voice mail is extremely scant.”).

⁵⁵ See *supra* note 24-28 and accompanying text.

⁵⁶ Danna, *supra* note 54, at 1702 (citing *Thompson v. U.S. Dept. of Hous. & Urban Dev.*, 219 F.R.D. 93, 96 (D. Md. 2003) (“[T]he scope of what is included in the phrase “electronic records” can be enormous, encompassing voice mail, e-mail, [and other information]”)); *Kleiner v. Burns*, No. 00-2160-JWL, 2000 WL 1909470, at *4 (D. Kan. Dec. 22, 2000) (“[C]omputerized data and other electronically-recorded information includes, but is not limited to: voice mail messages and files, back-up voice mail files, e-mail messages and [other information]”) (internal quotations omitted).

⁵⁷ Sidoti and Asfendis, *supra* note 50, at 26 (citing *In re Seroquel Prods. Liab. Litig.*, 244 F.R.D. 650 (M.D. Fla. 2007); *E*Trade Secs. LLC v. Deutsche Bank AG*, 230 F.R.D. 582 (D. Minn. 2005)).

⁵⁸ *In re Seroquel Prods. Liab. Litig.*, 244 F.R.D. 650, 661 (M.D. Fla. 2007).

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persuaded, in part, by the plaintiffs' contention "that the custodial production has a great deal of missing data, e.g., although [defendant] has a system to deliver voicemail, faxes, and video into Outlook [email] inboxes, none has been produced."⁵⁹ In *Stamps v. Encore Receivable Management, Inc.*, the plaintiff debtor planned to introduce a voicemail from a collection agency that she recorded as substantive evidence in a civil suit alleging violations of the Fair Debt Collecting Act.⁶⁰ The plaintiff subsequently objected to the defendant collection agency's request to produce the voicemail recording, and requested that the court issue an order to delay the production of the recording until after depositions.⁶¹ Citing the plaintiff's intent to use the voicemail substantively, the district court rejected the plaintiff's request and ordered speedy production of the voicemail recording.⁶²

3. Conclusion

These cases demonstrate that courts have begun to view voicemails themselves as discoverable, electronically stored information in civil suits. This view is supported by the broad language of Federal Rule of Civil Procedure 34, which specifically includes "sound recordings" as a type of electronically stored information that is subject to disclosure.⁶³ Case law and the same broad language of Rule 34 also make it clear that courts view emails as falling well within the types of discoverable electronically stored information.⁶⁴ Privacy concerns have generally not prevented courts from treating email as subject to disclosure requirements, although some courts have considered privacy expectations when gauging the reasonableness of discovery orders.⁶⁵ To the extent that they are accurate, automatically generated voicemail transcripts are essentially voicemails in email form. It stands to reason, then, that the same considerations that apply to discovery of both email and voicemail also apply to these transcripts. Since case law indicates that emails and voicemails are both subject to disclosure, and keeping in mind the Advisory Committee's intent that Rule 34's language be "flexible enough to encompass future changes and developments,"⁶⁶ it seems reasonable to infer

⁵⁹ *Id.*

⁶⁰ *Stamps v. Encore Receivable Mgmt., Inc.*, 232 F.R.D. 419, 420-22 (N.D. Ga. 2005).

⁶¹ *Id.* at 422-23.

⁶² *Id.* at 423-24.

⁶³ See *supra* notes 24-28, 48-49 and accompanying text.

⁶⁴ See *supra* notes 34-36 and accompanying text.

⁶⁵ See *supra* notes 37-45 and accompanying text.

⁶⁶ See *supra* note 28 and accompanying text.

that automatically transcribed voicemails will be subject to disclosure in civil actions in which they are relevant.

III. CHALLENGES TO THE ADMISSIBILITY OF AUTOMATICALLY TRANSCRIBED VOICEMAILS

The value of automatically generated voicemail transcripts to litigators will depend largely on whether the information contained therein can be admitted as evidence at trial. The remainder of this discussion will focus on some of the more challenging issues litigators will face in their attempts to get such information admitted. Because the Federal Rules of Evidence govern the majority of federal judicial proceedings and have been adopted, either in whole or in part, by forty-two states and Puerto Rico,⁶⁷ the discussion will focus primarily on those rules.

A. *The Rule against Hearsay*

The Federal Rules of Evidence define hearsay as “a statement, other than one made by the declarant while testifying at the trial or hearing, offered in evidence to prove the truth of the matter asserted.”⁶⁸ For the purpose of this definition, a statement is “an oral or written assertion. . . of a person, if it is intended by the person as an assertion.”⁶⁹ Hearsay is not admissible as evidence, “except as provided by [the Federal Rules of Evidence] or by other rules prescribed by the Supreme Court”⁷⁰

1. Examples of the Hearsay Rule’s Application to Email and Voicemail

Email evidence is susceptible to exclusion on hearsay grounds. In a proceeding for a protection from abuse order, a trial court refused to admit email evidence submitted by the respondent.⁷¹ The email was allegedly written by petitioner’s mother and seemed to reference petitioner’s drinking problem.⁷² In affirming the trial court’s decision to exclude the email, the

⁶⁷ GEORGE FISHER, EVIDENCE 2-3 (Foundation Press 2d ed. 2008) (2002).

⁶⁸ FED. R. EVID. 801(c); *see also* FISHER, *supra* note 67, at 365 (suggesting that this definition of hearsay can be streamlined to read, “Hearsay is [an out-of-court] statement . . . offered in evidence *by a litigant* to prove the truth of the matter asserted *by the declarant*.”) (alterations and emphasis in original).

⁶⁹ FED. R. EVID. 801(a).

⁷⁰ FED. R. EVID. 802.

⁷¹ Hood-O’Hara v. Wills, 873 A.2d 757, 759 (Pa. Super. Ct. 2005).

⁷² *Id.*

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Pennsylvania Superior Court referred to the state's version of Rule 801.⁷³ Because respondent (appellant above) sought to offer the email as proof of petitioner's (appellee's) alleged drinking problem, the court held that the email was an out of court statement offered for the truth of the matter asserted.⁷⁴ Thus, the email was inadmissible hearsay.⁷⁵ In *Means v. Cullen*, the plaintiff was a mentally ill inmate at a secure program facility who brought a civil suit against a psychologist at the facility, alleging deliberate indifference to his medical needs.⁷⁶ Plaintiff alleged that, after he expressed suicidal desires, defendant replied that no one would care if he died.⁷⁷ Defendant subsequently denied this statement in an email, and the email was included in an investigative report regarding the plaintiff's complaints.⁷⁸ An issue the court addressed was whether the email could be considered for the purposes of resolving defendant's motion for summary judgment.⁷⁹ After finding that several exceptions to the rule against hearsay did not apply,⁸⁰ the court concluded that the email was inadmissible hearsay that could not be considered in resolving the motion.⁸¹

Cases about hearsay challenges to the admissibility of voicemail messages are rare. This is probably largely due to the lack of cases involving voicemail in general.⁸² In *United States v. Somerset*, the defendant was charged with two counts of telephone harassment.⁸³ Following his conviction, the defendant claimed that the trial court erred in admitting evidence of voicemails that the defendant left for the victim despite the victim's demands that the defendant

⁷³ *Id.* at 760 (citing P.A.R.E. 801) ("Under the Rules of Evidence, an out of court statement that is offered for the truth of the matter asserted is excluded as hearsay.").

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Means v. Cullen*, 297 F. Supp. 2d 1148, 1150-51 (W.D. Wis. 2003).

⁷⁷ *Id.* at 1151.

