

ELECTRONIC DISCOVERY AND THE LITIGATION MATRIX

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ABSTRACT

The impact of the technological revolution on the operation of the discovery system in the federal courts has been dramatic. The enormous increase in storage capacity and communication that the use of computers in the corporate world has brought about has correspondingly increased both the burdens and stakes of the discovery process. This Article considers the extent to which these dramatic practical changes have created a need to develop a legal framework especially for the discovery of electronically stored information. Because the burdens of electronic discovery are likely to be substantially more severe than those involved in traditional discovery, the drafters of the Federal Rules of Civil Procedure or the courts should adopt a conditional cost-shifting model solely for use in the electronic discovery context. Ultimately, the model must be informed by the deep structural values underlying the litigation system.

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It was neither a comet nor a dramatic climactic change that killed off the dinosaurs. They perished because they could not adapt to the digital age.

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INTRODUCTION

Since its inception, the modern discovery process has been the subject of substantial controversy.² Dispute was widespread at the time of the process's adoption as part of the Federal Rules of Civil Procedure in 1938, which made discovery an instrumental part of the revolutionary notice pleading system,³ and the debate has continued vigorously ever since. Indeed, in the last generation the discovery process in the federal courts has been modified substantially on four separate occasions.⁴ Yet many in the legal community remain unsatisfied.⁵ Such vigorous disagreements should not be surprising, because in important ways the discovery process is reminiscent of humankind's discovery of fire: While capable of providing great benefits to society, if misused it also is capable of causing severe harm. By enabling litigants to acquire relevant information that otherwise may be unavailable to them, discovery serves the interests of procedural justice and facilitates enforcement of the societal policy choices embodied in controlling substantive law. But discovery is by no means costless, either to litigants or to society. The numerous and dramatic

1. *Digital Discovery*, NAT'L L.J., Dec. 27, 1999, at A16.

2. For the most part, the discovery debate has focused on the extent to which courts should restrict litigants' use of discovery to protect against the imposition of excessive costs and burdens. See generally, e.g., Stephen N. Subrin, *Fishing Expeditions Allowed: The Historical Background of the 1938 Federal Discovery Rules*, 39 B.C. L. REV. 691 (1998) (discussing how and why discovery rules have changed since the turn of the twentieth century).

3. *Id.* at 710-39. For a discussion of the origins and philosophy of the Federal Rules of Civil Procedure, see generally Richard L. Marcus, *The Revival of Fact Pleading Under the Federal Rules of Civil Procedure*, 86 COLUM. L. REV. 433 (1986).

4. The rules affecting or involving discovery were amended in 1980, 1983, 1993 and 2000. FED. R. CIV. P. 30(b), 30(f), 33(c), 34(b), 37(b)-(c), 45(d) (amended 1980); FED. R. CIV. P. 26(a)-(b) (amended 1983); FED. R. CIV. P. 26(a)-(g), 28(b), 29, 30(a)-(f), 31(a), 32(a), 32(c), 33(a)-(d), 34(b), 36(a), 37(a), 37(c), 37(d), 37(g) (amended 1993); FED. R. CIV. P. 26 (amended 2000).

5. See *infra* Part III.B.

shifts in discovery regulation that have plagued the Federal Rules in recent years reflect these tensions.

Although the rules' drafters and revisers over the years appear—at least so far—to have failed to fashion a discovery process that satisfies most people, the bad news is that discovery problems are rapidly becoming more complex and pervasive in ways the original drafters of the Federal Rules likely never dreamed about. The technological explosion has altered dramatically both the nature and stakes of those problems. It hardly could be disputed that, in the words of one authority, “[c]omputer technology has revolutionized the way we deal with information and the way we run our businesses. Increasingly, important business information is being created, stored and communicated electronically.”⁶ Not surprisingly, then, “[t]he discovery of electronic evidence has become the modern litigator’s newest tool (or some would say, weapon).”⁷

There are numerous ways in which electronic evidence can be strategically vital in modern litigation. For example, electronic evidence has proven crucial in determining the outcome in cases involving allegations of sexual harassment, disputes over trade secrets, copyright infringement, and insider trading.⁸ Indeed, one need only recall the dramatic use of damaging e-mails during cross-examination in the Microsoft antitrust litigation⁹ to see how important electronic evidence has become. It is therefore only natural that the discovery of electronic evidence has assumed enormous importance in modern litigation.¹⁰

To be sure, the explosion in communications technology has facilitated the discovery process in important ways due to substantial

6. ALAN M. GAHTAN, *ELECTRONIC EVIDENCE 1* (1999).

7. *Id.* at 10. “As companies and individuals have increased their reliance on their computer systems, lawyers and investigators have begun to realize the valuable electronic treasures that are now being kept in these systems and have started aggressively to target electronic data for discovery and production in all types of cases.” *Id.* at 1 (citation omitted).

8. *E.g.*, *First Tech. Safety Sys., Inc. v. Depinet*, 11 F.3d 641, 645–46 (6th Cir. 1993) (trade secrets); *Knox v. Indiana*, 93 F.3d 1327, 1330 (7th Cir. 1996) (sexual harassment); *Harley v. McCoach*, 928 F. Supp. 533, 537 (E.D. Pa. 1996) (sexual harassment); *Smith v. SEC*, 129 F.3d 356, 359–64 (6th Cir. 1997) (insider trading); see Mike Tonsing, *Electronic Mail Is Ubiquitous and Its Consequences Are Enormous*, *FED. LAW.*, May 1999, at 56 (describing several cases that involved incriminating e-mail evidence).

9. *United States v. Microsoft Corp.*, 147 F.3d 935 (D.C. Cir. 1998).

10. See Kimberly D. Richard, Note and Comment, *Electronic Evidence: To Produce or Not to Produce, That Is the Question*, 21 *WHITTIER L. REV.* 463, 464 (1999) (“Electronic evidence is quickly becoming a central focus of litigation discovery in American courts, which presents enormous problems for lawyers.”) (citation omitted).

improvements in the ease of accessing information. However, once again in a manner reminiscent of the discovery of fire, the technological explosion simultaneously has given rise to an entirely new set of difficulties that threaten to distort the discovery process and significantly skew the delicate balance of values the procedural system serves.¹¹

The dramatic growth of electronic discovery¹² has given rise to an entirely new set of theoretical and practical disputes, which fall largely into two categories. The first concerns whether the problems electronic discovery causes deserve unique treatment in the Federal Rules of Civil Procedure; the second concerns the determination of what that treatment should be. The first category may be viewed from two different perspectives. Initially, the question arises whether the problems electronic discovery creates are sufficiently distinct from the problems caused by traditional discovery to warrant unique treatment. If one were to answer this question in the negative, then naturally one would not need to deal with the remaining issue of what kind of treatment is merited. However, one could decide that electronic discovery does, in fact, give rise to a unique set of problems, yet nevertheless conclude that special treatment in the Federal Rules is unwarranted. One could reach this conclusion on the basis of the premise that, as a structural matter, the rules should provide relatively limited control over discretion to determine how best to control discovery in individual cases.¹³ Alternatively, one could conclude that

11. For a detailed description of these values, see *infra* Part III.

12. The phrase “electronic discovery” is used here to refer to efforts to discover electronic documents. An electronic document has been defined as “information intentionally created by a computer user and stored in electronic form.” Shira A. Scheindlin & Jeffrey Rabkin, *Electronic Discovery in Federal Civil Litigation: Is Rule 34 Up to the Task?*, 41 B.C. L. REV. 327, 333 (2000) (citation omitted). According to other authorities,

[w]hile a company’s central computer system is the most obvious source of electronic data, an attorney may also want to request information stored on palm pilots, home computers and lap tops. Data may be found in many other places including on floppy disks, back-up tapes, punch cards, e-mail, word processing documents, computerized spreadsheets, accounting files, wide area networks, private sites and voice mail. Additionally . . . some appliances and machines contain central processing units that have some memory capability, and information stored within these units might become relevant, in a particular case.

Dale M. Cendali & Lydia R. Zaidman, *Electronic Discovery*, in 1 FOURTH ANNUAL INTERNET LAW INSTITUTE 895, 903 (Practicing Law Institute ed., 2000).

13. Such a conclusion would flow from adoption of the so-called “managerial” model of the litigation process, a controversial view that places ultimate discretion in the court to manage the course of the litigation. See generally Judith Resnik, *Managerial Judges*, 96 HARV. L. REV. 374 (1982) (asserting that judges play a more active role in litigation than in the past). I discuss court management of discovery further *infra* at Part IV.C.

the problems to which electronic discovery gives rise do not differ meaningfully from the problems traditional discovery causes and therefore do not deserve unique treatment, even if one rejects the notion that the rules should give judges broad discretion.

Close examination of the technological differences between electronic and traditional discovery and the nature and number of difficulties that flow from them suggests that electronic discovery deserves unique treatment. It is certainly true that electronic discovery bears many similarities to the traditional process, and it is therefore not surprising that electronic discovery causes many of the same problems that traditional discovery causes. Even from this perspective, a strong argument can be fashioned that electronic discovery deserves unique treatment, because electronic discovery is likely to give rise to those same problems more often or more severely than traditional discovery.¹⁴ Despite some similarities, the differences between the two forms of discovery are, on both technological and practical levels, fundamental. The resulting difficulties for the adjudicatory system therefore also differ fundamentally.¹⁵

Thus, the only means by which one could conclude that electronic discovery does not deserve special treatment in the rules of civil procedure would be to commit to the virtually unlimited case-by-case judicial discretion dictated by the “managerial model.”¹⁶ This model suffers from many problems, however. Because the model gives judges vast freedom in individual cases, it effectively places society in a policy straightjacket that prevents it from deciding how best to manage discovery problems. Since judges are permitted to fashion solutions to discovery problems in individual cases largely free from categorical direction on the basis of a priori policy choices, society is deprived of the opportunity to make such choices among competing values. This is a cost that on a number of occasions the rules’ drafters have been unwilling to bear, and they therefore have chosen to send trial judges particular substantive messages about how value choices are to be made.¹⁷ Another problem with the managerial model is that a commitment to unguided case-by-case discretion lessens predict-

14. *See infra* Part II.B.

15. *Id.*

16. *See supra* note 13.

17. *See, e.g.*, FED. R. CIV. P. 26(b)(2) (providing guidelines as to the circumstances under which judges may limit discovery methods).

ability for litigants, who therefore may be hampered significantly in their efforts to plan their primary behavior.¹⁸

Recognizing both electronic discovery's unique character and the need for the Federal Rules to deal with the resulting problems in some generalized manner may raise more questions than it resolves. For one then must shape specific categorical rules for the treatment of electronic discovery. What the content of those rules should be is not immediately evident.¹⁹ No scholarly work has sought to fashion a model to remedy the problems of electronic discovery by reference to the first principles that provide the foundation of the procedural system. This Article undertakes such an effort.

Procedural issues, like most legal questions, are capable of being viewed on three analytical levels. On the most concrete level, one may consider and debate how legal standards are properly to be applied in an individual case. Such an inquiry may be described as "third-level" analysis. One also may inquire into the proper content of general standards of conduct within the procedural system. Such efforts may be described as "second-level" analysis. Finally, one may examine the normative "deep structure" of intersecting and competing goals and values that lies at the foundation of the modern procedural system. This may be described as "first-level" analysis. Scholarly debate about the procedural system traditionally has focused on second-level analysis, taking for granted the underlying normative goal structure on which generalized rules ultimately are premised. In the case of electronic discovery, scholars' exclusive focus on second-level analysis has been largely unsuccessful. Scholars thus far have failed to recognize the need for unique treatment of electronic discovery and therefore have not developed an acceptable method for

18. By "primary behavior," I mean the day-to-day personal and commercial planning in which individuals and businesses regularly engage. See MARTIN H. REDISH, *FEDERAL JURISDICTION: TENSIONS IN THE ALLOCATION OF JUDICIAL POWER* 231 (2d ed. 1990) (asserting that a case-by-case balancing approach creates uncertainty in citizens' planning of their social and commercial conduct); see also *infra* Part III.

19. To date, there has been a substantial amount of scholarship concerning the problems of electronic discovery. Much of it has been descriptive, focusing on the technological and practical operation of the process. Other scholarly efforts commendably have attempted to fashion normative structural solutions to the problem. See, e.g., Mark D. Robins, *Computers and the Discovery of Evidence—A New Dimension to Civil Procedure*, 17 J. MARSHALL J. COMPUTER & INFO. L. 411, 413 (1999) (reviewing cases in which computer-related discovery has been granted or denied, and recommending specific electronic discovery practices for judges and litigators); Scheindlin & Rabkin, *supra* note 12, at 341–67 (describing the evolution of discovery rules over the past century).

shaping that treatment. What is called for, then, is a return to first-level analysis: an inquiry into the matrix of abstract meta-goals which provide the normative foundation for the adjudicatory system in the first place.

Such a foundational inquiry possesses vitally important implications for the current debate over electronic discovery. Although detailed examination of the technological and practical operation of electronic discovery demonstrates that the problems to which the process gives rise are to a large extent unique, examination of the litigation system's underlying matrix of normative goals demonstrates an entirely different rationale for the special treatment of electronic discovery. Moreover, examination of the litigation matrix's implications enables one to determine how best to shape the second-level rules that should guide the control of electronic discovery in individual cases.

This Article undertakes such a first-level analysis in an effort both to rationalize the need for electronic discovery's special treatment and to shape an answer to the second-level analytical question of how best to deal with the problems of electronic discovery. While of course there exists no official listing of the systemic meta-goals underlying the civil adjudicatory process, it is appropriate to recognize a consensus view of such foundational and aspirational precepts.

My examination of this litigation matrix²⁰ and its application to the discovery process demonstrates that although its meta-values are widely accepted on a purely abstract, normative level, they often have been ignored or violated in the modern discovery process. Ironically, even when the rules' drafters commendably have sought to bring the discovery process into conformity with the underlying matrix, they often have adopted measures that contravene other elements of the matrix.²¹ As a result, even in the context of traditional discovery the system has operated to a significant extent under rules that are fundamentally inconsistent with the deep value structure underlying

20. By "matrix" I refer to the synthesis of the fundamental social, moral, political, and economic values society seeks to foster in shaping its civil litigation process. On occasion, those values will interact in a reinforcing manner because they will be simultaneously advanced by use of a particular procedure. In other instances, however, the values may be in tension or even in direct conflict because use of a particular procedure may simultaneously advance one value while undermining another. For a detailed discussion of both the specific norms that should be recognized as making up this value matrix and the implications of the matrix for issues of electronic discovery control, see *infra* Part III.

21. See *infra* Part III.

modern civil procedure, thereby skewing both the operation and impact of the procedural system. The problem is not simply that the system has allowed the continuation of widespread discovery abuse, although that is largely true. The problems run considerably deeper. They also concern the procedural inefficiencies and substantive distortions that result from the system's choice, in the overwhelming majority of situations, to require the parties to bear the full costs of responding to the discovery requests of other litigants.²² Because litigants do not bear the costs created by their discovery requests, their incentive to confine those requests in a procedurally efficient manner is significantly distorted. The inescapable result is substantial waste and inefficiency in the conduct of discovery. Moreover, the current method of allocating discovery costs may significantly distort society's economic choices well beyond the four walls of the courtroom. Such distortions are blatantly inconsistent with the meta-values that make up the litigation matrix, which include both concerns for maintaining procedural efficiency and for minimizing the impact of procedural rules on people's primary behavior.

Part I examines the present status of electronic discovery in the courts. It concludes that current doctrine is in a state of confusion that for the most part ignores important differences between electronic and traditional discovery and that fails to provide meaningful guidance to litigants or courts. Part II explores the technological and practical aspects of electronic discovery that distinguish it from traditional discovery. Part III turns to first-level analysis, examining the deep structure underlying the civil adjudicatory system embodied in the litigation matrix. It then considers the implications of the matrix for discovery rules. Part IV develops a model I refer to as the "conditional cost-shifting" model, which, I believe, better realizes the goals of the litigation matrix than does the current structure for controlling discovery. It also explains why that model is appropriately confined to the category of electronic discovery. In addition, it examines the validity and implications of the managerial model of discovery control and explains why the managerial model should not be employed to reject special treatment of electronic discovery.

In theory, at least, the litigation matrix dictates a detailed restructuring of cost allocation in discovery. Under my conditional cost-shifting model, a litigant's costs of producing documents and data not reasonably available in the ordinary course of business are presump-

22. See *infra* Part III.

tively shifted to the litigant who has made the discovery request. However, if, in an individual instance, the adjudicator determines that such cost-shifting fails to bring about a satisfactory resolution, either because the discovering litigant is unable to bear those costs or because cost-shifting fails to avoid the imposition of significant burdens on the party from whom discovery is sought, the adjudicator is to inquire into the comparative costs and benefits to which the discovery will give rise to determine the propriety of ordering the discovery.

Restructuring the discovery system to make it conform more closely to the normative dictates of the litigation matrix, however, gives rise to an entirely new set of difficulties. For as I will show, such a restructuring is not costless to the values underlying the procedural system. One may best deal with this dilemma, I believe, by confining that restructuring of cost allocation to the electronic discovery arena. Such a limitation restricts the incidental costs of restructuring to the category of cases in which one can predict that the negative effects of the current discovery system are most apparent and the need for restructuring is greatest.

Perhaps the point may best be understood by analogizing to the use of an experimental drug. Because the drug carries potentially harmful side-effects, doctors do not prescribe it to every patient suffering from the illness. Rather, they prescribe it only in cases in which the illness is serious enough to justify the risks inherent in the drug. Like the hypothetical experimental drug, the conditional cost-shifting model proposed here could do much to cure the problems that plague the discovery system. At the same time, however, the model would carry potentially harmful side effects.

For these reasons, the conditional cost-shifting model should be confined to cases of electronic discovery. Because of electronic discovery's differences from traditional discovery, it is reasonable to predict that electronic discovery is likely to give rise to the problems associated with traditional cost-allocation rules in a substantially intensified form, as compared to traditional discovery. It is therefore possible to predict that imposition of the harms associated with the modified cost-shifting model are justified only in the context of electronic discovery.

Part V explores a related discovery issue, the rules for regulating and punishing a litigant's spoliation of evidence, in the context of electronic discovery. While spoliation issues have not been dealt with in the Federal Rules of Civil Procedure, their common law development by the courts naturally has enormous implications for a litigant's

conduct during discovery. As in the case of discovery, courts too often ignore the unique implications of electronic record-keeping for the fashioning of spoliation rules. Part V concludes that electronically shared information deserves special treatment in the spoliation context, as well as in the discovery context, and presents a model of spoliation control for electronic evidence that is consistent with the normative dictates of the litigation matrix.

