

CONTRACTS AND ELECTRONIC AGENTS: WHEN COMMERCIAL PRAGMATISM AND
LEGAL THEORIES DIVERGE.

by

SABRINA KIS

(Under the Direction of Robert Brussack)

ABSTRACT

The purpose of this thesis is to analyze the formation of contracts concluded by electronic agents both in the European Union and the United States. Technology is in constant evolution and the possibilities offered by electronic agents today are far from the ones that could be developed tomorrow. Thus, law faces a permanent challenge to adapt itself to these changes. This paper aims to show that the existing principles do not provide an appropriate legal frame for this new type of contract. In addition, since legislatures have attempted to regulate this new way of doing business, this thesis analyzes the possible development of a new set of rules. To achieve that goal, a just balance between protecting users and ensuring the freedom necessary to businesses needs to be found.

INDEX WORDS: Electronic agents, Contracts, E-commerce, Legal personhood, Agency, Communication tools, Internet, Software.

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DEDICATION

To my parents and grand-parents.

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CHAPTER 1

INTRODUCTION

Electronic commerce may be defined as the ability to conduct business via electronic network and to use the Internet as a commercial medium.¹ Since the 1990's, electronic commerce has grown rapidly, and the use of computer technology has enhanced the possibilities offered. However, with the benefits of electronic commerce come downsides. For instance, the wide range of information and choices available made more difficult for people to search for information or to find relevant Web sites and data. New tools may remedy to this kind of problem. Technology has been developed that enables individuals to use electronic agents to make purchases or to conclude agreements.

Many definitions of electronic agents have been given. Although they have been described as “a software thing that know [sic] how to do things that you could probably do yourself if you had the time,”² a more technical definition would be to identify an electronic agent as a “component of software and/or hardware which is capable of acting exactly in order to accomplish tasks on behalf of its user.”³ To lawyers, the term “agent” suggests the application of the law of agents and principals, but this paper will defend the proposition that the law of agents and principals should not necessarily govern the relationship between users and their electronic agents.

Realizing the importance of electronic commerce for their economies, many nations have attempted to regulate this new way of doing business and to find a just balance between

¹ See Ling Bin, *An Investigation of Distributed Agent-Based Systems in Electronic Commerce*, available at http://maotai.dcs.st-and.ac.uk/research/mres_dsm.htm (last visited June 8, 2004).

² Bjorn Hermans, *Intelligent Software Agents on the Internet: An Inventory of Currently Offered Functionality in the Information Society and a Prediction of (Near-)Future Developments* (1996), available at http://www.firstmonday.dk/issues/issue2_3/ch_123/index.html (last visited June 8, 2004).

³ SYED MAHBUBUR RAHMAN & ROBERT J. BIGNALL, *INTERNET COMMERCE & SOFTWARE AGENTS: CASES, TECHNOLOGIES AND OPPORTUNITIES* 76 (2001).

consumer protection and economic freedom. Today, the validity of contracts concluded by electronic agents has been generally recognized. Nonetheless, many issues regarding their use remain. This paper aims to explain an important subset of these issues and to describe possible approaches. The paper will focus on the electronic formation of contracts and on possible remedies available to the parties in the event of unwanted transactions.

International regulation of electronic contracts remains limited. This paper, therefore, will focus on national law, and in particular on the law of the United States and of France, a common law nation and a civil law nation. By comparing the approaches of these two important modern legal systems, the paper aims to achieve a certain comprehensiveness in its analysis of electronic agents.

First, because of the novelty of electronic agents, the paper will offer a description and detailed definition. Part II of the paper then will focus on the validity and formation of the contracts concluded by electronic agents. And Part III will explain some of the legal consequences flowing from this new type of contract.

CHAPTER 2

DEFINITION OF ELECTRONIC AGENTS

A. Technical Features

There is no single definition of an electronic agent. Beyond the basic recognition that an electronic agent is a “software thing,”⁴ there are almost as many definitions available as articles written on the topic.⁵ It is nonetheless possible to find a common understanding and agreed-upon characteristics that shape a technical definition of an electronic agent.

1. Introduction to the World of Robots

A number of agent-based systems⁶ have been developed and this number will probably increase in the next decades.⁷ Not all of these systems are relevant here, but it is interesting to note that different types of agents⁸ already coexist in cyberspace and that the possibilities of development are numerous.⁹ Thus, while researching electronic agents, one could come to read about “robots” or “bots”¹⁰ (also referred to as knowbots, softbots or taskbots¹¹),

⁴ Bin, *supra* note 1.

⁵ See RAHMN ET AL., *supra* note 3, at 76; *see also* STUART J. RUSSEL & PETER NORVIG, *ARTIFICIAL INTELLIGENCE: A MODERN APPROACH* 31 (1995).

⁶ See Bin, *supra* note 1.

⁷ *Id.*

⁸ See Stephen T. Middlebrook & John Muller, *Thoughts on Bots: The Emerging Law of Electronic Agents*, 56 *BUS. LAW.* 341, 343-44 (2000).

⁹ See Bin, *supra* note 1.

¹⁰ Middlebrook & Muller, *supra* note 8, at 343.

¹¹ See Emily M. Weitzenboeck, *Electronic Agents and the formation of Contracts*, 4 (Published in the *International Journal of Law and Information Technology*, Vol.9 No.3, 204-34), available at <http://folk.uio.no/emilyw/documents/EMILY%20-%20Version%2019%20August%20&%20source.pdf> (last visited June 8, 2004).

autonomous agents¹² or other intelligent agents.¹³ Autonomous agents can accomplish many different tasks. Some of them will search the web and gather information needed by their users (data mining bots¹⁴); others will be able to index millions of web pages (web crawlers¹⁵). An exhaustive list of the robots currently in use would be too long and is not the purpose of this paper.¹⁶

If all robots are software, does it follow that every software application can be seen as an electronic agent? Experts¹⁷ have tried to find attributes which, when present in software, make it “[behave] like an autonomous agent.”¹⁸ One of the most comprehensive theories developed¹⁹ distinguishes between “strong” and “weak” agency. To be characterized as an agent at all, software must possess several fundamental attributes that correspond to the “weak notion.”²⁰ Robots may also possess additional auxiliary features (the “strong notion”²¹) but need not possess these features to qualify as electronic “agents.”

¹² See Middlebrook & Muller, *supra* note 8, at note 3 (quoting Stan Franklin & Art Graesser, *Is it An Agent or Just a Program? A Taxonomy for Autonomous Agents* (1996)).

¹³ See Middlebrook & Muller, *supra* note 8, at note 4.

¹⁴ *Id.*, at 343.

¹⁵ *Id.*

¹⁶ BotSpot maintains such a list, *available at* <http://www.botspot.com/search> (last visited on June 8, 2004).

¹⁷ Professors Stan Franklin and Art Graesser are two such experts. See Middlebrook et al., *supra* note 8, at note 13.

¹⁸ Middlebrook & Muller, *supra* note 8, at 345.

¹⁹ See Wooldridge and Jennings, *Intelligent Agents: Theory and Practice*, Knowledge Engineering Review Vol. 10 No.2, June 1995 (Cambridge University Press: 1995).

²⁰ See *id.*; see also Bin, *supra* note 1.

²¹ See Wooldridge & Jennings, *supra* note 19; see also Bin, *supra* note 1.

The following table shows the four fundamental attributes.²²

Property	Description
Reactivity	The agent perceives and reacts to changes in the environment
Autonomy	The agent exercises control over its actions and operate without direct intervention of humans or others.
Persistence	The agent is a continually running process, which is not changed capriciously.
Ability to communicate	The agent communicates with people, other bots and its environment.

Autonomy is the key characteristic in distinguishing electronic agents from software in general.²³ The “strong notion” of electronic agents comprises additional properties usually associated with humans. Some “strong notion” writers²⁴ emphasize “mentalist”²⁵ concepts, such as beliefs or intentions; others²⁶ refer to human-like attributes, such as emotions.

The following table shows some of the auxiliary attributes²⁷ of autonomous agents. The list is not exhaustive. Other properties could be used to refer to an autonomous agent.

²² Middlebrook et al., *supra* note 8, at 345; *see also* Wooldridge et al., *supra* note 19.

²³ *See* RUSSELL & NORVIG, *ARTIFICIAL INTELLIGENCE: A MODERN APPROACH* 35 (Prentice Hall : New Jersey 1995).

²⁴ *Id.*

²⁵ *Id.*

²⁶ Bates, 1994, Bates et al, 1992 quoted by Wooldridge & Jennings, *supra* note 19.

²⁷ Wooldridge & Jennings, *supra* note 19; *see also* Bin, *supra* note 1.

Property	Description
Mobility	The agent can transport itself from one machine to another while preserving its internal state.
Reasoning	The agent can change its behavior based on current knowledge or past experiences.
Benevolence	The agent does not have conflicting goals
Veracity	The agent will not knowingly communicate false information
Ability to plan	The agent is able to choose between different courses of action in order to achieve its goals.
Learning	The agent may accumulate knowledge based on past experience and subsequently modify its behavior.

2. Autonomous Agents Used for Contracting

In the simplest versions of electronic contracting, there is no need for autonomous electronic agents:²⁸ Software programs simply issue standard offers and record acceptances from buyers. Electronic agents, however, can be “active participant[s] in the trading process.”²⁹ Machines that are autonomous and that learn through experience³⁰ can manifest behavior associated with free will.³¹

There is every reason to expect that electronic agents will become more and more sophisticated, reaching imaginable, but remarkable levels of autonomy later in the century, but electronic agents already are used in the process of contracting. To understand exactly at

²⁸ Tom Allen & Robin Widdison, *Can Computers Make Contracts*, 9 Harv. J.L. & Tech. 25, 26. (1996)

²⁹ *Id.*, at 26.

³⁰ See *supra* tables pp.4-5.

³¹ Allen & Widdison., *supra* note 28, at 27.

which stage an autonomous agent can be used, the Consumer Buying Behavior Model was created.³² There are six basic stages in a consumer's buying process. These stages are need identification, product brokering, merchant brokering, negotiation, purchase/delivery, and product service and evaluation. First, the individual or buyer recognizes a need for something. Second, several products are presented, tailored to the buyer's desires. Third, different sellers are identified. Fourth, after product and merchant are identified, the terms of the contract are negotiated. Fifth, the product is purchased and delivered, and the company may offer post-sale service. Finally, the buyer evaluates the experience. According to experts,³³ today's autonomous agents could be used at the first four stages of the model. These stages correspond to the steps leading to the conclusion of the contract and could be handled by one or several agents. Moreover, it is not impossible to imagine that in the future electronic agents will be able to take care of every step of the process without the intervention of a human being. Agreements then will be concluded *by* the electronic agents and not only *through* them.³⁴

Kasbah³⁵ is one of the many agent-based systems available on the Internet.³⁶ Users of Kasbah can create agents to help buy or sell a particular product. The seller registers his product with the Kasbah server via a computer interface,³⁷ and buyers go to the server to look for items. Users can develop buying or selling strategies before sending their agents into the market place. The Kasbah agents intervene at the fourth stage of the Consumer Buying Behavior Model³⁸-- negotiation. Sellers' agents "know" the seller's bottom price and the price

³² See Maes et al., *Agents that Buy and Sell: Transforming Commerce as We Know It*, Communications of the ACM, March 1999, Vol. 42, No.3, pp. 81-91.

³³ *Id.*

³⁴ See Ian R. Kerr, *Providing for Autonomous Electronic Devices in the Uniform Electronic Commerce Act* 18, available at <http://www.law.ualberta.ca/alri/ulc/current/ekerr.pdf> (last visited June 8, 2004).

³⁵ See Moukas et al., *Agent-Mediated Electronic Commerce: An MIT Media Laboratory Perspective* 3, available at <http://web.media.mit.edu/~moux/papers/icec98.pdf> (last visited June 8, 2004).

³⁶ See for instance Vendio.com (former AuctionWatch.com), Teksell.com, Ebay.com or Ebbreviate.com (last visited June 8, 2004).

³⁷ See Bin, *supra* note 1, at 10.

³⁸ See Maes et al., *supra* note 32.

the seller would like to have, and they can be equipped with some bargaining tactics, including how and when to lower the price during the negotiation. Buyers' agents offer bids to sellers' agents that can answer in the affirmative or negative until a deal is reached.

The Kasbah agents, as described, focus only on the element of price. It is not impossible, however, to imagine electronic agents following more complex instructions. Let's assume, for instance, that two individuals, John and Brad, do not know each other. John wants to buy a new car, but he is too busy and does not have time to surf the Internet to find the best car at the best price. He therefore releases his electronic agent into cyberspace with instructions to purchase the car of his dreams. To be sure that the electronic agent knows what to do, John gives the agent a specified range of prices (the bottom price and the ideal price) and other terms such as the brand (a BMW), the color (red is better but John would be okay with a black or blue car; on the other hand, he specifies that he refuses to buy a yellow or green car), the year, etc. He also might instruct his agent that if the model is more recent he is ready to pay more. On the other side, the seller, Brad, is the owner of a used BMW. He was promoted recently and wishes to buy a new Mercedes. Brad does not want to waste his time posting an advertisement and selecting the best buyer. He decides, therefore, to use a software agent that he instructs to sell his car within a specified range of prices and other terms (delivery, warranty, etc.) to the highest bidder. Brad and John will never discuss the terms of the contract together. Their agents, after interacting with other agents to find the best deal, will arrange the sale of the used BMW. In this rather simple hypothetical, the agent has more instructions to deal with and may be able to initiate and conclude the transaction by itself.

As has been noted by others,³⁹

[a]gents will no doubt be employed to assist human interaction through the various stages of a transaction from product and merchant brokering through to negotiation, sale, distribution and payment. It is not unreasonable to predict that, in time, agent

³⁹ Kerr, *supra* note 34, at 19.

technology will become sufficiently sophisticated to perform many if not all of these sorts of tasks without human oversight or intervention.⁴⁰

A company, for instance, can use an electronic agent to manage its office supplies. In such a case, the electronic agent monitors the stock and when the stock fell to a certain level, the agent selects the best offer from several suppliers. It orders the amount the company needs. The electronic agent, without the company or its human employees even knowing about it, would perform the whole transaction.⁴¹

B. Statutory Definition of Electronic Agents

As we have seen, experts have tried to arrive at a definition of electronic agents based on the technical characteristics and skills of agents. They have had some difficulties in finding a generally accepted definition. This may be because autonomous agents are still in their early development and it is hard to foresee what exactly they will be able to do. It is axiomatic that law lags technology. It should come as no surprise, then, that our legal systems have only begun to address the issues peculiar to electronic agents, and the law's response to the rapidly increasing autonomy of these agents remains especially undeveloped.