⁷⁸ *Id.*

⁷⁹ *Id.* at 1151-52.

⁸⁰ *See id.* (finding, *inter alia*, that the email's inclusion in an investigatory report did not except it from hearsay objections, noting that "[a]lthough . . . certain investigative reports are excepted from the evidentiary rule barring hearsay, Fed.R.Evid. 803(8), statements made by third parties recorded in the report are hearsay within hearsay and are inadmissible unless they qualify for their own exception or exclusion to the hearsay rule, Fed.R.Evid. 805.").

⁸¹ *Means v. Cullen*, 297 F. Supp. 2d 1148, 1152 (W.D. Wis. 2003).

⁸² *See Sidoti & Asfendis, supra* note 50.

⁸³ *United States v. Somerset*, No. 3:03po002, 2007 WL 3005746, at *1 (S.D. Ohio Oct. 12, 2007).

stop calling her.⁸⁴ The defendant claimed that the evidence of the voicemails constituted hearsay evidence.⁸⁵ The district court rejected this argument, noting that “the messages left by the Defendant qualify as admissions by a party opponent and, therefore, do not constitute hearsay.”⁸⁶ The district court also noted the trial court’s finding that the voicemail did not constitute hearsay because the contents of the voicemail were “not offered ‘to prove the truth of the matter asserted.’”⁸⁷ The district court does not elaborate on the trial court’s reasoning.⁸⁸ However, since the telephone harassment statute cited in the decision simply forbade the defendant from making a call to someone who had previously requested not to be contacted,⁸⁹ the truth of the substance of the call was not at issue. Therefore, the government probably offered the voicemail evidence, not to prove the truth of any matter asserted therein, but rather to show that the calls occurred at all. Though the *Somerset* court determined that the content of the voicemails did not constitute hearsay under these facts, its holding likely would have been different if the voicemail had been offered to prove the truth of a matter asserted and if the caller could not be identified as the party opponent.⁹⁰

Voicemail evidence also featured prominently in the *White v. State* murder case.⁹¹ Following the victim’s disappearance, her family members left her several voicemails in which they pleaded for her to return their calls.⁹² On appeal from a conviction for murder, the defendant claimed that the contents of the voicemails were inadmissible hearsay.⁹³ The court agreed with the government that the messages were not hearsay “because they were not offered

⁸⁴ *Id.* at *2, *5.

⁸⁵ *Id.* at *5.

⁸⁶ *Id.* at *5-6 (citing FED. R. EVID. 801(d)(2)).

⁸⁷ *Id.* at *6 n.10.

⁸⁸ *Id.*

⁸⁹ *United States v. Somerset*, No. 3:03po002, 2007 WL 3005746, at *2 (S.D. Ohio Oct. 12, 2007).

⁹⁰ *See Denson v. State*, 209 Ga. 355, 356 (Ga. 1952) (“A witness will not be permitted to relate a conversation had with another person over the telephone, where such witness did not know the other person or recognize his voice, and his identity is not established otherwise than by what was said in the conversation itself. Such being hearsay evidence, is inadmissible.”).

⁹¹ *White v. State*, No. 01-04-00410-CR, 2006 WL 727809, at *5-7 (Tex. App. Mar. 23, 2006).

⁹² *Id.* at *6-7.

⁹³ *Id.*

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for the truth of the matter asserted therein. Instead . . . the messages were offered merely to show that the calls had been made and to suggest that [the victim], had she been able, would have responded”⁹⁴ Thus, the voicemails did not fit the definition of hearsay specified by Texas’ version of Rule 801.⁹⁵

The preceding cases demonstrate that courts analyze hearsay objections to emails and voicemails in much the same way that they analyze the same objections to paper and oral statements. In their analyses they treat both emails and voicemail as statements which may or may not be offered for the truth of the matters asserted therein. Since automatically generated voicemail transcripts are a kind of hybrid of voicemail and email, and since their basic function is to convert speech from one format into another, it seems likely that courts will treat these transcripts as statements that can give rise to hearsay objections.

2. Hearsay and Machine Statements: the Computer-Stored / Computer-Generated Distinction

Putting aside the analogous treatments of email and voicemails, it is not obvious that the rule against hearsay encompasses computer-generated transcripts. At first glance, the Federal Rules of Evidence seem to exclude such machine statements from possible sources of hearsay. Rule 801(a) limits the definition of a statement to “(1) an oral or written assertion or (2) nonverbal conduct of a *person*, if it is intended by the *person* as an assertion.”⁹⁶ For the purposes of hearsay, the Rules define a declarant as “a person who makes a statement.”⁹⁷ Therefore, “an objection on this [hearsay] ground is ineffective against evidence of the output of machines. . . .”⁹⁸ However, though the output - in this case a transcript produced by a computer program - may be the direct product of a machine, “information produced by machines is, at one remove or many, a reflection of human design, engineering, programming, calibration, and purposeful input, all aimed at generating machine output.”⁹⁹ In cases where machine outputs are “a direct and obvious reflection of human assertions or input, such as conversations

⁹⁴ *Id.* at *7.

⁹⁵ TEX. R. EVID. 801(d).

⁹⁶ FED. R. EVID. 801(a) (emphasis added).

⁹⁷ FED. R. EVID. 801(b).

⁹⁸ 4 CHRISTOPHER MUELLER & LAIRD KIRKPATRICK, FEDERAL EVIDENCE § 8:13 (3d ed. 2007).

⁹⁹ *Id.*

captured by recording devices, printouts of business data, and the content of websites. . . ordinary hearsay analysis is appropriate.”¹⁰⁰ On the other hand,

[w]hen information from machines is mostly a product of mechanical measurement or manipulation of data by well-accepted scientific or mathematical techniques, the usual approach is to try to assure accuracy by requiring the proponent to lay a proper foundation by showing that the machine and its functions are reliable, that it was correctly adjusted or calibrated, and that basic data put into the machine are accurate.¹⁰¹

In an effort to differentiate between those computer outputs that should be subject to hearsay objections and those that should not, some courts and commentators employ a conceptualization of computer outputs that distinguishes between “computer-generated data” and “computer-stored data.”¹⁰² Computer-stored data “represents only the by-product of a machine operation which uses for its input ‘statements’ entered into the machine by out of court declarants.”¹⁰³ Computer-generated data, in contrast, is the result “of the computer’s internal operations. . . [and] does not represent the output of statements placed into the computer by out of court declarants.”¹⁰⁴ Other courts simply regard all computer records as hearsay, “admissible only under the business records or public records exceptions.”¹⁰⁵ In *Armstead*, the Louisiana Supreme Court refused to treat as hearsay certain automatically generated telephone call logs that linked the defendant to obscene phone calls.¹⁰⁶ The *Armstead* court acknowledged that “computer printouts which reflect computer stored human statements are hearsay when introduced for the truth of the matter asserted in the statements.”¹⁰⁷ However, the court distinguished between such stored statements and the telephone logs at issue, noting that “we are not dealing with computer stored human statements. . . the evidence in this case was generated solely by the electrical and mechanical

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² See, e.g., *State v. Armstead*, 432 So. 2d 837, 839-40 (La. 1983); Adam Wolfson, Note, “*Electronic Fingerprints*”: *Doing Away with the Conception of Computer-Generated Records as Hearsay*, 104 MICH. L. REV. 151, 158-59 (2005).

¹⁰³ *Armstead*, 432 So. 2d at 839.

¹⁰⁴ *Id.* at 840 (listing as examples a seismograph’s recordings of geophysical occurrences and a flight data recorder’s record of physical conditions onboard an aircraft).