I. ELECTRONIC DISCOVERY IN THE COURTS

A. *The Discoverability of Electronic Evidence*

In examining the current treatment of electronic discovery in the courts, it is necessary to consider four issues. The first concerns the discoverability of electronic evidence: To what extent do the existing discovery rules apply to electronic evidence? The second involves the extent to which the courts are willing to protect parties from burdensome or expensive electronic discovery. The third focuses on the extent to which courts are willing to shift the costs of electronic discovery from the responding party to the requesting party. The final issue concerns the extent to which, in resolving the three prior issues, courts treat electronic discovery differently from traditional discovery.

The answer to the first question seems clear. In the words of one federal district court, often echoed by other decisions, “[i]t is now axiomatic that electronically stored information is discoverable under Rule 34 of the Federal Rules of Civil Procedure if it otherwise meets the relevancy standard prescribed by the rules.”²³ The 1970 amendment to Rule 34 expressly extended the scope of document discovery to include at least certain types of electronically stored material.²⁴ In

23. *Bills v. Kennecott Corp.*, 108 F.R.D. 459, 461 (D. Utah 1985); *see also* *Crown Life Ins. Co. v. Craig*, 995 F.2d 1376, 1383 (7th Cir. 1993) (construing Rule 34(a)(1) to allow discovery of electronically stored information and data compilations, including raw data); *Playboy Enters., Inc. v. Welles*, 60 F. Supp. 2d 1050, 1053 (S.D. Cal. 1999) (“Defendant has cited no cases finding that electronically stored data is exempt from discovery.”); *In re Brand Name Prescription Drugs Antitrust Litig.*, Nos. 94 C 897, MDL 997, 1995 WL 360526, at *1 (N.D. Ill. June 15, 1995) (“Rules 26(b) and 34 of the Federal Rules of Civil Procedure instruct that computer-stored information is discoverable under the same rules that pertain to tangible, written materials.”); *Santiago v. Miles*, 121 F.R.D. 636, 640 (W.D.N.Y. 1988) (“A request for raw information in computer banks is proper and the information is obtainable under the discovery rules.”).

24. *See* FED. R. CIV. P. 34(a) (providing that “[a]ny party may serve on any other party a request . . . to produce . . . any designated documents (including writings . . . and other data

its accompanying explanatory note, the Advisory Committee clarified the scope of its change:

The inclusive description of “documents” is revised to accord with changing technology. It makes clear that Rule 34 applies to electronic data compilations from which information can be obtained only with the use of detection devices, and that when the data can as a practical matter be made usable by the discovering party only through respondent’s devices, respondent may be required to use his devices to translate the data into useable form. In many instances, this means that respondent will have to supply a printout of computer data.²⁵

Thus, although doubt may be raised about the ease with which Rule 34 applies to electronic discovery,²⁶ it is well established that electronically stored data is subject to discovery. Indeed, on occasion courts have even required responding parties to write software to extract requested information and to assist the discovering party in constructing information stored on computer tape.²⁷

Conceivably, one argument could be that although the 1970 amendment makes clear that computer data is discoverable, the amendment’s reach does not necessarily extend to forms of electronically stored data that differ from the normal type of computer data and that were developed after the amendment’s enactment—for example, e-mail. However, in the words of one group of commentators, “[t]he absence of any recent decisional law or commentary taking a contrary position illustrates that if there were doubts as to whether Rule 34 permitted discovery of electronic documents such as e-mail when it was amended in 1970, those doubts now have been universally dispelled.”²⁸ The same commentators suggest that doubts exist as to whether Rule 34 extends to some of the newest forms of electronic

compilations from which information can be obtained, translated, if necessary, by the respondent through detection devices into reasonably usable form”).

25. FED. R. CIV. P. 34 advisory committee’s note (1970); *cf. Welles*, 60 F. Supp. 2d at 1053 (“The Advisory Committee Notes to Fed. R. Civ. P. 34 . . . makes [sic] it clear that information stored in computer format is discoverable.”).

26. *See Robins*, *supra* note 19, at 477 (“[T]he framework of Rule[] . . . 34 does not fit aptly to the discovery of computer-related evidence.”).

27. *See, e.g., Bills*, 108 F.R.D. at 461 (citing *Nat’l Union Elec. Corp. v. Matsushita Elec. Indus. Co.*, 494 F. Supp. 1257 (E.D. Pa. 1980), in which the court required the responding party to develop programs to collect, to read, and to interpret the requested information for the discovering party).

28. *Scheidlin & Rabkin*, *supra* note 12, at 350–51.

storage.²⁹ But other commentators are probably correct in predicting that as courts become more comfortable with electronic discovery, they will continue to extend the reach of the category of discoverable material to newer and more esoteric forms of electronically stored data.³⁰

Although some questions remain concerning the outer reaches of Rule 34's application to electronic discovery, these questions pale in comparison to the uncertainties plaguing some of the terms and conditions that are to be imposed on electronic discovery's production. The case law is largely inconsistent, primarily because the rules either fail to deal adequately with these discovery issues or fail (by design) to provide judges with substantial guidance in individual cases.³¹ Although commentators have noted this lack of guidance and resultant unpredictability in the context of electronic discovery,³² the problem—if, indeed, it is accurate to characterize it as a problem³³—appears not to be so limited. Rather, the intended structure of discovery control generally vests considerable authority in the adjudicator in the individual case. Thus, although Rule 26(c) allows a court to issue protective orders against oppressive or harassing discovery,³⁴ and

29. *Id.* at 351 (“[W]hether the Rules permit discovery of the newest forms of electronic evidence such as cookies, temporary files and residual data remains an open question.”).

30. Edward Flanders et al., *What Every Company Needs to Know About Electronic Evidence Discovery*, METRO. CORP. COUNSEL, Sept. 1999, at 16.

31. *See, e.g.*, Fennell v. First Step Designs, Ltd., 83 F.3d 526, 532 (1st Cir. 1996) (“Discovery matters are for the informed discretion of the district court, and the breadth of that discretion in managing pre-trial mechanics and discovery is very great.”) (citation omitted).

32. According to Scheindlin and Rabkin, courts ruling on Rule 34 motions concerning electronic discovery “have generally approached these questions in a highly fact-specific manner, producing few general principles to aid in the resolution of similar disputes.” Scheindlin & Rabkin, *supra* note 12, at 361. As a result, “[t]he courts are left to develop procedural standards regarding electronic discovery under Rule 34 in the absence of express guidance from the Rules themselves. To date, however, little consensus has developed as to what these principles should be.” *Id.*; *see also* Robins, *supra* note 19, at 412 (“[C]ourts are hindered not only by technological obstacles to understanding the issues [created by electronic discovery] but also by the lack of any coherent body of law organizing the handful of relevant precedents in this largely-discretionary realm of adjudication.”); James J. Marcellino & Anthony A. Bongiorno, *E-Mail Is the Hottest Topic in Discovery Disputes*, NAT’L L.J., Nov. 3, 1997, at B10 (“Decisions in [the electronic evidence] area have been ad hoc and fact-specific.”).

33. The model of individualized decisionmaking in discovery is traditionally associated with a managerial approach, which has been the subject of controversy. *See infra* Part IV.C.

34. Federal Rule of Civil Procedure 26(c) provides in relevant part:

Upon motion by a party or by the person from whom discovery is sought . . . and for good cause shown, the court . . . may make any order which justice requires to protect a party or person from annoyance, embarrassment, oppression, or undue burden or expense

Rule 26(b)(2) directs the court to prevent or control unduly burdensome discovery,³⁵ neither provision provides a court with substantial guidance as to the meaning of those phrases. Though such broad-based discretion gives rise to obvious problems,³⁶ there appears to be no reason to believe that the structure will change in the foreseeable future. Because courts generally have treated electronic discovery interchangeably with traditional discovery,³⁷ they tend to approach both types of discovery with the same methodologies. Hence, absent some formalized recognition of the special needs of electronic discovery, “courts will probably continue to balance . . . factors . . . in an ad hoc fashion, while avoiding the question of whether a fundamental recalibration is needed.”³⁸

B. *Judicial Protection Against Burdensome Electronic Discovery*

On a number of occasions courts have expended considerable effort in determining whether discovery of electronic evidence should be limited or precluded because it would be unduly burdensome. In

FED. R. CIV. P. 26(c). Among other things, the rule authorizes the court to order “that the disclosure or discovery not be had.” FED. R. CIV. P. 26(c)(1).

35. Federal Rule of Civil Procedure 26(b)(2) provides in relevant part:

The frequency or extent of use of the discovery methods otherwise permitted under these rules . . . shall be limited by the court if it determines that . . . the burden or expense of the proposed discovery outweighs its likely benefit, taking into account the needs of the case, the amount in controversy, the parties’ resources, the importance of the issues at stake in the litigation, and the importance of the proposed discovery in resolving the issues.

FED. R. CIV. P. 26(b)(2). The rule was added in 1983 as a means of increasing a court’s powers to prevent discovery abuse. 8 CHARLES A. WRIGHT, ARTHUR R. MILLER & MARY KAY KANE, FEDERAL PRACTICE AND PROCEDURE § 2008.1 (2d ed. 1994). However, since its addition the rule “seems to have created only a ripple in the case law, although some courts now acknowledge that it is clearer than it was before that they should take responsibility for the amount of discovery in cases they manage.” *Id.*

36. As Judge Easterbrook notes:

Multi-factor standards cut down on loopholes—the bane of rules—but at great cost. When there is no rule of decision but only an injunction to consider everything that turns out to matter, lawyers and clients cannot tell in advance—that is, when planing conduct and conducting litigation—what the judge . . . will think matters.

Frank H. Easterbrook, *Discovery As Abuse*, 69 B.U. L. REV. 635, 640 (1989) (footnote omitted); see also Richard L. Marcus, *Discovery Containment Redux*, 39 B.C. L. REV. 747, 774 (1998) (“Determining what is too much in a given case is often quite difficult for a judge, and a rule change does not make it easier.”).

37. See *supra* note 23 and accompanying text; see also *Linnen v. A.H. Robins Co.*, No. 97-2307, 1999 WL 462015, at *6 (Mass. Super. Ct. June 16, 1999) (“A discovery request aimed at the production records retained in some electronic form is no different, in principle, from a request for documents contained in an office file cabinet.”).

38. Robins, *supra* note 19, at 483.

so doing, however, they have not always agreed whether obvious technological differences between electronic discovery and traditional discovery should be acknowledged. No one appears to dispute the fact that courts retain at least as much authority to protect against burdensome electronic discovery as they do to protect against burdensome traditional discovery.³⁹ The issue, rather, is whether courts should recognize that electronic discovery gives rise to a special set of difficulties that call for more vigorous judicial intervention than the discovery process normally provides. On the whole, the answer appears to be no. Courts have held, as they generally do in traditional discovery, that inconvenience and expense usually are not valid reasons for the denial of electronic discovery.⁴⁰ Courts have applied this reasoning even where the responding party must bear the additional expense of translating electronic data into a usable form.⁴¹

In several instances, however, courts—relying on traditional tools of discovery control—have protected against burdensome electronic discovery. For example, in *Williams v. Owens-Illinois, Inc.*,⁴² the defendants produced wage cards containing certain requested statistical information.⁴³ The plaintiffs then sought to compel production of computer tapes the plaintiffs alleged contained information relevant to the previously produced cards.⁴⁴ The court of appeals upheld the trial court's refusal to grant the production request, even though it would require the plaintiffs to spend more money to interpret the wage cards.⁴⁵ More recently, a district court in *Playboy Enterprises, Inc. v. Welles*⁴⁶ held that in permitting discovery of electronically stored data, the producing party must be “protected against undue

39. See *Murlas Living Trust v. Mobil Oil Corp.*, No. 93 C 6956, 1995 WL 124186, at *5 (N.D. Ill. Mar. 20, 1995) (applying protective orders under Rule 26(c), which are equally available in both traditional and electronic discovery, to requested discovery of a computer database).

40. See, e.g., *Toledo Fair Hous. Ctr. v. Nationwide Mut. Ins. Co.*, 703 N.E.2d 340, 354 (Ohio Ct. Com. Pl. Jan. 17, 1996) (“[I]nconvenience and expense, by themselves, do not justify denying discovery.”).

41. See *Daewoo Elec. Co. v. United States*, 650 F. Supp. 1003, 1006 (Ct. Int'l Trade 1986) (“The normal and reasonable translation of electronic data into a form usable by the discovering party should be the ordinary and foreseeable burden of a respondent in the absence of a showing of extraordinary hardship.”).

42. 665 F.2d 918 (9th Cir. 1982).

43. *Id.* at 932.

44. *Id.*

45. *Id.* at 933.

46. 60 F. Supp. 2d 1050 (S.D. Cal. 1999).

burden and expense and/or invasion of privileged matter.”⁴⁷ The plaintiff had requested access to the defendant’s personal computer hard drive to attempt to recover deleted files, to review certain e-mail messages, and to produce relevant documents.⁴⁸ The plaintiff argued that it needed access to defendant’s hard drive because the defendant’s practice of deleting e-mail messages made it impossible to produce the information in paper form.⁴⁹ The court determined that it was likely that the defendant’s hard drive contained the relevant information, but in allowing the plaintiff access it outlined a specific protocol to ensure protection against an invasion of privileged matter.⁵⁰ The court appointed a neutral computer expert to serve as an officer of the court and create a “mirror image” of defendant’s hard drive.⁵¹ The court allowed defense counsel to review the recovered documents and to produce only those documents that were responsive and relevant.⁵²

Perhaps the most interesting of these cases is the First Circuit’s decision in *Fennell v. First Step Designs, Ltd.*⁵³ There the plaintiff in a retaliatory discharge case had responded to defendant’s motion for summary judgment with a request for additional time for discovery pursuant to Rule 56(f),⁵⁴ which allows a court to grant such a request if the party opposing summary judgment is able to “articulate a plausible basis for the belief that *discoverable* materials exist which would raise a trial worthy issue.”⁵⁵ In affirming the district court’s refusal to grant the plaintiff’s request for further discovery, the court of appeals

47. *Id.* at 1053.

48. *Id.* at 1051.

49. *Id.* at 1053.

50. *Id.* at 1054–55.

51. *Id.* at 1055.

52. *Id.*; see also *In re Gen. Instrument Corp. Sec. Litig.*, No. 96 C 1129, 1999 WL 1072507, at *6 (N.D. Ill. Nov. 18, 1999) (applying the cost-benefit analysis of Rule 26(b)(2) to deny requested electronic discovery because of the substantial number of documents already produced and the low probability that additional discovery would help prove the plaintiffs’ case).

53. 83 F.3d 526 (1st Cir. 1996).

54. Rule 56(f) provides that:

Should it appear from the affidavits of a party opposing the [summary judgment] motion that the party cannot for reasons stated present by affidavit facts essential to justify the party’s opposition, the court may refuse the application for judgment or may order a continuance to permit affidavits to be obtained or depositions to be taken or discovery to be had or may make such other order as is just.

FED. R. CIV. P. 56(f).

55. *Fennell*, 83 F.3d at 532 (alteration in original) (quoting *Price v. Gen. Motors Corp.*, 931 F.2d 162, 164 (1st Cir. 1991)).

noted that “[i]n determining whether material is ‘discoverable,’ the court should consider not only whether the material actually exists, but the burdens and expenses entailed in obtaining the material.”⁵⁶

It is difficult to know how much to glean from *Fennell*. On the one hand, the case involved electronic discovery, and the court appeared to impose a fairly demanding standard before discovery could be justified. Arguably, then, the case could be construed to stand for the proposition that courts should carefully consider burdens on the respondent whenever electronic discovery is sought. It probably would be a mistake to read the case this broadly, however. First, though the case involved electronic discovery, nothing in the court’s reasoning seemed to turn on that fact. Moreover, in affirming the district court’s refusal to authorize further discovery, the court emphasized that “[d]iscovery matters are for the informed discretion of the district court, and the breadth of that discretion in managing pre-trial mechanics and discovery is very great.”⁵⁷ It is likely, then, that the court would have affirmed the district court’s decision whichever way it had come out. Finally, the fact that the case concerned a motion for an extension of discovery under Rule 56(f) arguably also distinguishes it from the normal discovery situation, since such a motion always will come after the time initially allotted for discovery has been completed. The one thing that is indisputable is that at no point in the opinion did the court provide a careful discussion of the unique needs of electronic discovery management. Hence, the doctrinal value of *Fennell* as a basis for establishing a special rule of electronic discovery is extremely limited. Thus, although cases that have imposed significant limitations on the scope of electronic discovery exist,⁵⁸ these cases have not recognized in any thoughtful and consistent manner the special needs of electronic discovery. Rather, courts uniformly appear to treat electronic discovery in exactly the same manner as they treat traditional discovery. And, because the ethos of modern procedure is favorable to the widespread availability of discovery,⁵⁹ in many cases such an analysis will dictate a decision in favor of the

56. *Id.*

57. *Id.*

58. In addition to the cases already discussed, *supra*, at notes 39–57 and accompanying text, see also *Lawyers Title Ins. Co. v. U.S.F. & G.*, 122 F.R.D. 567, 570 (N.D. Cal. 1988) (refusing to allow wholesale discovery of a computer system without a showing that such discovery would lead to evidence that had not already been produced).

59. *See infra* Part III.B.

party seeking discovery. This is equally true for electronic and traditional discovery.⁶⁰

C. *Cost-Shifting and Electronic Discovery*

Of potentially enormous importance to the control of discovery is the issue of cost allocation. Will a party required to respond to a discovery request be forced to bear the full cost of preparing that response, and, if not, on what basis are costs to be allocated? In the area of cost allocation, courts have similarly failed to treat electronic discovery differently than traditional discovery. And that approach—with some notable exceptions—is to leave discovery costs where they fall.⁶¹ To be sure, both Rules 26(c) and 26(b)(2) empower a court to shift costs where it deems it necessary.⁶² However, the Rules fail to provide any meaningful guidance to the court in exercising this discretion and, in any event, pay no attention to the arguably special needs

60. See, e.g., *Bills v. Kennecott Corp.*, 108 F.R.D. 459, 464 (D. Utah 1985) (stating that “information stored in computers should be as freely discoverable as information not stored in computers”).

61. The Manual for Complex Litigation (Third) provides that “[t]he cost of seeking and responding to discovery is a part of the cost of litigation each party normally must bear, subject only to specific provisions for shifting contained in statutes or rules.” MANUAL FOR COMPLEX LITIGATION (THIRD) § 21.433 (1995). The same section notes, however, that “[t]aken together, [Rules 26(c) and 26(b)(2)] give the court broad authority to control the cost of discovery,” and that “[r]eference to the court’s authority to shift costs will tend to give the parties an incentive to use cost-effective means of obtaining information and a disincentive to engage in wasteful and costly discovery activity.” *Id.*

One group of commentators, it should be noted, asserts that “the courts will usually require the requesting party to pay for the responding party’s expenses in producing the data.” Cendali & Zaidman, *supra* note 12, at 912. However, this assertion does not appear to be supported by the majority of the relevant case law. See, e.g., *Eisen v. Carlisle & Jacquelin*, 417 U.S. 156, 179 (1974) (noting that, traditionally, each party must bear the “ordinary burden of financing his own suit”). This statement seems to be just as true in the context of electronic discovery. See Corinne L. Giacobbe, Note, *Allocating Discovery Costs in the Computer Age: Deciding Who Should Bear the Costs of Electronically Stored Data*, 57 WASH. & LEE L. REV. 257, 267 (2000) (“[W]hen applying Rule 34 in cases involving discovery of electronically stored data, the majority of courts have required that the producing party bear all the costs involved in complying with discovery requests for computer data.”). The same commentator notes that “[w]hen presented with defendants’ motions to shift the burden of discovery of electronically stored data, most courts simply have denied these motions, even when the costs involved have been exorbitant.” *Id.* at 269.