⁴⁰ *Id.*

⁴¹ See Jean-François Lerouge, *The Use of Electronic Agents Questioned under Contractual Law: Suggested Solutions on a European and American level*, 18 J. MARSHALL J. COMPUTER & INFO. L. 406. (1998)

1. American Legislation

a. The UETA & E-SIGN: Confusing Differences

i. The UETA

A natural starting point in describing American law is the Uniform Electronic Transactions Act (UETA).⁴² The UETA is not a federal statute enforceable by the courts. It was drafted and adopted by the National Conference of Commissioners on Uniform State Laws in the hope that it would be enacted by state legislatures.⁴³ Nothing obliged the states to enact it, but as of the beginning of 2004, it has been enacted by 46 States.⁴⁴

Drafted in the summer of 1999, the eleven-page Act deals with digital signatures, electronic contracts, automated transactions, and transactions between parties when both parties have agreed to conduct transactions by electronic means. This paper focuses on the UETA provisions governing automated transactions.⁴⁵ The Act creates a set of rules that apply to electronic agents. The first important provision is the definition of an electronic agent.⁴⁶ The Act defines an electronic agent as “a computer program or an electronic or other automated means used independently to initiate an action or respond to electronic records or performances in whole or in part, without review or action by an individual.”⁴⁷ The UETA’s

⁴² UNIFORM ELECTRONIC TRANSACTIONS ACT (UETA) (1999), available at <http://www.law.upenn.edu/library/ulc/ulc.htm> (last visited June 9, 2004).

⁴³ NCCUSL is a non-profit organization created in 1892. Its purpose is to enhance the uniformity of law by drafting model state laws and encourage states to pass them. See National Conference of Commissioners on Uniform States Laws website, available at <http://www.nccusl.org/nccusl/aboutus.asp> (last visited May 24, 2004).

⁴⁴ As of May 24, 2004, UETA had been adopted in several cases with non-uniform provisions in 46 states and introduces in 2004 in the states of Alaska and South Carolina. For more information, see http://www.nccusl.org/nccusl/uniformact_factsheets/uniformacts-fs-UETAasp (last visited May 24, 2004).

⁴⁵ UETA §2. An “automated transaction” is defined as “a transaction conducted or performed, in whole or in part, by electronic means or electronic records, in which the acts or records of one or both parties are not reviewed by an individual in the ordinary course in forming a contract, performing under an existing contract, or fulfilling an obligation required by the transaction.”

⁴⁶ UETA §2(6).

⁴⁷ *Id.*

drafters,⁴⁸ despite the use of the term “electronic agent,” viewed current “agents” as tools of their users. The drafters appreciated, however, the experts’⁴⁹ conviction that the technology likely will evolve so that at some point electronic agents will “act autonomously, and not just automatically.”⁵⁰

The new Article 2 of the Uniform Commercial Code (UCC)⁵¹ as revised in May 2003⁵² includes provisions regarding contracts for the sale of goods concluded by one or two electronic agents. The definition of an electronic agent⁵³ under the new Article 2 was borrowed from the UETA,⁵⁴ and the exact language of the UETA was used for the UCC. Therefore, whether under the UETA or the UCC, the term “electronic agent” refers to the same thing.

ii. The E-SIGN

E-Sign, or the Electronic Commerce in Global and National Commerce Act,⁵⁵ was signed on June 30, 2000 by President Clinton. Its purpose is to facilitate the use of electronic media in transactions and to implement a uniform legal basis regarding electronic commerce.⁵⁶ E-Sign contains only two provisions on electronic agents,⁵⁷ including a definition of electronic agent. E-Sign was based in part on the UETA,⁵⁸ and the definition of electronic agent set out in E-Sign⁵⁹ is similar to UETA’s definition.⁶⁰ There is, nonetheless, a

⁴⁸ UETA §2 cmt. 5.

⁴⁹ See Allen et al., *supra* note 28; see also Bin, *supra* note 1.

⁵⁰ UETA, §2 cmt. 5.

⁵¹ UCC §§ 2-101, 2-102 (1968).

⁵² UCC §2-204 (Draft of Article 2 Amendments Approved at A.L.I. Annual Meeting May 13, 2003), available at <http://www.ali.org/> (last visited June 9, 2004).

⁵³ *Id.*, at §2-103(1)(g). An electronic agent is defined as “a computer program or an electronic or other automated means used independently to initiate an action or respond to electronic records or performances in whole or in part, without review or action by an individual.”

⁵⁴ UCC §2-204 cmt. 4.

⁵⁵ ELECTRONIC SIGNATURES IN GLOBAL AND NATIONAL COMMERCE ACT (2000).

⁵⁶ Jane K. Winn & Robert A. Witte, *E-Sign of the Times*, 2 No. 9 E-Commerce L. Rep. 2 (2000).

⁵⁷ E-SIGN, § 101(a)(2). See also *infra* Chapter 3 for the recognition of the validity of contracts concluded by electronic agents.

⁵⁸ Winn et al., *supra* note 56.

⁵⁹ E-SIGN, §106(3).

difference important enough to create some confusion. E-Sign states that an electronic agent acts “without review or action by an individual at the time of the action or response.”⁶¹ By adding a specific time where the UETA does not specify anything, the E-Sign leads one to wonder if under the UETA, a system that needs human intervention after some stages of the process can be characterized as an electronic agent.⁶² Nevertheless, since the E-Sign provides that state enactment of the UETA may supercede E-Sign with respect to state law if the UETA is adopted as recommended by NCCUSL,⁶³ perhaps no issues will arise from these differences.⁶⁴

b. The UCITA

The Uniform Computer Information Transactions Act⁶⁵ was adopted on July 24, 1999 by the NCCUSL.⁶⁶ The Act’s purpose is to regulate e-commerce, and it contains several provisions regarding the use of electronic agents.⁶⁷ When starting to work on this new set of rules for e-commerce, the NCCUSL drafters actually intended to revise Article 2 of the UCC⁶⁸ in order to take into account the use of new technologies.⁶⁹ A Committee⁷⁰ was charged to draft a new Article 2B for the UCC.⁷¹ After a certain period, the drafters realized that electronic transactions were different from traditional ones and could not be integrated

⁶¹ UETA §2(6).

⁶¹ E-SIGN, §106(3).

⁶² Middlebrook et al., *supra* note 8, at 351.

⁶³ E-Sign, §102(a)(1).

⁶⁴ Middlebrook et al., *supra* note8, at 351.

⁶⁵ UNIFORM COMPUTER INFORMATION TRANSACTIONS ACT (1999), *available at* <http://www.law.upenn.edu/bll/ulc/ulc.htm> (last visited June 9, 2004).

⁶⁶ *See supra* note 45.

⁶⁷ UCITA §§ 107, 112, 202, 206 & 214.

⁶⁸ UCC art.2 governs the contracts for sale of goods.

⁶⁹ Comments of the National Conference of Commissioners on the Uniform State Laws, *available at* <http://www.law.upenn.edu/bll/ulc/ulc.htm> (last visited June 9, 2004).

⁷⁰ The Drafting Committee on Electronic Communications in Contractual Transactions, later renamed the Drafting Committee on the Uniform Electronic Transactions Act, was created by the NCCUSL in 1996.

⁷¹ *See supra* note 69.

into the articles of the UCC.⁷² Thus, the project was renamed UCITA. The Act is more ambitious than the UETA⁷³ and more controversial.⁷⁴ In 2002, only Maryland and Virginia had adopted the UCITA.⁷⁵

The UCITA addresses electronic agents.⁷⁶ According to the UCITA drafters,⁷⁷ an electronic agent is “a computer program or electronic or other automated means used independently to initiate an action or respond to electronic messages or performances without review or action by an individual at the time of the action, response or performance.”⁷⁸ This definitional language incorporates the notion of autonomy. On the other hand, the Act’s comments⁷⁹ provide that “the automated system must have been selected, programmed or otherwise used for that purpose by the person that is bound by its operations.”⁸⁰ In a subsequent section, this paper will examine more fully the implications of the UCITA’s approach for the legal relationship between the electronic agent and its user.⁸¹ It is important to note here, however, that the UCITA seems to treat the agent as a hybrid creature, with elements of a traditional agent and a communication tool.⁸²

2. No Definition under European Statutes

When it comes to the definition of electronic agents, there is no statute available today in the European Union that clarifies the issue. Regulatory initiatives in fact are very limited. If

⁷² David D. Wong, *The Emerging Law of Electronic Agents: E-Commerce and Beyond...*, 33 Suffolk U. L. Rev. 83, 92 (1999).

⁷³ See Middlebrook & Muller, *supra* note 8, at 352.

⁷⁴ *Id.*

⁷⁵ See UCITA in the States, available at <http://www.cpsr.org/program/U.C.I.T.A/U.C.I.T.Astates.html> (last visited June 9, 2004).

⁷⁶ See *infra* pp. 25-26.

⁷⁷ See *supra* note 67.

⁷⁸ UCITA § 102(28).

⁷⁹ UCITA § 102(28), Reporter’s Note.

⁸⁰ *Id.*

⁸¹ See *infra* Chapter 2.C.1.

⁸² Lerouge, *supra* note 41, at 421.

some European Acts recognize in general the validity of contracts concluded by electronic means, there is no direct reference to the possibility of conclusion through or by electronic agents.⁸³

⁸³ See *infra* Chapter 3.B.1.

CHAPTER 3
VALIDITY AND FORMATION OF CONTRACTS CONCLUDED BY ELECTRONIC
AGENTS

A. Distinguishing Older Forms of Electronic Contracting (Electronic Data Interchange) from the New Electronic Agents

Electronic means actually have been used in business transactions for the past twenty years,⁸⁴ mainly with the use of Electronic Data Interchange (EDI).⁸⁵ EDI is a method that businesses use to exchange information electronically,⁸⁶ from orders and confirmations constituting a contract to inventory management and shipment status.⁸⁷ EDI was developed in the early 1970s.⁸⁸ A significant characteristic of EDI is that “the information being communicated is structured into standard formats, permitting effective, comprehensible data exchanges irrespective of the particular hardware or software implemented at either end of the transmission by the communicating parties.”⁸⁹ In the 1990s, some said EDI introduced “fundamental changes in the manner in which contracts for the sale of goods are made and performed.”⁹⁰ In addition, the Electronic Messaging Services Task Force noted that the existing rules regarding the formation and the validity of contracts were inappropriate for the use of EDI.⁹¹ The traditional rules of interpretation were also said inadequate for contracts

⁸⁴ Anthony J. Bellia Jr., *Contracting with Electronic Agents*, 50 Emory L.J. 1047, 1050 (2001).

⁸⁵ The Electronic Messaging Services Task Force, *The Commercial Use of Electronic Data Interchange – A Report and Model Trading Partner Agreement*, 45 Bus. Law. 1645, 1649 (1990).

⁸⁶ Bellia, *supra* note 84, at 1050.

⁸⁷ Middlebrook & Muller, *supra* note 8, at 347.

⁸⁸ The Electronic Messaging Services Task Force, *supra* note 85, at 1650.

⁸⁹ *Id.*

⁹⁰ *Id.*, at 1649.

⁹¹ *Id.*, at 1649-1650

concluded through EDI.⁹² Therefore, a model agreement was developed.⁹³ The parties using EDI usually establish a written agreement at the beginning of the relationship regarding the kinds of transactions they agree to conduct via this method.⁹⁴ Because of the costs EDI generates, its users are primarily big corporations.⁹⁵ In addition, no litigation has arisen from the use of EDI⁹⁶ and, therefore, no body of case law has been developed to create a legal framework for resolving EDI disputes. This lack of litigation makes using EDI as a model for setting rules regarding the use of electronic agents difficult.⁹⁷ Moreover, electronic agents differ considerably from EDI in different aspects.⁹⁸ First, the parties to a contract concluded through autonomous agents usually do not know each other. EDI parties do know each other.⁹⁹ Second, EDI parties have signed a trading partner agreement before any transaction.¹⁰⁰ Finally, with EDI, the parties are usually corporations that use EDI for repeated transactions with the same buyer or seller. With electronic agents, one or both of the parties may be a consumer.¹⁰¹ Thus, electronic agency is a broader concept that has potentially more wide reaching impact than EDI has in the past.

⁹² *Id.*

⁹³ The Model Electronic Data Interchange Trading Partner Agreement, as proposed by The Electronic Messaging Services Task Force, *supra* note 85, at 1650.

⁹⁴ Middlebrook & Muller, *supra* note 8, at 347.

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*, at 348.

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

B. Statutory Recognition

1. The European Union

In 1997, the European Commission promulgated an Initiative on Electronic Commerce with the goal to create a coherent framework for electronic commerce and to promote its growth in Europe.¹⁰² Several Directives resulted from this Initiative. The three most important are the Directive on Electronic Commerce,¹⁰³ the Directive on Electronic Signatures¹⁰⁴ and the Directive on Distance Contracts.¹⁰⁵ The Directive on Electronic Signatures does not present particular relevance for the purpose of this analysis. A few words must be said regarding the Directive on Distance Contracts.¹⁰⁶ The Act was passed on May 20, 1997 and “aims to approximate informational requirements of the Member States’ laws concerning distance contracts between consumers and suppliers in order to protect the consumers.”¹⁰⁷ A distance contract is defined as

any contract concerning goods or services concluded between a supplier and a consumer under an organized distance sales or service-provision scheme run by the supplier, who, for the purpose of the contract, makes exclusive use of one or more means of distance communication up to and including the moment at which the contract is concluded.¹⁰⁸

¹⁰² European Initiative on Electronic Commerce: Communication to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, COM (97) 157 final (hereinafter Initiative on Electronic Commerce), available at <http://www.cordis.lu/esprit/src/ecomcom.htm> (last visited June 9, 2004).

¹⁰³ Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (hereinafter Directive on Electronic Commerce), O.J.L178/1, 17.7.2000.

¹⁰⁴ Directive 1999/93/EC on a Community framework for electronic signatures, 2000 O.J. (L 013) (hereinafter Directive on Electronic Signatures).

¹⁰⁵ Directive 97/7/EC on Distance Contracts, 1997 O.J. (L 144) (hereinafter Directive on Distance Contracts).

¹⁰⁶ *Id.*

¹⁰⁷ Jochen Zarella, *International Electronic Transaction Contracts Between U.S. and EU Companies and Customers*, 18 Conn. J.Int'l L. 479, 490 (2003).

¹⁰⁸ Directive on Distance Contracts, *supra* note 105, at art. 2(2).

The Directive therefore applies to contracts concluded on the Internet, implicitly recognizing this type of contract.¹⁰⁹ Nonetheless, it does not say anything regarding the use of electronic means in particular. In addition, it contains a lot of exceptions concerning the types of contracts subject to the law.¹¹⁰

The newest and most important European regulation regarding electronic contracting is the Directive on Electronic Commerce.¹¹¹ It was issued on June 8, 2000. Its objective is “to create a legal framework to ensure the free movement of information society services between Member States....”¹¹² For the Parliament and Council, the elimination of obstacles in cyberspace falls into the same category as the suppression of internal frontiers within the Community.¹¹³ Therefore, the Directive on Electronic Commerce requires the European States to remove every legal obstacle to the use of electronic contracts.¹¹⁴ Article 9 of the Directive regarding the treatment of contract states that

[m]ember States shall ensure that their legal system allows contracts to be concluded by electronic means. Member States shall in particular ensure that the legal requirements applicable to the contractual process neither create obstacles for the use of electronic contracts nor result in such contracts being deprived of legal effectiveness and validity on account of their having been made by electronic means.¹¹⁵

By this provision, the Act officially recognizes the validity of contracts concluded through electronic means and seeks to ensure that these contracts will be enforceable in every European country. Although the Directive does not expressly mention electronic agents, and there is no definition of what the drafters intended by “electronic means,” it may reasonably be inferred that electronic agents are part of “electronic means.” This inference is reinforced

¹⁰⁹ Zaremba *supra* note 107, at 490.

