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THE FINICKY COMPUTER, THE PAPERLESS TELEX AND THE FALLIBLE SWISS: BANK TECHNOLOGY AND THE LAW†

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We live in a technological society.¹ Technology has produced medical equipment which assists our birth and prolongs our life, computers which teach and entertain our children, machines that have revolutionized the workplace and transformed our landscape. Banks are no exception to this development.² Financial institutions have applied technology to their payment services in a variety of ways. Automated data processing, computers and telecommunications systems have made electronic banking a reality. Banks use automated equipment to process billions of checks. Telex machines are used to wire money in commercial transactions from banks in one country to those in another. Automated teller machines are as prevalent as self-service gas stations, and millions of people receive their wages and government benefits through electronic direct deposit. As a result, courts and legislative bodies are struggling to determine the proper relationship between bank technology and the legal system. This article seeks to facilitate that endeavor.

First, the general relationship between technology and society will be explored. Persons disagree about the nature of that relationship. Some believe technology is a vehicle for our deliverance, others fear it is a vehicle for our destruction, still others feel it can be harnessed and humanized to assist in furthering society's goals. It is necessary to understand these attitudes because, consciously or not, the law often embodies one or another of these views. This article will, therefore, first set forth the competing views of the proper relationship between technology and society.

The second part of the article examines the relationship between law and technology within the specific context of electronic funds transfer (EFT).³ EFT is the system used by

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¹ See generally V. FERRISS, *TECHNOLOGICAL MAN: THE MYTH AND THE REALITY* (1969); E. MESTHENE, *TECHNOLOGICAL CHANGE* (1970); L. TRIBE, *CHANNELING TECHNOLOGY THROUGH LAW* (1973).

² See generally *COMPUTERS AND BANKING, ELECTRONIC FUNDS TRANSFER SYSTEMS AND PUBLIC POLICY* (K. Colton & K. Kraemer eds. 1980) [hereinafter cited as *COMPUTERS AND BANKING*].

³ For the purposes of this article, the term Electronic Funds Transfer is used in a general sense to include everything from money transfers that are made solely by electronic equipment to paper-based systems such as checks which use automated equipment only at certain processing stages. See generally Grandstaff & Smaistrle, *The Payments Mechanism — a Primer on Electronic Funds Transfer*, FED. RESERVE BANK OF PHILADELPHIA BUS. REV., Sept. 1976, at 1, 7.

banks to transfer money from one party to another and to otherwise process payment transactions. The article discusses the law and bank technology relationship from the perspective of those who wish to "humanize" technology. The humanizer's perspective is explored rather than the others because the others provide unsatisfactory resolutions to the problems posed by EFT. Those who believe technology is our source of salvation would impose no legal restrictions upon it since they think technology can do no wrong and must be given free rein. This approach completely ignores the deleterious impact which technology may have. In contrast, those who fear technology will destroy society would seek to hamper the development and application of technology in every way available to the legal system. They fail to recognize the many benefits which technology can bring.

The article then analyzes two situations which illustrate the need to determine the proper relationship between law and technology. First, a bank's failure to honor its customer's stop payment order is analyzed in light of the Uniform Commercial Code (UCC),⁴ case law, and a proposed Uniform New Payments Code (UNPC).⁵ Second, the legal implications of a bank's failure properly to transfer funds electronically is explored. Some of these bodies of law directly confront the issue of the relationship between bank technology and the law, while others ignore it even though the legal rules they establish necessarily reflect a view of that relationship. Those sources of law which do confront the problem are in fundamental disagreement over what the relationship should be. This disparity of treatment demonstrates the need for the legal system to reexamine commercial law in light of technological developments. The final sections of this article will therefore examine these sources of law within the framework of the different value systems and views of technology and society presented herein, in order to shed light on the meaning and significance of these sources in a manner which is not possible when they are evaluated solely within a legal context.

I. TECHNOLOGY, SOCIETY AND THE LAW: COMPARATIVE APPROACHES

Because technology has a pervasive impact on increasingly more aspects of our lives, society must determine the proper relationship between technology, society and the law.⁶ Developments in electronic banking technology raise the same types of issues as those which result from advances in communications, transportation, industrial production and biomedical engineering. Those who want to understand the challenge posed by computer banking can gain valuable insights by putting this issue within the general context of an examination of the role of technology and the law in society.

In an ideal world, the law would be an embodiment of society's values and norms.⁷ The proper function of the lawmaker would be to gather the data necessary to comprehend the social, economic and technical reality of a given situation and to develop a rule of law which reflects society's value consensus. To determine the appropriate rela-

⁴ Unless otherwise specifically indicated, all references in this article to the Uniform Commercial Code are to the 1978 Official Text.

⁵ UNIFORM NEW PAYMENTS CODE (Permanent Editorial Board for the Uniform Commercial Code, Draft No. 3, June 2, 1983) [hereinafter cited as U.N.P.C.].

⁶ See generally, L. TRIBE, *supra* note 1.

⁷ See generally E. SCHUR, *LAW AND SOCIETY* 82 (1968); Bredemeier, *Law as an Integrative Mechanism*, in *LAW AND SOCIETY* 126 (C. Campbell & P. Wiles eds. 1979); Parsons, *The Law and Social Control*, in *THE SOCIOLOGY OF LAW* 60, 60-61 (W. Evan ed. 1980).

relationship between law and technology, the lawmaker would ascertain the attitude of Americans towards technology and the values attributed to it.

In the real world, however, the lawmaker faces a more difficult task. Various segments of society have greatly diverse attitudes towards technology — attitudes which reflect their values. These attitudes may be a product of the interest groups with which they most closely identify: doctors, blue collar workers, business people, evangelicals, consumers, government bureaucrats, and the like.⁸

Some people, for example, believe in "Technological Messianism."⁹ Technology, according to this view, is an "unalloyed blessing," "the motor of all progress."¹⁰ It is "what has made man man."¹¹ Consequently, technology has the capacity to solve all of society's problems.¹² Proponents of this view equate technology with progress and believe law should not do anything to restrict technology unless there is a clear proven threat to health or safety.

At the opposite extreme are the prophets of doom who believe technology is an "unmitigated curse."¹³ They fear that it robs people of jobs, privacy and dignity. They believe that it fosters a bureaucratic state which destroys personal freedom and may make the world "totally uninhabitable."¹⁴

Also complicating the lawmaker's attempt to determine the proper relationship between law and technology are the different perceptions people have of society's ability to control technology. These range from the determinist who believes that it is not possible to exercise effective control, to those who are confident that society can control technology without difficulty. The humanizer believes the truth lies somewhere in between these two extremes.

A. Technology Cannot Be Controlled

Some believe people have little or no power to control technology.¹⁵ This is often referred to as technological "determinism"¹⁶ or "autonomous" technology.¹⁷ Adherents to this belief feel technology "has become an end in itself, controlling both men and their society."¹⁸ Man is seen as passive, forced to adapt to technology, rather than a master of his fate.¹⁹ According to this view, "[Man] in fact has no choice but to push forward with

⁸ Kling, *Value Conflicts and Social Choice in Electronic Funds Transfer System Developments*, 8 COMMUNICATIONS OF THE ACM 642, 643-44 (Aug. 1978). Lawmaking is further complicated when technology changes society's values because of the new options it creates. See E. MESTHENE, *supra* note 1, at 48, 50.

⁹ V. FERKISS, *supra* note 1, at 60.

¹⁰ Mesthene, *The Role of Technology in Society*, in TECHNOLOGY AND MAN'S FUTURE 156, 156 (A. Teich, ed. 1977).

¹¹ V. FERKISS, *supra* note 1, at 29.

¹² Mesthene, *supra* note 10, at 56.

¹³ *Id.*

¹⁴ L. TRIBE, *supra* note 1, at 2, see generally J. ELLUL, *The Technological Society* (1964).

¹⁵ V. FERKISS, *supra* note 1, at 14; see generally J. ELLUL, *supra* note 14.

¹⁶ V. FERKISS, *supra* note 1, at 30. This school of thought believes technology controls "social forms and cultural norms." *Id.* See also Kraemer & Colton, *An Agenda for EFT Research*, in COMPUTERS AND BANKING, *supra* note 2, at 243, 264.

¹⁷ Winner, *On Criticizing Technology*, in A. Teich, ed., *supra* note 10, at 354, 360.

¹⁸ V. FERKISS, *supra* note 1, at 14.

¹⁹ Winner, *supra* note 17, at 362.

this technology. The world is irrevocably committed to a technological culture."²⁰ The omnipotent engine of technology moves relentlessly forward, and humans are powerless to stop it.

The determinists may come from one of three camps. They may believe technology is evil, is our salvation, or is a mixed blessing. Whatever their view of the nature of technology, they share the belief that technology will determine the structure of society and the quality of life. People who think this way treat technology as an independent variable,²¹ the "determinant" which sets conditions limiting other forces and social organizations in society.²² They regard society as the dependent variable and believe social institutions such as law must be consistent with technological needs. They contend that values and conduct must adapt to technology.

B. Technology Can Be Controlled Easily

At the other end of the spectrum are those who believe man can easily control technology and make it accomplish only those objectives which are beneficial to society. Some acknowledge that technology does have an impact on social organization, but think technological advances, including EFT, can be used as vehicles of social change to significantly alter present social arrangements.²³ Others do not question the ability to control technology, but also do not perceive that it has a great impact on society.²⁴ Moreover, they believe individuals can easily adapt to whatever changes do result from technology.²⁵

Under this view, for example, EFT is seen as merely a new type of payment system, raising no more significant social issues than the introduction of the money order or the cashier's check.²⁶ When deciding the proper relationship between the law and EFT technology, these people think the task consists primarily of determining whether EFT is most analogous to checks, cash or credit cards. Once that determination is made, adherents to this approach contend all one has to do is apply the law governing the most analogous existing payment system to EFT.

C. Technology Can Be Humanized

Finally, there are persons who take a middle position. These persons will be referred to as the "humanizers."²⁷ Humanizers reject technological determinism; they believe

²⁰ Winner, *supra* note 17, at 360 (quoting statement of Prof. Harvey Brooks in 1969 before a Senate Subcommittee).

²¹ V. FERRISS, *supra* note 1, at 30; Winner, *supra* note 17, at 365.

²² 2 M. RILEY, *SOCIOLOGICAL RESEARCH* 138 (1963).

²³ Kraemer & Colton, *supra* note 16, at 264. "[S]ome of us who would really like to challenge the fundamental assumptions on which our political system, our economic system, and maybe even the religious basis of our society rest, have decided to use EFT as the vehicle for it today." *Id.* at 244 (quoting E. Cox).

²⁴ Mesthene, *supra* note 10, at 157.

²⁵ *Id.*

²⁶ Kraemer & Colton, *supra* note 16, at 244. "[T]he early advocates of EFT placed too much emphasis on technical feasibility and showed too little understanding of the social and institutional meanings and context of EFT." *Id.*

²⁷ See generally Sterling, *Humanizing Computerized Information Systems*, 190 *Science* 1168 (1975). There is, of course, no group or formal school of thought known as "humanizers" of technology. In addition, to my knowledge, none of those I would characterize as humanizers have addressed themselves to many of the specific banking technology issues presented in this article. Nevertheless, there are numerous scholars, each of whom views technology through his or her own unique perspective, but all of whom generally seem to take the approach described in the text.

people can influence the shape and impact of technology.²⁸ At the same time they recognize technology does have a dark side: it definitely has a social dimension,²⁹ it has dysfunctional as well as functional effects,³⁰ it may benefit certain groups in society while being of no benefit or causing harm to others.³¹ In order to take advantage of the new technology, humanizers believe there will have to be changes in the social organization of society, causing interference with the functions of existing social structures.³²

Social structures, however, often fulfill several societal functions. Changing them to accommodate technology may make them better able to achieve some goals, but render them useless in achieving others. For example, advances in biomedical science and technology led to increased specialization and concentration of the specialists in urban centers.³³ The result was greatly improved treatment of serious illness. But this development also led to the decline of the general practitioner and the unavailability of physicians in small towns and rural areas. Similarly, EFT has many advantages, but it also may enable banks to close many branches, contribute to greater bank concentration, and lead to pricing which discourages the use of checks and credit cards.³⁴ While obtaining the benefits of EFT, customers may lose many of the functions served by the community bank or the local branch.³⁵ Customers gain an automated teller machine, an "ATM," but may lose the option of dealing with a human teller.³⁶

The humanizers do not oppose technology *per se*, but are determined to seek an appropriate accommodation between humans and technology. They seek to "humanize" technology³⁷ before it "dehumanizes" people,³⁸ but they also believe technology can be an instrument to foster the humanization of society. They regard technology as one of man's tools³⁹ and feel that it should be used to increase man's capacity to create a better life, not to give one person the ability to exploit another. They want to keep society's options open, and oppose irreversible technological decisions.⁴⁰

This opposition to irreversible decisions is based on two concerns. One arises from the short "useful life"⁴¹ of such decisions. A developing technology continuously alters the

²⁸ Neil, *Re-humanizing the Man-Machine Relationship*, 30 *IMPACT OF SCIENCE ON SOC.* 115 (1980). The machine is a tool. *Id.* at 119. It should be used to extend human capacity. *Id.*

²⁹ L. TRIBE, *supra* note 1, at 48.

³⁰ Mesthene, *supra* note 10, at 172.

³¹ Hiltz & Turoff, *EFT and Social Stratification in the USA*, *TELECOM. POL'Y*, March 1978, 22 at 22.

³² Mesthene, *supra* note 10, at 160.

³³ *Id.* at 160-61.

³⁴ OFFICE OF TECHNOLOGY ASSESSMENT, *SELECTED ELECTRONIC FUNDS TRANSFER ISSUES, PRIVACY, SECURITY AND EQUITY* 60, 63, 64, 73 (undated) [hereinafter cited as OTA]; see generally NATIONAL COMMISSION ON ELECTRONIC FUND TRANSFERS, *EFT IN THE UNITED STATES, POLICY RECOMMENDATIONS AND THE PUBLIC INTEREST, FINAL REPORT* 83, 150 (1977) [hereinafter cited as NCEFT]; Whittle, *Banks Should Rally 'Round Generic Checking*, *AM. BANKER*, May 25, 1983, at 4, col. 1.

³⁵ OTA, *supra* note 34, at 60, 63; Mulcahy, *Groups Push for Action on Closings*, *AM. BANKER*, July 18, 1983, at 1, col. 3.

³⁶ See, e.g., GROSS, *Citibank Says Teller Policy Was a Mistake*, *AM. BANKER*, May 25, 1983, at 1, col. 1. For a period of time, Citibank instituted a policy whereby customers with less than \$5,000 on deposit were not allowed to use human tellers for routine transactions. *Id.* Those customers were required to use automated teller machines. *Id.*

³⁷ Sterling, *supra* note 27.

³⁸ Man must dominate technology because otherwise technology will change man to a being of "lesser potentialities" due to its inferior capacity for being flexible and versatile. V. FERKISS, *supra* note 1, at 255.

³⁹ Neill, *supra* note 28.

⁴⁰ L. TRIBE, *supra* note 1, at 21, 49.

⁴¹ Mesthene, *supra* note 10, at 174.

"spectrum of choices and problems."⁴² A decision made today may need to be altered next month. A second consideration is the synergistic nature of technology.⁴³ New technologies combine with current technologies; technology developed in one area is combined with technology from another. Electronic funds transfer, for example, represents the "synergistic capability generated by the merging of the digital computer and advancements in telecommunications."⁴⁴ This synergism in part explains the phenomenon of ever-increasing "technological distance."⁴⁵ Technological applications have "increasingly wider ramifications and . . . increasingly large concentrations of people and organizations become dependent on technical systems."⁴⁶ An unwise irreversible decision can therefore have a substantial deleterious impact on society.

Irreversible decisions are not the only type of decisions the humanizers oppose. They also fear society will be locked in by the "tyranny of small decisions."⁴⁷ They believe that when individual entrepreneurs develop and deploy technological innovations, their primary objective is to minimize cost and maximize profits. Humanizers think that entrepreneurs do not necessarily take into sufficient account the probable costs and benefits to others and to society generally. Technology then becomes the product of "innumerable individual decisions to develop individual technologies for individual purposes . . ."⁴⁸ Each decision may appear reasonable at the time it is made. But the end result may be a technological configuration which is not socially desirable.

In addition to opposing "small decisions," the humanizer rejects the deterministic conception of technology. He attempts instead to use technology as an instrument of society. Because of the differences in values and priorities among various groups in society, however, humanizers must first identify those values and priorities, and then determine what mechanism can most successfully resolve these conflicts and realize the goal of using technology as an instrument of society. In going through this process, the humanizer attempts to reach an accommodation among as many different groups as possible.

In seeking agreement from various groups, the humanizer opposes those who would allow any one group to decide how technology should be deployed. As one commentator has admonished, "[w]hat is required is that all participants in technological civilization recognize that the one intolerable action is the claim of any individual or group within it to dominance and universality, for this would quite literally short-circuit the total cultural process."⁴⁹ The humanizer contends, therefore, that it is especially unwise to defer to the preferences of one group because technological advances create "an ever-thicker pattern of interaction and interdependency, one which requires means for consciously taking the interests of others into account."⁵⁰

⁴² *Id.*

⁴³ King & Kraemer, *Electronic Funds Transfer as a Subject of Study in Technology, Society and Public Policy*, TELECOM. POL'Y, at 13, 13, 20 (March, 1978).