62. See *Bills*, 108 F.R.D. at 462 (“Rule 26(c) commonly has been interpreted to grant courts the power to shift the financial burden of discovery where, in the court’s discretion, such a shifting is warranted.”). The Advisory Committee’s note to Rule 26(c), however, “gives the Court no guidance as to how properly to determine whether the burden or expense is ‘undue’ where discovery of computer stored information is involved.” *Id.*

of electronic discovery.⁶³ Thus, courts are, for all practical purposes, free to make cost allocation decisions on the basis of virtually any rationale they may choose to employ. If these choices are consistent with each other or in accordance with the social and political choices that would be made by society as a whole, it is purely fortuitous. Not surprisingly, because of the delegated decisionmaking process, any thoughtful or careful exploration of the possibly unique needs of electronic discovery is basically nonexistent.

In a number of decisions, courts have employed their discretionary authority to shift the costs of electronic discovery. For example, in *Anti-Monopoly, Inc. v. Hasbro, Inc.*,⁶⁴ the court required the plaintiff to pay the cost of creating computer programs needed to extract relevant data from the defendant's computer system.⁶⁵ For the most part, however, the judiciary has expressed great reluctance to shift electronic discovery costs. Illustrative is the decision of the Northern District of Illinois in *In re Brand Name Prescription Drugs Antitrust Litigation*.⁶⁶ In *Brand Name*, one of the defendants, CIBA, had sought, among other things, to have the court order the class plaintiffs to bear the costs of retrieving e-mail messages responsive to plaintiffs' discovery request.⁶⁷ In rejecting this request, the court reasoned:

On the one hand, it seems unfair to force a party to bear the lofty expense attendant to creating a special computer program for extracting data responsive to a discovery request. On the other hand, if a party chooses an electronic storage method, the necessity for a retrieval program or method is an ordinary and foreseeable risk.⁶⁸

63. See Giacobbe, *supra* note 61, at 281:

[One] reason for the inequitable decisions regarding the allocation of discovery costs of electronically stored data is the insufficiency of the Federal Rules of Civil Procedure in addressing the issue. Critics maintain that the rules are too broad and require substantial amendment to address more directly the changes in technology and their impact on litigation.

See also Robins, *supra* note 19, at 473 ("In the area of cost-allocation . . . the guidance provided by the rules is far less certain.").

64. No. 94 Civ. 2120, 1995 U.S. Dist. LEXIS 16355 (S.D.N.Y. Nov. 3, 1995).

65. *Id.* at *8; see also *Alexander v. FBI*, 188 F.R.D. 111, 117 (D.D.C. 1998) (holding that the Executive Office of the President was not required to completely restore all deleted files and e-mails because the resulting burden would have been excessive).

66. Nos. 94 C 897, MDL 997, 1995 WL 360526 (N.D. Ill. June 15, 1995).

67. *Id.* at *1.

68. *Id.* at *2.

The court relied on the reasoning of an earlier decision, *Daewoo Electronics Co. v. United States*,⁶⁹ in which the Court of International Trade concluded: “The normal and reasonable translation of electronic data into a form usable by the discovering party should be the ordinary and foreseeable burden of a respondent in the absence of a showing of extraordinary hardship.”⁷⁰ The *Daewoo* court expressed concern that “new techniques for easing the use of information [might] bec[o]me a hindrance to discovery or disclosure in litigation,” in a manner “inconsistent with the guiding principle that information which is stored, used, or transmitted in new forms should be available through discovery with the same openness as traditional forms.”⁷¹

It is hardly an overstatement to suggest that the reasoning in *Brand Name* and *Daewoo* is seriously misguided. On technological, practical, and theoretical levels, the decisions simultaneously oversimplify complex concepts, ignore indisputable realities, and fail to recognize the profound implications that would follow if their rationale were widely followed.⁷²

The decisions completely ignore the enormous technological differences between electronic and traditional discovery. Recognition of

69. 650 F. Supp. 1003 (Ct. Int'l Trade 1986).

70. *Id.* at 1006.

71. *Id.* In *Bills v. Kennecott Corp.*, 108 F.R.D. 459 (D. Utah 1985), the court, in denying the defendant's motion to shift the costs of electronic discovery, relied on four criteria:

(1) The amount of money involved is not excessive or inordinate; (2) The relative expense and burden in obtaining the data would be substantially greater to the requesting party as compared with the responding party; (3) The amount of money required to obtain the data as set forth by defendant would be a substantial burden to the plaintiffs; (4) The responding party is benefited in its case to some degree by producing the data in question.

Id. at 464. According to one commentator, “*Bills* provides an example of the typical manner in which courts handle requests to shift the burden of discovery costs of electronically stored data.” Giacobbe, *supra* note 61, at 274.

A similar decision is *Sanders v. Levy*, 558 F.2d 636 (2d Cir. 1977), *rev'd on other grounds sub nom.* *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340 (1978). The case was a class action suit in which the class plaintiffs requested that the defendants produce a list of the names and addresses of class members from its electronically stored records. *Id.* at 638. The information was needed so that absent class members could be properly notified in accordance with the requirements of Federal Rule of Civil Procedure 23(c)(2). *Id.* The district court determined that the discovery rules, not the class action rule, governed, and the court required the defendants to shoulder the costs of retrieving and producing the requested information at an approximate cost of \$16,000. *Id.* at 641–42. The Second Circuit, sitting en banc, affirmed, agreeing that Rule 34 controlled. *Id.* at 648. The Supreme Court reversed, holding that the class action rule, rather than the discovery rules, controlled. *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340, 350–55 (1978). However, the Second Circuit decision remains valid precedent for the proposition that when the discovery rules control, costs properly remain on the responding party.

72. *See infra* II.A.

these important differences gives rise to two conclusions that must be taken into account if the discovery system is to avoid a dramatic and potentially harmful skewing impact on interests and relationships extending far beyond the courthouse walls. First, because of its unique technological aspects, electronic discovery creates substantial practical difficulties that do not arise in the context of traditional discovery. Second, the costs and burdens that result from these difficulties can be of such a magnitude as to have a profound and unpredictable impact on basic societal choices not directly involving the lawsuit. To ignore these facts will not make them go away or strip them of socio-economic impact; it will merely allow them to operate without public recognition or systematic regulatory control.

Additionally, *Brand Name* and *Daewoo* improperly treat a commercial defendant's choice to employ a computer-based record-keeping system as a voluntary act.⁷³ Today it surely defies reality to suggest that any viable commercial enterprise could operate successfully in the modern business world without relying heavily on electronically based methods of information storage and communication. As commentators have correctly noted, "[t]he mushrooming of computers in contemporary life has revolutionized the way we store information and communicate. Increasingly, electronic storage devices have replaced paper document depositories. E-mail and the Internet have begun to replace the telephone as the way people conduct daily personal and business communications."⁷⁴ Because the decisions largely premise the conclusion that a party must bear the costs of responding to its opponent's discovery requests on the ground that this cost is a natural consequence of the party's voluntary commercial

73. See *Brand Name*, 1995 WL 360526, at *2 (stating that the plaintiff "should not be forced to bear a burden caused by [the defendant's] choice of electronic storage"); *Daewoo*, 650 F. Supp. at 1006 (noting that "in the absence of a showing of extraordinary hardship," the respondent should reasonably foresee the burden of having to translate "electronic data into a form useable by the discovering party"); see also *Linnen v. A.H. Robins Co.*, No. 97-2307, 1999 WL 462015, at *6 (Mass. Super. Ct. June 16, 1999) (citing *Brand Name*):

[T]his is one of the risks taken on by [big] companies which have made the decision to avail themselves of the computer technology now available to the business world To permit a corporation . . . to reap the business benefits of such technology and simultaneously use that technology as a shield in litigation would lead to incongruous and unfair results.

74. Scheindlin & Rabkin, *supra* note 12, at 328; see also *id.* at 331-32 ("Electronic devices have begun to replace paper as the primary means of storing information, just as the Internet has begun to replace the postal system as the primary means of transmitting information.").

choices, and because this assumption is, without doubt, factually inaccurate,⁷⁵ the conclusion logically should be deemed suspect.

Of course, one might respond that regardless of whether a commercial enterprise's use of electronic storage and communications systems is deemed voluntary, the consequences that flow from their use are properly viewed as a cost of doing business that is properly attributed to the enterprise. As a result, it is perfectly proper, in most instances, to impose the full costs of discovery on responding parties, who will then pass those costs on to their users or consumers. Indeed, the argument could proceed, the costs of traditional discovery are normally treated in exactly this manner, and there is no reason to treat the costs of electronic discovery any differently.

It is true that the procedural system effectively treats an enterprise's costs of responding to discovery as a cost of doing business, though it appears to have done so unthinkingly and haphazardly. But this argument ignores the fact that to say a particular expense is a cost of doing business is not a *reason* for imposing a cost on an enterprise but merely a *conclusion* that such a cost will be imposed. The question that should be—but never has been—asked is whether it makes sense, on moral, political, or economic grounds, to require that the enterprise pass the particular cost onto its consumers and users. In other words, society must decide whether the cost in question is properly to be attributed to the enterprise. At no point has society ever consciously—much less thoughtfully or carefully—attempted to make that decision about the costs of even traditional discovery. Such an effort would demonstrate that viewing discovery response costs as a cost of doing business substantially and improperly skews fundamental substantive socioeconomic choices and threatens the goals of fair and efficient adjudication.⁷⁶ Although a strong argument could be fashioned that even in the case of traditional discovery it is usually improper to treat the costs of discovery response as a cost of doing business, for reasons discussed below it is probably wiser to leave the current system of cost allocation intact for traditional discovery.⁷⁷ However, because the burdens and costs of electronic discovery are likely to be—both quantitatively and qualitatively—of a very differ-

75. See Marcellino & Bongiorno, *supra* note 32, at B10 (noting that “[b]y characterizing computer storage as a ‘choice,’ the [courts may be denying] the realities of modern business practice”).

76. See *infra* Part III.B.

77. See *infra* Part IV.B.

ent magnitude, it is necessary to develop different rules of cost allocation for its use.

The remainder of this Article is devoted to these issues. Before one can understand the negative impact of the traditional cost allocation approach on electronic discovery, however, one first must grasp the significant technological differences between electronically based information storage and communications systems and traditional systems, and how those differences affect the nature of the discovery process. Part II considers this issue. Part III then explores how traditional cost allocation methods subvert the meta-goals of the modern procedural system.

II. THE UNIQUENESS OF ELECTRONIC DISCOVERY

A. *Technological Aspects of Electronic Discovery*

Before one can fully comprehend the dramatic differences between electronic and traditional discovery, it is necessary to possess at least a working knowledge of the essential technological elements of the electronic information and communications systems that businesses and individuals employ. Many have made careers out of studying the technological aspects of computer systems in merciless detail. However, one need not be a computer expert to grasp the unique discovery implications of electronic methods of information storage, information acquisition, or communication.⁷⁸ Rather, it is sufficient that one understand merely the basics of the technology.

The types of electronic data widely sought in modern discovery can be subdivided into three broad categories: (1) internally produced document storage; (2) internal and external communications, commonly referred to as e-mail; and (3) Internet access. Each is examined separately.

78. For excellent discussions of the technological aspects of electronic information and communication systems written in a manner easily accessible to even the most technophobic attorney, see generally GAHTAN, *supra* note 6; MICHAEL OVERLY, OVERLY ON ELECTRONIC EVIDENCE IN CALIFORNIA (1999); Joan E. Feldman & Roger I. Kohn, *The Essentials of Computer Discovery*, in ANNUAL INTERNET LAW INSTITUTE 51 (PLI Patents, Copyrights, Trademark, & Literary Property Course Handbook Series No. 564, 1999); Scheindlin & Rabkin, *supra* note 12, at 333–36; Marnie H. Pulver, Note, *Electronic Media Discovery: The Economic Benefit of Pay-Per-View*, 21 CARDOZO L. REV. 1379 (2000).

1. *Internally Produced Document Storage.* For discovery purposes, the electronic storage of internally produced documents can be crudely analogized to a company's or individual's files containing copies (formerly carbon copies, more recently photocopies) of written material generated by that company or individual. In a sense, then, a party seeking to discover electronically stored, internally produced documents is analogous to a party seeking discovery of another litigant's paper copies of written documents. However, the analogy is limited. The significant technological differences between the two forms of storage have important implications for the discovery process.

Unlike paper copies, electronically stored documents exist simultaneously on several very different levels of preservation. Five such levels have been recognized: (1) active data; (2) replicant data; (3) archival (or "backup") data; (4) residual data;⁷⁹ and (5) "hidden" or "embedded" data.⁸⁰ "Active data" describes works-in-progress, documents that are likely to change constantly. In addition to word processing documents, the category includes spreadsheets, databases, electronic calendars, and contact managers.⁸¹ "Replicant data" includes the most basic form of storage of a self-generated document on the drafter's hard drive. It is a form of inactive data sometimes described as a "file clone."⁸² It is designed to assist users in recovering data losses caused by computer misuse or malfunction. If, for example, a user by mistake turns off his computer without saving a word processing file, he may be able to recover it if the computer has saved a recent version as a "temporary file."⁸³ Because they are created automatically, such file clones often exist without the knowledge of their author. When the author seeks to delete the primary file, therefore, she is generally unaware that the deletion does not also purge the file clone. Moreover, because the file is saved on the hard drive, rather than on a centralized network, purging a document on the network may not purge it from the creator's hard drive. However, retrieval of replicant data may be substantially more difficult and expensive than retrieval of active data. "Retrieval of file clones requires

79. Feldman & Kohn, *supra* note 78, at 54-55; Pulver, *supra* note 78, at 1407-11.

80. Scheindlin & Rabkin, *supra* note 12, at 337-38.

81. Pulver, *supra* note 78, at 1407-08.

82. *Id.* at 1408.

83. Scheindlin & Rabkin, *supra* note 12, at 336-37.

one to know where to look. Thus, it may be necessary for a party to retain a computer expert to perform this operation.”⁸⁴

Even though it is more difficult to retrieve than active data, replicant data is easier to retrieve than either residual or backup data.⁸⁵ “Backup” or “archival” data has been defined as “information copied to removable media in order to provide users with access to data in the event of a system failure.”⁸⁶ Though such backup recordings are used only rarely, they are a vital means to preserve documents in the event of inadvertent erasure, computer malfunction, database corruption, or catastrophes such as fires, floods, or earthquakes.⁸⁷ Thus, “a copy of the information stored on the hard disk of most computer systems is usually backed up periodically on magnetic tape. Most organizations have a formalized procedure to ensure that such backups are made frequently at regular intervals”⁸⁸ When a realistic fear of natural disaster exists, many organizations move some or all of their backup tapes to an off-site location for storage.⁸⁹ Because backup tapes are not organized in a manner that separates them by designation or subject matter, retrieval of a particular document is extremely difficult.⁹⁰ The system is designed to function only in the event of a system catastrophe or natural disaster, in which event computer experts would be able to retrieve needed documents from the backup tapes.

As necessary as such backup tapes are, if their discovery is not carefully regulated it will give rise to potentially severe problems. In institutions that produce a large volume of documents, permanent retention of all backup tapes would quickly prove burdensome and un-

84. Pulver, *supra* note 78, at 1409.

85. *Id.*

86. Feldman & Kohn, *supra* note 78, at 54; *see also* Pulver, *supra* note 78, at 1382 n.17 (defining “archival data” as “digital data that has been ‘backed-up’ by creating another copy of the data for safe-keeping” and noting that “data [that] has been ‘deleted’ from a local or network hard drive may continue to exist as archival data on a backup tape or CD-ROM”).

87. GAHTAN, *supra* note 6, at 52.

88. *Id.* at 50–51.

89. *Id.* at 52.

90. *See* Feldman & Kohn, *supra* note 78, at 55 (noting that finding relevant information on backup tapes necessitates “restoring a tape, viewing its directories, and searching within the directories for specific files”); *see also* Pulver, *supra* note 78, at 1410 (noting that discovery of archival data is difficult because “backup [tapes] hold large amounts of virtually unorganized data” and “[i]f the requested file is not on [the] tape [in question], the retriever will have to repeat [the] process for subsequent backup tapes, [a] process [that could] easily become . . . expensive and . . . time-consuming”).

wieldy.⁹¹ Hence, most organizations use a regularized deletion system that periodically and automatically writes over backup tapes containing copies of documents that are no longer timely, thereby creating space for new backup copies.⁹² Individual users and small businesses may back up their computer storage devices by forwarding their files over the Internet to a third party's computer. Several companies provide computer users free storage space on their websites.⁹³

The fourth category, "residual data," includes "information that appears to be gone, but is still recoverable from the computer system."⁹⁴ Such data is retrievable because a file that is "deleted" is not always destroyed. When a user deletes a file, the computer makes available for new files the space that is occupied by the deleted file.⁹⁵ However, the deleted file is not altered physically until it is replaced by a new file.⁹⁶ Hence, deleted files that have not yet been "overwritten" can be recovered from the disk surface.⁹⁷ Residual data has been called the most costly form of data to recover, because it often remains undetectable on disks and drives.⁹⁸ Hence, to obtain this data one often must employ forensic specialists who will use specialized tools to examine the entire drive.⁹⁹

Different from the other four categories of data is the fifth category, "hidden" or "embedded" data. Unlike the other types of data,

91. See GAHTAN, *supra* note 6, at 51 ("Due to the growing volume of computer-readable data many organizations are finding that . . . traditional backup techniques are no longer sufficient to allow an entire backup to fit on a manageable number of tapes or to take place during non-business hours.").

92. See Heidi L. McNeil & Robert M. Kort, *Discovery of E-Mail and Other Computerized Information*, ARIZ. ATT'Y, Apr. 1995, at 18:

Although most people view a computer as an organizational tool, the information stored in a large company's computer system is rarely organized in a coherent fashion. Individual backup media are rarely catalogued, users often fail to organize data files into subdirectories, and many companies fail to implement a formal retention policy or destruction schedule for their computer records.

93. Scheindlin & Rabkin, *supra* note 12, at 336.

94. Feldman & Kohn, *supra* note 78, at 55.

95. Pulver, *supra* note 78, at 1411.

96. *Id.*

97. See *id.* at 1410-11 (explaining why "deleted files (or portions of those files) that have not yet been overwritten can be recovered from the disk surface").