¹⁰⁵ *Hawkins v. Cavalli*, No. C 03-3668 PJH, 2006 WL 2724145, at *12 (N.D. Cal. Sept. 22, 2006) (citing Wolfson, *supra* note 102, at 155).

¹⁰⁶ *Armstead*, 432 So. 2d at 840.

¹⁰⁷ *Id.* at 839.

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operations of the computer and telephone equipment, and was not dependent upon the observations and reporting of a human declarant.”¹⁰⁸ The *Armstead* court noted that scholars had previously recognized the distinction between computer-stored data and computer-generated data but, perhaps acknowledging the new territory it was charting, lamented that “the writers have not satisfactorily developed a consistent framework for evaluating computer generated data.”¹⁰⁹

In one attempt to create such a framework, Adam Wolfson argues that federal courts should adopt Louisiana’s *Armstead* approach of discerning between computer-generated and computer-stored data.¹¹⁰ Wolfson notes that computer evidence often has a “highly unified presentation,” which causes “judges and lawyers alike [to] miss the crucial distinctions that make parts of the evidence admissible and other parts barred under the FRE and various court precedents.”¹¹¹ For example, suppose that two individuals negotiate and settle upon the terms of an agreement for certain services on an Internet forum like a message board. Prior to participating in the forum, each human user selected an alias or user name by which to identify themselves and their forum postings. For every posting made in the course of the negotiations, each person fills in a text field with his or her desired terms, representations, and any other input that he or she decides to type. When the human user clicks to upload his or her posting, the drafted text is submitted to the server handling the online forum. Whenever somebody views the posting online, the server automatically displays the time of the posting and the user name associated with the posting along with the human-drafted text.¹¹²

Suppose now that one or more of these postings becomes the subject of litigation and that one of the parties seeks to introduce evidence that one of the postings was made at a specific time by a certain user. The proponent wishes to admit a printout from the forum showing the message text, timestamp, and user name. Opposing counsel might then object that the document reflects an assertion by the human user who created the post that (1) a person with a certain user name (2) made certain claims (3) at a certain time. The opponent would likely emphasize the human involvement in drafting the substantive text

¹⁰⁸ *Id.* at 839-40.

¹⁰⁹ *Id.* at 840 n.3.

¹¹⁰ Wolfson, *supra* note 102, at 158-61.

¹¹¹ *Id.* at 168-69.

¹¹² *See, e.g.,* United States v. Hamilton, 413 F.3d 1138, 1142-43 (10th Cir. 2005) (discussing how a computer automatically generated date and username information to accompany the defendant user’s postings to a newsgroup).

of the post and in triggering the post's upload. The judge, confronted with a single document conveying all this information, may view the entire submission as inadmissible hearsay. However, the unified presentation of this information, together on one printed web page, belies the fact that the information is really an amalgamation of computer-generated and computer-stored information.¹¹³ While the text portion of the posting that was drafted by a human is easily categorized as computer-stored information because it "represents. . .the by-product of a machine operation which uses for its input 'statements' entered into the machine by [an] out of court [declarant],"¹¹⁴ the same is not true for the timestamp. In this example, the timestamp is an automatic addition to the post by the server that involved no human input other than the triggering of the upload. It is therefore a computer-generated piece of information that fails to meet the definition of a statement for the purposes of hearsay.¹¹⁵ This hypothetical illustrates the need for judges to be able to differentiate between those portions of seemingly unified computer outputs that are computer-stored statements and those that are computer-generated.¹¹⁶

It is unclear exactly where federal courts draw the line between outputs that are primarily the statements of a machine and outputs that are essentially human assertions, which are subject to hearsay objections.¹¹⁷ However, in the

¹¹³ See Wolfson, *supra* note 102, at 167-69 (arguing that this unified presentation causes judges and lawyers to conflate computer-stored information that may be hearsay with the computer-generated "electronic fingerprints" that accompany such information.).

¹¹⁴ See *State v. Armstead*, 432 So. 2d 837, 839 (La. 1983) (defining "computer-stored" information).

¹¹⁵ See *supra* notes 96-98 and accompanying text.

¹¹⁶ See Wolfson, *supra* note 102, at 167-69 (advocating a three part test for analyzing computer outputs and noting the importance of breaking a computerized record "into its constituent parts, which are usually a combination of computer-stored and computer-generated data.").

¹¹⁷ Compare *Hamilton*, 413 F.3d at 1142-43 (holding in a child pornography prosecution that "header" information uploaded along with pornographic images, such as the user's screen name, the subject of the posting, and the posting date, was not hearsay because the "header information was generated instantaneously by the computer without the assistance or input of a person.") with *United States v. Cowley*, 720 F.2d 1037, 1044 (9th Cir. 1983) (holding that a machine-affixed postmark was hearsay because "a postal official is responsible for setting the machine and causing the letters to pass through it . . . [t]he postmark is thus the postal official's written assertion that the letter passed through his hands at the [particular] post office on a particular day."). One could argue that the screen name and subject information automatically affixed to each pornographic upload in *Hamilton* was just as susceptible to initial human input as the settings on the postmark

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computer context, case law suggests that the *Armstead* distinction between computer-generated and computer-stored data is gaining recognition.¹¹⁸ Evidentiary treatises also seem to recognize the distinction, though they do not necessarily use the same terminology.¹¹⁹

3. Applying the Computer-Stored / Computer-Generated Distinction to Automatically Transcribed Voicemails

The distinction between computer-stored data and computer-generated data has major implications for the evidentiary value of automatically transcribed voicemails. The *process* by which the Google Voice program transcribes voicemails into text is automatic, involving “no human effort.”¹²⁰ It is unclear whether other transcription services can claim to have the same degree of automation.¹²¹ Nevertheless, even for those voicemail transcription services that require no human aid in translating audio voicemails into text, transcribed voicemails do seem to be obvious reflections of human assertions and input because they are intended to represent oral statements of human callers.¹²² The form of the statements change, thanks to the program, but the fact that they are assertions does not change. Since the output of automatic transcription programs will usually use human assertions for input (i.e. the statements within the voicemails), hearsay analysis will apply to many voicemail transcripts, even though they are generated by a machine.¹²³ Thus, it seems that if a proponent seeks to admit such a voicemail transcript to prove the truth of the

machine in *Cowley*.

¹¹⁸ See, e.g., *Hamilton*, 413 F.3d at 1142 n.4 (noting that its decision that data accompanying uploaded pornographic images was admissible “might [have been] different if ‘computer-stored’ data, as opposed to ‘computer-generated’ data, were involved.”) (citing *People v. Holowko*, 486 N.E.2d 877, 878–79 (Ill. 1985)); *Hawkins v. Cavalli*, No. C 03-3668 PJH, 2006 WL 2724145, at *11-12 (N.D. Cal. Sept. 22, 2006) (citing *Armstead*, 432 So. 2d at 840; Wolfson, *supra* note 102, at 157-58).

¹¹⁹ See 4 MUELLER & KIRKPATRICK, *supra* notes 100-01 and accompanying text.

¹²⁰ See Pogue, *supra* note 3.

¹²¹ There has been some controversy over just how much human intervention has been involved in some so-called “automatic” transcription services. See, e.g., Urmee Khan, *Security Fears over Voice-to-Text Service*, THE DAILY TELEGRAPH, July 24, 2009, at 12 (discussing a BBC investigation into SpinVox, an automatic voicemail transcription service provider that has admitted to doing at least some of its transcription through humans at call centers in countries like Egypt and the Philippines).