¹¹⁰ Directive on Distance Contracts, *supra* note 105, at art. 3(1) & 3(2).

¹¹¹ Directive on Electronic Commerce, *supra* note 103.

¹¹² *Id.*, at Preliminary Introduction (8).

¹¹³ *Id.*, at Preliminary Introduction (1).

¹¹⁴ Zaremba, *supra* note 107, at 489.

¹¹⁵ Directive on Electronic Commerce, *supra* note 103, at art. 9(1).

by the Executive Summary of the Proposal text of the Directive,¹¹⁶ which provides that the “Member States will ... not prevent the use of electronic systems as intelligent electronic agents.”¹¹⁷

Paragraph (2) of Article 9 provides a list of exceptions.¹¹⁸ The States may decide, for instance, that Paragraph (1) will not apply to real estate transactions or to contracts governed by family law or by the law of succession.¹¹⁹ Nonetheless, the Directive makes sure not to give the States the opportunity to use this list of special contracts to prevent the enforceability of electronic contracts in an extensive and abusive way. Thus, the States are required to submit a list of these contracts and, every five years, a report on the application of the exceptions.¹²⁰

It is important to note here that these Directives are not self-executing.¹²¹ They must be transposed into the national legal systems of the different States.¹²² The States usually have two years to adopt new laws or modify their existing regulations to comply with the European Directive.¹²³ When a contract is concluded, therefore, it is national law (and not the Directive) that governs the transaction,¹²⁴ but the Directive ensures that national regulations are uniform, at least to some extent. Thus, it was decided that the States had to transpose the Directive on

¹¹⁶ Annex 1 to the Proposal for Directive on Electronic Commerce, COM (1998) 586 final.

¹¹⁷ *Id.*

¹¹⁸ Directive on Electronic Commerce, *supra* note 103, at art. 9(2): « Member States may lay down that paragraph I shall not apply to all or certain contracts falling into one of the following categories : (a) contracts that create or transfer rights in real estate, except for rental rights ; (b) contracts requiring by law the involvement of courts, public authorities or professions exercising public authority ; (c) contracts of suretyship granted and on collateral securities furnished by persons acting for purposes outside their trade, business or profession ; (d) contracts governed by family law or by the law of succession. »

¹¹⁹ *Id.*

¹²⁰ *Id.*, at art. 9(3): “Member States shall indicate to the Commission the categories referred to in paragraph 2 to which they do not apply paragraph 1. Member States shall submit to the Commission every five years a report on the application of paragraph 2 explaining the reasons why they consider it necessary to maintain the category referred to in paragraph 2(b) to which they do not apply paragraph 1.”

¹²¹ David Church et al., *Recent Developments Regarding U.S. and EU Regulation of Electronic Commerce*, 33 *Int'l Law* 347, 348 (1999).

¹²² Zaremba, *supra* note 107, at 488.

¹²³ Church, *supra* note 121, at 348.

¹²⁴ Zaremba, *supra* note 107, at 488.

Electronic Commerce by January 17, 2002.¹²⁵ Luxemburg, Austria and Germany were the only countries to meet the deadline.¹²⁶ Today, France still has not transposed the Directive.¹²⁷ France, however, and other States¹²⁸ have introduced into its legislation a horizontal provision stipulating that contracts concluded by electronic means have the same legal validity as contracts concluded by more traditional means.¹²⁹ In addition, the Directive still may be applied in the other European States. When the deadline has passed and a Directive is still not transported into national law, individuals may invoke the European Act directly before the national courts, if its provisions are clear, precise and unconditional.¹³⁰

Therefore, the European Community has recognized the validity of contracts concluded through electronic means, and consequently through autonomous agents, although no express provision has been passed on the matter yet. Nevertheless, as will be developed later,¹³¹ national legislatures still play a central role regulating contracts concluded through electronic agents.

2. The UNCITRAL Model Law on Electronic Commerce

In 1996, the United Nations Commission on International Trade Law (UNCITRAL) adopted a Model Law on Electronic Commerce.¹³² The Model Law aims to remove legal obstacles regarding the use of electronic commerce and to set a framework for it.¹³³ The text is neither an international convention nor a treaty and therefore it does not have any binding

¹²⁵ Directive on Electronic Commerce, *supra* note 103, at art. 22(1).

¹²⁶ Zaremba, *supra* note 107, at 489 n.86.

¹²⁷ See European Union Preparatory Acts, COM(2003) 702.

¹²⁸ Belgium, Germany, Spain, Luxemburg & Finland took similar provisions. *See id.*

¹²⁹ *Id.*

¹³⁰ Zaremba, *supra* note 107, at 489.

¹³¹ See *supra* Chapter 4 regarding the French law.

¹³² United Nations Commission on International Trade Law Model Law on Electronic Commerce (1996) (hereinafter UNCITRAL Model Law on Electronic Commerce), *available at* <http://www.uncitral.org/english/texts/electcom/ml-ecomm.htm> (last visited June 9, 2004).

¹³³ *Id.*

effect.¹³⁴ Nevertheless, Illinois in the United States, and Ireland and France in Europe, have adopted the UNCITRAL Model Law on Electronic Commerce.¹³⁵ Furthermore, both the United States, with the UETA,¹³⁶ and the European Union, with the Directive on Electronic Commerce,¹³⁷ used the Model Law on Electronic Commerce in their legislation regarding the matter. As stated in Article 5,¹³⁸ the main purpose of the UNCITRAL Model Law is to make sure that information will “not be denied legal effect, validity or enforceability solely on the grounds that it is in the form of a data message.”¹³⁹

Although the Model Law does not expressly use the term “electronic agent,” the notion is implied in Article 2,¹⁴⁰ which defines the originator of a data message as the “person by whom, or on whose behalf, the data message purports to have been sent or generated prior to storage, if any, but it does not include a person acting as an intermediary with respect to that data message.”¹⁴¹ In addition, in the comments on Article 2,¹⁴² the drafters explain that the notion of “person” must be understood as referring both to natural persons and legal entities.¹⁴³ “Data messages that are generated automatically by computers without direct human intervention”¹⁴⁴ therefore fall into the scope of Article 2(c). The Model Law states, moreover, that a data message is deemed to be that of the originator if it was sent “by an information system programmed by, or on behalf of, the originator to operate automatically.”¹⁴⁵ The drafters of the Model Law decided not to address fully and directly,

¹³⁴ Zaremba, *supra* note 107, at 486.

¹³⁵ UNCITRAL Model Law on Electronic Commerce, Status of Conventions and Model Laws, *available at* <http://www.uncitral.org/en-index.htm> (last visited June 9, 2004).

¹³⁶ *See supra* note 42.

¹³⁷ *See supra* note 103.

¹³⁸ UNCITRAL Model Law on Electronic Commerce, *supra* note 132, at art. 5.

¹³⁹ *Id.*

¹⁴⁰ *Id.*, at art 2(c).

¹⁴¹ *Id.*

¹⁴² *Id.*, at Article-By-Article Remarks (35).

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*, at art 13(2)(b).

however, the substantial questions of principal-and-agent law that can arise with the use of electronic agents :

[T]he Model Law should not be misinterpreted as allowing for a computer to be made the subject of rights and obligations. Data messages that are generated automatically by computers without direct human intervention should be regarded as "originating" from the legal entity on behalf of which the computer is operated. Questions relevant to agency that might arise in that context are to be settled under rules outside the Model Law.¹⁴⁶

Thus, if the Model Law implicitly recognizes the validity of contracts concluded through the use of electronic agents, it also makes clear that an electronic agent cannot be seen as the legal entity behind the offer and acceptance of a contract. Rather, an electronic agent should be considered as acting *on behalf* of a responsible legal entity: An autonomous agent may be seen either as a mere communication tool or as the agent of its user.¹⁴⁷

3. The United States

As has been stated earlier,¹⁴⁸ there are three main attempts of legislation regarding electronic agents available in the United States: UETA¹⁴⁹, E-Sign¹⁵⁰ and UCITA.¹⁵¹

a. UETA & Article 2 of the UCC

We have seen earlier¹⁵² that the new Article 2 of the UCC as revised in May 2003 borrows the definition of electronic agent from the UETA¹⁵³ On the other hand, the UETA

¹⁴⁶ *Id.*, at Article-By-Article Remarks (35).

¹⁴⁷ *See infra* Chapter 3.C.1 (regarding the status to give to autonomous agents).

¹⁴⁸ *See supra* Chapter 2.B.1.

¹⁴⁹ UETA, *supra* note 42.

¹⁵⁰ E-Sign, *supra* note 55.

¹⁵¹ UCITA, *supra* note 65.

¹⁵² *See supra* Chapter 2.B.1.a.i.

¹⁵³ *Id.*

refers to Article 2 and common law principles in order to determine whether there is formation of a contract.¹⁵⁴ Indeed, the UETA does not aim to provide substantive law regarding electronic contracts.¹⁵⁵ Nonetheless, both texts recognize the validity of a contract formed by electronic agents. Thus, the UETA establishes that a contract may be formed either by two electronic agents or by one electronic agent and an individual.¹⁵⁶ Section 14¹⁵⁷ provides rules regarding automated transactions and states that:

(1) A contract may be formed by the interaction of electronic agents of the parties, even if no individual was aware of or reviewed the electronic agents' actions or the resulting terms and agreements.

(2) A contract may be formed by the interaction of an electronic agent and an individual, acting on the individual's own behalf or for another person, including by an interaction in which the individual performs actions that the individual is free to refuse to perform and which the individual knows or has reason to know will cause the electronic agent to complete the transaction or performance.¹⁵⁸

In addition, the UETA, unlike Article 2, requires the party's assent to conduct an electronic transaction.¹⁵⁹ Also, the UETA gives the party a non-waivable right to refuse future electronic transactions,¹⁶⁰ while Article 2 specifically validates any action of the electronic agent and attributes it to the parties.¹⁶¹ On the other hand, the provision of the UETA related to the attribution of electronic records does not expressly mention electronic agents.¹⁶² UETA provisions seem to rely on Article 2 of the UCC,¹⁶³ but with the revision of the latter,

¹⁵⁴ UETA, *supra* note 42, at § 2(1) & cmt. 1.

¹⁵⁵ Juanda Lowder Daniel, *Electronic Contracting under the 2003 Revisions to Article 2 of the Uniform Commercial Code: Clarification or Chaos ?*, 20 SANTA CLARA COMPUTER & HIGH TECH L. J. 319, 324 n.23 (2004).

¹⁵⁶ UETA, *supra* note 42, at §14(1) & (2).

¹⁵⁷ *Id.*, at § 14.

¹⁵⁸ *Id.*, at §14(1) & (2)

¹⁵⁹ *Id.*, at 5(b).

¹⁶⁰ *Id.*, at 5(c).

¹⁶¹ Daniel, *supra* note 155, at 325.

¹⁶² *Id.*

¹⁶³ *Id.*

difficulties may arise.¹⁶⁴ Nevertheless, both the UETA and the new Article 2 envisage use of electronic agents in situations where humans program their machines to act according to certain parameters.¹⁶⁵ It is also interesting to note that Article 2 opens the door to new possibilities (or problems¹⁶⁶) since it does not require human intervention or assent before the conclusion of the contract. The UETA does not prevent a party from raising the absence of assent.¹⁶⁷ However, absence of assent may be no longer available as a defense under the new Article 2.

b. E-Sign

We said earlier in this analysis that E-Sign¹⁶⁸ contains only two provisions on electronic agents: a definition¹⁶⁹ and a principle similar to the UETA that a contract may not be denied effect solely because it was formed by electronic agents.¹⁷⁰ The use of electronic agents is therefore authorized by E-Sign. Nonetheless, E-Sign recognizes the validity of contracts concluded by autonomous agents only as “long as the action of any such electronic agent is legally attributable to the person to be bound.”¹⁷¹ These last words may encourage parties to avoid responsibility by denying that the actions of the electronic agent are legally attributable to them.¹⁷² Once again, these issues may never arise since E-Sign contains an express savings clause regarding state enactment of the UETA¹⁷³

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ *See id.*

¹⁶⁷ Middlebrook & Muller, *supra* note 8, at 349.

¹⁶⁸ E-Sign, *supra* note 55.

¹⁶⁹ *Id.*, at 106(3).

¹⁷⁰ Middlebrook & Muller, *supra* note 8, at 351.

¹⁷¹ E-Sign, *supra* note 55, at §101(h).

¹⁷² Middlebrook & Muller, *supra* note 8, at 351.

¹⁷³ *See supra* p12.

c. UCITA

The UCITA, like the other Acts, states the general principle that contracts concluded through the use of electronic agents are enforceable, and “even if no individual was aware of or reviewed the agent’s operations or the results of the operations.”¹⁷⁴ It also attributes an electronic agent’s actions to its owner.¹⁷⁵ But the UCITA goes further than the other texts by trying to set rules as to the manifestation of assent by an electronic agent.¹⁷⁶ Section 112¹⁷⁷ provides that an “electronic agent manifests assent to a record or term if, after having an opportunity to review it, the electronic agent authenticates the record or term; or engages in operations that in the circumstances indicate acceptance of the record or term.”¹⁷⁸ The use of circumstances to decide whether there is acceptance may result in defenses that will have to be examined by the trier of facts and that will therefore survive a motion for summary judgment.¹⁷⁹ Nevertheless, the UCITA drafters have tried to foresee the possible problems by adding in the Comments¹⁸⁰ that assent of an electronic agent must be measured by its ability to react and by an assessment of the implications of its actions, since assent cannot be based on knowledge or reason to know.¹⁸¹ Moreover, the conduct or operations manifesting assent may be proved in any manner.¹⁸² The UCITA also provides an opportunity to review the contract and explains how this opportunity must be understood when exercised by an electronic agent.¹⁸³ Thus, an electronic agent “has an opportunity to review a record or a term only if it is made available in a manner that would enable a

¹⁷⁴ UCITA, *supra* note 65, at §107(d).

¹⁷⁵ *Id.*, at §213.

¹⁷⁶ Middlebrook & Muller, *supra* note 8, at 352.

¹⁷⁷ UCITA, *supra* note 65, at §112(b).

¹⁷⁸ *Id.*, at §112(b)(1) & (2).

¹⁷⁹ Middlebrook & Muller, *supra* note 8, at 353.

¹⁸⁰ UCITA, *supra* note 65, at §112 cmt. 3(c).

¹⁸¹ Middlebrook & Muller, *supra* note 8, at 353.

¹⁸² UCITA, *supra* note 65, at §112(d).