98. *Id.* at 1411.

99. See *id.* ("Specialists utilize certain tools to examine the entire drive for important data because neither simple copy commands, nor commercial backup programs, capture deleted files. Stated otherwise, the forensic expert must create an image copy of the specific drive to retrieve the requested information.").

embedded data is not consciously or unconsciously recorded by the file creator. Rather,

[a]lmost all network operating software automatically records and maintains information about the use of the system. These logs or audit trails record information about when, where, and who accesses the system. The level of detail can include the exact workstation at which a user was working on a specified date and time.¹⁰⁰

It is not difficult to understand why electronically created and stored documents have rapidly become the subject of widespread and intensive discovery. Electronic documents tend to remain on a computer system well after similar paper records would be discarded, because there is no obvious pile of paper to remove. Moreover, because of automatically operating backup procedures, prior versions may be saved even though the file's author did not actually intend to preserve them. The availability of these prior versions can prove extremely valuable, because

[o]lder versions of documents and designs can track the evolution of a document and can be very revealing of decisions made during a design process. . . . Older drafts may also provide a better insight into the other party's intentions than a final draft that was edited for political correctness and legal considerations.¹⁰¹

Finally, the difficulty in truly deleting a file often means that more documents exist than intended.¹⁰²

2. *E-Mail*. E-mail programs usually store a copy of every message the user has received or sent. As a result, multiple copies of a particular e-mail message often are recorded on the computers of both sender and receiver. This is true even if both have attempted to delete the message. In addition to the contents of the message, the computer will record the identity of the sender and the recipient and the time the message was sent, received, and opened.¹⁰³

100. OVERLY, *supra* note 78, § 2.09; *see also* Scheindlin & Rabkin, *supra* note 12, at 338 (explaining how network computer systems are structured and how they function).

101. GAHTAN, *supra* note 6, at 4 n.20.

102. Flanders et al., *supra* note 30, at 16.

103. *See* GAHTAN, *supra* note 6, at 60:

Facilities may be available in the e-mail system to purge these deleted messages and recover the disk space being used by such files. However, the purging or compacting facilities are usually only used periodically and usually only when disk space on the drive containing the e-mail files is running out. . . . The old file may continue to exist on the system in a deleted but recoverable state until the disk space it occupied is re-

E-mail is among the most commonly requested forms of electronic discovery, for what should be obvious reasons.¹⁰⁴ E-mail is often used with a lack of appropriate caution, given its near-permanence—a fact seldom realized by e-mail users, who think that when they trash a message it is destroyed. Moreover, the distribution of e-mail messages is largely impossible to control because they are so easily copied and forwarded. Hence, e-mail often contains information that can prove crucial in litigation.

3. *Internet.* A litigant may benefit strategically from gaining access to records of an opponent's use of the Internet. Computers generally record this type of information. First, web browsers usually record frequently visited websites on the computer's hard drive in what are called "cache files."¹⁰⁵ Computer users often are unaware of such files' existence, since the browser records them without an order to do so by the user.¹⁰⁶ Additionally, computers automatically create "history files," which record both the websites visited by the user and the duration of the visits.¹⁰⁷ Finally, website operators generally keep their own records of visitors to the site.¹⁰⁸ These records are called website "log files."¹⁰⁹

B. The Need for Special Treatment of Electronic Discovery

No one could reasonably dispute the fact that electronically stored data can be tremendously important in litigation. Hence no one seriously argues that electronically stored data is somehow exempt from the discovery process. However, because of electronic dis-

quired to store new data. Therefore, e-mail information thought to be deleted permanently, may still be recoverable

See also Scheindlin & Rabkin, *supra* note 12, at 339 ("[M]ultiple copies of an e-mail message are often stored on the computer of both the sender and receiver—even if they are deleted by both.").

104. See generally Scheindlin & Rabkin, *supra* note 12 (discussing the most commonly used forms of electronic evidence).

105. Scheindlin & Rabkin, *supra* note 12, at 340.

106. *Id.* (stating that computer users are often "unaware of the cache files stored on their computers because they are stored by the browser without the users' express approval").

107. *Id.* at 347.

108. *Id.* at 340.

109. *Id.*; see also OVERLY, *supra* note 78, § 2.12 (explaining how "cookies" are installed on a website visitor's hard disk); Scheindlin & Rabkin, *supra* note 12, at 340 (describing "cookies" as a "file generated by Web sites and stored on the computers of the users that access those Web sites. . . . Cookies are a way of determining which Web sites the user had visited in the past").

covery's unique technological aspects, those benefits often come at a cost of a quantity and quality seldom seen in traditional discovery and with a potentially dramatic impact beyond the scope of the litigation process.¹¹⁰ The differences between electronic and traditional discovery can be divided into three categories: (1) volume; (2) retrieval; and (3) translation. As a result of these differences, one is able to predict that the costs and burdens that electronic discovery imposes are likely to be substantially greater than the costs and burdens imposed by traditional discovery.

1. *Volume.* For a variety of reasons, it is not difficult to predict that in the majority of cases, discovery of electronically stored data will result in a geometric increase in the number of documents produced. Simply put, "electronic storage of information means there is far more to discover."¹¹¹ Indeed, it would be difficult to dispute the fact that "[c]omputer technology has produced a society in which information is constantly demanded, created, transmitted and digested in quantities that would have been unthinkable twenty-five years ago,"¹¹² and "the concomitant increase in computer data storage capacity has exponentially inflated the universe of discoverable information."¹¹³

The dramatic increase in discoverable material derives in part from the technological ease with which electronically stored documents may proliferate. Electronic documents are likely to be stored in more locations, to be distributed to a wider audience, and to have more prior drafts retained than would paper documents.¹¹⁴ Equally

110. For a detailed discussion of the nature of this impact, see *infra* Part III.B.

111. Bruce Rubenstein, *Somebody Destroyed the Evidence: Corporate Law Department Stung by Mishandled E-Mail*, CORP. LEGAL TIMES, Sept. 1997, at 1.

112. Scheindlin & Rabkin, *supra* note 12, at 366; see also *id.* at 349 (noting that "the volume of electronic evidence maintained by a party can be staggering").

113. *Id.* at 367; see also GAHTAN, *supra* note 6, at 3 ("Information technologies, including e-mail, have led to the unprecedented proliferation and retention of large quantities of information. In the event of litigation, this can impose an extraordinary burden on the possessor."); Geanne Rosenberg, *Electronic Discovery Proves Effective Legal Weapon*, J. REC. (Oklahoma City), Apr. 21, 1997 ("While deleted e-mail may draw some lawyers to computer-based information, experts say that the sheer volume of stored electronic data has had the biggest impact upon commercial cases.").

114. See GAHTAN, *supra* note 6, at 8 (emphasizing the ease with which electronic documents may proliferate); Solovy & Byman, *supra* note 1, at A16:

In the old days, the responsive documents were, mostly, physical pieces of paper, kept in a finite number of locations. In those good old days, you would go to a few key employees and say, "Here are the document requests. Search your files and give me

important are the mind-boggling differences in storage capacity created by electronic technology. Magnetic backup tapes can retain staggering amounts of data. For example, one eight-millimeter backup tape can hold as much information as 1500 boxes of paper.¹¹⁵ Thus, it should not be surprising that in one case a defendant that had a policy of retaining all of its electronically stored data reportedly incurred costs in excess of three million dollars responding to a discovery request.¹¹⁶ In another case, according to reports, a court required the defendant to search 50,000 backup tapes at a cost of more than one million dollars.¹¹⁷ While these are only individual examples that may or may not reflect a developing pattern of discovery expense, it is reasonable to believe that the sheer volume of electronically stored data will continue to increase dramatically the costs and burdens of electronic discovery relative to traditional paper discovery.¹¹⁸

2. *Retrieval.* As Part II demonstrated, modern technology records electronic documents in many different ways and in a variety of versions. Retrieval of those alternate copies or versions is often extremely difficult and expensive. The expense derives from the fact that retrieval of stored data—whether archival, residual, or replicant—often will require the retention of high-priced forensic experts.¹¹⁹

anything responsive.” That won’t do today. You can’t limit the search to a few, because in the digital age, information is shared by the many.

115. Giacobbe, *supra* note 61, at 263.

116. *Id.* at 258; Rosenberg, *supra* note 113.

117. Janet Novack, *Control/Alt/Discover*, FORBES, Jan. 13, 1997, at 60.

118. See Giacobbe, *supra* note 61, at 265 (“[C]ommentators have reported numerous instances in which plaintiffs have presented defendants with electronic data discovery requests with which compliance would cost approximately a million dollars or more.”); Bruce Rubenstein, *Electronic Discovery Costs Are Leveraging Settlements*, CORP. LEGAL TIMES, Sept. 1997, at 26 (“Litigants routinely run up bills of \$100,000 identifying, locating, and copying computerized data, and seven-figure price tags are not unheard of.”).

119. See Cendali & Zaidman, *supra* note 12, at 910:

Many law firms, accounting firms, investigative firms and computer experts specifically advertise their ability to find “hidden” data on hard drives and backup tapes that a non-technically trained lay person might not know how to access. Forensic experts are costly, but they can often obtain information that would otherwise be unobtainable.

See also Giacobbe, *supra* note 61, at 259 (describing the “extremely technical and exceedingly expensive process” involved in retrieving electronically stored data); *id.* at 265 (“Although some companies specialize in discovery of electronically stored data, their services are extremely costly.”); Novack, *supra* note 117, at 60 (explaining how defendant companies have to spend long hours and lots of money to retrieve and sort electronic data to comply with discovery re-

One might think that a responding party could avoid costs simply by giving the discovering party access to its data storage system, thereby enabling that party to obtain the information on its own. When retrieval will be very costly, however, it is highly doubtful that a court will find this a satisfactory alternative.¹²⁰ In any event, providing an opponent access to one's private electronic storage facilities is not likely to be a viable option for most litigants. The differences between the retrieval of electronically stored documents for purposes of discovery and the retrieval of traditionally stored paper documents for purposes of discovery, then, are obvious and significant. This is true of both internally created documents and e-mail messages.¹²¹

3. *Translation.* Expert estimates indicate that as much as thirty-five percent of electronically stored data have never been transformed into paper form.¹²² Thus, unlike discovery of traditional paper documents, discovery of electronically stored data will require *physical creation* as an essential part of *production*—such documents must be printed onto paper. Moreover, even where a litigant is willing to produce electronically stored data in paper form, a discovering party may seek the data in electronic form.¹²³

Upon amending Rule 34 in 1970, the Advisory Committee noted that “when the data can as a practical matter be made usable by the

quests); Rosenberg, *supra* note 113 (explaining how the costs of electronic discovery can spiral out of control); Solovy & Byman, *supra* note 1, at A16:

[M]ere business executives cannot be asked to search their computer files because they likely do not know how to. The documents reside in nooks and crannies of their computers and in network archives. In order to legitimately comply with most modern discovery requests, it is necessary to involve a management information systems (MIS) manager, so that you have an understanding of how data are kept, maintained, archived and retrieved.

120. See Pulver, *supra* note 78, at 1386:

Cost-saving options that are available with traditional document production are not available with [electronic discovery]. Parties are able to shift the majority of costs of traditional document production to the requesting party by making the records available to the requesting party and having that party search for pertinent information. With [electronic discovery], this technique is no longer available, as parties lack the expertise to search another party's database for pertinent information.

121. See GAHTAN, *supra* note 6, at 7 (“A review of a paper document is simply a matter of reading. An electronic document, on the other hand, may have been stored in any one of hundreds of different formats.”).

122. *Id.* at 4 n.18.

123. See Giacobbe, *supra* note 61, at 262 (noting that “[e]ven though many companies and individuals continue to store paper copies of various documents, it is important to recognize that even if a litigant properly makes the information available to the requesting party in paper form, an adversary still can demand the same information in a usable electronic format”).

discovering party only through respondent's devices, respondent may be required to use his devices to translate the data into usable form."¹²⁴

Although the Committee stated that production usually will require a "printout of computer data," today it could conceivably require the design and installation of a computer program to extract the necessary information.¹²⁵ Certainly, the additional costs associated with translation never occur in traditional discovery.

III. PLACING DISCOVERY WITHIN THE LITIGATION MATRIX

To this point, this analysis has sought to establish that, due to fundamental technological differences, electronic discovery can be predicted, as a general matter, to give rise to burdens and expense that are of a completely different magnitude from those encountered in traditional discovery. Common sense would seem to dictate, then, that one at least consider the possibility that the standards for judicial control of electronic discovery should differ from the standards for judicial control of traditional discovery. Indeed, many commentators who have considered the question have come to this conclusion,¹²⁶ and at least one state, Texas, has chosen to alter its procedural rules in the case of electronic discovery.¹²⁷ Yet to this point, at least, there appears to have been little movement at the federal level toward such an alteration.¹²⁸

124. FED. R. CIV. P. 34 advisory committee's note (1970).

125. See *Anti-Monopoly, Inc. v. Hasbro, Inc.*, No. 94 Civ. 2120, 1996 WL 22976, at *2 (S.D.N.Y. 1996) (requiring the plaintiff to pay discovery costs for "special programming" to extract data from the defendant's files); see also *Giacobbe*, *supra* note 61, at 262 ("A requirement that the data be in electronic form also increases the cost of discovery because production often can entail creating complex computer programs to convert the electronic data from its current format to an electronic format that the requesting party can use."). *But see* *Munoz-Santana v. U.S. Immigration & Naturalization Serv.*, 742 F.2d 561, 562-64 (9th Cir. 1984) (refusing to order alterations or improvements in information management software to produce data in the requested formats).

126. See, e.g., *supra* note 63 and accompanying text.

127. TEX. R. CIV. P. 196.4.

128. The Advisory Committee, it is true, has begun to consider the question. Electronic discovery was discussed extensively at the Committee's October 1999 meeting in Kennebunkport, Maine. Minutes, Civil Rules Advisory Committee, Judicial Conference of the United States 23-28 (Oct. 14-15, 1999), available at <http://www.uscourts.gov/rules/Minutes/1099mnCV.pdf>. At that meeting, the Committee decided to refer the matter to the Discovery Subcommittee. *Id.* at 28. However, there is as of yet no indication of any movement toward the adoption of special treatment for electronic discovery.

Perhaps the lack of progress can be explained by the intermediate analytical mode that has dominated the debate. At no point has any commentator attempted to explore carefully the implications of the normative first principles underlying the modern procedural system for the control of electronic discovery. Such an inquiry reveals that many of the harms feared to flow from added controls of electronic discovery are not as dangerous to the intersecting set of values underlying the adjudicatory structure as widely assumed and that the harms that flow from the failure to treat electronic discovery specially are considerably more severe than many seem to believe. To fully comprehend why the quantitative and qualitative differences between electronic and traditional discovery justify distinctive treatment in the courts, then, one needs to add another level of analysis, one grounded in the deep normative structure of procedure. By adding this missing link, one is able to understand why these differences call for distinctive treatment, because by exploring modern procedure's deep normative structure, one can best understand how the added burdens associated with electronic discovery threaten the procedural system's underlying social, political, and economic goals.

This Part is designed to explore two different aspects of this deep structural inquiry. First, it seeks to determine the specific normative goals that the modern procedural system should foster and to explore how these different goals interact. Second, it considers the implications of the normative litigation matrix for the judicial regulation of discovery in general and electronic discovery in particular.

A. Formulating the Content of the Litigation Matrix: The Meta-Goals of the Modern Procedural System

Nowhere does there exist an officially adopted set of normative goals that modern procedure is designed to achieve.¹²⁹ Yet if one stops to think about the issue on an abstract level and to draw on the precepts embedded in well-established procedural values and traditions, it is not difficult to identify a rough consensus concerning the grouping of meta-goals that combine to make up the matrix of normative precepts underlying the litigation system. Some of these goals are affirmative, goals the procedural system should accomplish. Others are

129. Although Rule 1 states that the Federal Rules of Civil Procedure "shall be construed and administered to secure the just, speedy, and inexpensive determination of every action," the Rule is phrased in general terms that do not provide a specific set of normative goals to be achieved. FED. R. CIV. P. 1.

negative, goals that attempt to limit the dangers to which the procedural system may give rise. Although one could reasonably synthesize and conceptualize these goals under different headings, it is, I believe, proper to glean from American society's procedural traditions and judicial doctrine six foundational goals: (1) decisionmaking accuracy; (2) adjudicatory efficiency; (3) political legitimacy; (4) maintenance of the substantive-procedural balance; (5) predictability; and (6) fundamental fairness.

The goal of decisionmaking accuracy is so ingrained in the American psyche that it is easy to view it as an end in itself.¹³⁰ Closer examination, however, reveals that this goal is actually a means to other normative ends. Absent an approximation of factual accuracy in the decisions made by the adjudicatory system, it would be all but impossible to accomplish virtually any of the moral, social, or economic goals that the rules of substantive law seek to achieve in individual cases. It is quite probably for this reason that the goal of factual accuracy has been described as an "instrumental" concern.¹³¹ As my colleague Robert Burns writes, "[f]actual accuracy is clearly important to those who defend the Rule of Law on substantive grounds. . . . The condition to be fulfilled for the application of the law is factual, and substantive justice will be achieved if the facts are found accurately."¹³² Philosopher John Rawls articulates the point:

If laws are directives addressed to rational persons for their guidance, courts must be concerned to apply and to enforce these rules in an appropriate way. A conscientious effort must be made to determine whether an infraction has taken place and to impose the correct penalty. Thus a legal system . . . must contain rules of evidence that guarantee rational procedures of inquiry. . . . [T]he rule

130. Consider, for example, the following statement by one commentator:

Accuracy in fact finding is achieved when the decisionmaker's inferences are as close as possible to actual events. Of course, a fact-finder . . . can never know with certainty whether he or she has fully captured the relevant reality. The best one can do is to devise and employ procedures which, within available resources, foster the identification of relevant issues, the gathering and effective presentation of evidence pertaining to these issues, the testing of evidence for indicia of reliability, and the application of sound logic to the drawing of inferences.

John R. Allison, *Ideology, Prejudgment, and Process Values*, 28 NEW ENG. L. REV. 657, 673-74 (1994).

131. "According to the instrumental conception of due process, the purpose of the clause is to ensure the most accurate decision possible." Martin H. Redish & Lawrence C. Marshall, *Adjudicatory Independence and the Values of Procedural Due Process*, 95 YALE L.J. 455, 476 (1986).