⁴⁴ *Id.*

⁴⁵ Mesthene, *supra* note 10, at 174.

⁴⁶ *Id.*

⁴⁷ L. TRIBE, *supra* note 1, at 7; Kling, *supra* note 8, at 655.

⁴⁸ L. TRIBE, *supra* note 1, at 7 (quoting Mesthene, *The Role of Technology in Society: Some General Implications of the Program's Research*, in HARVARD UNIVERSITY PROGRAM IN TECHNOLOGY AND SOCIETY, FOURTH ANNUAL REPORT 1967-68, (1968); see also V. FERKISS, *supra* note 1, at 259.

⁴⁹ V. FERKISS, *supra* note 1, at 258.

⁵⁰ *Id.* at 259.

II. THE HUMANIZER'S APPROACH TO EFT TECHNOLOGY AND THE LAW

The humanizer's perspective offers the most fruitful context for exploring the relationship between EFT technology and the law. Adherents to the other approaches are extreme and one-dimensional. They either believe technology is perfect and can do no harm, or fear that technology is irredeemably evil. They insist that technology cannot be regulated by law because it is uncontrollable, or claim that technology need not be regulated in any way because it has no significant impact on society. The humanizer rejects these opposing camps because none takes a balanced and realistic view. None offers a perspective which confronts the problematic nature of technology. None explores the issue of how law might deal constructively with technology.

Instead, the humanizer tries to take into account the pluralistic world in which decisions concerning EFT technology occur. This requires taking into account the various value orientations of the principal participants — banks, customers and the government — in EFT systems. Professor Kling has constructed several models fruitful for studying this problem.⁵¹

- 1) *Private enterprise model.* The preeminent consideration is profitability. . . . Other social goods such as users' privacy . . . are secondary.
- 2) *Statist model.* The strength and efficiency of government institutions are the highest goals. . . .
- 3) [*Customer oriented model.*]⁵² The practices of public agencies and private enterprises should be easily intelligible to ordinary citizens and be responsive to their needs. . . . [Libertarian values such as privacy should be maximized in social policy decisions.]
- 4) *Systems model.* The main goal is that EFT systems be technically well-organized, efficient, reliable, and aesthetically pleasing.

These models do not purport to list all of the values of each group, but only those which are most important to each. Other values may be deemed less important by the group. Alternatively, the group may oppose other values or remain indifferent.

The groups employing the various models are not necessarily opposed to one another. In banking, for example, if most customers strongly value their privacy and insist on payment systems which protect it, banks will safeguard their privacy because that is one way in which to increase their customer base and their profits. Similarly, both those adhering to the values of the private enterprise model and the customer-oriented model generally would support the Systems model. The perspective of each group, however, is different, as are the facets of bank technology which are of primary concern to each. As a result, when they examine the deployment of electronic equipment, each regards it within the context of its own value system and describes and evaluates it in starkly different terms.

In the electronic banking arena, the situation is vastly more complicated than Kling portrays in his models.⁵³ This can be seen by focusing attention on the interest groups which share the values embodied in the models. Financial institutions value the profitabil-

⁵¹ Kling, *supra* note 8, at 643.

⁵² This model is a combination of two of Kling's models which he labels "neopopulist" and "libertarian." *Id.* While important, libertarian values are not addressed in this article.

⁵³ See, e.g., Kling, *supra* note 8, at 644 n.5. For instance, Kling suggests that in discussing the relationship between the models and various interest groups, consumers could be categorized into four different groups. *Id.*

ity of EFT systems. But beyond that, their views on the relationship between law and electronic banking may vary greatly depending on whether they want to run their own system or a shared system, and whether they want to market electronic checking, point of sale transfers, automated teller machines, direct deposit of payroll checks, or international wire transfers. Bank customers are comprised of commercial customers and individual consumers. Commercial customers value the profitability of electronic banking to them, not its profitability to financial institutions. They may also share the Libertarian's concern for the privacy of transactions and the Systems people's regard for reliability. Consumers may most highly value privacy, cost, convenience, security or "customer friendly" systems. Their hierarchy of values probably varies considerably depending upon whether they are rich or poor, urban or rural, and young or elderly. The federal government has the Statist's values. It has an interest in maintaining a strong, safe and fair national payments system.⁵⁴ The public interest requires that no segment of the population be entirely cut off from the system since access to a convenient affordable payment mechanism is essential for every citizen's welfare.⁵⁵ To insure the smooth functioning of the economy, the system should operate at a minimum level of performance. The government's values are influenced by its roles as regulator, as user, and as one of the main operators of the payments system.⁵⁶

A dilemma confronts those who share the humanizers' perception of the nature of technology, its relationship to society, and the need for EFT technology to develop within a framework which seeks to reach an accommodation among the diverse interests of various segments of the public. On the one hand, their recognition of the dark side of technology and their desire to insure that technology is used for the betterment of society as a whole point to the use of law as an instrument to control and guide technology. The humanizers oppose those who would withhold legal intervention until there is proof of definite harm caused by a given technology, harm which clearly outweighs the benefits brought by the technology. They believe experience has shown that if we wait until a technology can be proven harmful, it is too difficult and costly to make necessary changes.⁵⁷ In regard to EFT, commentators have noted that because the technology is very expensive, problems must be addressed as early as possible.⁵⁸ "[T]he size of the investments in EFT will generate resistance to future change."⁵⁹

On the other hand, the humanizer's fear of irreversible decisions,⁶⁰ recognition of the short useful life of technological decisions⁶¹ and understanding of synergism,⁶² suggest a

⁵⁴ OCC, CONTINGENCY PLANNING FOR ELECTRONIC DATA PROCESSING SUPPORT, OCC BANKING CIRCULAR 177 (May 26, 1983) [hereinafter cited as OCC BANKING CIRCULAR 177]. OTA, *supra* note 24, at 46, 73-74; Garsson, *Fed Pricing is Criticized and Praised*, AM. BANKER, June 16, 1983, p.1, col. 3, at 10. "The Fed is viewed as a guarantee of universal access [for financial institutions] to funds transfer systems." See generally E. MESTHENE, *supra* note 1, at 39, 69 on the role of government in the face of technological developments which increasingly impact society in general and which, therefore, should not be left solely to private decisions.

⁵⁵ NCEFT, *supra* note 24, at 71-73; A. D. LITTLE, THE CONSEQUENCES OF ELECTRONIC FUNDS TRANSFER 126-30 (1975) [hereinafter cited as A.D. LITTLE]. OTA, *supra* note 34, at 60, 64; Hilz & Turoff, *supra* note 31.

⁵⁶ NCEFT, *supra* note 34, at 207-19.

⁵⁷ L. TRIBE, *supra* note 1, at 23; Kraemer & Colton, *supra* note 16, at 248; Winner, *supra* note 17, at 368.

⁵⁸ Kraemer & Colton, *supra* note 16, at 248.

⁵⁹ *Id.*

⁶⁰ See *supra* text accompanying note 40.

⁶¹ See *supra* text accompanying note 41.

⁶² See *supra* text accompanying note 43.

resistance to laws which lock technology into one direction or into limited applications. They acknowledge the conflicting interests and values involved and the impossibility of scientifically balancing them because values such as privacy and the preservation of future options cannot be quantified.⁶³ They know that because we are unable to "imagine all the possible uses of new technologies,"⁶⁴ there is no way to have an "adequate perception of [their] social and environmental consequences."

The most suitable approach to the humanizer, therefore, would be to establish, through statutes or case law, private rights and obligations,⁶⁵ set the balance of power between interacting parties, and mandate minimum standards of conduct. An institution's technology would have to perform in a manner consistent with the obligations and standards developed by the law in order to protect the institution from liability. This approach would place no explicit limits upon technology. Rather, it would reflect the traditional view that the law should be determined without special attention to technology. Society should determine, for example, what legal rules and standards should regulate customer-bank relations. Due regard should be had for the legal relationship between the parties, the reasonable expectations of the customer, and the reasonable commercial practices of the bank. These factors would constitute the "independent variables," the determinants. Technology would be treated as a dependent variable.

The remainder of this article will analyze two areas of banking which involve disputes between customers and banks using electronic equipment. These two areas were chosen because the law which has been developed and proposed to deal with these disputes illustrates the various approaches to the relationship between technology, society and the law discussed above. By examining the cases and statutes, determining what approach they take to that relationship, and analyzing the result in terms of the rights and liabilities of the parties, it is possible to evaluate current and proposed laws from a new perspective.

III. THE RIGHT TO STOP PAYMENT CONFRONTS THE COMPUTER

Stop payment cases provide a fruitful source for exploring the relationship between law and technology. Before the advent of sophisticated automated equipment, banks asked customers wishing to stop payment on a check to supply information which would help the bank to identify the check in question. This information typically included the account number, amount of the check, name of the payee, check number and date on the check. The bank would search for the check manually, based on the information provided. If the customer made a minor mistake in reporting the amount of the check, the bank could nevertheless find the check by using the other information supplied by the customer. The courts provided incentives to encourage finding these checks by holding

⁶³ Brooks & Bowers, *Technology: Process of Assessment and Choice*, in A. Teich, ed., *supra* note 10, at 229, 235.

⁶⁴ *Id.*

⁶⁵ See L. TRIBE, *supra* note 1, at 54-55. This approach is subject to severe limitations. As pointed out by Tribe:

It remains true, however, that reliance on voluntary private enforcement of claims to compensation, whether by individuals or in class actions, tends to be ill-suited to technological effects too weakly associated with presently existing and identifiable individuals, or too thinly spread among such individuals, to arouse their organized opposition in a timely way.

Id. at 55.

that banks were liable if they did not stop payment when the customer's reporting error was minor.

Today, many banks rely only on the account number and the reported amount of the check to process stop payment orders. This information is fed into electronic equipment which is able to find the check based on these numbers alone. If the customer reports an amount which is in any respect incorrect, however, the equipment often is unable to find the check and the bank will not stop payment on it. As a result, checks on which payment was stopped despite minor reporting mistakes in the nonelectronic environment may not be stopped when modern equipment is used.

The cases involving stop payment where the bank's automated process fails to find checks because of a customer's minor reporting error force the courts to determine the extent to which legal principles will be applied to accommodate either the needs of bank computers or the frailties of bank customers. They present the most difficult fact pattern for courts which are inclined to stem the tide of technology. In each instance the bank has made a reasonable business decision to use electronic equipment. Although the customer has suffered loss, the loss was not caused by a computer malfunction, but by the customer who reported inaccurate information to the bank. The bank's computers failed to stop payment only because of that misinformation. Because the information given to the bank would be adequate in a nonelectronic system, however, courts cannot simply find for the bank. In such a system the court would have found the bank liable, upholding the customer's legal right to stop payment.

In cases involving customer error, therefore, the court must decide whether the bank's introduction of computers should have the effect of switching the loss from the bank to the customer, all other conditions remaining the same. Whether or not they are consciously doing so, in deciding where to place the loss courts both reflect and apply important jurisprudential positions on issues involving the relationship between law and technology.

A. Stop Payment Under the Uniform Commercial Code

The official version of the UCC provides in section 4-403(1) that the customer has a "right" to stop payment.⁶⁶ There is no requirement that the customer have a legitimate reason for refusing to authorize his bank to honor the check. As long as his stop payment order is "received at such time and in such manner as to afford the bank a reasonable opportunity to act on it,"⁶⁷ the bank is obligated to stop payment.

The Official Comment justifies this customer right by stating that, "stopping payment is a service which depositors expect and are entitled to receive from banks notwithstanding its difficulty, inconvenience and expense. The inevitable occasional losses through failure to stop should be borne by the banks as a cost of the business of banking."⁶⁸ While one court has seized upon this Comment to build a theory of "customer expectation,"⁶⁹ others rationalize the Code's grant of this right by examining the nature of a check.⁷⁰

⁶⁶ U.C.C. § 4-403(1) (Official Text 1978). The U.C.C. labels stop payment a right in the caption to the section. *Id.* Captions are considered part of the text of the U.C.C. *Id.* § 1-109.

⁶⁷ *Id.* § 4-403(1).

⁶⁸ *Id.* § 4-403 official comment 2 (1978).

⁶⁹ *FJS Electronics, Inc. v. Fidelity Bank*, 288 Pa. Super. 138, 142, 431 A.2d 326, (1981).

⁷⁰ See *Universal C.I.T. Credit Corp. v. Guaranty Bank*, 161 F. Supp. 790, 791-92 (D. Mass. 1958). Although the *Universal* case was based on the Negotiable Instruments Law, the court correctly

Under the UCC, a check "does not of itself operate as an assignment. . . ."⁷¹ The check is merely an instruction by the drawer-customer to the bank to pay. Until the customer's bank decides to pay the check, neither the payee nor any other holder of the check has any right to payment. It follows from these principles that the customer has the right to revoke his instruction to the bank to pay if the check has not yet been paid.⁷²

The right to stop payment, therefore, is a crucial and integral aspect of the legal relationship both between the customer and his bank, and the customer and the payee and other holders. The importance of this right can be seen in cases and commentaries questioning the ability of banks to limit the right through clauses in contracts and to charge fees for exercising the right.⁷³ The Attorney General of Michigan, for example, issued an opinion stating that banks may not require customers to pay a fee in order to stop payment.⁷⁴ He quoted from authorities who assert that the customer has unlimited discretion to stop payment, the right to stop payment is an implied term of the deposit contract, and charging a fee disrupts the risk allocation scheme of the UCC. Banks, therefore, could not burden or condition the right to stop payment by requiring a fee.

B. *The Effect of Technology on Bank Processing of Stop Payment Orders*

Electronic equipment has changed greatly the way in which banks process stop payment orders. Virtually every bank uses MICR⁷⁵ encoded checks bearing the account number and possibly the check number in special characters which can be read by automated equipment.⁷⁶ When the check is deposited by the payee or other holder, the depository bank inserts the amount of the check in MICR characters. After the check returns to the customer's bank, it is processed along with many thousands of other checks by high speed automated equipment. If a customer submits a stop payment order, the bank programs its computer to pull the check the customer wants stopped out of the quickly-flowing stream of checks.⁷⁷ The bank does this typically by programming the computer to segregate the check whose MICR encoded account number and amount correspond to that reported by the customer.⁷⁸ If the customer does not report the precise amount of the check, the computer will never find the check and it will be paid.⁷⁹

noted that the same reasoning applies under the U.C.C. and that the U.C.C.'s treatment of this issue is primarily a restatement of prior law. *Id.* See also B. CLARK, *THE LAW OF BANK DEPOSITS, COLLECTIONS AND CREDIT CARDS*, 2-40 (1981).

⁷¹ U.C.C. § 3-409(1) (1978).

⁷² See *Universal C.I.T. Credit Corp. v. Guaranty Bank*, 161 F. Supp. 790, 791-92 (D. Mass. 1958). See also *infra* note 77.

⁷³ Op. Att'y Gen. 25 U.C.C. REP. SERV. (CALLAGHAN) 238 (Conn. 1978); Op. Att'y Gen. 30 U.C.C. REP. SERV. (CALLAGHAN) 1626, 1627-28 (Mich. 1981); Op. Att'y Gen. 3 U.C.C. REP. SERV. (CALLAGHAN) 115 (Utah 1966); B. CLARK, *supra* note 70, at 2-41; J. WHITE & R. SUMMERS, *UNIFORM COMMERCIAL CODE* 653-55 (2d ed. 1980).

⁷⁴ Op. Att'y Gen. 30 U.C.C. REP. SERV. (CALLAGHAN) 1626, 1627 (Mich. 1981).

⁷⁵ B. CLARK, *supra* note 70, at 8-10. MICR refers to the magnetic ink character recognition system in which checks are "encoded" with MICR numbers, numbers which computers can read and be programmed to process automatically. *Id.*

⁷⁶ *Id.*

⁷⁷ See, e.g., *Delano v. Putnam Trust Co.*, 33 U.C.C. REP. SERV. (CALLAGHAN) 635, 636-37 (Conn. Super. Ct. 1981).

⁷⁸ See *FJS Electronics, Inc. v. Fidelity Bank*, 288 Pa. Super. 138, 140, 431 A.2d 326, 327 (1981).

⁷⁹ *Id.*

Banks have switched to electronic equipment for many sound business reasons. For example, those machines can process checks at much greater speeds and much lower cost than more primitive technological systems. That speed is crucial in light of the astronomical number of checks which are processed every day.⁸⁰ Without the adoption of technological advances to check processing, the cost to banks, and subsequently to their customers, would be so high as to render the use of checks far less feasible. At the same time, the greater speed means that the customer has less time to exercise his right to stop payment. In addition, many bank systems are totally inflexible and incapable of dealing with the most trivial human error in ordering the stop payment.