¹⁸³ *Id.*, at §113(b).

reasonably configured electronic agent to react to the record or term.”¹⁸⁴ The reference to “reasonably configured” implies the existence of standards regarding the configuration of trading bots and as long as these standards are not created or at least not generally recognized, complex litigation may arise.¹⁸⁵

If contracts concluded by electronic agents are now widely recognized by legislatures, none of the attempt of regulation described above deals expressly with the question regarding the status to give electronic agents. Therefore, we must look to general principles and see if any is applicable to electronic agents.

C. Doctrinal Problems

1. Capacity of Contracting

As the preceding discussion suggests, an electronic agent might be seen merely as a communication tool, something like a telephone or a fax machine. The emergence of autonomous electronic agents, however, invites the application of at least some of legal doctrines governing principals and agents. And there is the intriguing notion that autonomous electronic agents ought to be treated in some ways as legal “persons.”

a. Legal Personhood

American law and French law take somewhat different approaches to the question of who or what should be treated as a legal “person” with the capacity to contract. The two legal

¹⁸⁴ *Id.*

¹⁸⁵ Middlebrook & Muller, *supra* note 8, at 353.

systems therefore might be expected to differ on the question of whether computer programs should be treated as legal “persons.”

i. The United States

A person may be defined as “a subject of legal rights and duties.”¹⁸⁶ It is well recognized that legal persons can be natural or artificial.¹⁸⁷ The range of artificial persons is broad, ranging from corporation to ships or even international organizations.¹⁸⁸ American law does not expressly bar the treatment of computers as legal persons.¹⁸⁹ Actually, there is no rule to determine whether a certain entity is entitled to legal personhood.¹⁹⁰ Authors envision three possible arguments under which legal personality could be conferred to computers.¹⁹¹ The first explanation is moral entitlement.¹⁹² When a person has rights or interests that are specific and individual, the person needs to be given legal personality to protect the rights or interests.¹⁹³ Thus, for instance, some authors have said that whales should be conferred legal personality because they have achieved some level of self-consciousness and are capable of suffering.¹⁹⁴ This argument has been extended to imaginable computers.¹⁹⁵ For the advocates of this theory,¹⁹⁶ the fact that self-consciousness

¹⁸⁶ JOHN CHIPMAN GRAY, *THE NATURE AND SOURCES OF THE LAW* 19 (David Cambell & Phillip Thomas eds., 1997).

¹⁸⁷ Bellia, *supra* note 84, at 1066.

¹⁸⁸ Allen & Widdison, *supra* note 28, at 35.

¹⁸⁹ *Id.*

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ Anthony D’Amato & Sudhir K. Chopra, *Whales : Their Emerging Right to Life*, 85 AM. J. INT’L. 21 (1985).

¹⁹⁵ Lawrence B. Solum, *Legal Personhood for Artificial Intelligences*, 70 N.C.L. REV. 1231 (1992). *See also* ISAAC ASIMOV, *I, ROBOT* (1950) or the movie suggested by Asimov’s classic short story collection (*I, Robot*, directed by Alex Proyas). An exhaustive list of Asimov’s books is available at www.asimovonline.com (last visited July 23, 2004).

¹⁹⁶ *Id.*; *see also* Leon E. Wein, *The Responsibility of Intelligent Artifacts: Toward an Automation Jurisprudence*, 6 Harv. J.L. & Tech. 103 (1992).

does not result from biological processes should not matter.¹⁹⁷ The key point is self-consciousness. If a machine possesses self-consciousness, then it can claim a dignity analogous to human dignity and ought to have the protection flowing from legal personhood. No one has demonstrated, of course, that any existing computer program possesses self-consciousness.¹⁹⁸ And even assuming that self-conscious software will emerge, self-consciousness may not be an adequate criterion for legal personhood.¹⁹⁹ Perhaps most importantly here, the focus of this paper is not harm to autonomous electronic agents, but protection of those who use these agents to create some rights or duties and the validity of the agreements resulting from this use.²⁰⁰ The protection of the software, which does not have any separate interest in the transaction, is not really relevant here.²⁰¹

Another possible reason for conferring legal personality on software agents is the recognition of social reality.²⁰² Under this theory, an entity is recognized as a legal person because it is already seen as a person by society.²⁰³ Individuals, for example, are the creators of organizations, but organizations easily can be described as having their own objectives and as acting according to their own policies.²⁰⁴ On the other hand, in the legal context, a legal person is simply an entity whose acts have legal consequences.²⁰⁵ Thus, under social reality theory, deeming entities legal persons is necessary in order to adapt the law to an existing situation.²⁰⁶ For instance, it would be very difficult to treat lobbying organizations only as groups of individuals. Society recognizes these organizations as distinct from the individuals

¹⁹⁷ Allen & Widdison, *supra* note 28, at 35.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ *Id.*, at 36.

²⁰² *Id.*

²⁰³ *Id.*

²⁰⁴ *Id.*

²⁰⁵ See Gunther Teubner, *Enterprise Corporatism: New Industrial Policy and the "Essence" of the Legal Person*, 36 AM. J. COMP. L. 130 (1998): Teubner discusses the theory of autopoiesis and specifically refers to the legal personality of organizations. According to him, legal persons are "semantic artifacts" and entities are legal persons when they produce legally meaningful communications.

²⁰⁶ Allen & Widdison, *supra* note 28, at 38.

that create them. Therefore, attributing legal personality to these organizations is the best way to adapt law to reality and to ensure that law is applied properly.²⁰⁷ “The legal system is exposed to massive pressure to complete the social personification by legal personification.”²⁰⁸

Computers are obviously very different from organizations, but the practical arguments for conferring legal personhood on computers are similar. We want to distinguish the entity’s actions from the actions of its members.²⁰⁹ In a similar way, when it comes to computers, we might have practical reasons to distinguish between the machine and its user.²¹⁰ Thus, the relevant question is whether those who trade with electronic agents see the agent, rather than its owner, as the source of the communication.²¹¹ The question is really one of perception. Society is now inclined to accept that computers can manage difficult operations by themselves, even play chess.²¹² Is society ready to say that computers are distinct persons because they can conclude contracts? Perhaps not. The reasonable person probably would look for hints of characteristically human behavior:²¹³ Does an electronic agent, during the process of formation of the contract, act like a human being would? Is there some bargaining strategy? Is this strategy one that a natural person would employ? This requirement does not seem to be a hindrance. After all, electronic agents are developed to negotiate and conclude contracts. The construction of a trading strategy is one of their features, or at least will be in the near future. If so, it is not impossible that society will recognize computers as initiating and conducting negotiations independently from their human controllers. This would certainly “put pressure on the legal system to describe the

²⁰⁷ For an illustration with States, *see id.*

²⁰⁸ Teubner, *supra* note 205, at 143.

²⁰⁹ Allen & Widdison, *supra* note 28, at 39.

²¹⁰ *Id.*

²¹¹ *Id.*

²¹² For more information about chess computers, *see* ChessBase News, *available at* <http://www.chessbase.com/newsdetail.asp?newsid=1244> (last visited May 24, 2004).

²¹³ Allen & Widdison, *supra* note 28, at 40.

computer as a legal person.”²¹⁴ Some authors²¹⁵ go further by envisaging a “social hybrid person”²¹⁶ constituted by the human and the machine. They argue that the concept of partnership might be more accepted than the idea of a computer acting on its own.²¹⁷ And this concept still would enable the human to distinguish himself from his electronic agent’s actions.²¹⁸ Nonetheless, if this argument presents incontestable advantages, it is difficult to see how a tandem man-machine may be widely accepted and recognized as an entity by itself.

The last reason for deeming computers legal persons is mere convenience.²¹⁹ The main purpose under this view is to protect the persons who reasonably rely on the actions of the machine.²²⁰ With this purpose in mind, we then decide which solution is the most convenient and least expensive to apply. Ships are an example of legal expediency. Society does certainly not see ships as persons, nor as having a moral entitlement to legal personality. Nonetheless, by treating ships as legal persons, we ensure that the rights of the persons who “do business with them” are protected. And this is the reason why electronic agents raise a different issue. Giving autonomous agents legal personality would not help to protect people who deal with them. If the electronic agent is not a legal person and is seen only as a software application,²²¹ the parties to a contract concluded through electronic agents will be the human controllers. Therefore, the party who feels his or her rights have been neglected will turn to the other party. If the electronic agent is a legal person, then the prospect arises of a lawsuit against the agent. But what relief could be made available in such a lawsuit?

²¹⁴ *Id.*

²¹⁵ See Allen & Widdison, *supra* note 28, at 40.

²¹⁶ *Id.*

²¹⁷ *Id.*

²¹⁸ *Id.*

²¹⁹ *Id.*, at 41.

²²⁰ *Id.*

²²¹ See *infra* Chapter 3.C.1.c.

Obviously, an electronic agent does not have any assets.²²² It is difficult to identify sanctions that could be imposed on it.

To address this accountability problem, it has been proposed that agency software be insured to satisfy legal judgments.²²³ In this hypothesis, an insurance payment would be made by the human controller, and the insurer who would end up paying (in other words being responsible) for losses caused by the electronic agent. And the interest in using legal personality would be lost.²²⁴ In addition, there may be a problem regarding the identification of the electronic agent.²²⁵ What is the person? The software itself? The hardware? And what if the two are in different places? Some have proposed a system of registration, similar to what is done for corporations.²²⁶ The natural or artificial person who wants to use an electronic agent would have to register it first. This way, in the event of litigation, it would be possible to know who the person behind the agent is. Here, once again, the advantage of deeming electronic agents legal persons seems minimal, since the system of registration would have the ultimate purpose of finding another person (the registrant) responsible for the electronic agent. It would essentially impose strict liability on the registrant for the wrongful (unauthorized) actions of its electronic agent.

ii. France

French law is divided into public and private laws. Both may recognize artificial persons, but the requirements for acquiring legal personhood are different. This paper focuses

²²² See Lerouge, *supra* note 41, at 410-411.

²²³ Wein, *supra* note 196, at 141.

²²⁴ Bellia, *supra* note 84, at 1067.

²²⁵ Allen & Widdison, *supra* note 28, at 42; *see also* Bellia, *supra* note 84, at 1067.

²²⁶ Allen & Widdison, *supra* note 28, at 42.

only on the creation of legal personality in private law.²²⁷ Like American law, French law recognizes various sorts of artificial persons. Companies, associations and economic organizations²²⁸ may be deemed legal persons with rights and obligations.²²⁹ The creation of the artificial person generally²³⁰ must be made by a written contract executed by one or more human beings. This contract must be published. Without the formality of publication, legal personality will not be extended to the entity.²³¹ It is not impossible to imagine a similar system for electronic agents. An agent's owner would have to register it and publicize the registration. The system of publicity has the purpose of protecting other persons who might do business with the entity. A system of registration when applied to electronic agents would create a safer environment and might persuade individuals to rely on these agents. On the other hand, the attribution of legal personality to the electronic agent might shift liability away from the agent's owner, undermining any advantage created by a system of registration. In addition, another difficulty appears. In French law, the attributes of physical persons are not applicable to artificial entities.²³² Nonetheless, legal personality in both cases implies the existence of a patrimony.²³³ Patrimony refers to the duties and rights that have an economic value.²³⁴ To calculate the patrimony of a person, one must look at the person's assets and debts.²³⁵ Neither electronic agents nor computers in general have a patrimony. They are actually part of another person's patrimony. Without the existence of personal assets, French law is likely to refuse the recognition of legal personality to electronic agents.

²²⁷ For more information about moral entities in public law, see MERCADAL & MACQUERON, *LE DROIT DES AFFAIRES EN FRANCE* 95 (Ed. Lefebvre 2000).

²²⁸ *Groupements d'intérêt économique*, see MERCADAL, *supra* note 227, at 100.

²²⁹ *Id.*, at 104.

²³⁰ There are several exceptions. Among them, the co-owners of a building are gathered by law as a syndicate without further action. See MERCADAL, *supra* note 227, at 101.

²³¹ *Id.*

²³² Eric A. Caprioli, *Consentement et systèmes d'information*, 4 *Revue de la recherche juridique droit prospectif* 1075, at 1079-1080 (1999).

²³³ *Id.*

²³⁴ MERCADAL, *supra* note 227, at 135.

²³⁵ *Id.*

b. Agent

Another possible solution would be to see the robot as an agent of its owner. This seems to be the most natural approach, but if we view electronic agents under traditional agency principals, we see that the analogy is not perfect. There are fundamental differences between real and electronic agents, and current agency law would have to be modified to accommodate those differences.

i. The United States

Use of the term “electronic agent” can be misleading to lawyers and judges, because it suggests the applicability of the traditional law governing principals and agents.²³⁶ This section of the paper takes up the question of the suitability of principal-and-agent doctrines in the context of electronic agents. The discussion avoids the use of the term “electronic agent” and uses instead such terms as software programs.

According to the Restatement (Second) of Agency, agency refers to the relationship between an agent and a principal. An agent is someone who, with the consent of a principal, agrees to act on the behalf of the latter and under his control.²³⁷ Under agency law, an agent may have the power to contract on behalf of the principal.²³⁸ In order for the principal to be bound by the agent’s actions, the latter must have authority from the former.²³⁹ If a contract is concluded by an agent who has no authority to do so, the contract has no effect on the

²³⁶ See *supra* Chapter 1.

²³⁷ RESTATEMENT (SECOND) OF AGENCY § 1(1) (1958).

²³⁸ See RONALD T. ANDERSON, A GENT’S LEGAL RESPONSIBILITY 32 (1980).

²³⁹ *Id.*

principal.²⁴⁰ Authority is defined as “the power of an agent to bind the principal by acts done in accordance with the principal’s manifestations of consent”²⁴¹ and may be actual or apparent.²⁴²

Actual authority is given through oral or written instructions and usually includes so-called “implied authority,”²⁴³ defined as the authority to perform acts that are incidental to the main transaction or necessary to carry it.²⁴⁴ Not every related action falls under implied authority, and the standard of reasonableness is used to decide whether the agent has acted within his powers.²⁴⁵ Implied authority also may allow the agent to delegate parts of his task to sub-agents.²⁴⁶

Apparent authority, on the other hand, does not result directly from the principal’s instructions, but “is derived from the circumstances of a situation.”²⁴⁷ The focus is on third parties’ reasonable perceptions.²⁴⁸ If a third party reasonably believes, based on the principal’s behavior in the circumstances, that the agent has authority to act on behalf of the principal, the principal will be bound by the agent’s actions.²⁴⁹ The principal may seek relief from the agent, but he or she still will be responsible to third parties.²⁵⁰ The purpose is to allow an innocent third-party to recover from the principal when he or she is misled, either intentionally or negligently.²⁵¹

²⁴⁰ *Id.*

²⁴¹ Middlebrook & Muller., *supra* note 8, at 355.

²⁴² Bellia, *supra* note 84, at 1059.

²⁴³ ANDERSON, *supra* note 238, at 33.

²⁴⁴ RESTATEMENT (SECOND) OF AGENCY §35 (1958): “[A]uthority to conduct a transaction includes authority to do acts which are incidental to it, usually accompany it, or are reasonably necessary to accomplish it.”