¹²² See generally Pogue, *supra* note 3 (describing the function of Google Voice’s automatic transcription service).

¹²³ See 4 MUELLER & KIRKPATRICK, *supra* note 100 and accompanying text.

matter asserted therein, the submission will be susceptible to hearsay objections.¹²⁴

4. Getting Around the Hearsay Exclusion: Computer-Generated Non-Hearsay

Though automatically generated voicemail transcripts are susceptible to hearsay objections, this does not serve as a general, per se bar to their admission. As in the hypothetical about the message board postings,¹²⁵ a Google Voice transcript is a combination of computer-stored information and computer-generated information.¹²⁶ When a Google Voice subscriber receives an automatically emailed copy of a voicemail transcript, the email contains: (1) the phone number of the caller, (2) the name (if any) that the subscriber has chosen to associate with that number, (3) the date and time of the call, and (4) the text of the transcript itself.¹²⁷ While the text of the transcript itself reflects the human input of the voicemail, the computer automatically generates the caller's number and the date and the time of the call.¹²⁸ The computer-generated time and date information of the email are analogous to the admissible timestamps that accompanied the newsgroup postings in *Hamilton*.¹²⁹ Similarly, the automatically included telephone number is analogous to evidence related to telephone traces and caller I.D. displays that courts have viewed as computer-generated non-hearsay.¹³⁰ Therefore, the

¹²⁴ See *supra* notes 68-108, 117-23 and accompanying text.

¹²⁵ See *supra* notes 111-16 and accompanying text.

¹²⁶ See, e.g., Email from Jessica Lin to George Cornell (Sept. 20, 2009, 18:28:38 EST) (on file with author) (displaying an automatically generated voicemail transcript along with the automatically generated time stamp and caller phone number).

¹²⁷ *Id.*

¹²⁸ *Id.*; see Pogue, *supra* note 3.

¹²⁹ See *United States v. Hamilton*, 413 F.3d 1138, 1142-43 (10th Cir. 2005) (noting that timestamps and screen name information accompanying pornographic images were computer-generated information that could not qualify as statements subject to exclusion as hearsay).

¹³⁰ *State v. Armstead*, 432 So. 2d 837, 839-40 (La. 1983) (“the printout of a telephone trace in this type of system does not represent evidence of computer stored declarations. The computer generated data by recording the source of various telephone connections as it was making them [T]he evidence in this case was generated solely by the electrical and mechanical operations of the computer and telephone equipment, and was not dependent upon [human observations or reporting].”); *State v. Carr-Poindexter*, No. Civ.A. 20197, 2005 WL 737371, at *7 (Ohio App. 2 Dist. Apr. 1, 2005) (“[C]aller ID information provided to a telephone user is based on computer-generated information and not simply

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computer-generated portions of an email conveying a Google Voice transcript (i.e. the time, date, and caller number) can be distinguished from the automatically transcribed statements. The former are non-hearsay components,¹³¹ while the latter, if offered to prove the truth of statements contained therein, may be hearsay.¹³² Therefore, a proponent that seeks to admit such an email to prove a fact supported by its computer-generated portions, such as the fact that a voicemail was received by a certain number at a certain time, will be more likely to succeed if he or she can persuade the judge to distinguish between the email's computer-generated and computer-stored components.¹³³ If the transcript portion of the email contains human assertions that would be hearsay or otherwise improper to admit along with the computer-generated information, the proponent could submit a redacted copy or seek an instruction from the bench that limits the jury's consideration to the computer-generated, non-hearsay components.¹³⁴

5. Getting Around the Hearsay Exclusion: Exceptions to the Hearsay Rule

Although the transcript portions of an email from Google Voice are susceptible to classification as hearsay,¹³⁵ is there a reason why the exceptions that allow admission of hearsay relayed through other mediums would not apply to automatically transcribed voicemails? The hearsay exception rules have already been applied to media that are closely analogous to automatic voicemail transcriptions, such as recordings of telephone calls and transcripts

repetition of prior recorded human output or observation, and thus does not fall within the scope of the hearsay rule. . . . Caller ID evidence, therefore, will not be inadmissible on hearsay grounds, but may be attacked based on a lack of foundation regarding the reliability of the device, or by otherwise demonstrating the unreliability of the information disclosed by it.”) (citations omitted).

¹³¹ See *supra* notes 128-30 and accompanying text.

¹³² See *supra* notes 120-24 and accompanying text.

¹³³ Wolfson, *supra* note 102, at 167-68 (outlining steps by which a judge can analyze whether certain computer outputs are computer-stored information or computer-generated non-hearsay and noting that “[t]his allows attorneys to break down the record into its constituent parts, which are usually a combination of computer-stored and computer-generated data.”).

¹³⁴ See FED. R. EVID. 105 (“When evidence which is admissible as to one party or for one purpose but not admissible as to another party or for another purpose is admitted, the court, upon request, shall restrict the evidence to its proper scope and instruct the jury accordingly.”).

¹³⁵ See *supra* notes 68-108, 117-23 and accompanying text.

of such recordings. Why should courts not treat automatically generated transcripts like other forms of recorded communication? In *United States v. Boyd*, the 4th Circuit held that a district court did not abuse its discretion in admitting a recording and a transcript of a 911 call by an eyewitness to a shooting.¹³⁶ Though the recorded statement was clearly an out-of-court statement, the court admitted the recording and transcript under the excited utterance exception to the hearsay rule because the declarant had made the statements contemporaneously with the shooting, while in a state of excitement.¹³⁷ In *United States v. Hawkins*, the Eighth Circuit addressed whether a recording of a 911 call could come within the present sense impression exception to the ban on hearsay.¹³⁸ The court held that the caller's out-of-court statements from the 911 tape were admissible as a present sense impression because the caller's statements were contemporaneous with the events being described.¹³⁹ Thus, the Federal Rules of Evidence "may provide hearsay exceptions for electronically stored communications containing either present sense impressions or excited utterances."¹⁴⁰ The category of electronically stored communications includes email, which may survive a hearsay objection through the exception for "then existing mental, emotional, or physical condition[s]" laid out in Federal Rule of Evidence 803(3).¹⁴¹ As

¹³⁶ See *United States v. Boyd*, 237 F. App'x 892, 893 (4th Cir. 2007).

¹³⁷ See *id.* at 893 (citing FED. R. EVID. 803(2)) ("Melvin James's statements during the 911 call were admissible under the excited utterance exception to the hearsay rule, which is '[a] statement relating to a startling event or condition made while the declarant was under the stress of excitement caused by the event or condition.'").

¹³⁸ *United States v. Hawkins*, 59 F.3d 723, 730 (8th Cir. 1995), *vacated on other grounds*, 516 U.S. 1168 (1996).

¹³⁹ "[S]tatements from the 911 tape were admissible as a 'present sense impression' under Rule 803(1). Under that rule, a court may admit as an exception to the hearsay rule '[a] statement describing or explaining an event or condition made while the declarant was perceiving the event or condition, or immediately thereafter,' even though the declarant is available to testify." *Id.* (citing FED. R. EVID. 803(1)).

¹⁴⁰ *Lorraine v. Markel American Ins. Co.*, 241 F.R.D. 534, 569 (D. Md. 2007).

¹⁴¹ See *id.* at 570 ("Rule 803(3) is particularly useful when trying to admit e-mail, a medium of communication that seems particularly prone to candid, perhaps too-candid, statements of the declarant's state of mind, feelings, emotions, and motives."); FED. R. EVID. 803(3) (excluding from the hearsay ban "[a] statement of the declarant's then existing state of mind, emotion, sensation, or physical condition (such as intent, plan, motive, design, mental feeling, pain, and bodily health), but not including a statement of memory or belief to prove the fact remembered or believed unless it relates to the execution, revocation, identification, or terms of declarant's will.").