132. ROBERT P. BURNS, *A THEORY OF THE TRIAL* 13 (1999).

of law requires some form of due process: that is, a process reasonably designed to ascertain the truth, in ways consistent with the other ends of the legal system, as to whether a violation has taken place and under what circumstances.¹³³

This instrumental connection between means and ends links the concern about factual accuracy with the goal of maintaining political accountability. If the facts are not found accurately in an individual case, the general value choices embodied in governing substantive law will not be achieved, in effect skewing the governing substantive law. As I argue elsewhere,

Use of procedures that have the effect of skewing the applicable substantive law subvert the democratic process by altering the governing law without informing the electorate that that law has been changed. That procedural alteration without a corresponding formal alteration in the substantive law is equivalent to the commission of a fraud on the electorate.¹³⁴

As significant as the goals of factual accuracy and political legitimacy are within the litigation matrix, it is also necessary to recognize additional—and sometimes competing—socioeconomic goals. Factual accuracy is not an end that must be achieved regardless of the costs. And there is no doubt that in a number of situations the pursuit of factual accuracy will give rise to potentially significant—and prohibitive—costs. Those costs may take two different forms that can be described as “internal” and “external” costs. “Internal” costs include the socioeconomic burdens to which the truth-finding process directly gives rise. In shaping the litigation matrix one must take into account the economic and physical drain that the truth-finding process imposes. Simply put, one must ask how time-consuming and expensive it will be to guarantee that the process actually finds the truth in a particularized dispute. Any adjudicatory structure fashioned to further utilitarian-based concerns of efficiency will place a good deal of weight on such considerations in shaping its procedural calculus.

In structuring the standards of procedural due process that now control in civil cases, the Supreme Court expressly has chosen to adopt such a utilitarian, cost-attentive concern. Under that standard,

133. JOHN RAWLS, *A THEORY OF JUSTICE* 238–39 (1972).

134. Martin H. Redish, *Procedural Due Process and Aggregation Devices in Mass Tort Litigation*, 63 DEF. COUNS. J. 18, 22 (1996).

adopted in *Mathews v. Eldridge*,¹³⁵ in deciding whether due process dictates the use of a particular procedure in civil cases, the Court considers the following factors:

First, the private interest that will be affected by the official action; second the risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards; and finally, the Government's interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail.¹³⁶

Applying the standard in the case before it, the Court held that due process did not require an evidentiary hearing in a challenge to the Social Security Administration's termination of the plaintiff's disability benefits.¹³⁷ Thus, the administrative and economic burdens caused by use of a particular procedure may justify the refusal to employ that procedure, even if its use would advance the truth-finding process; it is only if a synthesis of the importance of the private interests at stake and the risk that failure to use the procedure will lead to an erroneous conclusion are found to outweigh the added costs and burdens that the procedure's use will be deemed constitutionally required.

The utilitarian approach to procedural due process has often been attacked by commentators.¹³⁸ It has been criticized because "the test requires subjective and impressionistic evaluations, asking questions that can only be answered with 'pervasive indeterminacies.' Ranking degrees of deprivation to determine the weight of a private interest is inherently subjective."¹³⁹ But much the same could be said of virtually any constitutional test that seeks to reconcile competing interests. To be sure, if applied without any concern for litigant dignity, the test risks undermining important constitutional values.¹⁴⁰ But especially in a suit between private individuals or entities, fashioning

135. 424 U.S. 319 (1976); see also *Connecticut v. Doehr*, 501 U.S. 1, 11–18 (1991) (applying and modifying *Mathews*' utilitarian calculus in civil suits between private parties).

136. *Mathews*, 424 U.S. at 335.

137. *Id.* at 339–49.

138. See, e.g., Jerry Mashaw, *Administrative Due Process: The Quest for a Dignitary Theory*, 61 B.U. L. REV. 885, 910–12 (1981) (criticizing utilitarian approaches to due process by critiquing their views on individual rights).

139. Linda Beale, *Connecticut v. Doehr and Procedural Due Process Values: The Sniadach Tetrad Revisited*, 79 CORNELL L. REV. 1603, 1642–43 (1994).

140. See Redish & Marshall, *supra* note 131, at 472–74.

procedures without any serious concern for the avoidance of economic waste and the attainment of economic efficiency inexcusably drains society's resources and violates the dignity of the litigants whose personal resources are unduly affected.

The goal of accuracy in decisionmaking, then, is not sacrosanct. The procedural system may, under appropriate circumstances, openly exclude procedures that might promote truth-finding when the resulting costs and burdens are deemed too great. "Internal" costs are those the procedural system itself feels acutely. In *Mathews*, for example, the Court found that the burdens of time, effort, and expense resulting from the holding of an evidentiary hearing were not justified by whatever advance toward truth such a hearing would add, measured in light of the importance of the private interest at stake.¹⁴¹ When a dispute is between private parties, the Court will consider the costs and burdens that use of a procedure might have on other parties.¹⁴² The goals of the procedural system therefore include the desire to adopt the most efficient and economical means of truth-finding.¹⁴³ Using procedures that do not advance the search for truth more than less expensive or burdensome procedures wastes the resources of government, society, and private entities and cannot be tolerated. However, even procedures that uniquely add to the effectiveness of the fact-finding process may be rejected if they are found not to be justified by their costs or burdens.

Unlike internal costs, "external" costs are losses incurred by society external to the process of administering civil justice. In certain instances use of a particular procedure will impose costs beyond the four walls of the courtroom by undermining substantive interests that society has chosen to value or protect. For example, evidentiary testimonial privileges were not adopted because society has concluded that their imposition will advance the truth-finding process. Indeed, such testimonial privileges—for example, husband-wife, doctor-patient, and priest-penitent privileges—usually will have just the opposite effect, because they deprive the fact-finder of possibly probative information. Nevertheless, society has chosen to deprive the fact-finding process of this potentially valuable information to promote

141. 425 U.S. at 348.

142. *Connecticut v. Doehr*, 501 U.S. 1, 11 (1991).

143. See Francis E. McGovern, *Toward a Functional Approach for Managing Complex Litigation*, 53 U. CHI. L. REV. 440, 452-53 (1986) (referring to the "interest in economy—the costs to the courts, parties and society in dollars and time").

openness in relationships, a goal wholly unrelated to the fair and efficient operation of the adjudicatory system. Privileges are concerned, rather, with values that affect citizens in their everyday lives.

Such external costs link the meta-goals of utilitarian truth-finding with the fourth meta-goal, what I describe as maintenance of the substantive-procedural balance. The concern derives from the recognition that procedural rules often will have an inherent and inescapable spillover onto nonprocedural interests and that to ignore such substantive consequences will not prevent them; it merely will allow them to occur without any regulation or societal control. On occasion, recognition of the substantive-procedural intersection has led courts and legislatures to adopt particular procedures for the very reason that they will have a desired impact beyond the courthouse walls. For example, the Supreme Court consciously has chosen to modify principles of substantive law because it recognized that absent such modifications, application of governing procedural rules would have an unacceptable impact on nonprocedural interests that society wishes to protect.¹⁴⁴

At various points in its development, the *Erie* doctrine,¹⁴⁵ which determines whether federal courts, sitting in diversity, will employ federal law or the law of the state in which they sit, has focused upon the substantive-procedural intersection.¹⁴⁶ In *Byrd v. Blue Ridge Rural Electric Cooperative*,¹⁴⁷ for example, the Court employed a balancing test, contrasting the federal judicial system's procedural interest in using its own processes against the state's interest in having the federal court employ the state's procedures when enforcing substantive state law.¹⁴⁸ The Court focused its inquiry in part on the extent to which the state's procedure was "bound up" with the underlying substantive law being enforced.¹⁴⁹ In other words, the Court sought to determine whether use of a particular procedural standard affected nonprocedural interests. It thus took into account the nature of the substantive-procedural interaction. Ultimately, under the framework of the litigation matrix, it is not only appropriate but also essential

144. See, e.g., *Harlow v. Fitzgerald*, 457 U.S. 800, 817–18 (1982) (refining the subjective good faith requirement for the immunity defense in civil rights suits to facilitate the entry of summary judgments).

145. *Erie R.R. Co. v. Tompkins*, 304 U.S. 64 (1938).

146. *Id.* at 78–79.

147. 356 U.S. 525 (1958).

148. *Id.* at 537.

149. *Id.* at 535–36.

that those responsible for shaping procedures take into account how particular procedural choices will affect citizens' behavior beyond the scope of the litigation.

Just as the substantive-procedural interaction in part results from some elements of the litigation matrix, other elements of the matrix logically derive from recognition of the interaction. The concern for predictability in a sense flows out of the commitment to maintain the substantive-procedural balance, because it acknowledges that procedural rules may affect how individuals and entities shape their non-litigation behavior—what scholars and jurists refer to as “primary conduct.”¹⁵⁰ Although the substantive-procedural interaction is concerned with the general impact of procedural rules on the shaping of primary conduct, the goal of predictability focuses solely on the concern that potential litigants receive clear and consistent messages as to how they should plan their daily lives. In the case of corporate entities, the concern is that corporations be given a reasonable understanding of what will be expected of them in the course of litigation so that they may plan their primary conduct accordingly. As Henry Hart once warned, “[p]eople repeatedly subjected, like Pavlov’s dogs, to two or more inconsistent sets of directions, without means of resolving the inconsistencies, could not fail in the end to react as the dogs did. The society, collectively, would suffer a nervous breakdown.”¹⁵¹

To avoid this “debilitating uncertainty,”¹⁵² then, where it can be reasonably predicted that procedural rules will have an impact on how individuals or commercial entities shape their primary conduct, it is necessary—to the extent feasible—to develop governing rules that provide the litigants with a clear understanding of what is expected of them.

The final element of the litigation matrix is left for last, perhaps because it is so intertwined within the deep structure of modern procedure that it can almost be assumed. It is the concern with fundamental fairness. Although on occasion perhaps difficult to operation-

150. See *Hanna v. Plumer*, 380 U.S. 460, 474 (1965) (Harlan, J., concurring) (referring to “the primary activity of citizens” and noting that people will face “debilitating uncertainty in the planning of everyday affairs” if the controlling legal rules are unclear); Henry Hart, *The Relations Between State and Federal Law*, 54 COLUM. L. REV. 489, 489–90 (1954) (referring to “private activity” and arguing that government action through lawmaking changes the way people collaborate); see also REDISH, *supra* note 18, at 231 (concluding that discrepancies between federal and state law can confuse the public’s planning of future conduct).

151. Hart, *supra* note 150, at 489.

152. *Hanna*, 380 U.S. at 474 (Harlan, J., concurring).

alize, the fundamental fairness concern permeates all other elements of the matrix. It is grounded in the social contract implicit in American constitutional democracy, whereby government agrees to treat its citizens with dignity and respect.¹⁵³ Recognition of these dignitary values extends beyond a narrow utilitarian concern for efficiency and accuracy. Rather, it demands that the processes employed provide private litigants with a sense of participation and self-worth.

B. The Litigation Matrix and the Dilemma of Modern Discovery

The introduction of widespread discovery in the Federal Rules of Civil Procedure in 1938 was criticized at the time.¹⁵⁴ Nevertheless, it would be difficult to deny that, in at least a range of cases where key evidence is likely to lie in the hands of others, discovery has had a dramatic impact on the success of the truth-finding process. Indeed, respected commentators write glowingly of its benefits,¹⁵⁵ and the Supreme Court acknowledged its important role in modern litigation theory.¹⁵⁶ In this sense, the discovery concept—at least in the abstract—does much to move the procedural system toward attainment of the goals embodied in the litigation matrix: It aids in achieving factual accuracy and, in doing so, may significantly facilitate the enforcement of governing substantive law. Moreover, it may advance the dignitary goals of the matrix by giving litigants a sense of empowerment in the fact-finding process.

153. For a discussion of these “dignitary” values in the procedural context, see generally Mashaw, *supra* note 138; Frank I. Michelman, *Formal and Associational Aims in Procedural Due Process*, in *DUE PROCESS* 126 (J. Roland Pennock & John W. Chapman eds., 1977).

154. See Subrin, *supra* note 2, at 720 (“Some members of the Advisory Committee had deep concerns about the problems inherent in liberal discovery . . .”).

155. See, e.g., Geoffrey C. Hazard, Jr., *Discovery Vices and Trans-Substantive Virtues in the Federal Rules of Civil Procedure*, 137 U. PA. L. REV. 2237, 2239 (1989) (“[D]ocument discovery is . . . a vital disclosure mechanism . . .”); Marcus, *supra* note 36, at 749 (“It seems undeniable that broad discovery has benefitted plaintiffs attempting to prove certain types of claims by enabling them to obtain both ‘smoking guns’ and less inflammatory but critical evidence. The great importance of discovery to some plaintiffs is obvious.”); Subrin, *supra* note 2, at 697 (“It is probable that no procedural process offers greater opportunities for increasing the efficiency of the administration of justice than that of discovery before trial.”).

156. See, e.g., *Conley v. Gibson*, 355 U.S. 41, 47–48 (1957) (enforcing lax notice pleading rules in a civil rights conspiracy suit, where the plaintiffs needed opportunity to have access to discovery devices); *Hickman v. Taylor*, 329 U.S. 495, 507 (1947) (“No longer can the time-honored cry of ‘fishing expedition’ serve to preclude a party from inquiring into the facts underlying his opponent’s case. Mutual knowledge of all the relevant facts gathered by both parties is essential to proper litigation.”).

It would be dangerous folly, however, to view the discovery process through rose-colored lenses. While discovery does not appear to cause significant problems in most ordinary litigation,¹⁵⁷ as presently structured it may well have serious negative effects on attainment of the goals of the litigation matrix in many cases. Indeed, on at least four occasions in the last twenty years, the Advisory Committee has dramatically altered the Federal Rules to deal with continued problems of discovery control. My goal here is not to reexamine all of the arguments about the scope, extent, and sources of discovery abuse in modern litigation.¹⁵⁸ My goal, rather, is to focus more on what can be described as “the discovery problem,” which is by no means identical to the concept of discovery abuse. To understand the difference, it is necessary first to define the concept of discovery “abuse.” One commentator defines the concept as “behavior motivated by goals other than the exchange of information fairly related to the issues in dispute.”¹⁵⁹ Discovery abuse, then, is discovery designed “to force favor-

157. See Judith A. McKenna & Elizabeth C. Wiggins, *Empirical Research on Civil Discovery*, 39 B.C. L. REV. 785, 800 (1998) (“In the vast majority of cases, discovery appears to be the self-executing system the rules contemplate.”); Elizabeth G. Thornburg, *Giving the ‘Haves’ a Little More: Considering the 1998 Discovery Proposals*, 52 SMU L. REV. 229, 259 (1999) (“Empirical research has demonstrated time and again that the ordinary cases have few discovery disputes and work well.”).

158. According to one group of commentators, “[o]bservers of the civil justice system differ in their assessments of the nature and amount of problem discovery. Attorneys, judges, litigants, rulemakers, researchers and others may all have different perceptions of what is proper discovery, what is legitimate but problematic discovery and what is abusive discovery.” McKenna & Wiggins, *supra* note 157, at 799.

159. Earl C. Dudley, Jr., *Discovery Abuse Revisited: Some Specific Proposals to Amend the Federal Rules of Civil Procedure*, 26 U.S.F. L. REV. 189, 193 (1992); see *Blue Chip Stamps v. Manor Drug Stores*, 421 U.S. 723, 741 (1975) (noting that discovery requests are sometimes used to extract larger settlements). *But see supra* note 155 and accompanying text (citing commentators who speak of the benefits of modern discovery).

Professor Mullenix challenges the empirical validity of the traditional assumption that discovery is widely abused, asserting that “[t]here is no strong evidence documenting the alleged massive discovery abuse in the federal courts.” Linda S. Mullenix, *Discovery in Disarray: The Pervasive Myth of Pervasive Discovery Abuse and the Consequences for Unfounded Rulemaking*, 46 STAN. L. REV. 1393, 1393 (1994). She asserts that the myth is the result of “inadequate soft social science” and the lack of “hard” social science. *Id.* at 1410. However, never has the need for procedural modification been premised on a requirement of “hard” social science data to support widely held empirical perceptions premised on widespread anecdotal and experiential assessments. Professor Mullenix provides no evidence—“hard” or “soft”—that widespread discovery abuse does not exist. The most she can establish, then, is that the claim has not been “proven” in a sufficiently scientific method—a preposterously unrealistic standard on which to measure the need for procedural modification that irrationally imposes an all-but-irrebuttable presumption in favor of the status quo. In any event, the analysis that follows proceeds not on

able settlements by driving up the other party's discovery costs beyond the case's value, calculated in terms of the likelihood of a favorable outcome, the value of such an outcome, and the cost of litigating the case to conclusion."¹⁶⁰ Abusive discovery costs are to be contrasted with the "inherent" costs of nonabusive discovery. Even discovery that does not fall within the definition of "abusive" discovery gives rise to costs and, in a more complex case, those costs are likely to be substantial. Even were it feasible to prevent all abusive discovery costs—an all-but-impossible task¹⁶¹—the costs inherent in discovery would be inescapable.

In a number of ways, the abusive and inherent costs may become intertwined in a hybrid category. This hybrid category may be described as "excessive" discovery costs. It shares aspects of the first two categories, in that, like nonabusive discovery, it can be presumed not to derive from any motivation on the part of the discovering party other than to gain information related to the case but, like abusive discovery costs, it includes costs that are not—on an objective basis—necessary to the fair and accurate adjudication of the case. What links the categories of abusive and excessive costs together is the concept of externality, defined as "a cost or benefit resulting from a decisionmaker's activity that does not accrue to the decisionmaker and is thus 'external' to his decisionmaking process."¹⁶² Discovery requests give rise to externalities under the current system for the simple reason that the discovering party is not normally required to pay the often significant costs of assembling material in response to the request.¹⁶³

an assumption that discovery is "abused," but merely on the assumption that excessive discovery costs bring about externalities that plague the current discovery system.

160. Dudley, *supra* note 159, at 194.

161. According to Judge Easterbrook,

[t]he difficulty [with proposals to penalize the abuse of discovery] is that in a world in which everything is relevant and no one knows what lies in the adversary's bosom, it is impossible for outsiders accurately to identify impositional discovery requests, if indeed the lawyers can tell the difference. What you cannot detect, you cannot single out for sanctions.

Easterbrook, *supra* note 36, at 642. He notes that "many lawyers do not know whether their own discovery requests are proper or impositional; it is almost impossible to tell one from the other, and both are in the interest of the lawyer's client." *Id.* at 641; *see also* Dudley, *supra* note 159, at 195 ("Identifying abusive behavior in individual cases is often difficult.").

162. John K. Setear, Note, *Discovery Abuse Under the Federal Rules: Causes and Cures*, 92 YALE L.J. 352, 352 n.5 (1982).