²⁴⁵ *Id.*, at §47 : An agent “is authorized to do what he reasonably believes to be necessary in order to prevent substantial loss to the principal with respect to the interests committed to his charge.”

²⁴⁶ *Id.*, at §79.

²⁴⁷ ANDERSON, *supra* note 238, at 33.

²⁴⁸ *Id.*

²⁴⁹ RESTATEMENT (SECOND) OF AGENCY §8 (1958) : “Apparent authority is the power to affect the legal relations of another person by transactions with third persons, professedly as agent for the other, arising from and in accordance with the other’s manifestations to such third persons.”

²⁵⁰ ANDERSON, *supra* note 238, at 33.

²⁵¹ *Id.*

At first glance, it seems convenient and somehow logical to apply agency principles to the human–software relationship:

When computers are given the capacity to communicate with each other based upon preprogrammed instructions, and when they possess the physical capability to execute agreements on shipments of goods without any human awareness or input into the agreements beyond the original programming of the computer's instructions, these computers serve the same function as similarly instructed human agents of a party and thus should be treated under the law identically to those human agents.²⁵²

The rule seems simple. When a human being uses a software program as a mere tool, the software should be treated as a tool, analogous to a fax machine or other communication device,²⁵³ but when a human actor uses a software program as he or she would use a human agent, the software should be treated as the law treats a human agent.²⁵⁴ Agency doctrines, however, cannot be applied in a straightforward way to transactions involving software programs. First, as already noted, agency requires the consent of both parties, the principal and the agent.²⁵⁵ While it has been argued that an individual who uses a software to conclude contracts gives actual authority to the program to do so,²⁵⁶ the problem regarding the consent of the agent remains.²⁵⁷ The agent must give consent because agency implies rights and duties.²⁵⁸ Hence, most authors²⁵⁹ recognize that “[i]n a principal-computer-agent relationship, the concept of the computer consenting is absurd.”²⁶⁰ If software programs can act according to their owners’ instructions, it cannot be said that they are under legal obligation to do so or that they consent to act according to the human’s wishes.²⁶¹ Some writers²⁶² therefore opt for

²⁵² John P. Fisher, *Computers as Agents: A Proposed Approach to Revised UCC Article 2*, 72 IND. L.J. 545, 570 (1997).

²⁵³ *Id.*, at 557.

²⁵⁴ *Id.*

²⁵⁵ RESTATEMENT (SECOND) OF AGENCY §1 (1958).

²⁵⁶ Bellia, *supra* note 84, at 1059 n.56.

²⁵⁷ *Id.*, at 1060.

²⁵⁸ *Id.*

²⁵⁹ Fisher, *supra* note 252, at 569; *see also* Lerouge, *supra* note 41, at 408.

²⁶⁰ Fisher, *supra* note 252, at 569.

²⁶¹ Bellia, *supra* note 84, at 1061.

²⁶² Fisher, *supra* note 252, at 569.

the use of a presumption or a legal fiction of consent,²⁶³ at least until it can be said that softwares can give consent.

In addition, assuming the problem of consent can be solved, the question of the agent's responsibility remains. Under agency law, the principal cannot be held responsible for his agent's actions, if the latter does not act according to the former's mandate.²⁶⁴ In this case, the agent will be liable for his wrongdoing.²⁶⁵ As has been discussed earlier,²⁶⁶ robots are not capable at law (at least not yet) and therefore, they cannot be held liable for their acts. It is easy to see the possible difficulties that might arise from such a concept. For instance, if because of a malfunction in the program, the robot enters into a contract for which the human trader has not given any instructions, the human actor may claim that his agent did not act within his mandate and the other party may be left without any relief. That is why it has been argued that "[b]ots may be programmed to do all [...] things, but a malfunction is not a breach of a legal duty. A principal would be legally responsible for the acts of the electronic agent, even those that resulted from program malfunction."²⁶⁷ Indeed, the principal's liability may extend to other robots. It has been noted earlier²⁶⁸ that actual authority may include authority to perform incidental acts, and even power to delegate parts of the tasks to sub-agents. Technologies are now being developed that enable the collaboration of several robots.²⁶⁹ Therefore, the principal could be bound by transactions concluded by other robots. Thus, one may wonder about the pertinence of applying agency principles to bot-human actor relationships. After all, if the human trader must be responsible for every robot's act, what is the interest in deeming the robot an agent?²⁷⁰ On the other hand, if agency principles are

²⁶³ *Id.*

²⁶⁴ ANDERSON, *supra* note 238, at 32.

²⁶⁵ Lerouge, *supra* note 41, at 408.

²⁶⁶ *See supra* Chapter 3.C.1.a.

²⁶⁷ Bellia, *supra* note 84, at 1061.

²⁶⁸ *See supra* Chapter 3.C.1.a.

²⁶⁹ Bellia, *supra* note 84, at 1061 n.74.

²⁷⁰ *Id.*, at 1062.

enforceable and the principal may avoid liability for his agent's actions, what remedy is available to the other party? Apparent authority is perhaps the solution.

When a human actor uses a robot to conduct transactions, he seems to give the clear impression to the other party that the robot is his agent.²⁷¹ In this case, the courts will hold him liable even for his agent's unauthorized acts²⁷² and the innocent third party will be protected. However, apparent authority is based on third parties' perceptions, and as we have seen earlier in this analysis, it is possible for a party who enters into a contract with an electronic agent simply to believe he or she is conducting a transaction with the human actor-principal directly.²⁷³ In addition, the owner must do more than use the robot; he must make it clear that the computer is his agent.²⁷⁴

Thus, existing agency principles seem inadequate for the use of robots in contracting. Perhaps the solution is the use of the legal fiction that robots are agents as some authors²⁷⁵ have suggested. Or maybe robots should be a new kind of agent, with specific rules.²⁷⁶ In deciding whether agency law is an adequate system for the relationship between human trader and robot, one should bear in mind the purpose of agency. Agency aims to govern a relationship between two individuals, who possess free will and who, therefore, may act on their own. Agency has the objective of protecting the agent acting on behalf of his principal, while restricting the principal's responsibility. Finally, agency tries to make sure that the innocent third party will be offered an appropriate remedy. The use of robots presents similar concerns, minus the protection of the robot itself of course.²⁷⁷ In evaluating the correct set of legal rules, one wants to find a just balance between the protection of the third party and the limitation of responsibility of the owner. Agency law seems to offer this. Nonetheless, once

²⁷¹ *Id.*

²⁷² ANDERSON, *supra* note 238, at 33.

²⁷³ Bellia, *supra* note 84, at 1062.

²⁷⁴ *Id.*

²⁷⁵ Fisher, *supra* note 252.

²⁷⁶ Bellia, *supra* note 84, at 1062.

²⁷⁷ *See supra* Chapter 3.C.1.a (about the question regarding the protection of the electronic agent itself).

again, the main issue remains--the robot's lack of patrimony. In the traditional world, when the principal is not held liable, the third-party may still seek relief from the agent. In parallel, if the principal is responsible, he may turn to his agent for recovery. In the world of robots, such a system cannot work. Indeed, even if the robot is recognized as solely responsible for the wrongdoing, there is no remedy for the winning party. We will develop later the possible solutions for the human parties in such cases.²⁷⁸ Nonetheless, it must be noted here that if agency principles are applied to robots, one of the human parties (the principal or the third party or perhaps a party outside the contractual relationship²⁷⁹) will have to bear the risk of malfunction by the robot.

ii. France

When studying whether robots can be deemed agents under French law, one must first analyze the concept of agency in the Civil Code.²⁸⁰ Title XIII²⁸¹ provides the following definition of agency: "an act whereby one person gives to another the power to do something for the principal in his name."²⁸² There has been almost no modification of the law of agency since 1804.²⁸³ However, the use of agency in the conduct of business has increased considerably and individuals now exercise the function of agent as a regular profession.²⁸⁴ Several types of agency exist. First, an agent may act in the principal's name or on behalf of the principal while concealing the principal's identity (*mandat représentatif* and *mandat non*

²⁷⁸ See *infra* Chapter 4.

²⁷⁹ See *infra* Chapter 4.D (for discussion about third-parties wrongdoers).

²⁸⁰ C. CIV.

²⁸¹ C. CIV., Livre III, Title XIII, art. 1984.

²⁸² *Id.*; see also for translation JOHN H. CRABB, THE FRENCH CIVIL CODE (AS AMENDED TO 1 JULY 1994), 370 (1995).

²⁸³ Only one modification was made, concerning the civil death of one of the parties. See ENCYCLOPEDIE DALLOZ, REPERTOIRE DE DROIT CIVIL, VOL IV, Mandat 3.

²⁸⁴ See ENCYCLOPEDIE DALLOZ, REPERTOIRE DE DROIT CIVIL, VOL IV, Mandat 3.

représentatif).²⁸⁵ Second and more common, the agent may introduce himself as working for the principal, and third parties know that they are conducting business with the principal, through the agent.²⁸⁶ In addition, differentiation must be made between salaried and gratuitous agencies.²⁸⁷ Since salaried agency cannot apply to robots (unless the robot is supplied by a third party for a fee),²⁸⁸ we will not develop it here²⁸⁹ and will focus our analysis on gratuitous agency.

In order for the principal-agent relationship to exist, the law requires acceptance by the agent.²⁹⁰ As in American law, this condition seems to raise a difficulty as to the application of agency principles to robots. Article 1985²⁹¹ states that the “[a]cceptance of an agency may be only tacit and result from the execution given to it by the agent.”²⁹² Does this mean that robots are able to give tacit acceptance? After all, when given instructions to negotiate and conclude an agreement, they do so and therefore behave as agents according to Article 1985. When the drafters of the Civil Code envisioned agency law, it is clear that they did not have in mind the role that robots would play someday. Legislatures, courts and legal experts²⁹³ have not spoken on the topic yet. Therefore, the question is whether a robot is capable of contracting since by its acceptance a contract of agency would be formed between the human actor and the robot. Article 1123²⁹⁴ states that “[a]ny person may contract, if he has not been declared incapable

²⁸⁵ *Id.*, at 4 (describing *mandat représentatif* and *mandat non représentatif*).

²⁸⁶ ENCYCLOPÉDIE DALLOZ, REPERTOIRE DE DROIT CIVIL, VOL IV, Mandat 4.

²⁸⁷ For salaried agency, *see id.*, at 7-393; For gratuitous agency, *see id.*, at 394-400.

²⁸⁸ In order for salaried agency to apply, one must be paid to act as an agent. If we have discussed previously the relevance of legal personality for robots, the idea of robots being paid in exchange of their services remains today and in the near future true science fiction. It is not impossible to think about a human trader paying a third party for the use of a robot. Nonetheless, in such a case, the relationship will be between the human trader and the third party, rather than between the human trader and the robot.

²⁸⁹ For a detailed study of salaried agency, *see* ENCYCLOPÉDIE DALLOZ, REPERTOIRE DE DROIT CIVIL, VOL IV, Mandat 7-393, *see also* J. GUYÉNOT, THE FRENCH LAW OF AGENCY AND DISTRIBUTORSHIP AGREEMENTS (1976).

²⁹⁰ C. CIV, art 1984.

²⁹¹ C. CIV, art 1985.

²⁹² *Id.*; *see also* CRABB, *supra* note 282, at 370.

²⁹³ In France, law is made by legislatures. The courts are not supposed to create law but they play some role when interpreting obscure statutes. In addition, legal experts have an important function in the change of law. Courts and legislatures respect their opinions and rely on them.

²⁹⁴ C. CIV., Book 1, Chapter II, Section II, art 1123.

thereof by law.”²⁹⁵ Thus, it must be decided whether a robot is a person by law and as we have developed earlier,²⁹⁶ French law may not be ready to recognize such an idea. However, the Code allows the principal to give power to a non-emancipated minor,²⁹⁷ who is usually not considered a legal person under the law.²⁹⁸ Nonetheless, according to the authors,²⁹⁹ agency requires legal capacity. Minors, as well as married women before 1965,³⁰⁰ can be chosen as agents because they are supposedly not bound by their own acts.³⁰¹ The principal has to answer for the agent’s actions.³⁰² Moreover, the minor agent is not responsible for his mistakes as a capable agent would be. The principal is usually not able to seek relief from the minor agent.³⁰³

One may argue that robots are like minors. They are not legal entities but they can still engage the principal in legal transactions. Even assuming the law may someday accept this theory, the question whether agency is the appropriate framework for analyzing the legal status of robots remains. As in American law, there is an issue concerning the responsibility of the agent. The agent may have power to conclude a specific agreement or a series of contracts.³⁰⁴ If the agent acts within his authority, the principal will be responsible for the agent.³⁰⁵ On the other hand, “[h]e is not held to what could have been done further except as

²⁹⁵ CRABB, *supra* note 282, at 219.

²⁹⁶ *See supra* Chapter 3, C, 1, a, ii

²⁹⁷ C. CIV., art. 1990.

²⁹⁸ *See* C. CIV., art. 1124.

²⁹⁹ The *doctrine*, *see* ENCYCLOPÉDIE DALLOZ, REPERTOIRE DE DROIT CIVIL, VOL IV, Mandat 59.

³⁰⁰ Former article 1990 included wives, since they were also incapable by law. It was changed by Law no. 65-570, 13 July 1965. The former Article 1990 stated: “Women and non-emancipated minors may be chosen as agents; but the principal has an action against a minor agent only according to the general rules relative to the obligations of minors, and against a married woman who accepted the agency without authorization from her husband only according to the rules established in the Title Contract of Marriage and the Respective Rights of Spouses.”

³⁰¹ ENCYCLOPÉDIE DALLOZ, REPERTOIRE DE DROIT CIVIL, VOL IV, Mandat 59.

³⁰² *Id.*

³⁰³ Trib. Civ. Rouen, 1.3.1895, Gaz. Trib. 18 August.

³⁰⁴ Even if the agent receives power to conclude more than a single contract, the authority will still be special. In order for the authority to be defined as general, the principal has to give to his agent the conduct of his business in whole. Special authority points to a definite area. For instance, a principal could give his agent special authority to conclude all the contracts regarding the management of office supplies.

³⁰⁵ C. CIV., art. 1998 : “A principal is required to execute engagements contracted by his agent in conformity with the power which was given to him.”; *see also* CRABB, *supra* note 282, at 371.

he so ratified expressly or impliedly.”³⁰⁶ If the agent exceeds his authority, then he may be responsible for his own actions to the third party.³⁰⁷ It will depend on the knowledge of the third party. If she or he knew the agent’s limitations of authority, the third party cannot seek relief from the agent on this ground.³⁰⁸ However, if she or he did not know, the agent will be responsible for the damages caused to this innocent third party³⁰⁹ and the contract will not be enforceable.³¹⁰ In addition, the capable agent is also responsible for the damages caused to his principal when he exceeds his power or makes a mistake.³¹¹ Should a robot’s malfunction be considered a mistake? If because of a virus the computer concludes the wrong contract, can the principal avoid the payment of damages to the innocent third party claiming relief based on the agent’s mistake? In the real world, the system works because the party may still seek relief from the wrongdoer. In cyberspace, the computer may neither assume responsibility for its own mistakes nor provide just relief to its victims. Nonetheless, the system applied to minor agents seems to raise the same kind of issues so we could analogize robots to minor agents. The drafters and courts in general have simply decided to extend the responsibility of the principal to cover all the acts of a minor agent. After all, if the principal chooses an incapable as agent, he should be the one bearing the risk and not the innocent third party. It is interesting to note that relief is available for the principal when this third party is not innocent and knows the agent does not have authority to act on behalf of the principal. The same rules could apply to robot agents.