This rigidity is in stark contrast to less technologically "advanced" systems. Banks using more "primitive" systems had a reasonable tolerance for error. For example, customers often would correctly report the name of the payee, the date the check was issued, and the check number, but make a one digit mistake in reporting the amount of the check. Many courts applied a "*de minimus*" test⁸¹ in such cases, and assumed that the bank had considered all of the information supplied by the customer. Where the customer had supplied the correct information listed above, normally the bank would have no trouble identifying which check was subject to the stop payment order despite the customer's minor reporting error.⁸² Consequently, the bank had a "reasonable opportunity" to act on the stop payment order and was liable for its failure to act.⁸³

With the adoption of computers, however, banks have begun to rely on two items of information: the account number and check amount. None of the other information is fed into the computer because the computer processes only those two items. Although the amount of information upon which the computer acts is reduced drastically that information must now be absolutely accurate.⁸⁴ There can be no *de minimus* errors; any error, no matter how trivial it may be to humans, is catastrophic for many computers because that error renders them completely helpless.⁸⁵

Courts must decide how to apply the legal right the statute confers on the customer in light of this technological challenge. On the one hand, if the court maintains the status quo by considering the amount and accuracy of the information supplied by the customer and applying the *de minimus* rule, many bank computer systems will be unable to process stop payment orders in a manner which will protect the bank from liability. On the other

⁸⁰ See, e.g., *Framework for Change*, ECON. REV., FED. RESERVE BANK OF ATLANTA, Aug. 1983, at 6, 12. The Atlanta Federal Reserve Bank estimates, that in 1979, 32 billion checks were written on accounts at commercial banks. *Id.*

⁸¹ See *Delano v. Putnam Trust Co.*, 33 U.C.C. REP. SERV. (CALLAGHAN) 635, 638-39 (Conn. Super. Ct. 1981) and cases cited therein.

⁸² See *Elsie Rodriguez Fashions v. Chase Manhattan Bank*, 23 U.C.C. REP. SERV. (CALLAGHAN) 133, 134 (N.Y. Sup. Ct. 1978); *Thomas v. Marine Midland Tinkers Nat'l Bank*, 18 U.C.C. REP. SERV. (CALLAGHAN) 1273, 1275-76 (N.Y. Sup. Ct. 1978).

⁸³ See, e.g., *Thomas v. Marine Midland Tinkers Nat'l Bank*, 18 U.C.C. REP. SERV. (CALLAGHAN) 1273, 1275-76 (N.Y. Sup. Ct. 1978) ("Enough information was supplied to the bank to reasonably provide it with sufficient information to comply with the stop payment order.").

⁸⁴ As discussed below, some banks use computers which can tolerate a margin of error. See *infra* notes 180-95 and accompanying text. Most of the cases involve computers which apparently lacked this ability. See, e.g., *Poullier v. Nacua Motors*, 108 Misc.2d 913, 914, 349 N.Y.S.2d 85 (N.Y. Sup. Ct. 1981); *FJS Electronics, Inc. v. Fidelity Bank*, 28 U.C.C. REP. SERV. (CALLAGHAN) 1462 (Pa. Ct. Common Pleas 1980).

⁸⁵ *Poullier v. Nacua Motors*, 108 Misc.2d 913, 914, 349 N.Y.S.2d 85, 86 (N.Y. Sup. Ct. 1981).

hand, if the court applies the "reasonable opportunity" standard in a manner which is consistent with computer operations, the customer right granted by the UCC, given human propensity for making trivial errors and the computer's incapacity for tolerating such errors, will be seriously undermined. The following sections will examine the various positions developed by the case law, explain how they reflect fundamental theoretical approaches to the relationship between law and technology, and suggest an approach which best resolves the issues presented.

C. Cases Requiring Customers To Be As Precise As Computers

When confronted with the limitations of bank technology, some courts have required customers stopping payment to report information in the absolutely accurate manner required by the bank's computers.⁸⁶ One court's rationale seemed to be that since it is reasonable for banks to install computers, it is fair to require customers to give the computer whatever it needs.⁸⁷ A Florida court has based its decision on that state's nonuniform provisions of the UCC which demand more of the customer than does the official version by requiring the customer to describe the check with certainty.⁸⁸ An in-depth analysis of these decisions reveals that these courts have treated technology as an independent variable.⁸⁹ Their decisions seem to reflect a view of technological "determinism" or "autonomous" technology,⁹⁰ in so far as they force people to adapt to the needs of computers rather than the reverse.

In *Poullier v. Nacua Motors*,⁹¹ for example, the customer supplied the bank with the dollar amount of the check to be stopped, but made a one digit mistake.⁹² The court rejected the customer's contention that such a mistake should not relieve the bank of its responsibility to stop payment.⁹³ The court did not consider what constituted sufficient information under analogous UCC cases where computer capability was not in issue. The court, therefore, never had to address the possibility that but for the introduction of electronic technology, the customer would have won the case. Instead, attention was focused almost entirely upon the needs of computers. Computers were characterized as being "quite finicky."⁹⁴ The court noted that a one digit mistake may be trivial to a human, but "can be a world of difference to a computer."⁹⁵ The judge stated that a computer is "not unlike an infant of tender years" as it "is totally dependent on being spoon-fed by a human world."⁹⁶

As a result of the *Poullier* decision, in order for the customer to be able to retain his legal right to stop payment, he must substantially change his conduct. Customer conduct which was perfectly acceptable precomputer is now totally unacceptable. Such conduct

⁸⁶ *Id.* at 913, 439 N.Y.S.2d at 86.

⁸⁷ *Id.* at 914, 439 N.Y.S.2d at 86.

⁸⁸ *Capital Bank v. Schuler*, 421 So.2d 633, 636 (Fla. Dist. Ct. App. 1982).

⁸⁹ *Id.* at 637; *Poullier v. Nacua Motors*, 108 Misc. 2d 913, 914, 439 N.Y.S.2d 85, 86, (N.Y. Sup. Ct. 1981); see note 115 and accompanying text.

⁹⁰ *Id.*

⁹¹ 108 Misc. 2d 913, 429 N.Y.S.2d 85 (N.Y. Sup. Ct. 1981).

⁹² *Id.* at 913, 439 N.Y.S.2d at 86. The customer reported the amount as \$4,287.65. *Id.* The check actually was drawn in the amount of \$4,247.65. *Id.*

⁹³ *Id.* at 914, 439 N.Y.S.2d at 86.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

now must be consistent with what the infantile "finicky" computer demands. Reasonableness is determined not by what a customer would legitimately consider reasonable, but by what a primitive technological creature requires.

The *Poullier* court apparently regarded computer technology as an independent variable. Under *Poullier*, bank computer technology is the cause, the determinant, the limiting condition, while everything else is a dependent variable. Legal rules and human conduct which conform to those rules are regarded as an effect. Technology determines the legal rules. Technology determines the limits and parameters of the law. The UCC, therefore, is applied in a manner which is determined by the needs of the computer. In order to preserve their legal rights, customers must change their conduct to meet the demands of the computer.

The *Poullier* court's attitude intimates "technological determinism," and "autonomous technology,"⁹⁷ the views that society has a limited ability to influence how technology will affect our lives, and that humans should be passive, adapting their behavior to the inevitable demands made by the computers. The *Poullier* court seemed to believe it was forced into this posture since the bank reasonably found it necessary to computerize its stop payment system because of its many branch offices.⁹⁸

The *Poullier* decision is a classic example of a court's complete abdication of its role, of an unwarranted willingness to surrender the rule of law to the demands of primitive technology. The court never considered the language of the UCC or the rationale for the rights conferred by it. It should have noted that according to the UCC, the customer is granted a legal right to stop payment as long as he provides the bank with a "reasonable opportunity" to do so.⁹⁹ The Code does not require absolute precision. Under the logic of *Poullier*, however, the bank can dictate the meaning of "reasonable opportunity" by switching to forms of technology which enable it to contend that what constituted a reasonable opportunity one day is no longer sufficient the next day. Given this approach, the bank can substantially erode the customer's legal right by using computers rather than people. In sum, the *Poullier* court erred by ignoring the nature of a check under the UCC, i.e., a check is merely a customer instruction to pay that is fully revocable until the bank pays the check.¹⁰⁰ The decision also ignores the statement in the Official Comment that stop payment is a service banks should be required to provide.¹⁰¹

The one possibly saving feature of the *Poullier* opinion is the court's acknowledgement that the bank informed the customer that she must report the "exact dollar amount of the check" in order to stop payment.¹⁰² As will be discussed below¹⁰³ other courts have required banks to inform the customer of the need for precision as a condition to its relying on a trivial customer error in escaping liability. Although there are problems with this approach, it is preferable to penalizing customers for their lack of precision when the bank did not tell the customer that exactitude was required. It is not clear, however, whether the bank's disclosure was crucial to the *Poullier* court's decision. The court may have reached the same result even absent any explicit disclosure of the need for exactitude.

⁹⁷ See *supra* notes 16-20 and accompanying text.

⁹⁸ 108 Misc. 2d at 914, 439 N.Y.S.2d at 86.

⁹⁹ U.C.C. § 4-403(1) (1978).

¹⁰⁰ See *supra* notes 71-72 and accompanying text.

¹⁰¹ U.C.C. § 4-403 official comment 2 (1978).

¹⁰² 108 Misc. 2d at 913, 439 N.Y.S.2d at 86 (emphasis in original).

¹⁰³ See *infra* notes 117-43 and accompanying text.

At least one court, in dicta, has rejected the view that UCC section 4-403 requires the precision demanded by the computer and consequently by *Poullier*. In *Capital Bank v. Schuler*,¹⁰⁴ the court noted that the Permanent Editorial Board of the UCC had rejected proposals by California and the District of Columbia that would have required precision.¹⁰⁵ According to the *Schuler* court, in light of this rejection,

[i]t is apparent, then, that the policy of the Code is *not* that the check be specifically described or described with certainty, but only that the description be such as to afford the banks a reasonable opportunity to act on it. In this respect, the Code effected no significant change in the existing common law respecting stop-payment orders, under which the duty of the customer was to describe the item with 'reasonable accuracy.'¹⁰⁶

Nevertheless, six states and the District of Columbia have adopted a nonuniform amendment requiring greater accuracy than the official UCC version.¹⁰⁷ In these jurisdictions, requiring customer precision as to the amount of the check is a simple matter of applying the standards set forth in the statute. One might question the wisdom of requiring precision, of refusing to defer to the Permanent Editorial Board, and of insisting upon a nonuniform provision in a Code whose primary objective is enactment of a uniform national body of state law.¹⁰⁸ One cannot, however, accuse the courts in these jurisdictions of ignoring or distorting the law in order to allow computer technology to dictate the effect given to the law. Nevertheless, cases in the jurisdictions adopting precision requirements have not been able to apply that standard easily. Those cases, therefore, provide further illustrations of judicial treatment of the relationship between law and bank computer technology.

In *Capital Bank v. Schuler*,¹⁰⁹ for example, a question of statutory interpretation arose because the Florida law, while containing a nonuniform clause requiring a customer to describe the check "with certainty," retained the "reasonable opportunity" language found in the official version of the UCC.¹¹⁰ The court rejected an argument that the inclusion of a "reasonable opportunity" test modified and diluted the "certainty" requirement.¹¹¹ The *Capital Bank* court concluded that even if the certainty standard really

¹⁰⁴ 421 So. 2d 633 (Fla. Dist. Ct. App. 1982).

¹⁰⁵ *Id.* at 635. See PERMANENT EDITORIAL BOARD FOR THE UNIFORM COMMERCIAL CODE, REPORT ON VARIATIONS TO CODE IN ADOPTING STATES 88 (Report No. 2, 1965) [hereinafter cited as P.E.B. FOR U.C.C.]. In rejecting the proposed amendment the P.E.B. stated: "This entire section [§ 4-403] in its 1958 form was one of the most extensively debated and carefully considered in the entire Code. It represents fixed policy. It is considered sound by the sponsoring organizations and the Editorial Board." *Id.*

¹⁰⁶ 421 So. 2d at 635.

¹⁰⁷ P.E.B. FOR U.C.C., *supra* note 106, at 88 n.4. As stated at footnote 4 to the Board report: Forty-four states and the Virgin Islands have adopted Section 4-403 U.C.C. (1978) as written. In addition to Florida, four states (Arizona, California, Nevada and Texas) require that the check be described with "certainty." See respectively, Ariz. Rev. Stat. Ann. § 44-2629 (1967); Cal. Com. Code § 4403 (West 1964); Nev. Rev. Stat. § 104.4403 (1979); Tex. Bus. & Com. Code Ann. § 4-403 (Vernon 1968). Utah and the District of Columbia require that the check be "specifically" described. Utah Code Ann. § 28:4-403 (Supp. VII 1980).

¹⁰⁸ U.C.C. § 1-102(2)(c) (1978).

¹⁰⁹ 421 So. 2d 633 (Fla. App. 1982).

¹¹⁰ *Id.* at 635 & n.3; see FLA. STAT. § 674.403(1) (1977).

¹¹¹ See 421 So. 2d at 635-37.

did not require absolute precision, the customer's failure to correctly report the check amount resulted in the bank not being afforded a reasonable opportunity to stop payment.¹¹² In explaining this conclusion, the court merely noted that the bank had adopted a reasonable computer system, the system required accuracy, and because the customer had not been accurate, the bank (meaning the bank's computer) had no reasonable opportunity (meaning no electronic capability) to act on the stop order.¹¹³ The court justified its result by opining that this technology "is designed to provide the most efficient service to the greatest number of customers at the least cost."¹¹⁴

In *Capital Bank*, as in *Poullier*, UCC standards were willingly bent to accommodate to the needs of the computer. The *Capital Bank* court failed even to mention whether the bank informed the customer of the need for precision or whether the customer was otherwise aware of this need.¹¹⁵ Consequently, the court in *Capital Bank* took even less cognizance of the customer than did the court in *Poullier*.¹¹⁶

D. Courts Requiring a Bank to Disclose Its Need for Precision

Some courts in jurisdictions having the official version of section 4-403 allow the bank to impose a requirement of precision if the bank has disclosed to the customer that absolute accuracy is necessary for it to stop payment.¹¹⁷ Although these courts treat the disclosure issue as an isolated one, it can be better analyzed if viewed within the context of the legal relationship between the customer and the bank. The customer with a checking account has a contractual relationship with the bank;¹¹⁸ in that relationship, the rights and duties imposed on each party depend upon what "expectations were reasonably induced" by the parties' oral and written statements, their conduct and other circumstances surrounding their relationship.¹¹⁹ Unless the bank has expressly informed the customer at a meaningful time of a requirement to report the amount of the check precisely in order to stop payment, a court applying a contractual approach would most likely find that supplying accurate information except for a minor error as to amount constituted the

¹¹² *Id.* at 637.

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ Even if the language in the nonuniform provisions is not susceptible to varying interpretations, a bank may not be able to take advantage of a state's nonuniform precision requirements because of its conduct. *See, e.g., Rimberg v. Union Trust*, 12 U.C.C. REP. SERV. (CALLAGHAN) (D.C. Super. 1973). The case of *Rimberg v. Union Trust* was decided in a jurisdiction whose statute required the customer to "specifically" describe the check. *Id.* at 528; *see* D.C. CODE ANN. § 28:4-403 (1981). The customer's wife told the bank that her husband was out of town and she was not certain whether he had made out the check in question for \$235 or \$250. 12 U.C.C. REP. SERV. 527 (Callaghan) at 528. The teller told her to fill out a form, but never explained the need for precision. *Id.* The wife wrongly guessed the amount of \$235. *Id.* The court held that by failing to explain the need for absolute accuracy, and giving her just one stop order form to complete, the bank led her to believe precision was not required. *Id.* at 530. By acting in this manner, the court found the bank had waived the statute's requirement of precision. *Id.*

¹¹⁶ *Compare Capital*, 421 So. 2d at 633, with *Poullier*, 108 Misc.2d 913, 439 N.Y.S.2d 85.

¹¹⁷ *See, e.g., Delano v. Putnam Trust Co.*, 33 U.C.C. REP. SERV. (CALLAGHAN) 635 (Conn. Super. Ct. 1981); *FJS Electronics, Inc. v. Fidelity Bank*, 28 U.C.C. REP. SERV. (CALLAGHAN) 1462, 1467 (Pa. Ct. Common Pleas 1980).

¹¹⁸ Symons, *The Bank-Customer Relation: Part I — The Relevance of Contract Doctrine*, 100 BANKING L.J. 220, 222 (1983).

¹¹⁹ *Id.* at 223.

submission of adequate information to the bank. A customer would reasonably expect that the information provided was sufficient and that such an error would not preclude the bank from being able to stop payment.

Some cases are consistent with this approach.¹²⁰ These cases allow the bank to require precision, but only if the bank describes the need for such accuracy.¹²¹ In effect, these cases require the bank to make the precise reporting requirement an explicit contractual term. Moreover, the disclosure required by the court can be quite elaborate. While one court has merely declared the bank had the duty to inform the customer of the need for precision,¹²² another court has found that this was not enough.¹²³ In the latter case, the bank told the customer "every bit of information must be accurate."¹²⁴ Nonetheless, the court found this warning to be insufficient, pointing out that the bank did not inform the customer of the procedure by which the computer segregated checks the customer wanted to stop.¹²⁵ The court required the bank to "emphasize to [the customer] that all . . . information [relating to the check] may well be ineffective unless the *amount of the check* were *absolutely accurate*."¹²⁶

The extent to which banks may contractually modify the rights established for customers under the UCC is open to question.¹²⁷ Even if banks have this power, courts insisting on disclosure should not merely require the bank to inform the customer of the need to be precise. Unless the customer realizes why he must be precise, the significance of the bank's disclosure will be lost on him, especially if he knows he has accurately reported a plethora of information in addition to reporting the check amount.