163. *See* Robert D. Cooter & Daniel L. Rubinfeld, *Reforming The New Discovery Rules*, 84 GEO. L.J. 61, 65 (1995) ("Two factors greatly reduce the costs of discovery to the requesting party. First, requesting information costs little compared to the cost of compliance. Second, un-

Thus, the cost associated with the request is generally not a relevant factor in a party's decision to make a particular discovery request. Hence, a party will not be dissuaded from making a discovery request on the ground that the likelihood of producing valuable information is relatively low, because he effectively has nothing to lose. In the words of two respected legal economists, "the rational requesting party will request information that increases the expected value of her legal claim by a little, even though compliance costs the other party a lot."¹⁶⁴ Indeed, the fact that a party's opponent will have to bear the financial burden of preparing the discovery response actually gives litigants an incentive to make discovery requests, and the bigger the expense to be borne by the opponent, the bigger the incentive to make the request.¹⁶⁵ It is, then, all but inevitable that this externality—indeed, the perverse economic incentive—created by the current cost allocation system will result in excessive and therefore inefficient discovery even where the discovering party does not consciously intend the discovery to be abusive.

It should not take much effort to see how excessive discovery contravenes the goals embodied in the litigation matrix. Its obvious and inherent inefficiency violates all of the utilitarian ends that the matrix seeks to foster. Moreover, it would be difficult to conclude that any of the measures adopted by the rules' drafters to date have adequately dealt with the problem. For example, the addition in 1983 of Rule 26(b)(2), directing the court to limit "[t]he frequency or extent of use of the discovery methods" where "the burden or expense of the proposed discovery outweighs its likely benefit, taking into account the needs of the case, the amount in controversy, the parties' resources, the importance of the issues at stake in the litigation, and the importance of the proposed discovery in resolving the issues"¹⁶⁶ has proven to be of little help¹⁶⁷ for what should be obvious reasons.

der the current rules of civil procedure, the complying party pays part or all of the cost of complying with the discovery request.").

164. *Id.*

165. *See* Setear, *supra* note 162, at 353 ("The current allocation of legal fees between the litigants combines with the rules governing discovery to allow a litigant to increase his opponent's costs of litigation."). To be sure, the arguments fashioned here potentially apply to traditional discovery, as well as to electronic discovery. For reasons to be discussed, however, it makes more sense to confine the remedy to cases of electronic discovery. *See infra* notes 175–76 and accompanying text.

166. FED. R. CIV. P. 26(b)(2).

167. In adding what it conceded to be an "otherwise redundant cross-reference" to Rule 26(b)(1), the Advisory Committee in its 2000 amendments inserted a sentence "calling attention

First, it is difficult for a court to determine, on any objective basis, whether discovery will prove helpful without knowing what information is actually contained in the material sought to be discovered. Second, at the discovery stage it often will not be clear what the actual—as opposed to asserted—amount in controversy is. Third, a determination of the “importance of the issues at stake” is so subjective a judgment that a court normally should not be allowed to make it for a litigant. Simply put, an issue that does not seem “important” to a judge may be very important to a litigant.

Of greater (though perhaps not as readily obvious) significance than the likely excessiveness of discovery flowing from the externalities of the discovery process is the harmful skewing impact that even the “inherent” costs of legitimate discovery may impose. Even under the current discovery system, which almost appears to have been structured to invite the creation of externalities, discovery requests will be made that, though costly, would be accepted by any objective observer as totally proper and necessary to the effective performance of the truth-finding process. Even under the nebulous balancing process of Rule 26(b)(2), one can presume that the legitimacy of the request would be clear. The fact remains that in such cases, imposing the costs of the discovery on the responding party is likely to have far-reaching effects both within and beyond the courthouse walls. This is particularly true where the responding party is both a defendant and a commercial enterprise. In such a case, the cost of preparing a discovery response is widely deemed a mere cost of doing business.¹⁶⁸

The way a commercial enterprise normally deals with a cost of doing business is to pass that cost onto its users or consumers within the price of the product or service. When a commercial enterprise treats discovery costs in this manner, the substantive impact is likely to be both substantial and predictable. When consumers make their purchasing decisions, they determine the commercial viability of the product or service based in part on discovery costs. Whether a particular product or service is to remain viable in the marketplace is affected by the costs of preparing discovery responses.

to the limitations of subdivision (b)(2)(i), (ii), and (iii).” FED. R. CIV. P. 26(b)(1) advisory committee’s note (2000). It did so because “[t]he Committee has been told repeatedly that courts have not implemented these limitations with the vigor that was contemplated.” *Id.*; see 8 WRIGHT, MILLER & KANE, *supra* note 35, § 2008.1 (discussing the “difficult problem courts face in implementing the proportionality concept” for discovery procedures).

168. See *supra* Part I.C.

Of course, if one assumes that discovery costs are properly treated as costs of doing business, then nothing is wrong with this result. Presumably the price of a product or service at the very least reflects all the provider's costs of doing business to ensure the making of a profit. If the value of the product or service to consumers does not justify the provider's business costs plus profit, then consumers will not pay for it and the product or service dies. Under this system of economic Darwinism, inefficient products or services are rejected by the market. Problems arise, however, if a product is made to reflect a cost that is artificial or not properly attributed to it. In that event, the societal choice of the free market is skewed.

The imposition of inherent costs may have an external effect in other ways as well. Entities that are regulated by substantive law naturally assume additional costs to achieve compliance with the requirements of that law. When the litigation process gives rise to substantial extraneous costs, regardless of whether the regulated entity is found to have violated substantive regulatory directives, an entity may be induced to over-deter to avoid not only liability but also the lawsuit itself. In such an event, whatever substantive economic balance courts, legislators, or regulators have settled upon will be upset, because expenses beyond those projected will have been expended to avoid even the processes for determining liability.

In two ways, then, the current discovery system can undermine maintenance of the substantive-procedural balance that is so important to the litigation matrix.¹⁶⁹ When combined with the internal utilitarian damage flowing from the excessive discovery associated with the externalities of the current discovery framework,¹⁷⁰ it is clear that the existing discovery structure threatens core values of the litigation matrix. As previously noted, if the costs of preparing discovery responses are appropriately characterized as costs of doing business, then there is nothing improper in allowing those costs to affect substantive economic decisionmaking. It is highly questionable that this is the case, however. Costs of discovery response flow from the unilateral and unreviewed decision, usually of a private individual, to file a lawsuit. Even when a government agency files suit, no judicial officer has at any point approved, ordered, or reviewed the agency's decision to sue. When the suit is filed within the framework of a notice

169. See *supra* Part III.A.

170. See *supra* note 164 and accompanying text.

pleading system, as embodied in the Federal Rules,¹⁷¹ the factual allegations contained in the pleadings are judged by lax standards, because it is understood that more detailed knowledge of the facts must await further development through the elaborate discovery process provided for in the rules.¹⁷² Indeed, shifting the fulcrum of the litigating process from the pleadings to the post-discovery stage was the major insight of Judge Charles Clark, the primary drafter of the original Federal Rules.¹⁷³

Although this dramatic shift in adjudicatory philosophy has done much to further the truth-finding values so essential to the goals of the litigation matrix, it also has had the inescapable effect of allowing the unilateral decision of a private individual or entity to impose often substantial ancillary costs on another private party, regardless of whether the suit ultimately would be found meritorious. The added costs the responding party must pass on, then, are not ones imposed by a governmental entity or even by a jury after a deliberative process. It is therefore questionable whether the skewing of substantive interests and the undermining of adjudicatory efficiency goals that could flow from these added costs can be cavalierly rationalized as a “cost of doing business.” They are a cost of doing business only if one has concluded that the unilateral, unreviewed choice of a private entity to take advantage of the legal system should be allowed to trigger an added cost to a commercial enterprise.

One conceivable means to avoid these problems would be to abandon the notice pleading system in favor of a more “front-loaded” system, demanding substantially more detailed factual allegations at the pleading stage, combined with severe penalties for fabrication. But in doing so, society would sacrifice the significant benefits of the notice pleading system and place plaintiffs in the Catch-22 of allowing them to get to the discovery stage only if they basically do not need it.¹⁷⁴ More vigorous use of the summary judgment device could help, but because in a notice pleading system it would make little sense to

171. See FED. R. CIV. P. 8(a) (requiring only “a short and plain statement” of the claim).

172. See FED. R. CIV. P. 26–37 (dealing with discovery).

173. See RICHARD L. MARCUS ET AL., *CIVIL PROCEDURE: A MODERN APPROACH* 128–30 (3d ed. 2000) (recognizing Clark as “the creator of the ‘notice pleading’ concept”).

174. It was largely for this reason that the 1983 amendment to Rule 11, requiring that litigants certify that claims in pleadings are “well grounded in fact,” was abandoned in 1993. FED. R. CIV. P. 11 advisory committee’s note (1983). In effect, the 1983 amendment had indirectly reintroduced a type of fact pleading, thereby depriving litigants of the opportunity to take advantage of the discovery framework.

allow summary judgment prior to the availability of widespread discovery, this is not likely to be an effective answer.

The correct response may appear obvious: simply shift the costs of preparing discovery responses from the party responding to the request to the party making the request, subject to possible re-shifting once the outcome of the suit is known. When the request is made to a defendant, such a cost-shifting process would avoid the ancillary substantive skewing that could flow from imposition of the discovery costs onto the defendant at the outset, and could perhaps be re-shifted to the defendant if and when plaintiff ultimately prevailed on the merits. When the request is made to a plaintiff, imposing response costs on the defendant would have the benefit of preventing defendants from bleeding less resourceful plaintiffs dry through a barrage of questionable (though colorable) discovery requests. Moreover, when the party making the discovery request must bear the cost of that request, the externality problem is avoided and, assuming the party to be a rational economic actor, the discovering party will be deterred from engaging in wasteful, burdensome, or abusive discovery requests. Both the utilitarian goals and the desire to maintain the substantive-procedural balance that make up such an important part of the litigation matrix would be furthered as a result.

If the issues were this simple, however, presumably this change would have been imposed long ago. It would be naive to believe that a simple cost-shifting model would be free of difficulty. Unlimited cost-shifting could significantly exacerbate preexisting economic disparities between litigants, and, where the costs involved are prohibitive, seriously threaten achievement of the goals underlying the governing substantive law by effectively precluding private enforcement. Many laws enacted for the purpose of assisting those in a vulnerable political or economic position—for example, civil rights laws—could be undermined by unlimited shifting of discovery costs. Thus, careful structuring of the process is required to achieve the beneficial goals of discovery cost-shifting without undermining the other values sought to be achieved by the litigation matrix. Such structuring is likely to give rise to its own set of transaction costs, due to the systemic resources that would need to be committed to its implementation. This could threaten the matrix's goal of efficiency.

It is at this point that one needs to recall the unique situation of modern electronic discovery.¹⁷⁵ One is able to predict that as a categorical matter electronic discovery is likely to give rise to new and significant costs and burdens unseen in traditional discovery and to some of the same costs as traditional discovery, but in considerably intensified form. This may not be true in every instance, but it is true in enough instances to justify an *ex ante* categorical distinction. Because the solution to the problems of the internal and external costs of the current discovery process may give rise to almost as many difficulties as the discovery itself, it is appropriate to confine its use to situations in which the discovery problems are likely to be the most severe. It is in part for this reason that I recommend the conditional cost-shifting model, developed in detail in the next Part, only for electronic discovery.

IV. SHAPING THE CONDITIONAL COST-SHIFTING MODEL FOR ELECTRONIC DISCOVERY

A. *The Elements of the Conditional Cost-Shifting Model*

For reasons discussed above, an unlimited cost-shifting model would give rise to its own set of problems. Therefore, the model I fashion to deal with the costs and burdens of electronic discovery would shift the costs of preparing a discovery response to the requesting party only when certain conditions are met. The model would work in the following manner:

Step 1. For the model to be triggered the responding party must file an objection to a discovery request, on the grounds that (a) all or a significant portion of the response will necessarily include electronically stored data, and (b) that data is not reasonably accessible in the ordinary course of business.

This step is included because unless the responding party chooses to raise the cost-shifting issue, it makes sense, due to the significant transaction costs involved, to leave the costs of the discovery process where they initially fell. Only litigants whose responses would include all or a significant amount of electronically stored data can make the cost-shifting objection, because for reasons already explored it makes

175. See *supra* Part II.

sense to confine the model's reach to the category of cases in which the harms of discovery can be predicted to be at their height.¹⁷⁶

The step employs "the ordinary course of business" as a convenient touchstone for measuring the disruptive impact caused by a discovery request.¹⁷⁷ Its assumption is that the relatively minimal costs associated with producing electronically stored data readily available in the ordinary course of business should be borne by the responding party because the transaction costs required to impose transfer are not worth the effort under a utilitarian cost-benefit calculus.¹⁷⁸ The responding party would be required to make an affirmative showing that the requested material is not readily accessible in the ordinary course of business. It could usually accomplish this through affidavits of responsible individuals describing the record storage system and the burdens of producing the material. The requesting party could dispute the respondent's assertions on two conceivable grounds: (1) the material is in fact readily accessible in the ordinary course of business, or (2) though the material is not readily accessible in the ordinary course of business as respondent has stored it, the storage system was designed negligently and/or is inconsistent with industry practices. The discovering party must be allowed the opportunity to make such a showing, lest a respondent be permitted to purposely structure its data storage system in a manner designed to prevent discovery. It should be noted that although the responding party's objection must indicate the relevance of electronic discovery, the discovery request need not specify that electronically stored data is involved. Discovering parties cannot reasonably be expected to know which documents belonging to the responding party are stored electronically.

Step 2. If the requirements of step 1 are satisfied, the court will order that the reasonable costs of preparing a discovery response are to be imposed on the discovering party, unless the court determines (a) that imposing discovery costs on the re-

176. *See supra* Part II.

177. Congress drew on a similar concept as a baseline in regard to electronic documents in enacting the Freedom of Information Act. *See* 5 U.S.C. § 552(a)(3)(C) (1994) ("In responding under this paragraph to a request for records, an agency shall make reasonable efforts to search for the records in electronic form or format, except when such efforts would significantly interfere with the operation of the agency's automated information system.").

178. Theoretically, a court could be directed to conduct that cost-benefit inquiry in individual cases, but the transaction costs of determining whether the transaction costs in any individual case are too great would itself be too great.

requesting party will create an intolerable financial burden that the discovering party cannot reasonably be expected to satisfy, given her available resources; (b) that imposing discovery costs on the requesting party will undermine the policies embodied in a governing substantive statute designed for the protection of the discovering party; or (c) that imposing discovery costs on the requesting party will not satisfactorily avoid the excessive burdens imposed on the responding party inherent in preparation of the response.

There are three situations in which a simple cost-shifting model might give rise to more problems than it solves. First, cases will arise in which, given the resources of the discovering party, it is reasonably clear that the costs resulting from use of the model will be prohibitive. Second, cases will arise in which imposition of such a financial burden on the discovering party would be inconsistent with the legislative policies underlying the governing substantive law, which has unambiguously been adopted for the benefit and protection of individuals or entities in the position of that party. Third, there will be cases where, from the perspective of the responding party, imposition of costs on the requesting party will not avoid significant disruption of its day-to-day operations, because even though the requesting party will pay the costs it still will be necessary for employees of the responding party to prepare the response at a loss of significant person-hours.

The first two considerations are designed to protect both the maintenance of the substantive-procedural balance and fundamental fairness, both important elements of the litigation matrix. Where it is clear that the requesting party lacks the resources to pay for the discovery request, that inability should not necessarily sound the death knell of the discovery request. Such rigid economic Darwinism could lock in the existing distributive structure in ways not contemplated by the governing substantive law. It would not automatically follow that in such a case costs would remain on the responding party. It would follow, however, that in such an event a more complex inquiry is required. It also should be noted that in assessing the reasonable likelihood that the requesting party will be able to bear the costs of its discovery requests, it would be necessary to take into account the full picture of the structure of representation. For example, in a suit brought by a poor injured victim, it would defy reality to examine only the plaintiff's resources if his attorneys are established plaintiffs' lawyers who regularly finance such suits as investments. Ironically, in such situations it is appropriate to view the costs of discovery as a cost

of doing business for the plaintiffs' attorneys. Thus, where it is established that plaintiff's attorneys are already financing other aspects of the suit, the fact that the plaintiff himself is unable to pay discovery costs should be irrelevant.

In certain situations, imposition of costs on a requesting party could threaten core policy choices embodied in governing substantive statutes adopted for the express purpose of protecting that party and others situated similarly. In such cases, shifting discovery costs could seriously threaten maintenance of the substantive-procedural balance. The situation would be reminiscent of the so-called "Converse *Erie*" doctrine, designed to determine under what circumstances a state court enforcing substantive federal law is required to employ federal procedures in the adjudication of the federal claims.¹⁷⁹ In its decision in *Dice v. Akron, Canton & Youngstown Railroad Co.*,¹⁸⁰ the Supreme Court held that in enforcing the negligence cause of action contained in the Federal Employers' Liability Act¹⁸¹ (FELA) the state court was required to resolve factual questions about the defendant's alleged fraud in obtaining the release of claims by means of a jury, even when state law would have the judge make the same determination.¹⁸² The FELA was adopted by Congress to provide special protection to injured railroad workers; thus, it was reasonable to require that procedures likely to favor those plaintiffs in negligence suits against their employers—such as the use of jury trial—were necessary to further the purposes of that substantive policy.¹⁸³ Similarly, if a legislature consciously has chosen to protect a group of plaintiffs in need of special assistance, and the imposition of discovery costs would effectively prevent or hinder that protection, then the court should decline to impose such costs on the protected party. The circumstances

179. See, e.g., Alfred Hill, *Substance and Procedure in State FELA Actions—The Converse of the Erie Problem?*, 17 OHIO ST. L.J. 384, 413 (1956) (describing how the Supreme Court has drawn, especially in Federal Employers' Liability Act cases, "a new demarcation of the line between substance and procedure" when "state courts give effect to federally-created rights"); Note, *State Enforcement of Federally Created Rights*, 73 HARV. L. REV. 1551, 1551 (1959) (discussing the degree to which the interpretation of congressional statutes should require that state courts apply federal "procedural" rules).

180. 342 U.S. 359 (1952).

181. 45 U.S.C. § 51 (1994).

182. *Dice*, 342 U.S. at 363.

183. See Martin H. Redish & Steven G. Sklaver, *Federal Power to Commandeer State Courts: Implications for the Theory of Judicial Federalism*, 32 IND. L. REV. 71, 102–03 (1998) (stating that the Supreme Court determined that "the right to a jury trial is 'too substantial' a part of the FELA's rights, and 'part and parcel' of the FELA remedy, as to be classified as a purely procedural rule").

in which such a situation is found to exist, however, should be narrowly confined. In the absence of express legislative directive, costs should be shifted unless doing so would unambiguously undermine substantive legislative policies. Civil rights suits are likely to make up the bulk of such exceptional cases, since civil rights laws are adopted for the specific purpose of protecting individuals who are in special need of protection because of their uniquely vulnerable position in society. Also, these considerations should be considered relevant only when a legislative body has created the underlying cause of action, lest the category grow so large as to consume the rule.