³⁰⁶ C. CIV., art 1998; *see also* CRABBS, *supra* note 282, at 372.

³⁰⁷ ENCYCLOPEDIE DALLOZ, V REPertoire DE DROIT CIVIL, VOL IV, Mandat 332-333.

³⁰⁸ *Id.*

³⁰⁹ *Id.*

³¹⁰ *Id.*, at 332.

³¹¹ *Id.*, at 184-190.

c. Communication Tool

The last possible solution regarding electronic agents would be to consider them as mere communication tools. In this model, the role played by the robot would be simply ignored and every contract concluded by an electronic agent would be attributable to his owner.³¹² The robot would be treated as a fax machine or a telephone,³¹³ the medium by which the contract is concluded. As a result, we would have to disregard the importance of the electronic agent in the conclusion of the transaction and ignore its autonomy. “We would adopt the legal fiction that anything issuing from the computer really issues directly from its human controller.”³¹⁴

This approach has the advantage of solving several difficulties. First, there is no need to change the existing rules of contracting,³¹⁵ since the contract would still be formed between two recognized legal persons. In addition, this solution would place the burden upon the user of the electronic agent, which according to some authors,³¹⁶ is a fair allocation of responsibility. The user made the choice to delegate his power to a robot. Therefore, if the other party does not even know that he or she contracts with an agent, making the user liable for his agent’s actions appears to be fair and just.³¹⁷ Moreover, this view seems to be shared by some courts. In 1972, the Court of Appeals for the Tenth Circuit³¹⁸ held an insurance company liable for a mistake, which was claimed to have been made by the company’s computer system.³¹⁹ In this case,³²⁰ an individual (Bockhorst) failed to pay his insurance policy. When he had an accident one morning and killed a pedestrian, he sent a check for the

³¹² See Allen & Widdison, *supra* note 28, at 46.

³¹³ *Id.*

³¹⁴ *Id.*

³¹⁵ *Id.*

³¹⁶ *Id.*

³¹⁷ *Id.*

³¹⁸ State Farm Mut. Auto. Ins. Co. v. Bockhorst, 453 F.2d 533 (10th Cir. 1972).

³¹⁹ *Id.*, at 533.

³²⁰ *Id.*

amount of the late payments. A controversy over insurance coverage arose. Meanwhile, the check was received at the financial branch and entered into the computer. The computer, which had received no notification of the accident, reinstated the insurance.³²¹ Bockhorst claimed he was covered, while the insurance company later argued it was only a computer mistake.³²² Deciding in favor of Bockhorst, the court stated:³²³

Holding a company responsible for the actions of its computer does not exhibit a distaste for modern business practices as [the insurance company] asserts. A computer operates only in accordance with the information and directions supplied by its human programmers. If the computer does not think like a man, it is man's fault. The reinstatement of Bockhorst's policy was the direct result of the errors and oversights of [the insurance company]'s human agents and employees. The fact that the actual processing of the policy was carried out by an unimaginative mechanical device can have no effect on the company's responsibilities for those errors and oversights. [The insurance company]'s reinstatement of Bockhorst's policy while in full possession of information establishing its right to refuse reinstatement constituted a binding waiver, and the reinstated policy effectively extended coverage for the period during which Bockhorst's accident occurred.³²⁴

Thus, according to this approach, the user of the computer has an interest in making sure that his or her computer is properly programmed and policed.³²⁵ Nonetheless, it cannot be denied that computers are able now to be autonomous and that their degree of autonomy could increase in the near future. Accordingly, this approach seems to put on the user a heavy burden. For instance, what if the other party knew or had reason to know about the unexpected communication? Should this party not be held liable for entering into such an agreement? Is it fair to hold responsible the user in case of a malfunction due to a virus or a negligent third party? The "strict liability" approach of the Tenth Circuit seems to provide no

³²¹ *Id.*, at 534-535.

³²² *Id.*, at 535.

³²³ For a different interpretation of the court's opinion, see Wein, *supra* note 196, at 135: "The court held that the computer's system constituted a competent agent capable of binding its principal in circumstances where a similar decision by a human agent might not amount to intentional relinquishment of a known right." For a criticism of Wein's view, see also Allen & Widdison, *supra* note 28, at 41 n.59

³²⁴ *State Farm Mut. Auto. Ins. Co. v. Bockhorst*, 453 F.2d 533, 536-537 (10th Cir. 1972).

³²⁵ Allen & Widdison., *supra* note 28, at 46.

adequate remedy in such cases.³²⁶ Electronic agents are used because they are convenient and efficient. They allow their users to save time and money. Developing an absolute liability scheme and unnecessary duties may prevent traders from using these new tools.

2. Manifestation of Assent

In addition to the legal capacity issues discussed above, a main concern regarding the use of electronic agents is whether they can manifest the assent necessary for the formation of a contract. Laws in the United States and France provide different approaches to the manifestation of assent. Thus, they will be studied separately.

a. The U.S. Approach or Objective Theory

According to the Restatement (Second) of Contracts,³²⁷ a contract is “a promise or a set of promises.”³²⁸ This promise is expressed by a party, usually through words, although it may be also inferred from his conduct.³²⁹ A party’s subjective assent is not necessary to make a contract.³³⁰ The manifestation of intention only matters.³³¹ Thus, the inquiry will not focus on whether the minds of the parties have met, but rather whether the manifestation of assent is sufficient to form the contract.³³² Two conditions are required in order for an obligation to be created. First, there must be a promise, that is, a “manifestation of intent that justifies a

³²⁶ *Id.*, at 47.

³²⁷ RESTATEMENT (SECOND) OF CONTRACTS (1981).

³²⁸ *Id.*, at §1.

³²⁹ Bellia, *supra* note 84, at 1053.

³³⁰ Lerouge, *supra* note 41, at 416.

³³¹ *Id.*

³³² WILLISTON ON CONTRACTS, §4 :1 at 241 (4d ed. 1990).

promisee in understanding that a commitment has been made.”³³³ Second, each party’s manifestation of assent must be made with reference to the manifestation of the other.³³⁴

The use of electronic agents could be seen as an act of conduct.³³⁵ A traditional example of an act of conduct would be the case in which a customer has an account with a shop or store. If he takes a fruit and shows it to the clerk, his conduct is characterized as an offer.³³⁶ Subsequently, if the clerk nods, there is acceptance and a contract is formed.³³⁷ However, using an electronic agent is quite different from this example. When using an electronic agent to conduct a transaction, the user is not aware of the agreement until his agent concludes the transaction.³³⁸ Yet, the Restatement states that “[t]he conduct of a party is not effective as a manifestation of his assent unless he intends to engage in the conduct and knows or has reason to know that the other party may infer from his conduct that he assents.”³³⁹ Therefore, with respect to electronic agents, the question comes down to whether a reasonable person would believe that assent has been manifested by the other party, the party who chose to use the robot. We might conclude that since the user chooses to send his agent into cyberspace with instructions to conclude a certain type of transaction, he has manifested assent to be bound by his agent’s actions. Once again, this view seems to be harsh on the user. Adopting such a theory would bind the user for every contract entered into by his electronic agent.

In addition, some³⁴⁰ think that this problem must be seen in a different way and that the inquiry should focus on the electronic agent’s manifestation of assent rather than the

³³³ RESTATEMENT (SECOND) OF CONTRACTS §2(1) (1981).

³³⁴ RESTATEMENT (SECOND) OF CONTRACTS §23 (1981).

³³⁵ Bellia, *supra* note 84, at 1053.

³³⁶ RESTATEMENT (SECOND) OF CONTRACTS §4 cmt. a, illus.2. (1981).

³³⁷ *Id.*

³³⁸ Bellia, *supra* note 84, at 1054.

³³⁹ RESTATEMENT (SECOND) OF CONTRACTS §19(2) (1981).

³⁴⁰ Kerr, *supra* note 34.

user's assent through his electronic agent.³⁴¹ Therefore, the reasonable person standard regarding the other party's intention becomes relevant:³⁴²

[T]his might be correct in so far as the transaction is understood as an agreement that is merely mediated by one or more electronic devices. In such case, whatever his real intention may be, the party employing the electronic device would be conducting himself in such a way that a reasonable man would believe that he was assenting to the terms proposed by the other party. But the above analysis is incorrect in circumstances where an offer can be said to be initiated by the electronic device autonomously, i.e. in a manner unknown or unpredicted by the party employing the electronic device. Here it cannot be said that the party employing the electronic device has conducted himself such that a reasonable person would believe that he was assenting to the terms proposed by the other party. As odd as it may seem to us – given our primitive state of agent technology – there will come a time when a electronic device will appear to conduct itself such that a reasonable person would believe that the device was assenting to the terms proposed by the other party.³⁴³

In dealing with the issue, the drafters of the UCITA³⁴⁴ officially recognize the ability of electronic agents to manifest assent.³⁴⁵ Accordingly, an “electronic agent manifests assent to a record or term if, after having an opportunity to review it, the electronic agent authenticates the record or term; or engages in operations that in circumstances indicate acceptance of the record or term.”³⁴⁶ In addition, a party may prove that an electronic agent manifested assent in any manner.³⁴⁷ Notably, a party may show that a processing procedure existed which the electronic agent must have executed in order for processing to be

³⁴¹ *Id.*, at 23.

³⁴² *Id.*

³⁴³ *Id.*

³⁴⁴ See UCITA, *supra* note 65.

³⁴⁵ UCITA, *supra* note 65, at §112.

³⁴⁶ *Id.*, at §112(b).

³⁴⁷ *Id.*, at §112(d) : “Conduct or operations manifesting assent may be shown in any manner, including a showing that a person or an electronic agent obtained or used the information or informational rights and that a procedure existed by which a person or an electronic agent must have engaged in the conduct or operations in order to do so.”

complete.³⁴⁸ Thus, the application of the UCITA nationwide could solve any controversy that might arise from traditional contract principles regarding assent.

b. The French Approach or Subjective Theory

The law of contracts in France has been built on the freedom of the individual.³⁴⁹ The theory of the autonomy of the will was taken as the foundation of contractual doctrine in the nineteenth century.³⁵⁰ Accordingly, a contractual obligation can exist only if the other party has willed it.³⁵¹ On the other hand, because the parties are supposed to enter freely into a contract, “[a]greements legally made take the place of law for those who make them.”³⁵² This approach led to the development of the supremacy of the inner will.³⁵³ When deciding whether a party intended to bind himself, the courts have to look at his inner will and not only at his declared will.³⁵⁴ However, this theory has been vigorously criticized by the French legal scholars over the past decades.³⁵⁵ Today, the application of the autonomy of will has numerous exceptions, often to protect the weaker party in the transaction.³⁵⁶

With respect to electronic agents, when the traditional doctrine applies (i.e., when analysis of the inner will of the party is the correct inquiry to determine whether a contract was formed), difficulties arise. The will must be formed prior to or simultaneous with the negotiations. If one uses an electronic agent, when can we look at his inner state of mind? The

³⁴⁸ *Id.*

³⁴⁹ See BARRY NICHOLAS, FRENCH LAW OF CONTRACT 31 (Butterworths, 1982).

³⁵⁰ *Id.*

³⁵¹ C. CIV., art. 1108: “Four conditions are essential for the validity of an agreement: The consent of the party who obligates himself; His capacity to contract; An object certain which forms the subject matter of the engagement; A licit causa in the obligation” ; *see also* CRABB, *supra* note 282, at 218.

³⁵² C. CIV., art. 1134; *see also* CRABB, *supra* note 282, at 221.

³⁵³ *Volonté interne* or *volonté réelle*.

³⁵⁴ MARTY ET RAYNAUD, DROIT CIVIL – TOME II – 1^{ER} VOL – LES OBLIGATIONS 79 (Sirey : Paris 1962).

³⁵⁵ See MAZEAUD, MAZEAUD & CHABAS, LEÇONS DE DROIT CIVIL – TOME II - 1^{ER} VOL OBLIGATIONS : THÉORIE GÉNÉRALE 105 (7th ed., Ed. Montchrestien, Paris 1985); *see also* ROLAND & BOYER, OBLIGATIONS, TOME II, CONTRAT (Litec, 5th ed., 1995).

³⁵⁶ TOULET, DROIT CIVIL, OBLIGATIONS, RESPONSABILITÉ CIVILE 37 (Centre de Publications Universitaires, 1998) (talking about the protection of consumers or persons in debts).

user of an electronic agent will not know the agent negotiated a contract before the robot completed its task. Therefore, even though the human controller may give his assent, this will not happen prior to or simultaneously with the negotiations. In addition, should we look at the inner will of the electronic agent itself as has been suggested earlier in this analysis regarding the objective approach?³⁵⁷ Free will may hardly be attributed to a robot.³⁵⁸

On the other hand, if the critics of the autonomy of will prevail and a more objective approach is adopted, then the discussion regarding the possible validity of contracts concluded by electronic agents under French law would be the same as under U.S. law.

Although the European Directive on Electronic Commerce³⁵⁹ requires every European State to validate contracts concluded through electronic agents, the French legislature has not adopted any positive regulation regarding the use of electronic agents, unlike the United States.³⁶⁰ Therefore, the situation is one of transition where such contracts are declared valid but where in the absence of specific rules traditional contract principles must regulate these agreements. This may not be the best solution. In the last part of this analysis, some of the possible issues arising from the use of electronic agents will be developed and studied under existing laws.

³⁵⁷ See Kerr, *supra* note 34.

³⁵⁸ See *supra* Chapter 3.C.1.

³⁵⁹ Directive on Electronic Commerce, *supra* note 103.

³⁶⁰ UCITA, *supra* note 65.

CHAPTER 4
LEGAL CONSEQUENCES

As has been stated earlier in this analysis, the recently adopted provisions, whether European or American, do not always provide answers regarding the legal effects that flow from the formation of contracts concluded by electronic agents. The following shows several issues that may arise and the possible remedies.

A. The Terms of the Contract

1. Parol Evidence Rule

Section 2-202 of the UCC³⁶¹ states the parol evidence rule in contracts for the sale of goods. This section was modified with the proposed revisions of May 2003,³⁶² but the substance of the article remains the same. According to the parol evidence rule,

[w]hen two parties have made a contract and have expressed it in a writing to which they have both assented as to the complete and accurate integration of that contract, evidence, whether parol or otherwise, of antecedent understandings and negotiations will not be admitted for the purpose of varying or contradicting the writing.³⁶³

Thus, if the agreement was integrated, extrinsic evidence cannot be received. An agreement is integrated when it represents the final expression of the parties' agreement regarding the terms in such record.³⁶⁴ Therefore, to determine whether there was integration, the courts will

³⁶¹ UCC, §2-202.