A court's inquiry, however, should not end with a determination of whether or not the bank has described its computer's operation so that the customer realizes why the bank needs the exact amount of the check. Instead, in order to determine whether the bank's disclosure should be considered part of the agreement between the parties, the court should also consider the manner in which the requirement was disclosed to the customer. One factor to be examined is the timing of the disclosure. Informing the customer only at the time he submits the stop order may not be fair. If the customer did not know of the requirement when he made out the check, he might not have realized the importance of recording the exact amount to the penny in his checkbook. The bank should therefore notify the customer at an earlier time as well. For instance, the stop payment requirements could be included in documents which are given to the customer when the account is opened. Disclosure at the time the account is opened, will not be adequate, however, if presented in a manner in which the customer could not be expected to realize the nature and significance of the requirement. Given the format of many present bank disclosures — tiny print and legalese¹²⁸ — courts should also examine bank

¹²⁰ *Delano v. Putnam Trust Co.*, 33 U.C.C. REP. SERV. (CALLAGHAN) 635 (Conn. Super. Ct. 1981); *FJS Electronics, Inc. v. Fidelity Bank*, 28 U.C.C. REP. SERV. (CALLAGHAN) 1462 (Pa. Ct. Common Pleas 1980).

¹²¹ *Id.*

¹²² *Delano v. Putnam Trust Co.*, 33 U.C.C. REP. SERV. (CALLAGHAN) 635, 639 (Conn. Super. Ct. 1981).

¹²³ *FJS Electronics, Inc. v. Fidelity Bank*, 28 U.C.C. REP. SERV. (CALLAGHAN) 1462, 1467 (Pa. Ct. Common Pleas 1980), *aff'd on other grounds*, 288 Pa. Super. 138, 431 A.2d 326 (1981).

¹²⁴ *Id.* at 1464.

¹²⁵ *Id.* at 1467.

¹²⁶ *Id.* (emphasis in original).

¹²⁷ B. CLARK, *supra* note 70, at 2-41-2-43; J. WHITE & R. SUMMERS, *supra* note 80, at 653-55.

¹²⁸ See Sybert, *Adhesion Theory in California, A Suggested Redefinition and Its Application to Banking*, 11 LOY. L.A.L. REV. 297, 323-33 (1978).

forms to ascertain whether they constitute reasonable notice and should be considered part of the agreement of the parties.

One case implicitly rejects the view that the bank can contract its way out of the UCC's "reasonable opportunity" standard and into a standard of absolute accuracy. In *FJS Electronics v. Fidelity Bank*,¹²⁹ the lower court held that a bank was subject to liability because it failed to disclose explicitly that the bank needed precision since it used computers which required exact numbers.¹³⁰ On appeal, the state superior court also found the bank subject to liability, but offered no escape through disclosure.¹³¹ Instead, the opinion emphasized Comment Two's focus on the customer's expectations.¹³² The court reasoned that a customer would expect the bank to stop a check after he gives reasonable notice.¹³³ An analysis of the notice given by the customer in *FJS*, which included a fifty cent error, led the court to conclude that it gave the bank a "reasonable opportunity" to stop payment as that standard had been applied in other cases.¹³⁴ Accordingly, the decision in *FJS* represents a rejection of the bank's "autonomous technology" argument. The bank had maintained that since its computer needed accurate information, the only customer notice which could be legally sufficient is the notice the computer required.¹³⁵ The court rejected this argument because it was inconsistent with Comment Two.

Courts adopting the bank disclosure approach are somewhat consistent with those who adhere to the Customer Oriented model.¹³⁶ Apparently, they believe that private enterprise should implement technology in a manner that is intelligible to ordinary citizens. Requiring the bank to explicitly disclose its reporting requirements at a meaningful time and in a reasonable manner helps to insure that customers are aware of the way technology is being used and of how they must modify their behavior in light of that technology. The bank disclosure approach is not entirely consistent with the customer-oriented model, however, because it is not necessarily responsive to customers' needs. The bank disclosure cases represent the position, in effect, that it is acceptable for the bank to erode the customer's right to stop payment in computerized transactions by requiring more of him than is otherwise required under the UCC, provided the bank informs the customer that it is going to erode these rights in the interest of accommodating technology's demands.¹³⁷

The appellate court in *FJS* refused to adopt this approach. Instead, the court insisted upon paying attention to the customer's reasonable conduct and expectations.¹³⁸ In this respect, the *FJS* court is more in line with the customer-oriented model which favors technology which is responsive to people's needs. The *FJS* court refused to regard

¹²⁹ 28 U.C.C. REP. SERV. (CALLAGHAN) 1462.

¹³⁰ *Id.* at 1467.

¹³¹ *FJS Electronics, Inc. v. Fidelity Bank*, 288 Pa. Super. 138, 141-42, 431 A.2d 326, 327-28 (1981).

¹³² *Id.* at 142, 431 A.2d at 328. For an excerpt from comment two see *supra* note 68 and accompanying text.

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ See *supra* note 52 and accompanying text.

¹³⁷ See *FJS Electronics, Inc. v. Fidelity Bank*, 28 U.C.C. REP. SERV. (CALLAGHAN) 1462, 1467 (Pa. Ct. Common Pleas 1980).

¹³⁸ *FJS Electronics, Inc. v. Fidelity Bank*, 288 Pa. Super. 138, 142, 431 A.2d 326, 328 (1981).

technology as an independent variable, as the determinant of our laws and behavior.¹³⁹ Rather, it adopted the same standards that the UCC and case law established before the advent of computerization.¹⁴⁰ Consequently, what was reasonable customer conduct before computerization is still reasonable under the *F/S* approach. If banks wish to take advantage of the benefits of technology, they must accept the losses which occur as a result of technology's limitations. As the *F/S* court stated:

[The bank] made a choice when it elected to employ a technique which searched for stopped checks by amount alone. It evidently found benefits to this technique which outweighed the risk that an item might be inaccurately described in a stop order. This is precisely the type of inevitable loss which was contemplated by the code drafters and addressed by [Comment Two].¹⁴¹

The court treated the customer's UCC rights and reasonable customer conduct as the independent variables.¹⁴² If the bank wanted to avoid loss, therefore, it would be required by the court to use technology which could process stop payment orders consistent with these independent variables.¹⁴³

E. Stop Payment Under the Uniform New Payments Code

In 1977, the Permanent Editorial Board of the Uniform Commercial Code established a committee to consider whether Articles 3 and 4 of the UCC should include electronic transfers. Beginning in 1978 the committee prepared numerous drafts of a payments code known as the Uniform New Payments Code (UNPC). The UNPC purports to provide a legal framework which, to the extent possible, would attach the same legal consequences to all types of transfers, whether they are based on a paper, card or electronic system.¹⁴⁴ Discussion of the UNPC in this article focuses on P.E.B. Draft No. 3, the version which was submitted to the National Conference of Commissioners on Uniform State Law for a partial first reading in July of 1983.¹⁴⁵ Although many significant changes may be made in the UNPC before an Official Draft is issued,¹⁴⁶ in its present form it provides material for a fruitful discussion of the relationship between technology, banking and the law.

The stop payment provisions of the proposed Uniform New Payments Code relating to the information customers must supply to banks generally reflect the position that the law and customer conduct should be altered in order to accommodate the needs of bank computers.¹⁴⁷ By regarding the technological requirements of computers as the independent variable, or the determinant, the UNPC undermines the general thrust of its

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *Id.* at 141-43, 431 A.2d at 328-29.

¹⁴³ *Id.* at 142, 431 A.2d at 328.

¹⁴⁴ Scott, *Memorandum on the Uniform New Payments Code*, prepared for the National Conference of Commissioners on Uniform State Laws 1 (P.E.B. Draft No. 3, June 15, 1983) (unpublished).

¹⁴⁵ See *id.* Before an Official Draft is approved and promulgated it must go through two complete readings before the National Conference and one reading before the American Law Institute. Benfield, *The New Payments Code and the Abolition of Holder in Due Course Status As to Consumer Checks*, 40 WASH. & LEE L. REV. 11, 11-12 n.3 (1983).

¹⁴⁶ Benfield, *supra* note 145, at 11-12.

¹⁴⁷ See *infra* note 168 and accompanying text.

consumer stop payment rules, which is to strengthen the right to stop payment.¹⁴⁸ By requiring unnecessarily stringent reporting rules in all transactions, the UNPC erodes the stop payment rights of commercial customers as well as consumers.¹⁴⁹

Section 425 of the UNPC tracks the language of the UCC in providing that a stop payment order be received in a manner which provides the bank a "reasonable opportunity" to act.¹⁵⁰ The stop payment right, however, is substantially undercut by the UNPC's reporting provision.¹⁵¹ The UNPC requires the customer to "at least accurately identify:" (a) his account number, (b) the "dollar amount (not cents)" of the check, (c) the payee, (d) the customer, and (e) the date of the check, within one calendar week.¹⁵² The "Purposes" section makes clear that these requirements were based on the drafters' perception of what bank technology needed.¹⁵³ That section lists the four items of information in discussing the "information which is likely to be possessed by the drawer and which would be adequate for the payor account institution to identify the order on an automated basis. . . ."¹⁵⁴ As we have seen, however, bank technology does not employ all of this data to pull the check out of the automated processing system.¹⁵⁵ No substantiation is provided in the cases or UNPC to support the position that banks need, or would even use all the information a customer is required to provide in order to segregate and identify the check under the UNPC.¹⁵⁶ Typically, the only information the computer uses is the account number and the amount of the check.¹⁵⁷ The UNPC recognizes this in justifying the requirement that the customer furnish the exact dollar amount.¹⁵⁸ The UNPC does not explain why the other information is required, and does not obligate the bank to use the other information in finding the check. Accordingly it would be particularly unfair if a bank could raise in defense to an action for failure to honor a stop payment order the fact that the customer had failed to provide the date of the check, when the bank did not need or use that information. Nevertheless, by characterizing the four items as "formal requisites"¹⁵⁹ of a direction to stop payment, the UNPC seems to sanction this unjust defense.

It is difficult to understand why the UNPC deems this detailed information a "formal requisite." Under the UCC, the customer must supply only that information which provides the bank a "reasonable opportunity" to stop payment.¹⁶⁰ Some courts hold that the bank and customer can by agreement provide for more detailed information.¹⁶¹ Other

¹⁴⁸ See U.N.P.C., *supra* note 5, at § 425(2) purpose no. 3. U.N.P.C. section 425 expands the law beyond its current limits to provide a stop payment right when the customer pays by electronic means. *Id.* purpose no. 3.

¹⁴⁹ See *infra* note 159 and accompanying text.

¹⁵⁰ U.N.P.C., *supra* note 5, at § 425(1).

¹⁵¹ *Id.* at § 425(9).

¹⁵² *Id.*

¹⁵³ *Id.* at § 425 purpose no. 9.

¹⁵⁴ *Id.*

¹⁵⁵ See *supra* note 78 and accompanying text.

¹⁵⁶ The "purposes" part of § 425 merely asserts that the required information "would be adequate for the payee account institution to identify the order on an automated basis. . . ." U.N.P.C., *supra* note 5, at § 425 purpose no. 9.

¹⁵⁷ See *supra* note 83 and accompanying text.

¹⁵⁸ U.N.P.C., *supra* note 5 at § 425(9)(b).

¹⁵⁹ *Id.*

¹⁶⁰ See U.C.C. § 4-403 (1978).

¹⁶¹ See *Delano v. Putnam Trust Co.*, 33 U.C.C. REP. SERV. (CALLAGHAN) 635, 639 (Conn. Super. Ct. 1981); *FJS Electronics, Inc. v. Fidelity Bank*, 28 U.C.C. REP. SERV. (CALLAGHAN) 1462, 1467 (Pa. Ct. Common Pleas 1980).

courts will not even allow this infringement on the stop payment right.¹⁶² Curiously, the UNPC takes these voluntary private agreements and transforms them into statutorily required preconditions, regardless of whether bank technology demands them.¹⁶³ Thus, in an ironic twist, while bank technology has reduced the amount of information required of the customer, the UNPC has unexplainably increased the amount required and correspondingly increased the extent to which the customer must be accurate.¹⁶⁴ While case law under the UCC allows for a flexible approach which some courts employ to consider both the reasonable conduct of the customer and the need to accommodate to the needs of technology, the UNPC takes from the customer and gives to technology even more than the technology requires. The UNPC's rigid requirements allow no room for the possibility that technological advances will reduce even further the amount of information needed by the bank.

The UNPC further adds insult to injury by not requiring any disclosure of these new requirements to customers.¹⁶⁵ This is contrary to the concept of a contractual relationship between the parties.¹⁶⁶ In addition, under UCC case law, banks must disclose specific reporting requirements to customers. The UNPC, *sub silentio*, statutorily incorporates its "formal requisites" into the agreement of the parties. If this is done at all, it should be enforceable only after notice to the customer. Hopefully, banks will supply forms which list the four types of information and which clearly notify the customer that precisely accurate completion of the form is required. This can only be a hope, however, because the UNPC is silent on disclosure requirements by banks. Even if banks supply such forms, the forms will not assist customers who orally transmit stop payment instructions.¹⁶⁷ Those customers will have to rely on bank employees to explain what information is required.

In most respects the UNPC regards technology as an independent variable.¹⁶⁸ Actually, the UNPC is an extreme example of this view of technology's role in society because instead of carefully assessing what technology actually needs, it attempts to anticipate every bit of information technology might possibly use. As a result customer conduct is dictated by technology. Acknowledgement of human realities appears only when the UNPC recognizes that a customer will not be able to report the exact dollar amount if it is not accurately recorded in the customer's records.¹⁶⁹ This unfortunate occurrence is characterized as an "inconvenience" which "is offset by the general cost saving to the system."¹⁷⁰ Of course, the absence of a precisely accurate recorded amount is more than an "inconvenience"; it results in loss of the stop payment right.¹⁷¹ In addition, failure to keep accurate records of the other required information results in loss of the right.¹⁷²

¹⁶² FJS Electronics, Inc. v. Fidelity Bank, 288 Pa. Super. 138, 140-42, 431 A.2d 326, 327-28 (1981).

¹⁶³ U.N.P.C., *supra* note 5, at § 425(9) purpose no. 9.

¹⁶⁴ *Id.*

¹⁶⁵ *See id.* at § 425. U.N.P.C. § 425 requires no disclosure of the information the customer must provide. *Id.*

¹⁶⁶ *See generally* Symons, *supra* note 118.

¹⁶⁷ The UNPC allows oral as well as written stop orders. U.N.P.C., *supra* note 5, at § 425(1).

¹⁶⁸ *See supra* note 164 and accompanying text.

¹⁶⁹ U.N.P.C., *supra* note 5, at § 425 purpose no. 9.

¹⁷⁰ *Id.*

¹⁷¹ *See id.* at § 425. U.N.P.C. section 425 purpose number 9 makes it clear that precisely recorded information is a formal requisite. *Id.*

¹⁷² *Id.* at § 425 purpose no. 9.

The UNPC's commentary describes the competing interests as being the need of customers to improve their bargaining position¹⁷³ and the need of banks to have sufficient information for their efficient automated and electronic equipment.¹⁷⁴ This statement of the issue substantially narrows the customers' field of interest from that which presently exists under the UCC. Under the UCC the right to stop payment is not conferred merely to protect bargaining positions, but also because it is consistent both with the concept that a check is merely a freely revocable instruction to pay, and with the policy decision that customers correctly expect banks to provide this service despite occasional losses and inconvenience to the bank.¹⁷⁵ In the name of technology's needs, the UNPC narrows the framework for viewing the right to stop payment and shifts the burden of inconvenience to the customer.¹⁷⁶

In one respect the UNPC does somewhat restrict technology. Under the UNPC the customer is required to report only the exact dollar amount of a check.¹⁷⁷ The Code itself specifically does not require the exact amount of cents.¹⁷⁸ Consciously or not, this represents a partial compromise of the UNPC's otherwise "autonomous technology" approach, because the UNPC denies freedom from liability to financial institutions which utilize computers so primitive they need the amount accurate to the penny. The next section of this article examines a case which imposed even higher standards on the capacity of the banks' computers. That case raises the question whether the UNPC should require banks to use "state of the art" technology to escape liability. In its present form, except for the dollar amount compromise, the UNPC allows the bank to use whatever technology it wishes, no matter how archaic.¹⁷⁹

F. Requiring Banks to Maintain "State of the Art" Technology

One case has adopted the "Systems" model's approach to technology.¹⁸⁰ In *Migden v. Chase Manhattan Bank*,¹⁸¹ the court refused to tie customers' rights to whatever technology the bank had implemented.¹⁸² At the same time, the court did not entirely subordinate the role of technology in shaping legal rules to govern customer conduct.¹⁸³ Instead, the court insisted that if a bank employs technology, it must at least be at a level consistent with the "state of the art."¹⁸⁴

The cases considered thus far apparently involved equipment which required precise information.¹⁸⁵ The more advanced systems are able to operate even if the customer reports erroneous information. For example, the *Migden* case involved a stop payment order which was submitted to the bank in 1979. At that time, the Chase Manhattan's computers could segregate a check as long as the reporting error was no more than

¹⁷³ *Id.* at § 425 purpose no. 9.