Instances also may arise in which cost-shifting will not resolve the problems because transferring costs would not effectively prevent the imposition of disruptive burdens on the responding party. Situations may occur where, due to relevant technology, identification and production of the requested data will require significant effort that, as a practical matter, cannot be transferred to the discovering party, either because the discovering party lacks the technical background or mechanisms to produce the material¹⁸⁴ or because providing the discovering party with access to the respondent's electronic storage system would be impractical for business or strategic reasons.¹⁸⁵ In such a case, it still would make sense to shift costs, but it would not necessarily follow that the discovery should be allowed in any event.

Step 3. If one or more of the conditions described in step 2 is found to exist, the court is to engage in a cost-benefit inquiry in which it considers (a) the likelihood that discovery will lead to relevant data, (b) the extent to which the discovery to be ordered would impose significant burdens on the responding party, (c) the extent to which the burdens of the discovery are likely to be excessive or wasteful; and (d) the extent to which costs may be shared or burdens reduced through more narrowly framed measures.

184. See, e.g., *Sattar v. Motorola, Inc.*, 138 F.3d 1164, 1171 (7th Cir. 1998) (describing how, even though the defendant had produced e-mail data in the form of four-inch tapes, the plaintiff still sought 210,000 pages in hard-copy format because he lacked the equipment and software to read the tapes).

185. See *Giacobbe*, *supra* note 61, at 289 (“[A]ccess [to the responding party’s computer system] is extremely risky for the [respondent] because the [discovering party] would then have ‘free reign’ over the [respondent’s] files. This poses the risk that the [discovering party] will gain access to sensitive or privileged data. Thus, most defendants are not willing to undertake such severe potential risks.”).

If the court finds that any of the conditions described in step 2 exist, the next step is to engage in a complex—and not completely satisfactory—individualized cost-benefit analysis, similar in many ways to the one provided for in Rule 26(b)(2).¹⁸⁶ Admittedly, such an inquiry suffers from all of the difficulties that currently plague the individualized, unguided, and largely unpredictable judicial inquiry under Rule 26(b)(2).¹⁸⁷ There would be one significant difference, however. Unlike the cost-benefit analysis provided for in Rule 26(b)(2), the cost-benefit analysis under the conditional cost-shifting model would be undertaken in a framework in which cost-shifting is the governing presumption. The model's adoption would signal acceptance of this value choice. It would be understood, at least implicitly and perhaps even explicitly in the wording of the rule itself, that allowing the costs to lie where they fell in cases of extraordinary electronic discovery was to be the exception, not the rule. This presumption differs dramatically from the prevailing views under the current structure.¹⁸⁸

This shift in presumption cannot cure many of the ills that plague the individualized inquiry. The question to be asked, however, is whether any alternative is preferable. For reasons already made clear, an unconditional cost-shifting model would not satisfactorily protect all of the relevant interests. It is for that reason that alternative electronic discovery cost-shifting models that have been proposed or enacted have failed. For example, Texas Rule 196.4, which was adopted in 1999 as part of a major revision of the state's discovery rules, provides that parties seeking electronically stored data must specify the form in which the data should be produced, and the responding party must comply if the requested data and form are reasonably available to the responding party in the ordinary course of business.¹⁸⁹ It further

186. FED. R. CIV. P. 26(b)(2). The relevant text of Rule 26(b)(2) is reprinted, *supra*, at note 35.

187. The concern has been expressed by some academics

that ad hoc decisionmaking concerning appropriate judicial techniques for overseeing more difficult cases may undermine fundamental procedural fairness. Under this view, decisions concerning procedure should be made *ex ante*—before a judge is aware of the details of a given lawsuit. If judges engage in *ex post* applications of procedure, they may imperil our sense of fairness.

McGovern, *supra* note 143, at 441.

188. *See, e.g., S. Ute Indian Tribe v. Amoco Prod. Co.*, 2 F.3d 1023, 1029–30 (10th Cir. 1993) (“[T]he presumption is that the responding party must bear the expense of complying with discovery requests . . .”).

189. TEX. R. CIV. P. 196.4.

provides, however, that the responding party may object if it cannot, through the use of reasonable efforts, retrieve the information or produce it in the form requested.¹⁹⁰ Under such circumstances, if the court orders the responding party to respond to the request, the court also must order the requesting party to pay the reasonable expense of any extraordinary steps required to retrieve and produce the information.¹⁹¹ No provision is made to allow the court to order the discovery without also shifting costs.¹⁹² The Texas approach therefore fails to provide the requisite safety valves needed to foster all of the goals of the litigation matrix.

On the other hand, for reasons explained above, a near-rigid refusal to shift costs would be even more harmful. Thus, there exists no realistic alternative to an individualized cost-benefit inquiry. This inquiry would be reserved for cases of electronic discovery in which simple cost-shifting is found to create prohibitive problems of substantive underenforcement or to impose prohibitive burdens on the responding party.

B. Confining the Conditional Cost-Shifting Model to Electronic Discovery

Unlike other proposals that by their nature are confined to the technically unique aspects of electronic discovery,¹⁹³ the conditional cost-shifting model theoretically could be made applicable to any discovery request. My proposal is confined to the context of electronic discovery,¹⁹⁴ however, because I candidly concede that my model would not be free of costs or problems. Given its potentially complex

190. *Id.*

191. *Id.* For a description of the rule's operation, see NATHAN L. HECHT & ROBERT H. PEMBERTON, A GUIDE TO THE 1999 TEXAS DISCOVERY RULES G-15 (1999).

192. *See* TEX. R. CIV. P. 196.4.

193. *See* Cooter & Rubinfeld, *supra* note 163, at 70 (proposing a cost-shifting rule for all "marginal" discovery requests); Scheindlin & Rabkin, *supra* note 12, at 374 (proposing an amendment to the final paragraph of Rule 34(b), providing that "[a]ll electronically-stored information shall be produced in the same form in which it is stored. . . . Any party represented by counsel requesting the production of electronically-stored information in printed form in addition to or instead of its electronic form shall bear all costs associated with the requested production").

194. I should emphasize that my proposed model is not intended to be confined by the content of the discovery request but, rather, by the respondent's indication that the sought-after material is stored in electronic form. In this sense, it differs from the approach embodied in the Texas Rule. *See supra* notes 189-91 and accompanying text. It seems reasonable to have the category triggered by the responding party, since the discovering party cannot be expected to know, prior to discovery, how the responding party stores data.

three-step process,¹⁹⁵ the conditional cost-shifting model may give rise to significant transaction costs, thereby imposing an administrative drain on the system. Moreover, if a court reaches the third step of the process, there exists a danger of unpredictability growing out of the process's reliance on the court's ability to conduct a cost-benefit analysis in an individual case. Thus, I seek to confine my model to situations where one can predict that a particular discovery request is likely to threaten the goals of the litigation matrix. For reasons discussed above,¹⁹⁶ it is appropriate to recognize a dichotomy between electronic and traditional discovery.

It may well be, as one court suggested a number of years ago, that “[c]omputers have become so commonplace that most court battles now involve discovery of some type of computer-stored information.”¹⁹⁷ Clearly, the statement is more accurate today than when it was written, though it would probably be an overstatement to assert that all discovery in commercial litigation is now electronically based. But if that were true, or if it becomes true in the future, there will be no reason to alter the conditional cost-shifting model. The more that electronic discovery takes place, the greater the number of instances in which the threats the discovery process poses to the goals of the litigation matrix justify the transaction costs and administrative burdens the model would create.

C. The Conditional Cost-Shifting Model and Managerial Justice

There is little doubt that a court, acting under the Federal Rules as they exist today, could choose to adopt an approach equivalent to the conditional cost-shifting model that I have proposed. The fact that the rules fail to draw a distinction between electronic and traditional discovery should not prevent a district court from choosing to adopt such a distinction in the cases before it, in light of the broad discretion vested in trial courts. Given this fact, it might be argued that the model need not be formally adopted in the form of an amendment to the rules, even if one assumes its wisdom as a purely normative matter. Moreover, the argument might proceed, an amendment to the rules should not be adopted, even if the model's wisdom is assumed, because its formal adoption would restrict the managerial discretion that trial courts should retain to control the adjudicatory process un-

195. See *supra* Part IV.A.

196. See *supra* Part II.

197. *Bills v. Kennecott Corp.*, 108 F.R.D. 459, 462 (D. Utah 1985).

der the circumstances of individual cases.¹⁹⁸ As Richard Marcus has noted, “turning to the judge for direction [in the control of discovery] has become increasingly attractive and important to lawyers.”¹⁹⁹

The adoption in 1983 of Rule 26(b)(2), vesting broad discretion in the trial court to employ cost-benefit assessments to limit and control discovery,²⁰⁰ was designed to emphasize the trial judge’s ability to fashion individualized controls.²⁰¹ When combined with significant expansions of judicial power to monitor discovery through a process of multiple pretrial conferences,²⁰² this provision potentially interposed the trial judge into the discovery process as a virtual micro-manager.²⁰³ One may debate the extent to which this system improved discovery.²⁰⁴ After all, since 1983 the Advisory Committee has found it necessary to amend the discovery rules three times, at least arguably in-

198. According to one scholar, under the managerial model judges “should not be restricted to traditional methods but should be given substantial flexibility to design dispute resolution procedures.” McGovern, *supra* note 143, at 445. McGovern notes “the significant commitment made by academics and leaders of the judiciary in encouraging judges to become more active litigation managers.” *Id.* at 441; *see also* Albert W. Alschuler, *Mediation with a Mugger: The Shortage of Adjudicative Services and the Need for a Two-Tier Trial System in Civil Cases*, 99 HARV. L. REV. 1808, 1832–36 (1986) (discussing the benefits and disadvantages of “managerial judging” during discovery). *But see* Meade W. Mitchell, *Discovery Abuse and a Proposed Reform: Mandatory Disclosures*, 62 MISS. L.J. 743, 753 (1993) (stating that “one can hardly expect judicial involvement to cure all discovery ills”).

According to a 1997 Federal Judicial Center Report, lawyers who were asked how to alleviate discovery problems most often recommended increased judicial case management. FED. JUDICIAL CTR., DISCOVERY AND DISCLOSURE PRACTICE, PROBLEMS, AND PROPOSALS FOR CHANGE: A CASE-BASED NATIONAL SURVEY OF COUNSEL IN CLOSED FEDERAL CIVIL CASES 2 (1997).

199. Marcus, *supra* note 36, at 781.

200. *See supra* note 35.

201. As the Supreme Court has noted, “Rule 26 vests the trial judge with broad discretion to tailor discovery narrowly and to dictate the sequence of discovery.” *Crawford-El v. Britton*, 523 U.S. 574, 598 (1998). In its accompanying note to the 1983 amendment, the Advisory Committee stated that “[t]he rule contemplates greater judicial involvement in the discovery process and thus acknowledges the reality that it cannot always operate on a self-regulating basis.” FED. R. CIV. P. 26 advisory committee’s note (1983).

202. FED. R. CIV. P. 16.

203. *See* Dudley, *supra* note 159, at 189 (noting that the “‘managerial approach’ requires early and continuous judicial involvement to define issues, limit discovery, govern the stages of discovery, promote stipulations of fact, and streamline the pretrial phases of a case, often through frequent pretrial conferences”).

204. Six years after the 1983 amendments, a Harris Poll survey of state and federal judges indicated that forty-seven percent believed that discovery abuse remained a major cause of delay in modern litigation, and another forty-six percent believed it remained at least a minor problem. Harris & Assocs., Inc., *Judges’ Opinions on Procedural Issues: A Survey of State and Federal Trial Judges Who Spent at Least Half of Their Time on General Civil Cases*, 69 B.U. L. REV. 731, 735 (1989).

dicating their lack of total satisfaction with the micro-management process imposed in the 1983 amendments. Moreover, commentators have questioned its fairness,²⁰⁵ cost-effectiveness,²⁰⁶ and ability to fulfill the aims of the discovery process.²⁰⁷

Of greater concern for present purposes, however, is the manner in which the managerial model, as embodied in Rule 26, effectively insulates trial judges from any overriding policy choices that society might adopt. It should be recalled that the discovery process has significant implications for procedural values of adjudicatory efficiency and substantive values of economic redistribution.²⁰⁸ If society were to force itself constantly to remain within the straightjacket of the managerial model, it would be impossible to implement whatever categorical policy choices might be made.

To suggest that the managerial model should be constrained by overriding policy choices in no way implies a total denial of judicial discretion in discovery control. A distinction must be recognized between *policy* discretion and *implementational* discretion. Even where policymakers have imposed specific value choices on the trial court, the court necessarily will retain substantial discretion in determining

205. Concern has been expressed that the managerial approach “departs from the traditional model of judicial detachment and fairness” because “it embroils the judge in the pretrial jockeying of the parties and exposes the judge to evidence as it is developed.” Dudley, *supra* note 159, at 200; *see also* Resnik, *supra* note 13, at 423–31 (discussing the disadvantages of the managerial approach, including the costs of using the judge’s time and the potential negative effects on due process).

206. *See* Dudley, *supra* note 159, at 190 (arguing that “the managerial approach is not cost-effective in most civil cases”). *But see* Jack B. Weinstein, *What Discovery Abuse? A Comment on John Setear’s The Barrister and the Bomb*, 69 B.U. L. REV. 649, 651 (1989) (noting that “[t]he modern federal judge now has highly skilled federal magistrates to assist in controlling discovery”).

207. One commentator has suggested that

judges unrealistically tend to assume that discovery’s cooperative ideal should be realizable in all cases. It is well known that judges dislike discovery disputes and that some resent the time that resolving them takes from other judicial activities. Not infrequently, judges neglect lawsuits in which the lawyers are engaged in discovery battles, allowing them to languish unattended on their dockets while the lawyers founder ever deeper into non-cooperation, confrontation and impasse

John S. Beckerman, *Confronting Civil Discovery’s Fatal Flaw*, 84 MINN. L. REV. 505, 518 (2000). In particular, questions have been raised concerning trial judges’ level of familiarity with and sophistication about computers. *See* Giacobbe, *supra* note 61, at 281 (noting that “it is becoming increasingly obvious that a significant part of the judiciary does not realize the extent to which individuals and businesses are using computers”); *see also In re Brand Name Prescription Drugs Antitrust Litig.*, Nos. 94 C 897, MDL 997, 1995 WL 360526, at *2–*3 (N.D. Ill. June 15, 1995) (describing a corporation’s use of electronic storage as the defendant’s choice).

208. *See supra* Part III.A.

how best to apply those value choices under the circumstances of individual cases. However, if policymakers agree that the interest in accurate truth-finding should be limited or even superceded at times by the desire to avoid the unique burdens of electronic discovery, it would be wrong to refuse to codify that value choice in the governing rules for fear of confining judicial discretion in individual cases.

It has not been uncommon for the rules' drafters to attempt to send policy-based messages to trial judges through the amendment process. Ironically, the very adoption of Rule 26(b)(2) in 1983 was a message to the courts to beef up their control of discovery abuse. There is little doubt that even before the 1983 amendment, trial courts possessed sufficient discretion under the broad terms of Rule 26(c) to issue protective orders on grounds similar to those stated expressly in Rule 26(b)(2).²⁰⁹ In a technical sense, then, that provision's adoption was superfluous. The amendment nevertheless served a valuable purpose, because it reemphasized the importance of such judicial authority. The same point is made even more starkly by the recent amendment to Rule 26(b)(1), inserting a legally gratuitous reference to Rule 26(b)(2).²¹⁰ This amendment in no way expanded judicial power in a legal sense. Its purpose, then, was to remind courts of the extent of their powers. An amendment to the rules to deal with the unique problems of electronic discovery therefore could serve an extremely valuable legal and practical function. It would serve a practical function in that it would remind trial courts of their broad powers in this area. It also would serve important legal functions, in two ways. First, it would remove any doubt in the minds of trial judges that they do, in fact, possess the power, as a general matter, to stratify discovery restrictions on the basis of the nature of the data being discovered. Second, and more importantly, it would unambiguously direct judges who would not of their own initiative choose to draw such a distinction, and who would not impose restraints on the scope of discovery to adhere to these systemic policy choices, even if they run counter to the judges' own predilections. The fact that a court *could*, under the current discovery rules, adopt a structure similar to the conditional cost-shifting model in cases of electronic discovery is of little help when the trial judge would not do so unless unambiguously directed to do so by the rules.

209. FED. R. CIV. P. 26(c). The pertinent text is reprinted, *supra*, at note 34.

210. FED. R. CIV. P. 26(b)(1).

V. SPOILIATION, ELECTRONIC DISCOVERY AND THE LITIGATION MATRIX

Although spoliation issues are not covered by the Federal Rules' discovery provisions, they are intimately related to the success of the discovery process. Spoliation involves a litigant's destruction of evidence that is either relevant to the litigation or reasonably calculated to lead to the discovery of admissible evidence, in violation of a duty to preserve that evidence.²¹¹ The issue is not dealt with directly in the Federal Rules,²¹² however, and ambiguities and inconsistencies plague the concept's common law development. Specifically, it is not clearly established at exactly what point in the litigation process the duty not to destroy is imposed, or the level of requisite knowledge or intent on the part of the party who destroyed the evidence.²¹³ As to the former question, the conceivable options include (1) when the litigant knows or reasonably should know that a suit is about to be filed, (2) when the suit is actually filed, (3) when a discovery request has been made, or (4) when the court has issued a discovery order. Courts have differed on the point.²¹⁴ As to the latter question, the options include (1)

211. *See* William T. Thompson Co. v. Gen. Nutrition Corp., 593 F. Supp. 1443, 1455 (C.D. Cal. 1984) (holding that the court has authority to impose sanctions on a party that destroys documents that it knows or should know will be relevant to the legal action); *see also* Linnen v. A.H. Robins Co., No. 97-2307, 1999 WL 462015, at *11 (Mass. Super. Ct. June 16, 1999) (stating that "[s]poliation of evidence occurs when there has been negligent or intentional destruction of physical evidence which results in some unfair prejudice to the opposing party").

212. Although Rule 37(b)(2) authorizes sanctions for the failure to permit discovery, this authority under the rules often has been construed to be confined to situations in which the party destroyed evidence following issuance of a discovery order. *See, e.g.,* Capellupo v. FMC Corp., 126 F.R.D. 545, 551 (D. Minn. 1989) (noting that "Rule 37 does not, by its terms, address sanctions for destruction of evidence prior to the initiation of a lawsuit or discovery requests"). In other cases, courts are said to draw on inherent supervisory power. *See* Gates Rubber Co. v. Bando Chem. Indus., Ltd., 167 F.R.D. 90, 107-08 (D. Colo. 1996) (explaining the coexistence of procedural rules that impose sanctions and the court's inherent power to impose sanctions).

213. Richard F. Ziegler & Seth A. Stuhl, *Spoliation Issues Arise in Digital Era*, NAT'L L.J., Feb. 16, 1998, at B9:

The murkiest aspect of the spoliation law is the determination of when the obligation to preserve evidence arises. The applicable rules and statutes do not specifically address spoliation and, consequently, offer little guidance on this question. Judges seem to take a fact-based, "I know it when I see it" approach.