³⁶² See UCC §2-202 (Draft of Article 2 Amendments Approved at ALI meeting on May 13, 2003), available at <http://www.ali.org> (last visited June 5th, 2004).

³⁶³ CORBIN ON CONTRACTS §573 at 357 (1960).

³⁶⁴ *Id.*; see also Daniel, *supra* note 155, at 331.

look at the intention of the parties.³⁶⁵ In addition, the integration may be complete or partial. Extrinsic evidence may not be used to add to or modify the terms of an agreement (full integration), or parol evidence may be received to prove certain elements of the contract only (partial integration).³⁶⁶ It must be noted also that while an integration or merger clause is some evidence of integration, it is not conclusive.³⁶⁷ In addition, the absence of a merger clause in a writing does not necessarily permit the use of extrinsic evidence.³⁶⁸ Thus, the question of whether the parol evidence rule should apply is really one of circumstances, and the courts will look at different factors, such as the existence of a merger clause and the sophistication of the parties.³⁶⁹

With respect to the use of electronic agents, the parol evidence rule seems difficult to apply.³⁷⁰ In the traditional world, courts already proceed with caution as to the application of the rule.³⁷¹ In the case of a contract concluded through electronic agents, parties do not have the opportunity to review the terms prior to the formation of the agreement and a court is unlikely to decide a party intended to be bound by the terms of an agreement he or she did not have the chance to review or approve.³⁷² Indeed, it is particularly true when such a conclusion would prevent the party from introducing extrinsic evidence regarding the making of the agreement.³⁷³ Therefore, courts may “be compelled to conclude that agreements made by electronic agents without review or approval by individuals can never demonstrate an intent that such agreement be a final expression of the terms of the agreement.”³⁷⁴

³⁶⁵ WILLISTON & JAEGER, A TREATISE ON THE LAW OF CONTRACTS, §633 at 1014-16 (3d ed. 1957).

³⁶⁶ *Masterson v. Sine*, 436 P.2d 561, 563 (Cal. 1968): “When the parties to a written contract have agreed to it as an “integration” – a complete and final embodiment of the terms of an agreement – parol evidence cannot be used to add to or vary its terms. When only part of the agreement is integrated, the same rule applies to that part, but parol evidence may be used to prove elements of the agreement not reduced to writing.”

³⁶⁷ *Sierra Diesel Injection Service, Inc. v. Burroughs Corp.*, 656 F Supp 426 (9th Cir. 1987); for an opposite ruling *see Luther Williams, Jr., Inc. v. Johnson*, 229 A2d 163 (DC 1967).

³⁶⁸ *Bank Leumi Trust Co. v. Wulkan*, 735 F Supp 72 (NY 1990).

³⁶⁹ *See Masterson v. Sine*, 436 P.2d 561, 563 (Cal. 1968); *see also* CORBIN ON CONTRACTS, §578, at 411 (1960).

³⁷⁰ *See Daniel*, *supra* note 155, at 332.

³⁷¹ *See Masterson v. Sine*, 436 P.2d, at 563.

³⁷² *Daniel*, *supra* note 155, at 333.

³⁷³ *Id.*

³⁷⁴ *Id.*

A related issue concerns the so-called “battle of the forms” that occurs when parties exchange standard contract forms but neither party expressly agrees to the other’s form. Prior to the May 2003 revisions,³⁷⁵ a party could limit acceptance of his offer only to terms contained in his proposed form.³⁷⁶ The other party could make his acceptance conditional to the offeror’s acceptance of new terms in his own form.³⁷⁷ It is not clear how electronic agents could object to non-matching terms, and what the legal effect of such an objection would be. Under the new §2-207, the issue is simplified. One party’s terms do not become part of the contract, if the other party’s form does not contain the same terms.³⁷⁸ Thus, electronic agents would not have to object to non-matching terms in order to keep them out of the agreement.³⁷⁹

2. French Solution

As has been seen earlier,³⁸⁰ in French law, contracts are considered the “law for those who make them,”³⁸¹ and the intention of the parties is the foundation of the principles governing contracts. Thus, not surprisingly, the Civil Code provides that “[t]he common intention of the contracting parties must be sought in agreements rather than merely the literal meaning of terms.”³⁸² And when the contract is clear and unambiguous, the judge must respect the agreement as to the result of the parties’ intentions.³⁸³ On the other hand, if the contract is ambiguous or if a difficulty arises from its terms, the court will interpret the agreement according to the parties’ intentions as they were on the day of the conclusion of the

³⁷⁵ See *supra* note 363, The ALI Annual Meeting on May 13, 2003 and the revisions of Article 2 UCC

³⁷⁶ UCC §2-207(2)(a) (1996).

³⁷⁷ *Id.*, §2-207(1).

³⁷⁸ UCC §2-207(a) (2003).

³⁷⁹ Daniel, *supra* note 155, at 334.

³⁸⁰ See *supra* note 352.

³⁸¹ C. CIV., art. 1134.

³⁸² C. CIV., art. 1156, see also CRABB, *supra* note 282, at 224.

³⁸³ Civ, 9.10 & 16.12.1940, DA 1941, I, 130.

agreement.³⁸⁴ In order to determine the common intention of the parties, the judge will take into account various factors, such as the negotiations, and the parties' behavior prior to or after the conclusion of the contract.³⁸⁵ Thus, regarding the contracts concluded by electronic agents, the French courts may struggle like American courts to find the common intention of the parties.

In addition, according to the French law of contracts, a party is bound by the terms of an agreement, if he has had the opportunity to review these terms.³⁸⁶ If a party has had the opportunity to review the agreement, he cannot claim he actually did not read it in order to avoid its application.³⁸⁷ When one or two electronic agents have concluded a contract, there is no opportunity to review the terms. Hence, according to traditional contract principles, the party using an electronic agent will not be legally bound by the terms of the agreement until he has had an opportunity to see it. However, with the new European Directive on Electronic Commerce,³⁸⁸ Member States must "ensure that the legal requirements applicable to the contractual process neither create obstacles for the use of electronic contracts nor result in such contracts being deprived of legal effectiveness and validity on account of their having been made by electronic means."³⁸⁹ Existing French law obviously deprives of effectiveness contracts concluded through electronic agents if it allows the party-user to claim he has not had the opportunity to review the terms of the agreement. The European Directive preempts differing French laws so even though the Directive has not been transposed yet in France,³⁹⁰

³⁸⁴ TOULET, *supra* note 356, at 132.

³⁸⁵ Civ. 3^e, 5.2.1971, Bull. Civ. III, n° 89.

³⁸⁶ ZENATI, COURS DE DROIT CIVIL, LES OBLIGATIONS, II, 28 (1998-99).

³⁸⁷ *Id.*

³⁸⁸ Directive on Electronic Commerce, *supra* note 103.

³⁸⁹ *Id.*, at art.9(1).

³⁹⁰ *See supra* Chapter 3.B.1.

individuals may still invoke it before national courts.³⁹¹ France is still working on the transposition³⁹² and this issue could be soon resolved.

B. The Avoidance Doctrines

The use of electronic agents may result in unintentional contractual relationships. Since contracting by electronic agents effectively dispenses with the bargaining process, undue influence and duress will probably not be invoked to get out of a contract concluded by bots. Nevertheless, a claim for mistake or fraud could be asserted. The question is whether the traditional views regarding those defenses could be applied to electronic agents.

1. Mistake

a. In the United States

A mistake may be defined as “a belief that is not in accord with the facts.”³⁹³ As the courts have stated, “a mistake is an unintentional act or omission arising from ignorance, surprise, or misplaced confidence. The mistake must be material, that is, so substantial and fundamental as to defeat the object of the parties.”³⁹⁴ It is usually used as a defense to avoid an otherwise enforceable contract.³⁹⁵ To be ground for cessation, the mistake must have

³⁹¹ France, Netherlands & Portugal have still not transposed the Directive on Electronic Commerce, *see* European Union Preparatory Acts, *supra* note 127.

³⁹² As June 4, 2004, work on the transposition was well advanced, see European Union Preparatory Acts, *supra* note 127.

³⁹³ RESTATEMENT (SECOND) OF CONTRACTS §151.

³⁹⁴ *Leydet v. City of Mountain Home*, 119 Idaho 1041, 1044 (Ct.App 1991).

³⁹⁵ *Sherwood v. Walker*, 66 Mich. 568 (Mich. 1887).

occurred at the time the contract was made.³⁹⁶ There are two types of mistake: mutual or unilateral.

Mutual mistake results when both parties to a contract share a basic assumption regarding an important element of the alleged contract and that assumption happens to be false.³⁹⁷ As developed by the courts,³⁹⁸ mutual mistake requires four elements. First, “the parties to a contract were mistaken in their belief regarding a fact.”³⁹⁹ The fact must exist at the time the contract is made. Future events may be used to avoid the contract under other theories such as impossibility,⁴⁰⁰ impracticability⁴⁰¹ or frustration of purpose,⁴⁰² but the doctrine of mistake does not provide any relief for events that occur later. Second, “the mistake constitutes a basic assumption underlying the contract.”⁴⁰³ Third, “the mistake had a material effect on the bargain.”⁴⁰⁴ This requirement means that mistakes that have a minor effect on the transaction cannot be used to avoid the contract. Finally, “the contract did not put the risk of the mistake on the party alleging mistake.”⁴⁰⁵ Generally speaking, if mutual mistake results in “a quite different exchange of values”⁴⁰⁶ than what the parties thought at the time the agreement was made,⁴⁰⁷ then the contract is voidable (cancelled) or reformable (modified).⁴⁰⁸

There is unilateral mistake when only one party was mistaken at the time the contract was made.⁴⁰⁹ In order to prove unilateral mistake, the party who has been allegedly mistaken

³⁹⁶ *Westinghouse Elec. Corp. v. United States*, 41 Fed. Cl. 229, 237 (1998).

³⁹⁷ RESTATEMENT SECOND, CONTRACTS §152.

³⁹⁸ *Westinghouse*, 41 Fed.Cl. at 237 (quoting *Dairyland Power Cooperative v. United States*, 16 F.3d 1197, 1202 (Fed.Cir.1994); *National Presto Indus., Inc. v. U.S.*, 338 F.2d 99, 107-09 (1964)).

³⁹⁹ *Id.*

⁴⁰⁰ *Taylor v. Caldwell*, 122 Eng.Rep. 309 (Queens Bench 1863).

⁴⁰¹ *Marcovich Land Corp. v. J.J. Newberry Co.*, 413 N.E.2d 935 (Ct.App. 1980).

⁴⁰² *Krell v. Henry*, 2 K.B. 740 (King’s Bench 1903).

⁴⁰³ *Westinghouse Elec. Corp. v. United States*, 41 Fed. Cl. 229, 237 (1998).

⁴⁰⁴ *Westinghouse*, 41 Fed.Cl. at 237 (quoting *Dairyland Power Cooperative v. United States*, 16 F.3d 1197, 1202 (Fed.Cir.1994); *National Presto Indus., Inc. v. U.S.*, 338 F.2d 99, 107-09 (1964)).

⁴⁰⁵ *Id.*

⁴⁰⁶ *McLaughlin v. Jung*, 859 F.2d 1310, 1313 (7th Cir.1988).

⁴⁰⁷ *Grun v. Pneumo Abex Corp.*, 163 F.3d 411, 421 (7th Cir.1998).

⁴⁰⁸ *Tankovits v. Glessner*, 211 W. Va. 145 (2002).

⁴⁰⁹ RESTATEMENT (SECOND) OF CONTRACT §153.

must prove the four elements required for mutual mistake.⁴¹⁰ In addition, the party must also prove either that the effect of the mistake causes the contract to be unconscionable or that the other party knew or had reason to know about the mistake.⁴¹¹ It must be noted that a unilateral mistake will usually not enable a party to avoid the contract.⁴¹² Nonetheless, there may be rescission or modification for unilateral mistake, if there has been “fraud, misrepresentation, or other misconduct.”⁴¹³

A party may obtain relief under unilateral mistake if this party can show that the other knew or had reason to know about the mistake at the time the contract was made.⁴¹⁴ Whether the other party knew or had reason to know is a case-by-case question.⁴¹⁵ If it cannot be proved that the other party knew or had reason to know of the mistake, the mistaken party still has the possibility of obtaining relief by proving that enforcement of the contract would be unconscionable.⁴¹⁶ Unconscionability may be a defense by itself.⁴¹⁷ Nonetheless, the level necessary in order to obtain relief for unilateral mistake seems less burdensome.⁴¹⁸ The courts will look at the result of performance. For instance, they will inquire whether performance would cause a loss for the mistaken party and if so, how important the loss would be.

With respect to electronic agents, the first concern is the fact that the mistake (mutual or unilateral) must have occurred at the time the agreement was made. According to the new provisions of the UCC,⁴¹⁹ the time of contracting corresponds to the time when the accepting

⁴¹⁰ See *supra* p.54.

⁴¹¹ RESTATEMENT (SECOND) OF CONTRACT §154, see §203.

⁴¹² *Belk v. Martin*, 136 Idaho 652, 657 (2001) (quoting *Leydet v. City of Mountain Home*, 119 Idaho 1041, 1044 (Ct.App. 1991)).

⁴¹³ *State, Dept. Of Human Services ex rel. Palmer v. Unisys Corp.*, 637 N.W.2d 142, 150 (Iowa 2001) (quoting *Bachman v. Easy Parking of Am., Inc.*, 252 Neb. 325, 330 (Neb.1997)).

⁴¹⁴ RESTATEMENT (SECOND) OF CONTRACT §154, see §203.

⁴¹⁵ *Appleway Leasing, Inc. v. Tomlinson Dairy Farms, Inc.*, 22 Wash. App. 781 (Ct.App.1979), see also *Puget Sound Nat'l Bank v. Selivanoff*, 9 Wash. App. 676 (1973).

⁴¹⁶ RESTATEMENT (SECOND) OF CONTRACTS, §154.

⁴¹⁷ *Ting v. AT&T*, 319 F.3d 1126 (Cal. 2003).

⁴¹⁸ *Sydnor v. Conesco Financial Servicing Corp.*, 252 F.3d 302 (4th Cir. 2001), see also *Northrop Corp. v. Litronic Industries*, 29 F.3d 1173 (7th Cir. 1994).