¹⁷⁴ *Id.*

¹⁷⁵ See *supra* notes 68-72 and accompanying text.

¹⁷⁶ See *supra* notes 152-59 and accompanying text.

¹⁷⁷ U.N.P.C., *supra* note 5, at § 425(9)(b).

¹⁷⁸ *Id.*

¹⁷⁹ *Id.*

¹⁸⁰ See *supra* text following note 52.

¹⁸¹ 32 U.C.C. REP. SERV. (CALLAGHAN) 937 (N.Y. Civ. Ct. 1981).

¹⁸² *Id.* at 940.

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ See *supra* notes 86-115 and accompanying text.

one-tenth of one percent of the amount of the check or \$1.00, whichever was greater.¹⁸⁶ At trial, one of the bank's officers testified that in 1981 the bank's computers were able to tolerate an even greater margin of error, including the two-thirds of one percent error involved in this case.¹⁸⁷ The court found that the bank was negligent in not using computers which were able to accommodate an error as minor as the customer's, absent proof that "the state of the art at the time would render the [bank] unable, employing reasonable business practices, to stop payment with an error of less than one percent. . . ."¹⁸⁸

The *Midgen* court, in effect, said that if a bank uses computers, it must continually upgrade them so they have state of the art capabilities.¹⁸⁹ Otherwise, the court stated, the bank will be considered negligent for failure to stop payment when the customer has provided information that would have been sufficient for a bank using a state of the art computer system to effectuate stop payment.¹⁹⁰ Moreover, in connection with this state of the art standard, the court employed a presumption that using a computer which could not deal with an error of less than one percent was negligent.¹⁹¹ Once the customer shows that his error was within the one percent range, the court shifted the burden to the bank to prove that the state of the art was such that, employing reasonable business practices, the bank would not have been able to program its computer to enable the bank to stop payment.¹⁹²

The court's test in *Midgen* imposes an onerous burden of proof upon banks. Banks seeking to avoid liability for failure to stop payment will have to present evidence of the state of the art at the time of the customer's order. If the bank recently has upgraded its equipment so that currently it would be able to handle the customer's error, the bank will have to prove it acted in a commercially reasonable manner by not having computer equipment with such capacities at the time of the customer's order.

The *Midgen* court's standard also imposes economic burdens upon financial institutions. Banks use computers to process checks because it is more efficient than other methods. The cost of having to purchase new equipment in order to maintain state of the art capability for stop payment orders, however, may significantly reduce the cost savings which resulted from using computers. Consequently, banks with less capital available for such purchases would not be as able to comply with this standard. They would be at a competitive disadvantage to banks with plenty of capital to invest in the necessary equipment.

The court's approach in *Midgen* also implicitly embodies a philosophy which promotes technological advancement and is consistent with the Systems model. If banks are required to continue buying the latest in computer equipment in order to avoid liability, those designing and producing such equipment have a captive market for their goods. Because of this market, there is a built-in incentive for them to continue to improve their

¹⁸⁶ 32 U.C.C. REP. SERV. (CALLAGHAN) at 938-39.

¹⁸⁷ *Id.* at 939.

¹⁸⁸ *Id.* at 940. Although neither side presented evidence of industry practice in 1979, the court apparently had misgivings about the bank's willingness to keep current with the state of the art. *See id.* This was apparent from the fact that in 1981 the state of the art and reasonable business practices resulted in the bank using computers which had the capacity to handle an error such as the one involved in the case before it. *See id.*

¹⁸⁹ *Id.*

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² *Id.*

equipment. The state of the art test could result not only in the use of more sophisticated computers, but also in even greater dependence on computers.

From the customer's perspective, however, the court's test in *Midgen* is justifiable. If a customer must change his conduct to meet the computer's needs, at least he should have the benefit of computers which meet current technological standards. Otherwise, the customer may find his ability to exercise legal rights has been substantially undermined because his bank uses primitive equipment instead of manual procedures or the more sophisticated machinery available.

Midgen's state of the art standard also appears consistent with the Uniform Commercial Code. The UCC gives the customer the right to stop payment, but only if the customer acts before his bank pays the check.¹⁹³ Computerization of check processing substantially shortens the time available to the customer, thereby considerably weakening the customer's right.¹⁹⁴ Because the bank can use computers which undermine this right by reducing the time available, the UCC should be interpreted to require the bank to use computers which facilitate the bank's ability to execute the stop order when the customer does act within the computer-determined time frame.

In addition to being consistent with the Systems model, the *Midgen* court's approach is in harmony with those who would "humanize" technology rather than oppose it, glorify it, or submit to it. Under *Midgen's* state of the art standard, technology is welcomed, and it may be an influence in applying legal rules. Nonetheless, a bank can exploit technology to a customer's detriment only if the bank employs equipment which is "customer friendly" when such systems are available.

Midgen also illustrates a weakness in the UNPC provision requiring the customer to report the exact dollar amount.¹⁹⁵ Section 425(9)(b) of the UNPC apparently constitutes a recognition of current state of the art, including the ability of computers to process stop payment orders even if the customer erroneously reports the amount of cents in which the check was issued. The requirement is too rigid, however, and falls short of being a reasonable accommodation. As *Midgen* demonstrates, computers can do much better than the UNPC implies. Computers can tolerate a margin of error tied to the percentage by which the reported amount varies from the actual amount.¹⁹⁶ Consequently, customers may make errors in the amount of several dollars and computers can still process stop payment orders.¹⁹⁷ Thus, the UNPC insists that customers bend to technological needs, but then decides for itself what those needs are without leaving any room for flexibility in the event technology improves.¹⁹⁸ In contrast to *Midgen*, therefore, the UNPC provides no built-in incentive for banks to humanize technology.

The preceding discussion of the cases and the UNPC provides the basis from which standards for a revised UCC stop payment provision can be formulated. These standards, discussed in the following section, reasonably accommodate the needs of technology, the expectations of customers and the commercially reasonable practices of banks. At the same time, they are consistent with the principles underlying the current UCC.

¹⁹³ U.C.C. § 4-303(1) (1978).

¹⁹⁴ U.N.P.C., *supra* note 5, at purpose no. 2.

¹⁹⁵ *Id.* at § 425(9)(b).

¹⁹⁶ *Midgen v. Chase Manhattan Bank*, 32 U.C.C. REP. SERV. (CALLAGHAN) 937, 939 (N.Y. Civ. Ct. 1981).

¹⁹⁷ *See id.*

¹⁹⁸ *See supra* note 155 and accompanying text.

G. Standards for a Revised Stop Payment Provision

The law of stop payment should not be dictated by bank technology, nor should the law conflict with banks' reasonable use of electronic equipment. Rather, the law should embody the fundamental principles to which commercial law has always tried to be faithful, and bank technology should have to find its place in the context of those principles. Those principles allow customers to take advantage of their rights as long as they conduct themselves in a reasonable fashion.¹⁹⁹ Similarly, banks must behave in accordance with reasonable commercial standards, using ordinary care.²⁰⁰

The UCC provides the customer with the right to stop payment if his order is "received at such time and such manner as to afford the bank a reasonable opportunity to act on it."²⁰¹ This provision could be improved upon without reducing flexibility by providing the customer the right if he supplies the bank with "that information which would be sufficient for a reasonably prudent banker to act upon if he were using ordinary care and conducting himself in accordance with commercially reasonable standards."²⁰² To prevent this standard of reasonableness from being merely a "reaffirmation of the predominant morals of the marketplace,"²⁰³ however low those morals might be, and to provide the specificity necessary to prevent judges from interpreting reasonableness in whatever manner conforms to their individual values, the law also should require the following. The bank would be liable for paying over a stop order if the customer provided information which a reasonable customer expects to be sufficient, even if the customer made minor reporting errors which the bank's computers could not handle. The bank would not be able to escape liability simply by proving commercial reasonableness through a showing that it conducted its operations in a manner comparable to other banks. The bank also would have to demonstrate that a reasonable customer could not have believed the information he supplied would be adequate.

If the bank wished to impose reporting requirements more strict than those discussed above, the burden would be on the bank to prove several things in order successfully to defend an action brought by a customer. First, the bank would have to show it clearly and

¹⁹⁹ U.C.C. §§ 3-406, 4-406 (1) (1978); see *infra* note 209.

²⁰⁰ See, e.g., U.C.C. §§ 3-406, 4-103(1) & 4-406(1), (3) (1978). These principles are embodied in many sections of the U.C.C. *Id.* For example, a customer cannot hold his bank liable for paying a check which contains an unauthorized signature if he "by his negligence substantially contributes" to the making of such a signature. *Id.* at § 3-406. Even if the customer was negligent, however, the bank which pays the check must have acted in good faith and "in accordance with reasonable commercial standards" in order to escape liability. *Id.* When a customer receives his statement of account, he must "exercise reasonable care and promptness" in examining the statement and the returned checks, promptly reporting any alterations or unauthorized signatures. *Id.* at § 4-406(1). Even if the customer fails to comply with this standard the bank is liable if it did not exercise "ordinary care" in paying the check. *Id.* at § 4-406(3). No agreement between the bank and its customer can "disclaim a bank's responsibility for its own lack of good faith or failure to exercise ordinary care or can limit the measure of damages" for failing to meet this standard. *Id.* at § 4-103(1).

²⁰¹ *Id.* at § 4-403.

²⁰² See J. WHITE & R. SUMMERS, *supra* note 73, at 680. White & Summers recommend the following: "When the customer gives erroneous information or gives less information than the banker asks for, we urge courts to review the information given to determine whether a reasonably prudent banker with that information should have found the check." *Id.*

²⁰³ Danzig, *A Comment on the Jurisprudence of the UCC*, 27 STAN. L. REV. 621, 629 (1975). For a critique of the UCC's use of the standard of reasonableness, see Mellinkoff, *The Language of the Uniform Commercial Code*, 77 YALE L.J. 185, 209-213 (1967).

conspicuously disclosed the reporting obligations to the customer at a meaningful time before the customer exercised the right. In addition, the disclosure would have to explain why the bank needs the information required; if for example precision is required, the need for that precision should be explained. Thus, if the bank needs the exact amount of the check for its computers, the customer should be told so that he will fully appreciate that if he is not accurate he will lose his stop payment right. This explanation would also fulfill the more general function of providing the customer with information with which he can better appreciate the impact of technology on his life. Next, in order to prevent banks from unduly undermining the customer's right to stop payment by rigid requirements the bank should have the burden of justifying its requirements. For example, if precision is needed for the bank's technology, the bank should have the burden of proving its technology is substantially in accordance with the state of the art.

The above standards are consistent with the humanizers' approach to technology.²⁰⁴ Through these standards technology is treated as a dependent variable. The legal right to stop payment is the independent variable. The standards are also customer-oriented in that if the customer must conform to higher standards of conduct because of electronic equipment, the reasons are explained to the customer enabling him to understand the bank's use of technology. Finally, the standards are consistent with the Systems model as well because the state of the art requirement insures the development of the best technology available. This should result in technology which ultimately demands less of customers while increasing bank efficiency and profits.

IV. BANK FAILURE TO TRANSFER FUNDS

A. Introduction

As demonstrated above, the stop payment cases involve customer error, not computer malfunction.²⁰⁵ Despite the fact that the customer is at fault, the allocation of loss can not simply be put on the customer in every instance.²⁰⁶ If the bank never discloses the need for precision or if the bank uses primitive computers, the loss may properly be placed on the bank.²⁰⁷ The cases considered in this section present the situation in which customers correctly instruct their banks to transfer funds but the bank electronic equipment fails to operate correctly. Superficially, it would appear that the loss should fall on the bank. The customer did nothing wrong; the bank made a mistake. Case law, existing statutes and the proposed Uniform New Payments Code, however, severely limit the bank's liability, saying in effect, that correct customer conduct is not sufficient to protect the customer from loss.

This section concerns the customer who instructs his bank to transfer his funds electronically to a person to whom the customer owes a debt. This can occur in a number of different electronic formats.²⁰⁸ For example, a customer can arrange in advance to

²⁰⁴ See *supra* notes 51-56 and accompanying text.

²⁰⁵ See, e.g., *Poullier v. Nacua Motors*, 108 Misc. 2d 913, 913-14, 439 N.Y.S. 2d 85, 86 (N.Y. Sup. Ct. 1981); *Migden v. Chase Manhattan Bank*, 32 U.C.C. REP. SERV. (CALLAGHAN) 937, 938 (N.Y. Civ. Ct. 1981).

²⁰⁶ See *supra* notes 86-115 and accompanying text.

²⁰⁷ *FJS Electronics, Inc. v. Fidelity Bank*, 28 U.C.C. REP. SERV. (CALLAGHAN) 1462 (Pa. Ct. Common Pleas 1980); *Migden v. Chase Manhattan Bank*, 32 U.C.C. REP. SERV. (CALLAGHAN) 937, 938-40 (N.Y. Civ. Ct. 1981).

²⁰⁸ See generally Grandstaff & Smaistrila, *supra* note 3.

have his rent paid electronically. If his bank or someone else along the transfer trail fails to effect the transfer, the consumer may face eviction from an angry landlord, particularly if the consumer's account was debited the amount of the rent and he lacks extra funds to pay the rent a second time while trying to discover and straighten out the problem and get his account recredited. Many businesses pay their employees by electronic direct deposit and millions of persons receive government benefits such as Social Security in this manner.²⁰⁹ Commercial customers can meet their obligations across the world by moving their funds via wire transfers.²¹⁰ Obviously, severe consequences may result if these payments are not made. The type of loss which concerns customers most is not the specific payment which went astray, but the consequential damages — such as losses incurred by being evicted because of the bank's failure to transfer the rent — which may result.

No data has been gathered documenting the extent to which banks fail to make transfers as instructed by their customers. One expert believes the incidence may vary depending upon the cause for the failure.²¹¹ Some failures, for example, occur as a result of criminals diverting the funds into their own secret accounts.²¹² Such failures may not be detected for some time and may be difficult to prevent, because according to one commentator:

The nature of EFT systems precludes some of the most effective protection from major, sophisticated attacks that are inherent in previous systems. . . . EFT computer systems including up to six million instructions in the operating programs and several hundred thousand instructions in the application programs are unpredictable and not subject to practical integrity testing over practical periods of time.²¹³

Intentional actions by criminals should be distinguished from accidents due to human or computer error. If the error involves a large amount, or results in a customer complaint, the bank should be able to locate the error and stop it from recurring. Even when each failure is small, if the error continuously repeats itself, large losses will result and these losses should be noticed and stopped.²¹⁴ As one expert has stated:

The problems of errors and omissions have been well-known and evolve along with the use of advancing technology. There are essentially no unsolved technical problems associated with control of accidents. Control consists of timely, cost-beneficial application of known remedies. However, it must be realized that the greatest and often unseen dangers of accidents are their unpredictability because of the complexity of computer systems. . . . Fortunately, if safeguards are designed and implemented to defend against intentional acts, they also defend against a wide range of accidental acts.²¹⁵

The law must decide how to allocate loss when an accident occurs. Should the law establish minimum performance standards? Should liability depend upon whether the

²⁰⁹ *Id.* at 9-10.

²¹⁰ *Id.* at 7.

²¹¹ Parker, *Vulnerabilities of EFT Systems to Intentionally Caused Losses*, in *COMPUTERS AND BANKING*, *supra* note 2, at 91, 93.

²¹² *Id.*

²¹³ *Id.* at 99.

²¹⁴ *Id.* at 95.

²¹⁵ *Id.* at 95-96.

bank employed sound business procedures and state of the art technology to prevent a failure to transfer? In answering these questions, lawmakers should take into account the extent to which the technological problems are well-known and safeguards are available.²¹⁶

The manner in which a judge or drafter of statutes determines how to allocate loss for failure to transfer funds may depend upon his view of the relationship between technology, society and the law. In addition, his decision may be influenced by the framework in which he considers this situation. He may regard EFT as just another payment system, the latest in a string of technological developments which merely adds new features.²¹⁷ In that context, a decision on how to allocate loss for failure to transfer is of no more significance than allocating loss when a check is paid over a forged signature. Alternatively, the lawmaker may regard EFT as a comprehensive financial transactions system²¹⁸ comprised of two elements: (1) delivery systems such as computer terminals and electronic networks; and (2) financial services such as checks, credit cards, debit cards, home computer banking, check guarantee and the like. Under this view, EFT is more than the transfer of funds to pay obligors. It also can be used to transfer money from one type of customer account to another. It transfers information as well as funds. Consequently, it is more than a payment transfer system.

The most expansive view is the "total systems approach" in which EFT is viewed as part of a wide range of activities in which technology has systematized services and interconnected people, businesses, cities and nations.²¹⁹ This comprehensive systematization has occurred in communications, transportation and economic exchange. For example, the home computer can be used for banking, shopping, communication, personal record keeping, education and entertainment.²²⁰ It would be myopic to view banking by home computer independent of the far more comprehensive system of which it is but one part.