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one district court observed, “Given the widely accepted fact that most writings today are created and stored in electronic format, it is easy to see that the many types of documents and writings covered in Rule 803 will implicate electronic writings.”¹⁴²

If one views automatically transcribed voicemails as just another of the several electronic mediums through which human statements are memorialized, what would prevent the application of these same hearsay exceptions to such transcripts? One characteristic that could set automatic transcriptions apart from other mediums like email and audio recordings is the level of inaccuracy with which the software converts human oral statements into written form.¹⁴³ One might argue that a major rationale behind the limited exceptions to hearsay is that the excepted types of statements are thought to be more reliable than other, inadmissible forms of hearsay.¹⁴⁴ Rule 803’s exceptions to hearsay “[proceed] upon the theory that under appropriate circumstances a hearsay statement may possess circumstantial guarantees of trustworthiness sufficient to justify nonproduction of the declarant in person at the trial even though he may be available.”¹⁴⁵ One might argue that Google Voice and other automatic transcription programs are too inaccurate to produce trustworthy records of out-of-court statements. Therefore, the argument goes, the rationale underlying the hearsay exceptions cannot apply to hearsay statements contained in automatically generated transcripts.

The preceding argument, however, ignores the nature of the trustworthiness on which the hearsay exceptions are predicated. “The underlying theory of [the present sense impression exception codified in Federal Rule of Evidence 803(1)] is that substantial contemporaneity of event and statement negative the likelihood of *deliberate or conscious misrepresentation*.”¹⁴⁶ “The theory of

¹⁴² *Lorraine*, 241 F.R.D. at 568.

¹⁴³ *See, e.g.*, Gallagher, *supra* notes 8-9 (showing several examples of highly inaccurate Google Voice transcriptions under challenging circumstances); Email from Jessica Lin to George Cornell, *supra* note 126 (in which the mock voicemail of the author mumbling “Uh, you know for someone who’s supposed to be my attorney, you never seem to be available - I’m a little bit ticked off about this and, uh, I’m really hoping that your law firm, uh, Bing’em Bang’em and Bill’em has uh, shreaded those documents that I wanted shreaded before. . . .” was transcribed to read “You know, for summers with you. My attorney you never seem to be available. I’m a little bit ticked off about this and i [sic] really hoping that your law firm thing Banking Bill has a dreaded those documents. I wanted to insure the best for you . . .”).

¹⁴⁴ *See* FED. R. EVID. 803 advisory committee’s note.

¹⁴⁵ *Id.*

¹⁴⁶ FED. R. EVID. 803(1) advisory committee’s note (emphasis added).

[Federal Rule of Evidence 803(2)'s exception for excited utterances] is simply that circumstances may produce a condition of excitement which temporarily stills the capacity of reflection and produces utterances free of *conscious fabrication*.¹⁴⁷ Federal Rule of Evidence 803(3)'s exception for then existing mental, emotional, or physical condition "is essentially a specialized application of [Federal Rule of Evidence 803(1)]."¹⁴⁸ The advisory committee notes to Federal Rule of Evidence 803(4)'s exception for statements made for the purposes of medical diagnosis or treatment state that "[e]ven those few jurisdictions which have shied away from generally admitting statements of present condition have allowed them if made to a physician for purposes of diagnosis and treatment in view of the patient's *strong motivation to be truthful*."¹⁴⁹ The committee's preoccupation with dangers like fabrication, misrepresentation, and motivations for truthfulness, suggest that the trustworthiness it had in mind is largely, if not primarily, concerned with truthfulness and sincerity.¹⁵⁰ "With a machine, however, there is no possibility of a conscious misrepresentation, and the possibility of inaccurate or misleading data only materializes if the machine is not functioning properly."¹⁵¹ Thus, while statements conveyed by the transcript may be inadmissible hearsay if they do not meet the conditions of any exception,¹⁵² any statement that would otherwise meet an exception would not become insincere or untruthful merely by virtue of its transcription by a computer.¹⁵³ In short, a computer program that performs automatic transcription may be inaccurate,¹⁵⁴ but it cannot be a liar.¹⁵⁵ There is no greater risk of untruthfulness or insincerity presented by these transcripts than by other forms of electronically stored information to which the exceptions apply.¹⁵⁶ Therefore, hearsay exceptions should apply to automatically transcribed voicemails to the same extent that they apply to analogous ways of preserving

¹⁴⁷ FED. R. EVID. 803(2) advisory committee's note (emphasis added).

¹⁴⁸ FED. R. EVID. 803(3) advisory committee's note (emphasis added).

¹⁴⁹ FED. R. EVID. 803(4) advisory committee's note (emphasis added).

¹⁵⁰ See *supra* notes 146-49 and accompanying text.

¹⁵¹ *State v. Armstead*, 432 So. 2d 837, 840 (La. 1983).

¹⁵² See *supra* notes 68-108, 117-23 and accompanying text.

¹⁵³ See *Armstead*, 432 So. 2d at 840 (noting that machines are incapable of "conscious misrepresentation").

¹⁵⁴ See *supra* note 143 and accompanying text.

¹⁵⁵ See *Armstead*, 432 So. 2d at 840 (noting that machines are incapable of "conscious misrepresentation").

¹⁵⁶ See *supra* notes 136-42, 151 and accompanying text.

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human statements, such as emails and audio recordings.

B. The Requirement of Authentication or Identification

1. Federal Rule of Evidence 901

In addition to the rule against hearsay, the authentication requirement might serve to bar the admission of automatic voicemail transcriptions into evidence.¹⁵⁷ For federal courts and courts in those states that have adopted the Federal Rules of Evidence, the authentication requirement is codified in Federal Rule of Evidence 901.¹⁵⁸ Federal Rule of Evidence 901 provides that “[t]he requirement of authentication or identification as a condition precedent to admissibility is satisfied by evidence sufficient to support a finding that the matter in question is what its proponent claims.”¹⁵⁹ “This requirement of showing authenticity or identity falls in the category of relevancy dependent upon fulfillment of a condition of fact, and is governed by the procedure set forth in Federal Rule of Evidence 104(b).”¹⁶⁰ In *Huddleston v. United States*, the Supreme Court specified that in order to determine whether enough evidence has been submitted to satisfy the conditional relevance requirement of Federal Rule of Evidence 104(b), “the [trial] court simply examines all the evidence in the case and decides whether the jury could reasonably find the conditional fact . . . by a preponderance of the evidence.”¹⁶¹ Therefore, in determining whether to admit an item of evidence, a judge must be persuaded that there is enough foundation laid so that a jury *could reasonably find*, by a preponderance of the evidence, that the offered evidence is what the proponent claims it to be.¹⁶² Federal Rule of Evidence 902 lists several types of evidence that are self-authenticating, but does not include anything resembling an automatically transcribed voicemail.¹⁶³

Federal Rule of Evidence 901(b) lists ten methods by which a proponent of

¹⁵⁷ See FED. R. EVID. 901(b) advisory committee’s note (“It should be observed that compliance with requirements of authentication or identification by no means assures admission of an item into evidence, as other bars, hearsay for example, may remain.”).

¹⁵⁸ FED. R. EVID. 901.

¹⁵⁹ FED. R. EVID. 901(a).

¹⁶⁰ FED. R. EVID. 901(a) advisory committee’s note.