214. *Compare* Giant Food Stores, Inc. v. K-Mart Corp., No. 94-6817, 1996 U.S. Dist. LEXIS 17831, at *6-*7 (E.D. Pa. Dec. 4, 1996) (holding that spoliation cannot be found before suit is commenced), *with* Turner v. Hudson Transit Lines, Inc., 142 F.R.D. 68, 72-73 (S.D.N.Y. 1991) (holding that a duty to preserve arises when the party possessing evidence has notice of its relevance), *William T. Thompson Co.*, 593 F. Supp. at 1455 ("Sanctions may be imposed against a litigant who is on notice that documents and information in its possession are relevant to litigation, or are reasonably calculated to lead to the discovery of admissible evidence, and destroys

a requirement of willful intent, (2) a requirement of negligence, or (3) strict liability. Also unclear is the appropriate sanction to be imposed for violation of the duty of preservation. Traditionally, the primary sanction is an instruction to the jury to infer that the destroyed information would have established the point the opponent sought to utilize the information to establish.²¹⁵ In extreme cases of willful destruction, however, outright dismissal or entry of default judgment may be appropriate.²¹⁶

The focus of the present inquiry concerns the extent to which spoliation issues should differ when the destroyed evidence is of the electronic variety. Just as the technical uniqueness of electronically stored data must be recognized in fashioning controlling discovery standards,²¹⁷ so too must spoliation rules be modified in the electronic context if the values sought to be furthered by the litigation matrix are to be respected. Indeed, except in cases of willfulness, to treat the spoliation of electronic evidence in the identical manner as spoliation of traditional evidence is to attempt to fit a square peg into a round hole. The distinctions between the two situations fall into two categories: differences in the reasonable presumptions of intent and differences in the reasonableness of requiring retention in the first place.

such documents and information.”), and *Capellupo v. FMC Corp.*, 126 F.R.D. 545, 546 (D. Minn. 1989) (sanctioning the defendant for the knowing, intentional destruction of documents and evidence three months before a class action employment discrimination suit was filed because the defendant was on notice that suit was about to be brought).

215. See, e.g., *Kronisch v. United States*, 150 F.3d 112, 126 (2d Cir. 1998) (“It is a well-established and long-standing principle of law that a party’s intentional destruction of evidence relevant to proof of an issue at trial can support an inference that the evidence would have been unfavorable to the party responsible for its destruction.”).

216. See, e.g., *Carlucci v. Piper Aircraft Corp.*, 102 F.R.D. 472, 486 (S.D. Fla. 1984) (entering a default judgment after finding that the defendant had engaged in an ongoing program of the destruction of all documents that might prove potentially harmful in the suit), *aff’d in part and rev’d in part*, 775 F.2d 1440 (11th Cir. 1985); cf. *Applied Telematics, Inc. v. Sprint Communications Co.*, No. 94-4603, 1996 U.S. Dist. LEXIS 14053, at *13 (E.D. Pa. Sept. 17, 1996) (“The entry of a default judgment or the imposition of a spoliation inference is inappropriate in the instant matter. Although defendant is at fault, it did not willfully or fraudulently destroy evidence with the intent to prevent plaintiff from obtaining it.”). Several states view spoliation as tortious conduct, giving rise to a private cause of action. See, e.g., *Hazen v. Municipality of Anchorage*, 718 P.2d 456, 463 (Alaska 1986) (asserting a “common-law cause of action in tort for intentional interference with prospective civil action by spoliation of evidence”). But see *Cedars-Sinai Med. Ctr. v. Superior Court*, 954 P.2d 511, 521 (Cal. 1998) (holding that a party has no tort claim for spoliation if he knew or should have known of the spoliation before trial or other decision on the merits.)

217. See *supra* Part II.

Both distinctions flow logically from the obvious and inescapable technological differences between traditional and electronic data storage.²¹⁸ Many companies today store information electronically on backup tapes that are capable of retrieval—usually with great difficulty—in the event of system breakdown or natural disaster.²¹⁹ For spoliation purposes, two aspects of backup-tape storage are key: First, the tapes record documents as they are created on the system regardless of subject or category. Thus, the tapes are not organized in any categorical manner. Second, because the volume of documents recorded often will be enormous, many systems are programmed to routinely and automatically write over tapes that were used previously, thereby erasing the documents that previously were recorded on the tape.²²⁰ This is not true of traditional paper discovery. In the case of paper documents, copies usually are organized categorically, and an affirmative human act usually is required to destroy the copies.

The implications of these differences for spoliation purposes are simple: (1) Electronic evidence destruction, if done routinely in the ordinary course of business, does not automatically give rise to an inference of knowledge of specific documents' destruction, much less intent to destroy those documents for litigation-related reasons, and (2) to prohibit such routine destruction could impose substantial costs and disruptive burdens on commercial enterprises.²²¹ The first implica-

218. It has been suggested that “[t]he reasonableness of any particular document retention program for electronic data . . . should be a function of the unique facts and circumstances that have driven the electronic revolution. Specifically, the tremendous capacity and efficiency afforded by electronic instrumentalities should compel the implementation of longer retention periods.” Christopher V. Cotton, *Document Retention Programs for Electronic Records: Applying a Reasonableness Standard to the Electronic Era*, 24 J. CORP. L. 417, 418 (1999). However, this argument ignores the fact that electronic backup tapes intermingle totally unrelated documents and that it is both expensive and extremely burdensome to retain only specific documents on a particular tape. Thus, retention necessarily means retention of all documents on a particular tape. This, of course, is not a problem requiring retention of paper documents.

219. See *supra* notes 85–93 and accompanying text.

220. “[E]lectronic evidence can be easily and inadvertently destroyed through routine retention and backup schedules, because of the processing requirements of the computer system or for many other human, hardware and electronic reasons . . .” Daryll R. Prescott et al., *Electronic Data Balancing Act: Preserve or Delete?*, NAT’L L.J., Aug. 17, 1998, at B7; see also Linnen v. A.H. Robins Co., No. 97-2307, 1999 WL 462015, at *1 (Mass. Super. Ct. June 16, 1999) (“The recycling of . . . back-up tapes is, under normal circumstances, a widely accepted business practice as, in the absence of a disaster which necessitates the use of the tapes, there is no need to keep them for an indefinite period of time.”).

221. One group of commentators points to a particularly troubling example:

tion is arguably important in the spoliation context because some level of fault—whether willfulness or negligence—usually has been required for the imposition of sanctions.²²² Indeed, if the logic of a primary spoliation sanction—taking as established the point that the other litigant wished to make on the basis of the destroyed evidence—is the assumption that the party who destroyed potentially relevant evidence did so “out of a realization that the [evidence was] unfavorable,”²²³ then imposition of such a sanction in the case of routine electronic destruction in the ordinary course of business is wholly improper. The destruction would have taken place, regardless of surrounding legal circumstances.²²⁴

We could choose to impose a strict liability standard on potential defendants, giving them the responsibility to affirmatively identify and preserve all documents on their backup tapes that are relevant to or likely to lead to relevant evidence in an ongoing or future litigation

[O]ne Fortune 500 company recently received a data preservation order that the company believed would cost in excess of \$750,000 to fulfill properly. Based on the information provided by the IT department, the general counsel determined that 60,000 backup tapes in its multisystem, multilocation corporate backup system should be removed from its backup tape rotation schedule. Had the company pursued that total data preservation strategy, it would have incurred the cost of purchasing 60,000 new backup tapes to fill the void in the backup rotation, at a cost of about \$10 per tape, and other appurtenant costs of compliance with the preservation order. . . . Instead, the company . . . hired specialists to conduct a data preservation analysis, which entailed interviewing the company's IT staff about the company's technology infrastructure . . . and other necessary staff Based on the findings . . . the company reduced the amount of data to be preserved by over half.

Prescott et al., *supra* note 220, at B7.

222. See *supra* notes 215–16 and accompanying text. For a contrary view, consider the opinion of some other commentators:

The duty to preserve becomes especially significant in the arena of electronic data because the courts have upheld sanctions for the inadvertent destruction of data resulting from an organization's normal business practices. Therefore, a company that fails to intercept its record retention and destruction processes in order to ensure preservation of relevant information risks liability for spoliation of evidence.

Prescott et al., *supra* note 220, at B7 (citation omitted).

223. *Blinzler v. Marriott Int'l, Inc.*, 81 F.3d 1148, 1158 (1st Cir. 1996).

224. Courts have not foreclosed the possibility that “the good faith disposal of documents pursuant to a *bona fide*, consistent and reasonable document retention policy” might provide an acceptable justification for failing to produce requested documents. *Carlucci v. Piper Aircraft Corp.*, 102 F.R.D. 472, 486 (S.D. Fla. 1984), *aff'd in part and rev'd in part*, 775 F. 2d 1440 (11th Cir. 1985). However, courts also will inquire whether that retention policy is reasonable. The Eighth Circuit has indicated that in making this reasonableness determination the district court should examine the reasonableness of the policy “considering the facts and circumstances surrounding the relevant documents A three year retention policy may be sufficient for documents such as appointment books or telephone messages, but inadequate for documents such as customer complaints.” *Lewy v. Remington Arms Co.*, 836 F.2d 1104, 1112 (8th Cir. 1988). The court also considered whether the retention policy was instituted in bad faith.

of which the party is aware. The rationale for such an approach would not be that one presumes the destructions to have been improperly motivated, but rather that preservation can do much to advance the cause of truth-finding. It is, after all, indisputable that the destruction of documents that might be probative in litigation could undermine attainment of fact-finding accuracy. As in the field of products liability, then, courts would impose a standard of strict liability on defendants, not to punish or deter unacceptable behavior, but to induce a higher standard of defendant behavior, thereby bettering society. But as previously noted,²²⁵ accuracy has never been deemed the exclusive goal of the litigation matrix; otherwise, society would not allow any evidentiary privileges. At some point, society must be willing to cut back on the search for truth to take account of other values the litigation matrix serves, including the utilitarian concern for efficiency, the need to preserve the procedural-substantive balance, and the need to provide predictable standards of primary behavior.²²⁶ An absolute strict liability retention standard, triggered by the mere potential of suit, would severely threaten attainment of all three goals.

For commercial enterprises that face the constant threat of litigation, adoption of such a standard effectively would mean that the enterprise would be required to constantly review its backup tapes for documents that could, at some later point in the litigation process, be deemed relevant; and if the enterprise predicted incorrectly, it would risk imposition of severe sanctions. The expense of such a process could easily prove prohibitive, because it would require the devotion of an enormous and unending number of person-hours, by knowledgeable individuals, to complete a careful review of unorganized backup tapes. Yet the only realistic alternative to such a burden would be a policy of total retention indefinitely—a practice that, given the geometric increases in document volume in the electronic age, could lead to the physical overrunning of a company with electronic equipment and severe retrieval burdens if and when the documents actually were needed in litigation. These are difficulties never faced in the age of pre-electronic storage. Yet to this point, at least, few courts seem willing to consider the possible need to adjust spoliation standards. The need for such a reconsideration is well at hand.

In reconsidering spoliation standards in light of the modern technology of electronic storage—as I believe must be done—it

225. See *supra* Part III.A.

226. See *supra* Part III.A.

probably would make sense to intertwine the seemingly distinct inquiries into the timing of the imposition of duty to preserve and the requisite intent necessary to trigger violations of that duty. For purposes of determining when the duty to preserve is triggered, the question should turn on whether the responding party chooses to object to a particular discovery request. If the responding party does not file such an objection (or seek an appropriate protective order pursuant to Rule 26(c)), then the filing of a discovery request clearly describing the category of documents to be produced should trigger respondent's absolute obligation to preserve all such documents. However, if the respondent does object, consistent with its obligations under the rules,²²⁷ then the point at which its absolute duty to preserve should be triggered is the issuance of a discovery order by the court. Under these circumstances, a party should not be allowed to defend on the grounds that destruction occurred routinely in the ordinary course of business. When a discovery order issues, the severe disruptive impact caused by anti-spoilation rules is most clearly justified by the interest in truth-finding.

It might be argued that delaying attachment of the duty to preserve until issuance of a discovery order is unacceptable, because a defendant simply could choose to destroy all relevant documents immediately upon receipt of a discovery request. For at least two reasons, however, the argument fails. First, under the standard proposed here, a defendant could delay the obligation to preserve beyond receipt of a discovery request only if it planned to make legitimate objections to the discovery, and such objections are controlled by the obligation under the rules not to interpose discovery objections solely for purposes of delay. Second, as explained more fully below, under my proposed standard *any* destruction other than those regularly scheduled would be sanctionable, if the defendant was aware both of the likelihood of suit and of the likely discoverability of the destroyed documents. Thus, a defendant would not be allowed to willfully destroy documents out of a fear that they may prove harmful in an impending suit.

Although reasonable debate is possible over which moment should trigger the duty to preserve—the moment of a discovery request or the moment of a discovery order—it should be clear that any

227. It should be recalled that a party could not, consistent with its obligations under the certificate requirement of Rule 26(g), file an objection lacking any legitimate basis merely to delay imposition of its obligation to preserve. FED. R. CIV. P. 26(g)(2).

earlier point in the litigation process would be inadvisable. Use of any earlier demarcation point could lead to unlimited and chaotic disruption of electronic recordkeeping, as well as to the imposition of unfair and unpredictable standards of behavior on defendants. If defendants were obligated to preserve documents the moment they became aware that a suit might be filed, large companies that regularly face the possibility of suit would be required constantly to disrupt their normal practices, presumably adopted because of their efficiency,²²⁸ merely because a suit was threatened. Nor is the time of filing a complaint a more appropriate demarcation point for the obligation to preserve electronically stored evidence, again because the disruption for industries regularly subject to suit could be enormous.

To the extent that document destruction took place outside the ordinary course of business (and it would be appropriate to put the burden of proof on that point on the responding party), sanctions could be imposed at a much earlier point in the litigation process. In such a situation, if the discovering party can establish that the responding party was aware (or should reasonably have been aware) of both the likelihood or actual existence of suit and the likely relevance of the documents in question to that suit, then any document destruction outside the ordinary course of business would be sanctionable. Thus, if the discovering party can establish that the documents in question were overwritten before the time when they would have been scheduled for destruction under the normal operation of the system, then sanctions could be imposed.

The result of this process is not entirely satisfactory, since it could easily lead to the routine destruction of potentially significant evidence and thereby undermine attainment of fact-finding accuracy. The alternatives, however, are even less satisfactory. In many cases, it will be impossible for a potential defendant to predict exactly which documents a court will, at a subsequent point, deem relevant, and, as stated above, the burdens of segregating such documents from backup tapes would be enormous. Yet for reasons already discussed, the alternative of total retention is equally troublesome because of the obvious and severe disruption it would cause to commercial record-keeping practices. The only point at which such burdens should be imposed is after a discovery request has been made absent objec-

228. Under my model, to the extent the discovering party can establish that the defendant's data storage system fails to represent the current state of efficient document retention followed by similar enterprises, the defense of "ordinary course of business" may be lost.

tion, or, if objection is made, after a discovery order has been issued. At that point, routine destruction should not be allowed to continue, and a litigant should no longer be permitted to rely on the defense that destruction took place in the ordinary course of business.

It is conceivable that even under this structure, plaintiffs could, immediately following the filing of a suit, seek a court order prohibiting defendants from destroying discoverable records. In theory, such a course of action could protect both parties' rights. It would protect the plaintiff's interest in assuring the availability of possibly probative evidence, while at the same time removing any uncertainty from the defendant concerning the nature and extent of its responsibilities. However, if a court were to routinely grant a restraining order covering all of defendant's electronically stored records, then such a process would be no more satisfactory than what currently exists. If the plaintiff-initiated process were to work satisfactorily, the court would be required to employ the standards embodied in the third step of the conditional cost-shifting model, fashioned here to govern the discovery process.²²⁹ Thus, a court would not be permitted to begin with a blanket presumption in favor of retention but would instead be required to conduct a careful weighing process, giving appropriate recognition to the possibly enormous costs, disruptions, and burdens of widespread retention.

I should emphasize that the procedure just described to deal with the spoliation of electronic evidence is by no means intended to be written in stone. It is, rather, merely a suggested starting point for debate. The point to be emphasized, however, is that whatever structure ultimately is adopted, if it is to remain viable in the twenty-first century it will have to take account of the technological realities of the computer age.

CONCLUSION: BRINGING DISCOVERY INTO THE COMPUTER AGE

It should hardly be surprising that the discovery rules need to be modified substantially to take account of the use of computers and other electronic means of data storage. After all, other professions have taken as a given the need to alter their rules, practices, and standards to deal with the implications of these technological changes. For example, to teach architecture today the way it was taught in 1970 would be nonsensical in light of the dramatic impact of the computer

229. See *supra* Part IV.A.

age on the profession. The same could be said of teaching legal research at law schools. While certain fundamental concepts have remained constant, it would be dangerous to ignore the significant practical impact of technological change. It should shock no one, therefore, that similar modernizing changes are called for in the discovery area.

This conclusion does not necessarily imply that the issues raised by electronic discovery differ completely from those raised by traditional discovery. As has been true elsewhere, introduction of computer technology has not so dramatically altered the preexisting working structure as to render that structure completely irrelevant. The goal must be to determine the subtle but potentially significant ways in which the onset of the computer age has altered the professional topography, as well as the best ways to deal with those newly created difficulties. The introduction of electronically based storage has not altered the DNA of discovery; the process's value to the attainment of the litigation matrix's goals is just as significant as it always has been, and the troubling problems to which the process traditionally has given rise continue to exist. Yet, the development of electronic storage has introduced important new problems and substantially intensified many preexisting ones. As a result, though discovery's DNA may not have changed, the problems discovery creates have increased, and the stakes have risen substantially. To continue to employ pre-computer age discovery standards in the age of electronically stored data, then, would be the technological equivalent of driving a horse and buggy down Interstate 94.

In this Article, I have undertaken several tasks. Initially, I explored the fundamental technological differences between traditional and electronic storage and examined the practical implications of those differences for discovery. I also considered the inherent and often overlooked ways the discovery process, as traditionally structured, has failed to further the complex mixture of normative meta-goals underlying the adjudicatory system embodied in what I have called the litigation matrix.

I then sought to view those traditional failures in light of the computer age, arguing that they have expanded exponentially, much the way that electronically based storage systems have exponentially increased storage capacities. I then proposed a conditional cost-shifting model to deal with the problems of electronic discovery and a spoliation model to deal with the routine destruction of electronically stored data that plays a central role in modern storage systems. I fully

recognize that neither of these models is free from question or doubt. One conceivably could structure the governing model in a variety of ways to strike different value balances. But the most important point to be gleaned from this Article is that however one ultimately chooses to shape the delicate balance of often-competing goals fostered by the litigation matrix, a system of discovery control that fails to take account of the special needs and unique impact of the computer age is destined to fail.