The lawmaker's conception of EFT may be instrumental in his allocation of loss because it will influence his choice of points of reference. A lawmaker who regards EFT narrowly as simply one type of payment system will look to the legal rules on allocation of loss for other payment devices such as checks. The lawmaker who considers EFT as a comprehensive financial transactions system will be concerned with the implications of his decision for the entire complex of banking transactions and the effect of his allocation upon customer expectations, bank operating procedures, bank-customer relations, and the application of technology in banking. The lawmaker who regards EFT as an integral part of a comprehensive technological system will have an even broader range of concerns. If a case involves banking by home computer, a judge using this third approach will consider not only how his decision might influence transfer of funds by computer in particular, and computer banking service in general, but also how his decision relates to the larger universe of telecommunications and computer systems.

Recent legal developments provide a specific context in which to explore the issues which arise when a bank fails to transfer funds as instructed by the customer. The article will now examine a few of those developments. The case of *Eura v. Swiss Bank* resulted in

²¹⁶ *Id.*

²¹⁷ See generally Kraemer & Colton, *supra* note 16.

²¹⁸ *Id.* at 248.

²¹⁹ *Id.*

²²⁰ Adams, *Home Banking Interchange Offers More Than Just Credits and Debits*, AM. BANKER, July 6, 1983, at 8, col. 3.

two decisions²²¹ which illustrate very different approaches to the relationship between law and technology. The opinions provide an opportunity to evaluate the impact of a legal standard upon the rights and liabilities of customers and banks when unreliable technology is used to transfer payments. In addition to the *Evra* case, the article also discusses how the UNPC allocates loss when the bank makes an erroneous transfer and calls upon the drafters of the UNPC to describe explicitly the nature of the relationship between law and technology which the UNPC seeks to effectuate.

B. The *Evra* cases: A Pandora's Box

This article's examination of the bank's failure to transfer funds centers on the district and circuit court decisions in *Evra v. Swiss Bank*.²²² The *Swiss Bank* case is one of the few reported cases involving electronic transfers and it has been relied upon to support two provisions of the UNPC.²²³ More important for purposes of this article, the two opinions illustrate starkly the contrasting approaches to the relationship between technology, society and the law.

1. The Facts

Evra was an Illinois corporation in the business of oceanic freight shipping and the sale of scrap metals at home and abroad. *Evra* chartered the ship *Pandora* to transport scrap metal.²²⁴ Payments were due in advance and were to be paid into the ship owner's Geneva bank account.²²⁵ *Evra* made some payments by wire transfer and some by check. The October 1972 payment was made by check, but arrived after the due date. As a result, the owner sought to withdraw the charter.²²⁶ Pursuant to a provision in the charter, an arbitration panel was established. They ruled that the charter could not be withdrawn, but that the payment provision of the charter would be "strictly enforced."²²⁷ *Evra* made the remaining payments by wire transfer. All went well until the payment which was due at 9:00 P.M. Geneva time on April 27, 1973.

On April 25 at about 9:17 A.M. Chicago time, *Evra* instructed Continental Bank to transfer funds by wire to the owner.²²⁸ This transfer was attempted by sending a telex message to Continental's London branch which then tried to notify Swiss Bank, its Geneva correspondent bank.²²⁹ Swiss Bank never acted on the message: it never transferred money into the owner's account at Banque de Paris in Geneva.²³⁰ As a result, on April 27, the owner cancelled the charter.²³¹ Upon receiving notice of cancellation, *Evra* immediately called Continental and instructed it to tell Swiss Bank to transfer the money to the owner anyway.²³² *Evra* also called the owner, informing him the payment had been

²²¹ 522 F. Supp. 820 (N.D. Ill. 1981), *rev'd.*, 673 F.2d 951 (7th Cir. 1982).

²²² See *infra* notes 248-308 and accompanying text.

²²³ U.N.P.C., *supra* note 5, at § 101 purpose no. 2, § 411 purpose no. 8.

²²⁴ 522 F. Supp. at 823. At the time the contracts were entered into, *Evra* Corporation was known as Hyman-Michaels Company. *Id.* at 822.

²²⁵ *Id.* at 823.

²²⁶ *Id.* at 824.

²²⁷ *Id.*

²²⁸ *Id.*

²²⁹ *Id.* at 823.

²³⁰ *Id.* at 825.

²³¹ *Id.*

²³² *Id.*

made.²³³ The owner refused to change his mind and told Evra "that all further attempts to effect payment would be rejected."²³⁴ The owner had every reason to stand his ground. Since the vessel had been chartered to Evra, charter rates had skyrocketed. Once the charter was withdrawn the owner was now able to charter the boat to someone else at a much higher price.²³⁵

Evra sued Swiss Bank in contract and tort, claiming consequential damages.²³⁶ Although it is unclear why Swiss Bank failed to transfer the funds, the district court was convinced that the problem centered on the telex machine at Swiss Bank which had received the message.²³⁷ The court found that the bank either lost the message or neglected to have its machine supplied with paper which would have produced a copy of the message.²³⁸

The court's finding indicated that Swiss Bank's failure to act on the message resulted from a combination of a lack of sound procedures for handling telex messages,²³⁹ inadequate technology,²⁴⁰ and perhaps careless employee conduct.²⁴¹ The bank's practices represented everything people adhering to the Systems model abhor. The technological system was primitive and unreliable. The telex machine would continue to receive messages and would communicate receipt of the message to the receiver even when the machine had run out of paper.²⁴² Consequently, no written record would be made.²⁴³ In addition, the machine was not equipped to make duplicate copies of messages when paper was in the machine.²⁴⁴ As a result, if a person took the single copy of the message and then lost, misfiled or destroyed it, there was no backup copy.²⁴⁵ In addition to these technological inadequacies, the bank had no system for logging messages or ensuring that they were acted upon, and no one in charge of checking the machines for paper.²⁴⁶ This failure of people, procedures and machine was compounded by the "answer-back" feature on the telex which automatically told the sender that the message had been received, implying that everything was working satisfactorily.²⁴⁷

2. The District Court Decision: The Shocking Swiss Bank

A review of the bank's technology and procedures²⁴⁸ led the district court to decide in favor of Evra on two claims — breach by Swiss Bank of its contractual duty of care and

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *Id.* at 824.

²³⁶ *Id.* at 822.

²³⁷ *Id.* at 825.

²³⁸ *Id.*

²³⁹ *Id.*

²⁴⁰ *Id.*

²⁴¹ *Id.* The fact that the message was lost indicates possible employee negligence.

²⁴² *Id.*

²⁴³ *Id.*

²⁴⁴ *Id.* at 829.

²⁴⁵ Other telex machines are capable both of automatically shutting off when out of paper, and producing copies as well as originals. Telephone interview with C.B. Cox, Manufacturer's Representative, Exel Corporation in Atlanta, Georgia (August 16, 1983).

²⁴⁶ *Evra*, 522 F. Supp. at 825.

²⁴⁷ *Id.* at 825, 829.

²⁴⁸ *Id.* at 829. The district court opinion is referred to subsequently as *Evra I*.

negligence.²⁴⁹ The court summed up its finding by stating: "Such a cavalier attitude toward major transactions by a sophisticated international bank is shocking to the court."²⁵⁰ The court rejected the bank's counter-claim alleging that Evra had assumed the risk and had been contributorily negligent.²⁵¹ Defendants had argued that Evra should have allowed more than three days lead time for the transfer since Evra knew late payment would result in withdrawal of the charter and knew of the possibility of errors and delays.²⁵² The court found that since "telex communication is essentially instantaneous," a three day lead time was not negligent.²⁵³ Moreover, the court found, the bank's procedures were such that a greater lead time might not have made any difference. According to the court, "[Evra] was entitled to assume that Continental and any correspondent employed by Continental would use due care in carrying out the transaction. [Evra] did not employ and was not obligated to employ a confirmation procedure independent of any employed by the banks. . . ."²⁵⁴

The court's approach is consistent with the System model's insistence that technology be efficient and reliable.²⁵⁵ In pointing out the technological infirmities present, the court implicitly imposed a state of the art requirement. In finding the bank at fault for using machines that did not automatically shut off when they ran out of paper,²⁵⁶ the court in effect required the bank to employ machines which contain that feature. The court also determined that the bank was negligent in using a machine which could not make copies of messages.²⁵⁷ In effect, therefore, the court's decision required that the bank buy equipment which does make copies.

The tone of the district court's opinion is also consistent with the humanizer's approach. The court required the bank to maintain a technological system which is responsive to the needs and expectations of its users, finding that the bank "owed a duty of care [to the customer] to maintain a system . . . upon which [the customer] could rely. . . ."²⁵⁸ Imposing this obligation was not a reflection of judicial hostility to bank technology; the court pointed out that it was merely imposing a "minimal" burden by requiring the bank to use equipment and adopt procedures to prevent substantial injury which was a "more than reasonably foreseeable possibility."²⁵⁹ The decision illustrates the humanizer's perspective by insisting that if a bank uses electronic equipment it must be able to control that equipment.²⁶⁰ Because banks are responsible for their equipment, the court held that customers do not "assume the risk" when they pay their banks to transfer their money by electronic means.²⁶¹

The court's approach is also consistent with the Statist model. That model adheres to the view that the government has an interest in maintaining a system upon which users can rely.²⁶² By refusing to find Evra contributorily negligent in not independently

²⁴⁹ *Id.* at 828-29.

²⁵⁰ *Id.*

²⁵¹ *Id.* at 831-32.

²⁵² *Id.* at 831.

²⁵³ *Id.*

²⁵⁴ *Id.* at 832.

²⁵⁵ See *supra* text following note 52.

²⁵⁶ *Evra I*, 522 F. Supp. at 829.

²⁵⁷ *Id.*

²⁵⁸ *Id.*

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ *Id.* at 831.

²⁶² See *supra* notes 54-56 and accompanying text.

confirming the transfer, the court promoted the development of reliable systems. While courts should not relieve bank customers of all responsibility to exercise care in transferring funds, the facts in *Swiss Bank* show the customer was not negligent in failing to take the initiative to confirm the transfer. That failure was justified because the bank notified Evra that it had received the instructions to pay the owner, that it had debited Evra's account in the amount of the transfer, and that it was proceeding to transfer the money by wire. If the court had found the customer contributorily negligent under these circumstances, it would have provided no incentives for banks to maintain dependable systems.

The real test of the strength of the court's convictions was the measure of damages. Evra was not only claiming damages of \$27,040.62, the amount of the installment payment which had been debited from its account but never paid to the Pandora's owner.²⁶³ In addition, Evra claimed consequential damages of over two million dollars.²⁶⁴ The court held Evra entitled to this additional amount, ruling that although Swiss Bank was unaware of the specifics of the transaction between Evra and Pandora's owner, it could "reasonably foresee" failure to act upon a telex message to transfer funds into the account of another "could result in substantial damage."²⁶⁵

This conclusion is not startling. Ordinarily, companies transfer funds to other companies because they owe money to them. Debts are usually payable by a certain date. If one does not pay by that date, often one suffers harsh penalties — late charges, finance charges, repossession, eviction, loss of an option to purchase, withdrawal of a charter.²⁶⁶ Nevertheless, the Seventh Circuit did not regard such consequences as being the least bit reasonably foreseeable, and its opinion reflects a very different attitude toward technology, people and the law.

3. The Circuit Court Decision: The Imprudent Customer

On appeal, the Seventh Circuit reversed the *Swiss Bank* decision, refusing to award Evra consequential damages.²⁶⁷ The circuit court insisted that it did not "condone the sloppy handling of incoming telex messages" by Swiss Bank,²⁶⁸ and acknowledged that Swiss Bank knew or should have known the transfer by Evra was to pay for the hire of a ship.²⁶⁹ The judges stressed, however, that Swiss Bank did not know when payment was due, or that the owner would cancel for late payment, or that the charter rate was so favorable that Evra would suffer substantial damages if cancellation occurred.²⁷⁰ Whereas the district court imposed a test of "general" foreseeability, the Seventh Circuit imposed a test of "specific" foreseeability.²⁷¹ More significant for this discussion, the circuit court switched the emphasis completely away from Swiss Bank's failure to employ reliable

²⁶³ *Evra I*, 522 F. Supp. at 825-26.

²⁶⁴ *Id.* at 835 n.9.

²⁶⁵ *Id.* at 833.

²⁶⁶ See generally B. Clark, *The Law of Secured Transactions* (1980).

²⁶⁷ *Evra Corp. v. Swiss Bank Corp.*, 673 F.2d 951, 960 (7th Cir. 1982). The circuit court decision is referred to subsequently as *Evra II*.

²⁶⁸ *Id.* at 957.

²⁶⁹ *Id.* at 956.

²⁷⁰ *Id.*

²⁷¹ *Id.* at 959. The bank would have had specific foreseeability if it knew the following: when Evra's payment was due, the terms of the charter, and the fact that if payment were to any extent late the charter would be cancelled. *Id.* at 956.

technology and sound business practices.²⁷² Whereas the district court pointed out that Swiss Bank is "a sophisticated international bank,"²⁷³ the circuit court stated that Evra is a "sophisticated business enterprise."²⁷⁴ While the district court was "shocked" by Swiss Bank's breach of the "duty of care,"²⁷⁵ the Seventh Circuit found Evra's conduct "showed a lack of prudence throughout."²⁷⁶

The Seventh Circuit's holding was presaged by the manner in which it related the facts of the case. First, the court set itself within a more comfortable time frame.²⁷⁷ The district court had found that the payment was due at 9:00 P.M. Geneva time, April 27, 1973.²⁷⁸ The Seventh Circuit reasoned that since the installment was due April 27 and payment was due in advance, the payment "arguably" was due by the close of business on April 26.²⁷⁹ Under the circuit court's analysis, therefore, Evra allowed itself only two days lead time instead of three.

In addition, the circuit court related all of the things which Evra might have done to prevent any injury which might result from the failure to transfer.²⁸⁰ The opinion repeatedly pointed out that Evra did not try to wire the payment directly to Banque de Paris after it was informed by Pandora's owner that payment had never been made by Swiss Bank.²⁸¹ The decision did not mention that Evra had immediately called the owner and that he had refused to relent, specifically informing Evra that direct payment would be refused.²⁸² The circuit court instead assumed that the subsequent arbitrators' decision would have been favorable if Evra had tried to pay directly.²⁸³ The court seemed to imply that Evra should have known an attempt at direct payment might favorably impress the arbitrators. Consequently, the court concluded that Evra was imprudent not to try direct payment despite the owner's clear rejection of any late payment.²⁸⁴

The Seventh Circuit sarcastically ridiculed Evra for relying on the integrity of the electronic banking system.²⁸⁵ According to the court, Evra "knew or should have known that even the Swiss are not infallible; that messages sometimes get lost or delayed . . . and that therefore it should take its own precautions against the consequences — best known to itself — of a mishap that might not be due to anyone's negligence."²⁸⁶ In this last phrase, the court revealed that it was unwilling to analyze the transaction in the context of what actually occurred. It required the customer to take its own independent precautions because a failure to transfer might occur without anyone being careless.²⁸⁷ It was easier for the circuit court to place the burden on the customer by discussing the issues in the

²⁷² *Id.* at 957. The court did refer to Swiss Bank's "sloppy handling" in one sentence of the opinion. *Id.* The remainder of the decision emphasizes Evra's conduct. *Id.* at 952-60.

²⁷³ *Evra I*, 522 F. Supp. at 829.

²⁷⁴ *Evra II*, 673 F.2d at 957.

²⁷⁵ *Evra I*, 522 F. Supp. at 829.

²⁷⁶ *Evra II*, 522 F. Supp. at 829.

²⁷⁷ *Id.* at 953.

²⁷⁸ *Evra I*, 522 F. Supp. at 324.

²⁷⁹ *Evra II*, 673 F.2d at 953.

²⁸⁰ *Id.* at 953, 957.

²⁸¹ *Id.* at 953, 954, 957.

²⁸² Compare *Evra II*, 673 F.2d 951 with *Evra I*, 522 F. Supp. at 825.

²⁸³ *Evra II*, 673 F.2d at 957.

²⁸⁴ *Id.*

²⁸⁵ *Id.*

²⁸⁶ *Id.*

²⁸⁷ *Id.*

context of a failure to transfer which occurs even though the bank conducted its operation properly. It is much harder to shift the burden from the bank to the customer within the reality of what happened in this case: the customer followed its bank's procedures to the letter while the correspondent bank failed to operate in a commercially reasonable manner.²⁸⁸

The Seventh Circuit's opinion provides no incentives for banks to develop payment services consistent with the Systems, Statist and Customer Oriented models. The court in effect, held that bank services need not be reliable, that the failure of banks to maintain reliable payment mechanisms will not result in substantial liability when the system breaks down.²⁸⁹ Instead, the court found that customers are contributorily negligent if they assume technological systems will not malfunction, that customers assume the risk of harm if they use the system, and that customers should know that bank technology may be dangerous to their economic health.²⁹⁰ This approach provides little encouragement for the bank to institute a reliable system.