¹⁶¹ *Huddleston v. United States*, 485 U.S. 681, 690 (1988).

¹⁶² See *supra* notes 159-61 and accompanying text; FISHER, *supra* note 67, at 806 (“The Supreme Court’s elaboration of Rule 104(b)’s standard in *Huddleston* . . . presumably applies in [the Rule 901] context as well.”).

¹⁶³ See FED. R. EVID. 902.

evidence may establish its authenticity.¹⁶⁴ The Rule makes it clear that the methods shown are “[b]y way of illustration only, and are not by way of limitation.”¹⁶⁵ A proponent of evidence may therefore choose to use several of the methods in tandem, or dispense with the listed options and find an alternative way to authenticate the evidence.¹⁶⁶ The following discussion focuses on several of these illustrations, and evaluates their feasibility as methods to authenticate automatic voicemail transcriptions. One would expect that most proponents of such transcripts would seek to prove that the transcript in question is an accurate representation of what a certain caller said while leaving a voicemail. If so, the proponent is concerned with showing both (1) that the transcript accurately reflects the words spoken, and (2) that the words spoken were those of the alleged caller. The accuracy problems with current voicemail transcription software will complicate efforts to prove the first point.¹⁶⁷ In addition, “[some] courts are concerned that the information generated for use in litigation may have been altered, changed or manipulated after its initial input, or that the programs and procedures used to create and maintain the records are not reliable or accurate.”¹⁶⁸ On the other hand, the standard of proof for authentication is relatively lenient when compared to other standards.¹⁶⁹ Also, other courts apply concerns about tampering and inaccuracy of electronic records to the weight of the evidence rather than its authenticity.¹⁷⁰

2. Authentication by a Witness to the Conversation

The first illustrative way of establishing authenticity is to present testimony

¹⁶⁴ See FED. R. EVID. 901(b).

¹⁶⁵ *Id.*

¹⁶⁶ FISHER, *supra* note 67, at 806.

¹⁶⁷ See Gallagher *supra* notes 8-9, 143 and accompanying text.

¹⁶⁸ Lorraine v. Markel Am. Ins. Co., 241 F.R.D. 534, 574 (D. Md. 2007) (discussed in the context of the business records exception to hearsay).

¹⁶⁹ See FED. R. EVID. 901(a) and advisory committee’s notes; Huddleston v. United States, 485 U.S. 681, 690 (1988); FISHER, *supra* note 67, at 806 (judge need only be satisfied that jury *could* find authenticity by a preponderance of the evidence) (emphasis added).

¹⁷⁰ See United States v. Safavian, 435 F. Supp. 2d 36, 40-41 (D.D.C. 2006) (holding that emails at issue, which the defendant argued were untrustworthy because they had been forwarded through other emails in the process of which they could have been modified, were sufficiently authenticated and that “[t]he defendant’s argument is more appropriately directed to the weight the jury should give the evidence, not to its authenticity.”).

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of a witness with knowledge, or “[t]estimony that a matter is what it is claimed to be.”¹⁷¹ This method “contemplates a broad spectrum ranging from testimony of a witness who was present at the signing of a document to testimony establishing narcotics as taken from an accused and accounting for custody through the period until trial . . .”¹⁷² Courts have regarded transcripts as properly authenticated when a participant in the transcribed conversation gives un rebutted testimony that the transcripts are correct to the best of the participant’s knowledge.¹⁷³ Therefore, un rebutted testimony from the caller who left the voicemail from which a transcript is automatically generated could lay an adequate foundation for authenticating such transcripts.¹⁷⁴

3. Authentication where Witnesses to the Conversation Are Unavailable: Identifying the Caller

What options would a proponent have in the likely scenario in which the transcribed statements are against the interest of the caller, and the only human participant in the conversation is either unwilling or unavailable to testify as to their authenticity? Evidence of “telephone conversation[s] is admissible provided that the identity of the speaker is satisfactorily established.”¹⁷⁵ “The cases are in agreement that a mere assertion of one’s identity by a person talking on the telephone is not sufficient evidence of the authenticity of the conversation and that additional evidence of his identity is required.”¹⁷⁶ Hence, Federal Rule of Evidence 901(b)(6), which provides an illustration of authenticating a telephone conversation, involves the identification of the person called rather than the caller.¹⁷⁷ In the example, the person called is

¹⁷¹ FED. R. EVID. 901(b)(1).

¹⁷² FED. R. EVID. 901(b)(1) advisory committee’s note.

¹⁷³ See *United States v. Wright*, 932 F.2d 868, 880 (10th Cir. 1991) (holding that “the un rebutted testimony of one of the participants in the actual conversations is sufficient authentication” of transcripts of a recorded conversation).

¹⁷⁴ See *id.*

¹⁷⁵ *United States v. Biondo*, 483 F.2d 635, 644 (8th Cir. 1973).

¹⁷⁶ FED. R. EVID. 901(b)(6) advisory committee’s note.

¹⁷⁷ See FED. R. EVID. 901(b)(6). A rationale for this distinction is that “[t]he number called is owned by and under the control of the person to whose name the number is attached. It is certain that the answer is from that number, a circumstance tending to show that the person answering is the person called or one who has authority to answer for him. But where the telephone call is from an unknown number and the person called answers and asks who it is, any reply as to the number from which the call comes or as to the name of the caller would be pure hearsay. There would be no competent evidence that the call came from the number it claimed to be.” *State ex rel. Strohfled v. Cox*, 30 S.W.2d 462, 464 (Mo.

identified through a combination of (1) evidence establishing that the phone number dialed is associated with the person allegedly called, and (2) additional circumstances such as the self-identification by the person called.¹⁷⁸ Thus, it seems unlikely that a proponent would be able to adequately link an automatically transcribed voicemail to an alleged caller by relying solely on statements of self-identification contained in the transcript.¹⁷⁹ The advisory committee notes to Federal Rule of Evidence 901(b)(6) suggest that alternative ways to establish the identity of the caller include (1) evidence that the recipient of the call recognized the caller's voice, or (2) evidence of other special characteristics of the content of the call that link it to the caller.¹⁸⁰ Recognition of the voice that made the call is clearly inapplicable in this case, since the proponent seeks to admit a transcript of the voicemail rather than a recording of the audio. However, one may establish the identity of a party to a telephone conversation by circumstantial evidence.¹⁸¹ Federal Rule of Evidence 901(b)(4) states that authenticity may be established through evidence of distinctive characteristics such as "[a]pppearance, contents, substance, internal patterns, or other distinctive characteristics, taken in conjunction with the circumstances."¹⁸² "Thus a document or telephone conversation may be shown to have emanated from a particular person by virtue of its disclosing knowledge of facts known peculiarly to him."¹⁸³ In addition, language patterns may indicate authenticity.¹⁸⁴ Accents are not reflected in Google Voice transcripts, except to the extent that they seem to cause errors in many cases.¹⁸⁵ However, certain grammatical errors and other patterns in the words that a caller has a habit of using may very well carry over into the transcript.¹⁸⁶ As for relaying facts known peculiarly to the caller, the

1930).

¹⁷⁸ See FED. R. EVID. 901(b)(6).

¹⁷⁹ See *supra* notes 175-78 and accompanying text.

¹⁸⁰ See FED. R. EVID. 901(b)(6) advisory committee's note ("The additional evidence need not fall in any set pattern. Thus the content of his statements or the reply technique . . . or voice identification . . . may furnish the necessary foundation." (citing Fed. R. Evid. 901(b)(4)-(5)).

¹⁸¹ *United States v. Espinoza*, 641 F.2d 153, 170 (4th Cir. 1981).