In *Evra II* the Seventh Circuit also seems to reject the state's interest in banks maintaining a functioning national and international payments system.²⁹¹ Such a system is necessary for the economic well-being of the nation as a whole, not only the individuals who use the system.²⁹² An inefficient system of transferring funds reduces the efficiency of commerce. The law can be used as a social force to provide incentives for banks to deploy reliable technology to help achieve these national objectives.

Those adhering to the Customer Oriented model want a system which is consistent with customers' reasonable expectations of reliability. They want technology which is "humanized," or "user friendly."²⁹³ The Seventh Circuit rejected this expectation as unwarranted and naive.²⁹⁴ Customers should not expect technology to work, the circuit court intimated, at least not "sophisticated" customers, even when dealing with the Swiss.

In sharp contrast to the Customer Oriented model's consideration of reasonable customer expectations and reliable bank technology, the circuit court focused on what it regarded as required conduct by a prudent customer. In order for *Evra's* conduct to have passed muster under the Seventh Circuit's prudence standard, it would have had to possess knowledge of the exact level of Swiss Bank's technology and to have planned accordingly with regard to lead time and monitoring the bank's transfer of funds. The judges gave no consideration to whether *Evra's* expectations were reasonable in relation to the technological capabilities and management procedures of most banks. Moreover, they paid no attention to the state of the art at the time the transaction took place. The circuit court asserted that the costs of improper transfer should be borne by the party who can avert the consequences of such a transfer at least cost.²⁹⁵ Instead of determining the cost to each party of preventing such a transfer, however, the Seventh Circuit assumed *Evra* was the party able to avert the consequences of a failed transfer at the least cost.²⁹⁶

²⁸⁸ *Evra I*, 522 F. Supp. at 825.

²⁸⁹ See *Evra II*, 673 F.2d at 957. The seventh circuit instead requires the customer to take his own precautions. *Id.*

²⁹⁰ *Id.*

²⁹¹ See *id.* For a discussion of the model "statist's" viewpoint and values, see *supra* notes 54-56 and accompanying text.

²⁹² OTA, *supra* note 34, at 46, 73-74.

²⁹³ See *supra* note 52 and accompanying text.

²⁹⁴ *Evra II*, 673 F.2d 957.

²⁹⁵ *Evra II*, 673 F.2d at 957.

²⁹⁶ *Id.*

without ever examining how much it would have cost Swiss Bank to deploy that which would have prevented the failure from occurring. The approach of the Seventh Circuit seems to be: you take your bank's technology as you find it.

An alternative approach for allocating the risk of transfers which go astray is to regard the law and reasonable bank and customer conduct as independent variables. Under this analysis, bank technology must be consistent with the standards set by the law. The law's allocation of risk should be grounded in a regard for (1) reasonable customer conduct as measured by realistic expectations and reasonable response to technological failure; and (2) reasonable bank practices as measured by minimal standards for technological performance and procedural systems to manage the technology.²⁹⁷

In *Evra v. Swiss Bank*, the customer's conduct was reasonable. Evra had no way to measure the reliability of Swiss Bank's technology. The transaction costs of continuously monitoring and evaluating the current state of the technology would be too great to justify placing such a requirement on Evra. Without some way to determine reliability, Evra could not rationally decide what types of precautions were necessary. It was reasonable for Evra to believe transfers would be made successfully. No problems had occurred during the previous sixteen wire transfers it made to Pandora's owner through Continental and Swiss Bank.²⁹⁸ Moreover, Evra had Continental Bank's assurances that wire transfers would be timely.²⁹⁹ Continental had made these assurances after one of Evra's payments by check had arrived past the due date and Evra had stressed to the bank the need for timely transfer of funds.³⁰⁰ While it is not unreasonable to require the customer to mitigate his damages once technological failure occurs, the customer in *Evra* took immediate, rational action under the circumstances.

The extent of the Seventh Circuit's customer mitigation standard can be better appreciated by considering the ramifications of the decision's notification requirement. The circuit court justified its refusal to grant consequential damages on the fact that Evra never supplied Swiss Bank with the specific information from which it could foresee the possibility that failure to transfer would result in consequential damages which so far exceeded the amount of the transfer.³⁰¹ Although Evra did not provide Swiss Bank with "notice of special circumstances," it did provide its own bank, Continental, with that information.³⁰² Nevertheless, the Seventh Circuit ruled, in effect, that communicating with one's own bank is insufficient.³⁰³ The customer apparently must notify every bank in the collection chain of the amount of consequential damages which might result in order to hold any of them liable.

Presumably, even notifying all banks may not be adequate. Implicit in the circuit court's opinion is the requirement that in addition to notifying every bank, the customer

²⁹⁷ Technological systems such as wire transfers involve four distinct elements, all of which should operate at a satisfactory level of accuracy. These four elements are: (1) the technological apparatuses, i.e., the physical devices such as telex machines and computer terminals; (2) the technique used to operate the system, i.e., the procedure, routines and skills; (3) the social organization, i.e., the bureaucracy in which technology occurs; and, (4) the network, i.e., the systems linking people, organizations and apparatus across substantial distances (e.g., Evra, Continental Bank, Swiss Bank, Banque de Paris, Pandora's Owner). See L. WINNER, *AUTONOMOUS TECHNOLOGY* 11-12 (1977).

²⁹⁸ *Evra I*, 522 F. Supp. at 823-24.

²⁹⁹ Brief for Appellee Evra Corp. at 6, *Evra II*.

³⁰⁰ *Id.*

³⁰¹ *Evra II*, 673 F.2d at 958.

³⁰² Brief for Appellee Evra Corp. at 6, *Evra II*.

³⁰³ 673 F.2d at 956.

must engage in sophisticated advance planning to anticipate all possible technological failure.³⁰⁴ He must order the transfer far in advance of its due date and must monitor its transmission from branch to branch, over the oceans, and to other banks, never relying on his banks' written confirmations to him.³⁰⁵ He must maintain funds on hand equal to twice as much as the transfer, so that if the transfer fails to reach the payee, the customer can immediately transfer the funds again.³⁰⁶ If the customer does not do all of the above, he will not recover his consequential damages because he has acted imprudently under the doctrine of "avoidable consequences."³⁰⁷

Both *Evra I* (the district court decision) and *Evra II* (the Seventh Circuit decision) can be faulted for having too narrow a perspective. *Evra I* considers the transaction largely from the vantage point of the customer's needs and expectations. The district court also should have considered the implications of its ruling within the wider framework of the international wire transfer system and the needs of all of the parties with an interest in that system. In particular, the district court should have considered the economic impact of its ruling. If banks are liable for consequential damages, they might increase significantly the price charged for such transfers. Finally, the court should have explored the operational consequences of its holding. For example, it is possible that banks would have to hire substantially more personnel and institute far more comprehensive and complex procedures to avoid the failed transfers for which they would be liable.

In contrast, *Evra II*'s sympathies seem to rest exclusively with the bank. It did not look at the case within the larger context of an international payments system. It did not explicitly consider the relationship between technology and the law. The Seventh Circuit did not explore the possibility of accommodating the legitimate needs and interests of all groups with a stake in the reliability of the funds transfer system.

Even if both courts had adopted a broader perspective, their holdings might not have been any different.³⁰⁸ Their decisions, however, would have recognized that the issues were far more complex and problematic than they appear from the opinions which were rendered. In deciding whether to award consequential damages, each court should have explicitly determined what role technology should play in fashioning a legal rule. If the *Evra* courts intended technology to influence their decisions in any way, they should have described their view of the proper relationship between technology and the law, taking into account the conflicting interests and values of all participants in the funds transfer system. Finally, the *Evra* courts should have considered the impact of that view on the

³⁰⁴ See *id.* at 957.

³⁰⁵ See *id.* The district court found the Swiss Bank's procedures negligent, *inter alia*, because the telex confirmed the receipt of the messages even when they were not being recorded. *Evra I*, 522 F. Supp. at 829. The Seventh Circuit ignored the district court's ruling on this point. See *Evra II*, 673 F.2d 951.

³⁰⁶ *Evra II*, 673 F.2d at 957.

³⁰⁷ *Id.* at 958.

³⁰⁸ Even if the district court had taken into account the economic impact and operational consequences of holding the bank liable for consequential damages, it may have concluded these were reasonable costs to impose upon banks because these costs were substantially outweighed by the benefits both to customers, and to the integrity and reliability of the payments system. Similarly, even if the circuit court had looked with more sensitivity at the inadequacy of Swiss Bank's technology, the reasonableness of the customer's expectations and conduct, and the need for a reliable international payments system, the court still may have decided it was wiser to place the liability on the customer. The circuit court may have believed this solution was preferable to the imposition of an uncertain and possibly significant cost on the banks, which would be passed on to the customer in the form of a large increase in the cost of sending wire transfers.

system. Courts dealing with EFT disputes in this manner would be forced to analyze the transactions before them in a manner far more likely to provide a fruitful foundation for the development of optimal legal rules to govern EFT.

C. *The Uniform New Payments Code*

In formulating underlying policy, as well as specific provisions for treating consequential damages in a new code, the drafters of the UNPC might have chosen between the two very different approaches to technology and the law employed by the *Evra* courts. Instead, to some extent the UNPC rejects the Seventh Circuit's decision as being too harsh on bank technology and too soft on customers, by denying consequential damages in certain situations even when the customer notifies the bank of special circumstances.³⁰⁹ In choosing this path, the UNPC rejects the humanizing approach to technology to an extent even greater than the Seventh Circuit.

The UNPC does not explicitly reflect any attitude toward technology in its treatment of failed transfers of funds. Examining the UNPC's legal rules and comparing them with the two *Evra* decisions, however, enables one to draw some conclusions about the relationship between the UNPC and technology. Section 101 establishes a contractual relationship between the customer and his bank. Under this contract the bank agrees to transfer funds in accordance with the customer's order.³¹⁰ If the bank fails to transfer the funds, it is liable for "all actual damages proximately caused to the customer. . . ."³¹¹ Specific provision is made for consequential damages.³¹² Consumers are entitled to consequential damages when the failure is caused by the bank maintaining the account which is to be debited.³¹³ If the failure had been caused by another institution, the UNPC denies the customer consequential damages.³¹⁴ Commercial customers are denied consequential damages in certain instances, even if the failure is caused by the bank maintaining the account to be debited.³¹⁵

Because of the UNPC's differentiated treatment of consequential damages, it seems not to have a uniform approach to the relationship between technology and the law in regard to the failure to transfer funds. The UNPC's failure to make fundamental policy decisions concerning this relationship will likely result in confusion and nonuniform application of some provisions governing the transfer of funds. This part of the article, therefore, examines the problems presented by the UNPC's treatment of liability for consequential damages by focusing upon the situation in which the consumer's bank fails to transfer funds properly.

³⁰⁹ U.N.P.C. *supra* note 5, at § 411(7).

³¹⁰ *Id.* at § 101(1).

³¹¹ *Id.* at § 101(2).

³¹² *Id.* at § 101(2)(b).

³¹³ *Id.*

³¹⁴ *Id.* at § 101(2).

³¹⁵ *Id.* A commercial customer is allowed consequential damages only under three circumstances: (1) if he suffers damages as a result of an arrest or prosecution; (2) in the case of a "draw order," e.g., a check, the dishonoring of which results from a failure of the customer's bank to observe the "reasonable commercial standards of its business;" and, (3) in the case of a "pay order," e.g., a wire transfer, the dishonoring of which results from an intentional act of the bank. *Id.* A "good faith" failure to transfer, however, is not itself an intentional act. *Id.*

1. Consumer Transactions

a. *Failure by the Consumer's Bank*

In a consumer transaction, if the bank maintaining the account to be debited fails to transfer funds the bank is liable under the UNPC for "all actual damages proximately caused . . . and such damages may include consequential damages. . . ." ³¹⁶ For example, if the consumer's bank fails to transfer funds to a merchant in a point-of-sale electronic payment mode ³¹⁷ or to a landlord pursuant to a preauthorized bill-paying plan, the consumer's bank is liable for any consequential damages. ³¹⁸ It is also liable for consequential damages if a consumer receiving government benefits or wages through electronic transfers into his bank account is not allowed access by the bank to the amount of the transfer by the time specified in the UNPC. ³¹⁹

In general, the UNPC, relying on *Evra II*, restricts the right of a customer to recover consequential damages. ³²⁰ The UNPC is justified, however, in not following *Evra II* and in allowing customers to collect consequential damages in consumer transactions when failure to transfer was caused by the consumer's bank. In its *Evra II* decision the Seventh Circuit was influenced by the "animating principle" of *Hadley v. Baxendale* which states that loss associated with an "untoward consequence" should be "borne by the party who was able to avert the consequences at least cost. . . ." ³²¹ *Evra* may have been able to avert the consequences of a failed transfer at a lower cost than Swiss Bank. It was a sophisticated corporation and may have been knowledgeable enough to understand the legal and economic consequences of a late payment. Moreover, *Evra* may have recognized what steps it should take to provide sufficient lead time, monitor the progress of the transfer, notify Swiss Bank of special circumstances and immediately attempt to mitigate damages. It is not fair, however, to place this burden on average consumers. Consumers lack the essential information needed to know how to protect themselves. Furthermore, the transaction cost of obtaining the information and taking the steps necessary to avoid loss would make using the bank's services uneconomical. In this situation, therefore, a consumer is not the party able to avoid harm at the least cost.

The UNPC's treatment of consumer transactions in which the failure has been caused by the consumer's bank is consistent with the humanizers' approach and the Customer Oriented, and Systems value models. ³²² In *Evra II*, the customer was penalized for trusting bank technology. ³²³ Under the UNPC, the consumer is assured that either the system will be reliable or he can recover for damages suffered by its lack of reliability. ³²⁴

³¹⁶ *Id.* at § 101(2).

³¹⁷ "Point of sale" refers to the electronic payment system in which a customer pays for goods by using a plastic card. Grandstaff & Smaistrila, *The Payments Mechanism — A Primer on Electronic Funds Transfer*, FED. RESERVE BANK OF PHILADELPHIA BUS. REV., Sept. 1976, at 7. The card is inserted into a terminal at the store where the goods are sold. *Id.* The terminal is connected to a processing unit, called a switch, which conveys the information about the purchase to the customer's bank. *Id.* That bank withdraws money from the customer's bank and sends it to the store's bank account. *Id.*

³¹⁸ U.N.P.C., *supra* note 5, at § 101(2).

³¹⁹ *Id.* at § 421.

³²⁰ *Id.* at § 101, purpose and existing law no. 2, § 411 purpose no. 8.

³²¹ *Evra II*, 673 F.2d at 957.

³²² See *supra* note 52 and accompanying text.

³²³ *Evra II*, 673 F.2d at 957.

³²⁴ U.N.P.C., *supra* notes, § 101(2)(b)

Accordingly, the UNPC both promotes consumer trust in technology and decreases fear of it.

Banks which employ adequate technology and reasonable procedures should have little basis to object to the UNPC's allocation of liability. Accidents should be easy to identify. In consumer transactions, any resulting loss including consequential damages probably will not amount to a sum onerous for the bank to incur. The loss may, however, cause severe deprivation if the consumer has to bear it. The UNPC's treatment of bank failure in this context contrasts sharply with the UNPC's provisions in the case of a failure to transfer properly which is caused by a financial institution other than consumer's bank.

b. *Failure by an Institution Other than the Consumer's Bank*

Failure to transfer funds may be caused by institutions other than the consumer's bank. A consumer receiving wages electronically may suffer loss because of a failure caused by the employer's bank or an automated clearing house (ACH) which receives the information from that bank and forwards it to the customer's bank.³²⁵ A consumer paying bills electronically at a merchant's store or pursuant to a preauthorized plan may incur consequential damages when payment is not made due to error on the part of the delivery switch³²⁶ or the merchant's bank. The UNPC treats these "transmitters" and "transmitting account institutions" differently than the consumer's bank.³²⁷ Absent bad faith, the former are not liable for consequential damages resulting from failure to act in accordance with reasonable commercial standards.³²⁸ Bad faith is defined in the UNPC as dishonesty, malice, or "willful or reckless disregard of known material facts."³²⁹ The comment to this definition specifically states that bad faith is not "[n]egligence or action based on incomplete knowledge. . . ."³³⁰ *Evra II* is mentioned in the comment to the section limiting consequential damages and its reasoning is used to justify the rule.³³¹

Limiting the liability of these other institutions seems reasonable if one considers the issue only in terms of the institutions' lack of special knowledge about the transfer and the enormous number of transfers they handle.³³² On the whole, however, this limitation is not justified. Consumer transfers do not involve the risk of enormous consequential damages possible in commercial transactions. More important, limiting liability does not take into account an institution's use of technology and procedures to manage technological systems. It is clear from the comments to the definition of bad faith and through the references to *Evra II*, that deployment of Swiss Bank's neanderthal technological system is not considered bad faith.³³³ An institution, in effect, therefore, is authorized to act in a commercially unreasonable way. If it does so, it risks only nonconsequential damages up

³²⁵ NCEFT, *supra* note 34, at 206.

³²⁶ *Id.* at 210. The term "switch" refers to the system used to route payment transfer information from one institution to another. *Id.*

³²⁷ U.N.P.C., *supra* note 5, at § 411. "Transmitters" and "transmitting account institutions" are defined in section 53. *Id.*

³²⁸ *Id.* at § 411(7).