¹⁸² FED. R. EVID. 901(b)(4).

¹⁸³ FED. R. EVID. 901(b)(4) advisory committee's note.

¹⁸⁴ *Id.*

¹⁸⁵ See, e.g., Gallagher, *supra* note 9 ("A number of people tried to stump Google with their wacky accents. As you can see, the results were mixed.").

¹⁸⁶ See, e.g., *id.* (several of the examples posted accurately reflected contractions in

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fact that computers do not consciously fabricate or mislead provides assurance that this method of proving authenticity is appropriate for automatically generated transcripts in the same way that it is appropriate for letters and telephone calls.¹⁸⁷ In other words, there is little risk that the computer will spontaneously fabricate facts that would only be known to a person other than the actual caller.¹⁸⁸ Therefore, it does not seem that the risk of false positive authentications is significantly increased by allowing the use of this method.¹⁸⁹

Another source of circumstantial evidence which a proponent could use to tie an alleged caller to a Google Voice transcript is the telephone number of the caller. The telephone number of the telephone which was used to record the voicemail is automatically generated and included with the voicemail transcript that a Google Voice customer receives.¹⁹⁰ Courts have held that the automatic output of caller identification information (such as from caller ID devices) is a corroborative circumstance that can be used to identify the caller in telephone conversations for authentication purposes.¹⁹¹ However, the proponent of this information has the burden of proving that the device displaying the caller's information is reliable.¹⁹²

4. Authentication where Witnesses to the Conversation Are
Unavailable: Authenticating the Substance of the Transcript

Assuming that the above methods are sufficient to tie an automatically generated transcript to a certain caller, how can a proponent of one of these transcripts lay enough foundation to show that it is a written version of what the caller said? When a transcript is offered, the authentication question is usually whether the transcript is an accurate rendition of a recorded conversation.¹⁹³ Usually, transcripts can be authenticated either through testimony by a party to the conversation¹⁹⁴ or the testimony of the transcriber.¹⁹⁵ If the only party to the conversation is unwilling or unavailable

words).

¹⁸⁷ See *supra* note 151 and accompanying text.

¹⁸⁸ See *id.*

¹⁸⁹ See *supra* notes 185-87 and accompanying text.

¹⁹⁰ See *supra* notes 127-30 and accompanying text.

¹⁹¹ *People v. Caffey*, 792 N.E.2d 1163, 1191 (Ill. 2001).

¹⁹² *Id.*

¹⁹³ *United States v. Devous*, 764 F.2d 1349, 1355 (10th Cir. 1985).

¹⁹⁴ *United States v. Wright*, 932 F.2d 868, 880 (10th Cir. 1991).

¹⁹⁵ *Devous*, 764 F.2d at 1355 (citing *United States v. Rochan*, 563 F.2d 1246, 1251 (5th Cir. 1977)).

to authenticate the transcript, what other authentication options are available when the transcriber is a computer program? Federal Rule of Evidence 901(b)(9) indicates that a proponent can authenticate the output of a process or system by presenting “[e]vidence describing a process or system used to produce a result and showing that the process or system produces an accurate result.”¹⁹⁶ While the rule is phrased as if only the process itself is scrutinized, in practice an adequate foundation also requires specific proof indicating that the underlying method was properly followed or put into execution in the particular case.¹⁹⁷ Usually evidence produced by a process or system is presented to the trier of fact by means of expert testimony, and the same expert lays the foundation as to the accuracy of the process and the methods followed in its execution.¹⁹⁸ However, “where the process or system is new or controversial, there exists a possibility that even a personal endorsement by an expert witness will not suffice to make the evidence admissible . . .”¹⁹⁹ For computer outputs, authentication under Federal Rule of Evidence 901(b)(9) can be accomplished by evidence that:

- (1) the computer equipment is accepted in the field as standard and competent and was in good working order; (2) qualified computer operators were employed; (3) proper procedures were followed in connection with the input and output of information; (4) a reliable software program was utilized; (5) the equipment was programmed and operated correctly; and (6) the exhibit is properly identified as the output in question.²⁰⁰

Some of these factors seem difficult to apply to the process of automatic voicemail transcription and seem tailored more for scientific or business fields. How does one define, for example, the proper procedure for leaving a voicemail? If expert testimony is required on these subjects, it seems likely that only someone familiar with Google Voice’s transcription program would be qualified to testify about the nature of the process and its accuracy. However, Google’s own statements concede that there are reliability issues with the software.²⁰¹ In fact, the program itself indicates that it is unsure about

¹⁹⁶ FED. R. EVID. 901(b)(9).

¹⁹⁷ 4 MUELLER & KIRKPATRICK, *supra* note 98, at § 9:20.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ *See* About voicemail transcriptions - Google Voice Help, *supra* note 7 (“This is the only fully automated voicemail transcription on the market. This means, however, that it’s not perfect yet. It will improve over time as our transcription engine gets smarter. The

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certain transcribed words by displaying them in a lighter shade.²⁰² Taken together with examples of the inaccuracy of the program,²⁰³ it seems that a party seeking to introduce such a transcript would have a difficult time convincing a jury by preponderance of the evidence that the transcription program produces reliable results. Therefore, without an actual witness to the conversation to lay the foundation as to a transcript's accuracy, it will be difficult to find an alternative means of authenticating automatically transcribed voicemails.

C. *The Rule 403 Balancing Test: the Polygraph Analogy*

Though neither the rule against hearsay nor the authentication requirements of the Federal Rules of Evidence seem to serve as a per se bar against admission of automatic voicemail transcriptions, could courts nonetheless decide that such evidence is per se inadmissible? If yes, it would not be the first time that evidence based largely on a machine's output was treated as such. In the landmark 1923 case of *Frye v. United States*, the D.C. Court of Appeals held that the systolic blood pressure deception test (a precursor to the modern polygraph or lie detector test) had not yet gained enough acceptance in the scientific community to permit admission of evidence based on such tests.²⁰⁴ For the seven decades before *Daubert v. Merrell Dow Pharmaceuticals* specified a new test for the admissibility of scientific evidence,²⁰⁵ the *Frye* decision effectively served as a per se bar against admission of polygraph evidence.²⁰⁶ Because *Daubert* and *Frye* are primarily concerned with the reliability of expert testimony based on interpretation of scientific data,²⁰⁷ they seem inapplicable to automatically transcribed voicemails, which do not involve a human interpreter.²⁰⁸ However, some courts have continued to maintain *Frye's* presumptive ban on polygraph

quality of the transcripts will vary depending on the caller, the background noise, and whether the caller is using a microphone.”).

²⁰² Pogue, *supra* note 3.

²⁰³ See Gallagher, *supra* notes 8-9, 143 and accompanying text.

²⁰⁴ *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923).

²⁰⁵ See *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 592-96 (1993) (outlining a “flexible” approach to judging the admissibility of scientific testimony that looks to more than just whether the methods involved are generally accepted in the scientific community).

²⁰⁶ John E. Theuman, Annotation, *Admissibility in Federal Criminal Case of Results of Polygraph (Lie Detector) Test - Post - Daubert Cases*, 140 A.L.R. FED. 525, §2[a] (1997).

²⁰⁷ See *id.*

²⁰⁸ See Pogue, *supra* note 3 (discussing Google Voice's fully automated nature).

evidence through a stringent application of Federal Rule of Evidence 403.²⁰⁹ In a similar manner, Rule 403 might be used to justify broad prohibitions against the admission of automatic voicemail transcriptions. Rule 403 provides that, “[a]lthough relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury”²¹⁰ In the polygraph context, courts that exclude such evidence point to the technology’s limited probative value.²¹¹ To the extent that unreliable evidence lacks probative value, other courts phrase their rejection of polygraph evidence in terms of its unreliability.²¹² At the same time, courts are concerned with the substantial prejudicial effects that polygraph evidence can produce. For example, there is a fear that jurors will treat the results of polygraph tests as conclusive proof of a witness’s honesty, thus allowing technology to usurp the jury’s role in assessing credibility and guilt.²¹³ Polygraph evidence may also be highly prejudicial because it (1) has an “aura of near infallibility,” (2) often produces “an opinion regarding the ultimate issue in the case,” and (3) determining its reliability consumes a great deal of judicial resources.²¹⁴

Could litigants use a similar Rule 403 analysis to bar admission of automatic voicemail transcriptions? Although such transcripts do not involve an expert human intermediary, like in the case of polygraphs, it does seem that some of the same concerns apply. Looking to the probative value of automatically transcribed voicemails, the rampant inaccuracies of the transcription software would serve to reduce the probative value of such transcripts.²¹⁵ One could also make the case that admitting such transcripts comes with a high risk of

²⁰⁹ See, e.g., *United States v. Sherlin*, 67 F.3d 1208, 1216-17 (6th Cir. 1995) (holding that, despite the new *Daubert* standard for analyzing the admissibility of scientific expert testimony, a general rule against admission of polygraph testimony could endure because, under FED. R. EVID. 403, the probative value of such evidence is often outweighed by the risk of unfair prejudice).

²¹⁰ FED. R. EVID. 403.

²¹¹ See *Sherlin*, 67 F.3d at 1216-17 (holding that the probative value of polygraph evidence is particularly “dubious” when commissioned unilaterally by a defendant).

²¹² See *United States v. Lea*, 249 F.3d 632, 639-40 (7th Cir. 2001) (noting that, whether admissibility is analyzed under *Daubert* or FED. R. EVID 403, “[a]s the reliability of the evidence decreases, the likelihood increases that the probative value may be substantially outweighed by the prejudicial effect.”).

²¹³ See *id.* at 639.

²¹⁴ *United States v. Crumby*, 895 F. Supp. 1354, 1356 (D. Ariz. 1995) (admitting polygraph evidence).

²¹⁵ See *supra* notes 8-9, 143 and accompanying text.

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unfair prejudice. In the same way that jurors might erroneously view an expert in polygraph testing as nearly infallible,²¹⁶ they may regard a computer program with the same unquestioning deference. In the case of polygraphs, proponents of lie detector evidence can reduce the risk of juror deference by addressing the limits of the technology themselves.²¹⁷ Proponents of automatically transcribed voicemail evidence could use a similar approach to dispel concerns that the jury will blindly accept a transcription program's output. Likewise, any prudent litigant seeking to lessen the impact of such transcripts can also be expected to highlight the technology's flaws.

Many of the particular concerns that may justify exclusion of polygraph evidence are inapplicable to automatically transcribed voicemails. For one, it is hard to see how automatically transcribed voicemails usurp the role of the jury since, unlike polygraphs,²¹⁸ transcripts do not purport to determine sincerity or guilt. Second, while such transcripts may bear on a key fact or issue in a case, it would be too much of a stretch to call them "an *opinion* regarding the ultimate issue in the case . . ."²¹⁹ If an admissible opinion is "helpful to a clear understanding of the witnesses' testimony or the determination of a fact in issue,"²²⁰ then it is hard to see how a transcription program aides the jury's understanding any more than a recording of the voicemail. Finally, while determining the reliability of automatic voicemail transcription programs on a case-by-case basis will undoubtedly consume some judicial resources, the alternative of placing a general bar on such evidence is shortsighted. Because the algorithms that convert voicemail messages into transcripts are constantly improving,²²¹ such a per se bar would risk excluding more reliable transcriptions in the future. In fact, the improvement in lie detection technology is one reason why some courts have departed from the old per se rule against polygraph evidence.²²²

²¹⁶ See *Crumby*, 895 F. Supp. at 1356.

²¹⁷ See Theuman, *supra* note 206, at § 2[b] (suggesting that "it may be advisable for counsel to caution witnesses not to make any exaggerated claims regarding the technique's capabilities or reliability, but rather to be candid about the technique's limitations.").

²¹⁸ See *Lea*, 249 F.3d at 639 (discussing how polygraph testing usurps the jury's role of assessing credibility and guilt).

²¹⁹ *Crumby*, 895 F. Supp. at 1356 (emphasis added).

²²⁰ FED. R. EVID. 701.

²²¹ See About voicemail transcriptions - Google Voice Help, *supra* note 7 (acknowledging Google Voice's flaws but promising that it "will improve over time as our transcription engine gets smarter.").

²²² See, e.g., *Crumby*, 895 F. Supp. at 1357-58 (listing as one of its main reasons for

Thus it seems difficult to justify a *per se* rule against admitting automatically transcribed voicemails based on Rule 403's balancing test.²²³ This is not to say that proponents of such transcript evidence will always succeed in getting past Rule 403. For instance, the reliability of the transcriptions might be particularly bad in certain circumstances,²²⁴ rendering their probative value particularly low. If the transcribed voicemail at issue also discussed the caller's irrelevant deviant exploits, it could be a clear case of unfair prejudice substantially outweighing probative value.

IV. CONCLUSION

The Federal Rules of Civil Procedures' inclusive definition of electronically stored data is broad enough to encompass emails containing automatically transcribed voicemails. Past court experience with the rise of email and voicemail as discoverable information suggests that it is only a matter of time before these transcripts also become part of the ever-growing amount of electronically stored information involved in litigation.

The value of automatically transcribed voicemail messages to litigants will depend in large part on their admissibility. I have argued that the rule against hearsay is not an absolute bar to admission of these transcripts. Instead, admissibility will turn on whether the proponent of such evidence seeks to introduce information from the computer-generated or the computer-stored components of transcription results. If the proponent seeks to introduce computer-stored, human statements from the transcript for the truth of the matters asserted therein, he or she is vulnerable to hearsay objections. However, an analysis of the Federal Rules of Evidence exceptions to the hearsay ban indicates that several of these exceptions would also apply to qualifying transcripts.

Authentication poses a challenge to any proponent seeking to admit automatically transcribed voicemail evidence. While the Federal Rules of Evidence and case law interpreting them specify a fairly lenient burden of proof for authentication, the more rigorous authentications required for computer outputs and transcripts may serve to preclude automatically transcribed voicemails. This is likely to be more of a problem, however, when no witness to the original telephone call is available to authenticate the transcript.

admitting polygraph evidence "a significant increase in the reliability of polygraph evidence over recent years.").

²²³ See *supra* notes 210-22 and accompanying text.

²²⁴ See *supra* notes 8-9 and accompanying text.

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Federal Rule of Evidence 403 should not serve as a per se bar to the admission of automatically transcribed voicemails. While there will likely be cases where a transcript's probative value is substantially outweighed by its risk of unfair prejudice, an absolute bar against this entire class of evidence is unwarranted. Many of the policy concerns that courts have used to justify the retention of a per se exclusion of polygraph evidence do not apply to automatically transcribed voicemails. Furthermore, either party in a litigation can mitigate the risk that the jury will place undue faith in the accuracy of these transcription programs by identifying their shortcomings.

Because of these challenges to admissibility, the evidentiary value of automatically transcribed voicemails will vary dramatically with the facts of each case, but they will not be per se excluded as a viable class of evidence.