³²⁹ *Id.* at § 50(3).

³³⁰ *Id.* purpose and existing law no. 3.

³³¹ *Id.* § 411, purpose no. 8.

³³² *Id.* at 264. See also amicus curiae Brief of the New York Clearing House Association and American Bankers Association at 4, *Evra II*.

³³³ U.N.P.C., *supra* note 5, § 50 purpose no. 3, § 411, purpose no. 8.

to a maximum of the amount of the order. Ordinarily this amount will be small in most consumer transactions. Only by engaging in the extreme conduct falling within the UNPC's definition of bad faith does the institution risk incurring consequential damages.

By limiting the liability of institutions other than the consumer's bank, the UNPC implicitly rejects the notion that law should be used to control the social dimensions of technology. The Customer Oriented model is abandoned. The consumer is at the mercy of defective systems. In many instances, discovering which transmitter is responsible for a transfer error will be difficult and expensive.³³⁴ If the consumer does not have at least the prospect of recovering consequential damages, it may not be worth the effort hiring a lawyer, determining the source of the error, and suing only for the amount of the transfer. If consumers have no effective means of enforcing their rights when errors occur, transmitters have no incentive to improve their technological systems, unless so many failed and erroneous transfers occur that a substantial number of consumers abandon those payment systems. The Statist model is also spurned by the UNPC because the limit on liability ignores the nation's need for a reliable payments system.

In sum, the UNPC approach is not advisable because it fails to accommodate the conflicting societal interests involved and treats whatever level of technology institutions happen to use as the determinant of legal rules. The UNPC should therefore be revised to protect a transmitter and transmitting account institution from liability for consequential damages only if they can sustain the burden of proving that they used technology and management systems reasonably capable of properly transferring funds, taking into consideration the state of the art at the time of the failure.

Unlike consumer transactions, commercial transactions typically involve customers who are far better able to obtain necessary information about the benefits and risks of electronic transfers and more likely to have the resources needed to protect themselves if a transfer fails to occur as planned. The UNPC provisions on consequential damages in commercial transactions considered in the next section should be viewed in that context.

2. Commercial Transactions

a. *Failure by the Customer's Bank*

Under the UNPC, the liability of the commercial customer's bank for consequential damages resulting from failure to transfer funds varies depending upon the type of transfer involved and the conduct of the bank in regard to each type.³³⁵ Regardless of the circumstances, the bank may escape liability for consequential damages even if it fails to maintain an adequate level of technology and management systems.

In a situation where the customer issues a "draw order" such as a check, the bank is liable for consequential damages if the transfer error results from the failure of the bank "to observe the reasonable commercial standards of its business. . . ."³³⁶ The UNPC does not, however, define reasonable commercial standards. A certain degree of vagueness is probably warranted; since technology will certainly develop over time, it is inadvisable for

³³⁴ See generally Budnitz, *Federal Regulation of Consumer Disputes in Computer Banking Transactions*, 20 HARV. J. ON LEGIS. 21, 76-79 (1983). If the consumer successfully invokes the U.N.P.C.'s error resolution procedure, his bank is required to "request" any other institution which transferred the funds to determine if it committed the error if the consumer's bank considers such a request "appropriate." U.N.P.C., *supra* note 5, at § 303(1).

³³⁵ U.N.P.C., *supra* note 5, at § 101(2)(c), (d).

³³⁶ *Id.* at § 101(2)(c).

the UNPC to define precisely what technological standard is commercially reasonable. These standards can be developed by the case law over time and in response to specific problems which arise. Nonetheless, the UNPC's approach is too vague. No guidance whatever is given to courts. Should a court decide reasonableness solely in terms of the practices of the bank before it, or in terms of practices of other banks in the community, region or nation? Should the court consider the state of the art or the need for a reliable national payments systems? Upon whom does the burden of proof lie — on the customer to show a lack of reasonableness, or on the bank to demonstrate the observance of reasonable standards? The UNPC provides no answers to these questions.

The failure of the UNPC to provide guidance on these issues reflects a failure to determine the proper relationship between technology, society and the law. If the proponents of the UNPC decide to follow the private enterprise model, technology should be left free of legal restraints to develop in the market place. A bank should be able to use whatever level of technology it wants and the market dictates. If a customer is harmed, it is assumed that other customers will learn of his loss and will use other bank services or will go to other banks. In order to compete the bank will then have to improve its technology. If customers value reliable systems they will make this desire known and be willing to pay for this feature, and some banks in the market will offer such systems. Under the private enterprise model, courts would not focus on the needs and expectations of the customer or the interests of the state. Rather, the burden would be on the commercial customer to prove the technology was of such poor quality and/or management systems were so careless, that the bank should be considered as acting in bad faith. Alternatively, the proponents of the UNPC may determine that the law should be used to insure that bank technology meets minimal performance standards so that the country is assured of a somewhat reliable national payments system and customers can expect a basic level of service. If that is the objective of the UNPC, it should be clearly stated in the Code.

The trouble with the present draft is that no guidance is given as to what type of relationship between law and technology the UNPC is attempting to achieve. As a result, each judge will be forced to decide for himself which model to apply. Each judge reviewing a commercial transaction will be influenced by whether he views technology as a bane or a salvation, controllable or autonomous. Because each judge is free to apply any value model which suits him, a nonuniform definition of reasonable commercial standards will result.

"Pay orders," such as wire transfers, are treated differently under the UNPC than the draw orders discussed above. If the customer issues a "pay order," the bank is liable for consequential damages only if its failure to transfer was intentional, as in the situation of an unlawful setoff.³³⁷ The Swiss Bank's conduct in *Eura*, when engaged in by the customer's own bank rather than a correspondent, is excluded from the definition of an intentional act.³³⁸ If Continental Bank had possessed technology and procedures comparable to Swiss Bank's, it would not have been liable for consequential damages under the UNPC.³³⁹

This provision governing pay orders seems to reflect a policy decision that law should not be used to insure a minimal performance level for bank technology and systems. This limitation of liability for consequential damages is justified in the comment, which states that because the customer knows how important a timely transfer is to him, he should

³³⁷ *Id.* at § 101(2)(d).

³³⁸ *Id.* purpose and existing law no. 2.

³³⁹ *Id.*

allow adequate lead time or obtain insurance.³⁴⁰ No explanation is offered in the UNPC or the comments for determining liability for draw orders under a standard different from that established for pay orders. By focusing on the intentional nature of the act when wire transfers are used, the UNPC seems to reject the commercial reasonableness standard applied to check processing. While the UNPC apparently rejects any role for the law in insuring a level of performance for pay order technology, it is not clear what the role of law is to be in regard to draw order technology. A different role is implied by the different test in each provision.³⁴¹ It is strange, however, that the relationship between law and technology would vary depending upon whether a draw order or a pay order were used.

A preferable approach would be for the UNPC's drafters to take a position on the relationship between law and technology in the commercial sphere, and explicitly state the value models upon which the position is based. This position should then be applied uniformly regardless of whether pay or draw orders are involved. If the drafters prefer to stay with the present scheme, they should explain more precisely what commercial reasonableness means in regard to technological systems, and should justify the lack of any requirement for commercially reasonable technology in regard to pay orders.

A discussion of the UNPC's treatment of the liability of institutions other than the commercial customer's bank follows below. As in its provisions on the liability of the commercial customer's bank, an evaluation of the UNPC is hampered by the Code's failure to define clearly the relationship between the law and technology. Moreover, explaining that relationship in the Code or commentary accompanying it would facilitate judicial application of its provisions.

b. Failure by an Institution Other than the Customer's Bank

As in consumer transactions, institutions other than the customer's bank are protected from consequential damages for failure to conduct their affairs in a commercially reasonable manner, absent bad faith. The liability of these institutions for nonconsequential damages is limited to the amount of the item.³⁴² This standard is consistent with the UCC, but stricter than *Evra II*.³⁴³ Although the limitation on consequential damages can be justified more easily in this instance than in consumer transfers, the UNPC's approach to the relationship between technology and the law is subject to criticism.

The UNPC and the UCC both limit the bank's loss to the amount of the transfer.³⁴⁴ Unlike consumer transactions, the consequential damages in commercial transfers may be far in excess of the amount of the transfer and not reasonably foreseeable. In addition, commercial parties can better take care of themselves.³⁴⁵ It is more difficult, however, to justify the manner in which the UCC and UNPC go even beyond *Evra II* by limiting any recovery to the amount of the item. In *Evra II*, the court allowed *Evra* to recover not only the amount of the transfer, but also any fee paid for the transfer and any interest lost due to the failed transfer.³⁴⁶ These additional losses are considered "direct" or "general" damages,

³⁴⁰ *Id.*

³⁴¹ Compare *id.* at § 101(2)(c) with *id.* at § 101(2)(d).

³⁴² *Id.* at § 411(7).

³⁴³ U.C.C. § 4-103(5); *Evra II*, 673 F.2d at 955-56; see also *infra* notes 346 & 348 and accompanying text.

³⁴⁴ U.C.C. § 4-103(5) (1978); U.N.P.C., *supra* note 5.

³⁴⁵ See *supra* note 321 and accompanying text.

³⁴⁶ *Evra II*, 673 F.2d at 955.

and are distinct from consequential damages.³⁴⁷ It is unclear why the UCC and the UNPC do not allow recovery of these damages. They are not subject to any of the objections made against allowing consequential damages. In addition, *Evra II* would apparently have allowed consequential damages if Evra had informed Swiss Bank of the special circumstances surrounding its transfers.³⁴⁸ If Swiss Bank had agreed to make the transfers in light of this information, the court would have imposed the greater measure of damages.³⁴⁹ Both the UCC and the UNPC, however, preclude consequential damages even when the bank has this information, unless bank conduct amounts to bad faith.³⁵⁰

Protecting the bank from consequential damages when the bank knows of the special circumstances seems to be overly solicitous of the bank's interests. Customers who have informed financial institutions of their special circumstances reasonably would expect the bank to be liable for consequential damages in the event of injury due to a subsequent failed transfer if the bank continues to make payments without notifying the customer of its unwillingness to assume responsibility in light of the special circumstances. Although the UNPC and the UCC preclude liability regardless of the customer's reasonable expectations, one possible escape exists in both codes. The customer may argue that his disclosure of special circumstances and the bank's continued transfers without any disclaimer of liability amounts to an agreement to vary the provisions of these codes.³⁵¹ The UNPC should clearly provide that such action by customers and banks does constitute an agreement to vary the code and the bank will be liable for consequential damages.

The UNPC does not explain why it rejects a policy designed to promote commercially reasonable behavior. Instead it justifies limiting liability by saying that these institutions should not run the risk of incurring consequential damages because of the large number of transfers they process.³⁵² It is unclear, however, why the large number of orders processed should serve as an excuse for engaging in commercially unreasonable behavior. In addition, the UNPC supports limiting liability by pointing out that banks lack any knowledge of special circumstances.³⁵³ But the UNPC then establishes a rule which restricts liability even if special circumstances are disclosed.³⁵⁴

Several assumptions may underlie the approach of the UNPC toward technology in this setting. The drafters may have assumed the cost of maintaining reliable technology is prohibitive. There is reason to doubt, however, that the cost is excessive. For example, the cost of a telex machine which shuts off automatically when out of paper, and which produces copies is not substantially greater than one without these features.³⁵⁵ If the UNPC is premised on contrary cost estimates these should be documented. Perhaps the drafters believed that the law simply should not interfere with private enterprise's use of technology. They may have regarded technology as an independent variable and law as a

³⁴⁷ *Id.*

³⁴⁸ *Id.* at 955-56.

³⁴⁹ *Id.*

³⁵⁰ U.C.C. § 4-103(5) (1978); U.N.P.C., *supra* note 5, at § 411(7).

³⁵¹ U.C.C. § 4-103 and U.N.P.C., *supra* note 5, at § 3(1) provide that the provisions of each code may be varied by agreement.

³⁵² U.N.P.C., *supra* notes, § 411 purpose no. 8.

³⁵³ *Id.*

³⁵⁴ *Id.* at § 411(7).

³⁵⁵ Telephone interview with C.B. Cox, Manufacturer's Representative, Extel Corporation in Atlanta, Georgia (August 16, 1983).

dependent variable. The UNPC's treatment of liability is consistent with these approaches.³⁵⁶

The issue raised here is not whether the UNPC's liability provisions for commercial transactions reflect wise policy. Rather, a preliminary matter must be addressed in the Code. What is needed is a clear statement of the UNPC's position regarding the relationship between law and technology. If the intention of the drafters is to reject the Statist and Customer Oriented value models, that rejection should be justified. If their intention is to limit liability in a manner which is in harmony with treating technology as autonomous and as an independent variable, the drafters must explain why technology should be regarded in this manner.

Before another version of the UNPC is proposed, scholars and practitioners should discuss and determine whether the relationship between technology, society and the law which is reflected in the present draft is the most appropriate one. If the current UNPC's conception of that relationship is faulty, discussion about individual provisions is premature and probably misguided; it focuses on the symptoms rather than the disease itself. The critical impediment to fruitful analysis is the lack of a stated position on the relationship. Unless that is forthcoming, all one can do is guess at the drafter's underlying conception by trying to discern that conception from specific provisions. If one disagrees with the provision, one cannot know the true nature of the disagreement. It may originate from a view of the relationship which varies from the drafters'. Alternatively, both the drafters and the commentator may share the same conception, but merely disagree on its application.

For example, in regard to the provision limiting the liability of institutions other than the commercial customer's bank, one cannot be sure that the drafters intended totally to reject any role for the law in governing technological performance. Perhaps they did not so intend, and assumed that the good faith requirement would insure a minimal level of technological performance. If the provision is based on that assumption, then one can analyze the provision on that basis. One may argue, for instance, that a good faith standard in effect does nothing to insure any reasonable level of technological performance (reasonable in regard to the Statist, Systems and Customer Oriented models) because of the narrow definition of bad faith. One way to make the good faith standard more effective in promoting reliable technological performance might be to broaden the definition of bad faith, at least for purposes of this section. The revised bad faith definition would include failure to maintain technological systems reasonably capable of properly transferring funds given the current state of the art. Alternatively, the Code could allow consequential damages for failure to observe reasonable commercial standards, but impose a cap. For example, the maximum allowable amount might be fixed at one million dollars per failed transfer. Banks would then have an incentive to maintain decent technology and would be able to insure themselves if they believed that they risked incurring damages. The limit would protect them from enormous losses and provide a level of certainty with which they could plan.

Unfortunately, commentators making suggestions such as those above are working in a vacuum, because they have no way to gauge whether their disagreement stems from a difference of opinion over how to apply a common conception of the role of technology in devising a legal system, or originates from a totally different conception of that role. A

³⁵⁶ See U.N.P.C., *supra* note 5, at § 411(7). Precluding liability for consequential damages in U.N.P.C. § 411(7) removes significant incentives for banks to improve their technology. This is consistent with the approaches discussed in the text.

policy statement explaining the UNPC's intended relationship to technology would greatly assist the national debate. In addition, such a policy formulation in the version of the Code finally enacted would guide judges in interpreting the Code and promote its uniform application.

CONCLUSION

Statutes and case law on stop payment and funds transfers illustrate the need to strive for a better understanding of both the relationship between law and technology and the factors which should be considered in resolving problems created by bank technology. Current law often rests on unexpressed assumptions about the role of law and technology and is devoid of careful thought and analysis. It fails to provide consistent legal guidance and precedent. As a result, some cases and statutes may unduly inhibit electronic banking, while others may unwisely give it totally free rein. This state of affairs is a disservice to banks, customers and rational technological development, all of which need a legal system characterized by predictability, rationality and consistency.³⁵⁷

Courts and legislatures must determine the appropriate relationship between technology, banking transactions and the law in order to rectify this situation. This task is complicated by differing views of technology held by various members of society and the conflicting value systems of parties with an interest in the operation of payment systems. For this reason, a precise formulation of the ideal relationship is not possible. There is no indisputably correct concept merely awaiting discovery by someone with the perspicacity to develop the necessary methodology.³⁵⁸ It is possible, nevertheless, for courts and legislatures to confront the challenge directly, and to consider the numerous views and value models espoused by others. Whatever legal rules are adopted, the decision maker should explicitly acknowledge his position on the relationship between law and technology, justify that position, and explain how he has applied that position to the situation before him.³⁵⁹ As each legal rule is applied in ever more situations, the wisdom of the rule and the underlying approach to the relationship between law and technology can be evaluated. In light of that evaluation, improved approaches to the relationship can be designed and more appropriate legal rules developed.

³⁵⁷ "[I]n all mercantile transactions the great object should be certainty." *Vallejo v. Wheeler*, 1 Cowp. 143, 153, 98 Eng. Rep. 1012, 1017 (1774), *quoted in* Mellinkoff, *supra* note 203, at 223.

³⁵⁸ See generally Danzig, *supra* note 203, at 624.

³⁵⁹ Ethical and political choices are involved in developing commercial law. *Id.* at 630. There are no "self-evidently" correct answers. *Id.* Therefore, issues should be resolved in a "self-conscious, visible way. . . ." *Id.*