⁴¹⁹ UCC §2.

electronic transmission is sent.⁴²⁰ In addition, section 2-204 allows the formation of contracts concluded by electronic agents, even if no individual was aware of the agent's actions.⁴²¹ Thus, the courts will have to decide whether parties had any mistaken beliefs about the agreement or its terms at a point in time when they may not even have known that a contract had been formed.⁴²²

In addition, it has been stated that a party may not seek relief for mistake if he bears the risk of mistake.⁴²³ A party bears the risk of mistake when the risk is allocated to him or her by agreement of the parties.⁴²⁴ Furthermore, a party bears the risk of mistake if the party is aware, at the time the contract is made, that he or she has only limited knowledge with respect to the facts to which the mistake relates but treats this limited knowledge as sufficient.⁴²⁵ Finally, a party bears the risk of mistake if the court allocates it to him or her on the ground that it is reasonable in the circumstances to do so.⁴²⁶ For some,⁴²⁷ the fact that a person chose to contract through electronic agents means that the party proceeds "with knowledge that in all likelihood he will not know that a contract is being formed, not to mention the actual terms of the contract."⁴²⁸ This could be characterized as conscious ignorance and therefore acceptance of any mistakes that follow. In addition, the UETA⁴²⁹ tries to set rules regarding errors.⁴³⁰ However, the Act only deals with human errors in automated transactions and it

⁴²⁰ UCC §2-204(4)(a), 2-212 & 2-213 (2003); *see also* Daniel, *supra* note 157, at 342.

⁴²¹ UCC §2-204(4)(a): "A contract may be formed by the interaction of electronic agents of the parties, even if no individual was aware of or reviewed the electronic agents' actions or the resulting terms and agreements."

⁴²² *See* Daniel, *supra* note 155, at 342.

⁴²³ RESTATEMENT (SECOND) OF CONTRACTS, §154.

⁴²⁴ *Id.*

⁴²⁵ RESTATEMENT (SECOND) OF CONTRACTS §154.

⁴²⁶ RESTATEMENT (SECOND) OF CONTRACTS §154.

⁴²⁷ *See* Daniel, *supra* note 155, at 343.

⁴²⁸ *Id.*

⁴²⁹ UETA, *supra* note 42.

⁴³⁰ *Id.*, at §10: "If a change or error in an electronic record occurs in a transmission between parties to a transaction, the following rules apply:

- (1) If the parties have agreed to use a security procedure to detect changes or errors and one party has conformed to the procedure, but the other party has not, and the nonconforming party would have detected the change or error had that party also conformed, the conforming party may avoid the effect of the changed or erroneous electronic record.

does not refer to errors by electronic agents, such as a malfunction. According to the UETA, in cases not described by the Act, the common law of mistake must be applied.⁴³¹

Thus, courts may be willing to decide it is reasonable to allocate the risk of mistake to the party–user of the electronic agent. Such a position would be consistent with the courts’ decisions regarding transmission errors.⁴³² In *Ayer v. Western Union Tel. Co.*,⁴³³ a mistake occurred in a telegram and the offeree accepted for a price far below the one intended by the offeror. The court decided that the telegraph company made the mistake but that the party choosing the telegraph to communicate should bear the risk. The court held that:

the safer and more equitable rule, and the rule the public can most easily adapt itself to, is that, as between sender and receiver, the party who selects the telegraph as the means of communication shall bear the loss caused by the errors of the telegraph. The first proposer can select one of many modes of communication, both for the proposal and the answer. The receiver has no such choice, except as to his answer. If he cannot safely act upon the message he receives through the agency selected by the proposer, business must be seriously hampered and delayed. The use of the telegraph has become so general, and so many transactions are based on the words of the telegram received, that any other rule would now be impracticable .

Accordingly, a similar approach could be taken for the use of electronic agents. The party using an electronic agent would be deemed to bear the risk of mistake and would not be able to obtain relief under the doctrine of mistake. This reasoning may seem appropriate in the

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- (2) In an automated transaction involving an individual, the individual may avoid the effect of an electronic record that resulted from an error made by the individual in dealing with the electronic agent of another person if the electronic agent did not provide an opportunity for the prevention or correction of the error and, at the time the individual learns of the error, the individual:
 - (a) promptly notifies the other person of the error and that the individual did not intend to be bound by the electronic record received by the other person;
 - (b) takes reasonable steps, including steps that conform to the other person’s reasonable instructions, to return to the other person or, if instructed by the other person, to destroy the consideration received, if any, as a result of the erroneous electronic record; and
 - (c) has not used or received a ny benefit or value from the consideration, if any, received from the other person.
 - (3) If neither paragraph (1) nor paragraph (2) applies, the change or error has the effect provided by other law, including the law of mistake, and the parties’ contract, if any.
 - (4) Paragraphs (2) and (3) may not be varied by agreement.”

⁴³¹ *Id.*, at §10(3).

⁴³² *Ayer v. Western Union Tel. Co.*, 10 A. 495 (Me. 1887).

⁴³³ *Id.*

transactions conducted between professionals but it seems harsh for a consumer who may not have a very good understanding of electronic agents' technology.⁴³⁴ If this risk allocation is accepted, the only possible application of the mistake doctrine would be when both parties are using electronic agents. If both agents were operating under mistaken assumptions, then the contract might be voided because of mutual mistake. Similarly, if the agreement resulted in an unconscionable bargain, the doctrine of unilateral mistake might provide relief.

b. In France

Article 1108 of the Civil Code states that a contract is validly formed only if four conditions are met: the subject matter of the contract must be certain, the "cause" of the duty must be legal, the parties must be capable of contracting, and there must be valid consent.⁴³⁵ According to the doctrine of the autonomy of the will,⁴³⁶ consent is the key element in the formation of contracts⁴³⁷ and, to be binding, an agreement must have been freely made.⁴³⁸ In order for the contract to be enforceable, consent needs not only to exist but also to be without defect.⁴³⁹ Mistake or *erreur* is one of the three defects that may void consent.⁴⁴⁰ Article 1109 of the Civil Code provides that there is no valid consent if consent has been given only by mistake or if it has been extorted by violence or obtained by deceit.⁴⁴¹ Therefore, if there is no valid consent, there is no valid agreement and the contract will be held void.

Mistake may be defined as a false assumption of facts.⁴⁴² Beyond that basic definition, there are several types of mistakes. Some are mentioned by the Civil Code,⁴⁴³ while others

⁴³⁴ See Lerouge, *supra* note 41, at 430.

⁴³⁵ C. CIV., art. 1108.

⁴³⁶ *Principe de l'autonomie de la volonté*

⁴³⁷ TOULET, *supra* note 356, at 48.

⁴³⁸ NICHOLAS, *supra* note 349, at 73.

⁴³⁹ *Vice du Consentement*.

⁴⁴⁰ *Violence* and *dol* fall also under this category. They may be compared to the notions of duress and fraud in American law.

⁴⁴¹ C. CIV., art. 1109.

⁴⁴² TOULET, *supra* note 356, at 58.

have been developed by the legal scholars in secondary sources.⁴⁴⁴ The Code⁴⁴⁵ envisions only two kinds of mistake (*erreur sur la substance* and *erreur sur la personne*) under the general category of *erreur-nullité*, that is, a mistake that raises the nullity of the agreement. The first category is *erreur sur la substance*. The language of the Article 1110⁴⁴⁶ is very vague.⁴⁴⁷ It states that the mistake must relate to the “very substance of the thing which is the object of the agreement.”⁴⁴⁸ The word “substance” has been subject to various interpretations.⁴⁴⁹ The courts have talked about “determining consideration”⁴⁵⁰ or “the quality without which the buyer would not have bought.”⁴⁵¹ Once agreeing upon the definition, authors still diverge on whether the “substantial quality” should be seen *in abstracto* or *in concreto*.⁴⁵² *In abstracto* means the quality is substantial if it is the quality expected in general for this particular kind of thing. For instance, when a car is bought, the tires are expected to be reliable. On the other hand, if the quality is viewed *in concreto*, one must look for the exact quality the party intended to receive. Therefore, the party alleging mistake bears the burden of proving that the absent quality was envisioned by the parties at the time the contract was made.⁴⁵³ In the event the seller did not know the specific quality expected by the buyer at the time of contracting, nullity of the contract cannot be claimed.⁴⁵⁴ Once again, while applying the theory to electronic agents, one would meet difficulties. In the world of electronic agents, buyer and seller do not know each other. Therefore, the party alleging the mistake will hardly be able to prove the other party knew what his expectations were at the time of contracting.

⁴⁴³ C. CIV., art. 1110.

⁴⁴⁴ See Mazeaud & Chabas for instance.

⁴⁴⁵ C. CIV., art. 1110: “Error is cause of nullity of an agreement only when it touches the very substance of the thing which is its object. It is not a cause of nullity when it touches only the person with whom there was the intention to contract, unless considerations concerning such person were the principal reason for the agreement.”

⁴⁴⁶ *Id.*

⁴⁴⁷ TOULET, *supra* note 356, at 61.

⁴⁴⁸ NICHOLAS, *supra* note 349 at 80.

⁴⁴⁹ TOULET, *supra* note 355, at 61.

⁴⁵⁰ Cass. civ., 17.11.1930, S 1932.1.17 note Breton. It must be noted here that the term *consideration* has not in French law the same meaning and consequences that it has in American law.

⁴⁵¹ Orléans 21.1.1931, DH 1931.172.

⁴⁵² TOULET, *supra* note 356, at 62.

⁴⁵³ *Id.*

⁴⁵⁴ *Id.*

The second category of *erreur-nullité* is the mistake as to the person (*erreur sur la personne*). The Civil Code⁴⁵⁵ states that a mistake as to the person with whom one intends to contract is not a cause of nullity “unless the consideration of this person is the principal cause of the agreement.”⁴⁵⁶ This type of contract is called *intuitu personae*.⁴⁵⁷ *Intuitu personae* contracts are rare when it comes to contracts for sale because one is usually willing to contract with anyone as long as the object and conditions are the same. This category does not offer any particular relevance for electronic agents, besides the fact that an individual may not be able to claim there is no contract because he did not know he was contracting with an electronic agent.

The concept of *erreur-obstacle* is doctrinal.⁴⁵⁸ There is no express mention of it in the Civil Code. Because of the mistake, the wills of the parties never met and therefore no contract has been formed.⁴⁵⁹ Writers⁴⁶⁰ have distinguished three cases in which mistake bars the formation of a contract: mistake as to the nature of the contract, mistake as to the identity of the thing object of the contract, and mistake as to the existence of the contract itself.⁴⁶¹ First, mistake may be made when parties do not think they enter into the same nature of transaction. For instance, one party may think the contract is one of sale when it is actually a mere exchange or lease.⁴⁶² Then, there may be mistake as to the nature of the thing which is the object of the contract. Both parties have a different view of the thing. For example, in some older cases, the contract may have asked for payment of 1,000 francs. One party thought the contract referred to new francs and the other to old francs.⁴⁶³ Finally, there may be *erreur-*

⁴⁵⁵ C. CIV., art. 1110, *supra* note 446.

⁴⁵⁶ NICHOLAS, *supra* note 349, at 92.

⁴⁵⁷ TOULET, *supra* note 356, at 63.

⁴⁵⁸ NICHOLAS, *supra* note 349 at 94.

⁴⁵⁹ TOULET, *supra* note 356, at 59.

⁴⁶⁰ *Id.*

⁴⁶¹ *Id.*

⁴⁶² Cass 3e civ., 18.3.1980, Bull. Civ. III, n°65.

⁴⁶³ Cass civ. 14.1.1969, D 1970.458 note Pedamon.

obstacle as to the existence of the contract. The famous illustration is the case⁴⁶⁴ in which a man committed to pay child support for a child he thought was his son. The child was actually not his. The court held that the man did not have any obligation and entered into the contract for a false reason.⁴⁶⁵

The question of mistake is really one of circumstances. Thus, the courts will have power to decide whether a mistake occurred and if so, under which category it falls. This is particularly relevant because of the remedy available according to the nature of the mistake. French law distinguishes between two kinds of nullity: “absolute nullity” and “relative nullity.”⁴⁶⁶ The main difference concerns the category of people the legislature tries to protect.⁴⁶⁷ In the first case, the general interest is involved. The irregularity of the contract is so important that people in general must be protected and prevented from relying on such an agreement. In a case of relative nullity, protection of one of the parties is sought. The doctrine protects a particular interest. In any event, the nullity must be recognized and declared by a judge.⁴⁶⁸ Thus, as long as the judge has not pronounced the nullity, the contract has the appearance of a valid agreement.⁴⁶⁹ In addition, the persons able to raise the nullity are different in the case of relative nullity. If the nullity is absolute, anybody who has an interest in doing so can go before the court. In the event the nullity is relative, only the party who is the victim of the mistake can ask the judge to pronounce the nullity of the contract.⁴⁷⁰ In addition, the period of limitation is not the same. The limitation is five years for relative nullity and thirty years in a case of absolute nullity.⁴⁷¹ Furthermore, it must be noted that if the nullity is only relative, the victim of the mistake can waive his right for nullity. This action,

⁴⁶⁴ Req. 7.6.1931, DH 1931, p.445.

⁴⁶⁵ *Id.*

⁴⁶⁶ NICHOLAS, *supra* note 349 at 94.

⁴⁶⁷ TOULET, *supra* note 356, at 111.

⁴⁶⁸ *Id.*

⁴⁶⁹ *Id.*

⁴⁷⁰ *Id.*

⁴⁷¹ C. CIV., art. 1304.

called “confirmation,” makes the contract valid retroactively.⁴⁷² Confirmation may be express or tacit,⁴⁷³ but the intent of the party must be real and certain.⁴⁷⁴ Confirmation is not possible in the event of absolute nullity.⁴⁷⁵

Another distinction between *erreur-nullité* and *erreur-obstacle* must be made here. When *erreur-nullité* is made, the nullity is relative to the consequences we have seen above.⁴⁷⁶ On the other hand, where there is “*erreur-obstacle*,” the nullity is absolute and therefore the contract cannot be made valid.⁴⁷⁷ In addition, as has been developed earlier,⁴⁷⁸ mistake as to the person is usually not relevant. In such a case, the contract remains valid and nullity cannot be raised by anybody.⁴⁷⁹

Thus, the user of an electronic agent may stand better chances under French law since there is no similar mechanism regarding the allocation of the risk of mistake. The only requirement is that the mistake must be excusable. For instance, if it was easy for the mistaken party to find out the truth, mistake is inexcusable and no relief will be granted.⁴⁸⁰ Nonetheless, as long as the mistake must have occurred at the time of contracting, the same kind of problems arise under French and American laws. When the contract is formed by electronic agents, discovering the assumptions of the parties at that time may be problematic.

2. Fraud

With respect to the use of electronic agents, fraud seems a less possible scenario than mistake, mainly because of the required intent to deceive. Nonetheless, some issues arise.

⁴⁷² C. CIV., art. 1338, 1339 & 1340.

⁴⁷³ C. CIV., art. 1338.

⁴⁷⁴ TOULET, *supra* note 356, at 113.

⁴⁷⁵ Cass 3e civ., 7.7.1982, Bull. Civ. III, n°176.

⁴⁷⁶ TOULET, *supra* note 356, at 63.

⁴⁷⁷ *Id.*

⁴⁷⁸ *See supra* p60.

⁴⁷⁹ TOULET, *supra* note 356, at 58.

⁴⁸⁰ Soc. 3.7.1990, D. 1991. 507 (2^e esp.), note Mouly.

a. The Concept of Fraud in the United States

Relief is available to a party who has given his assent to a contract, based on a fraudulent or negligent misrepresentation.⁴⁸¹ In order to prove fraud, several elements must be present beside the existence of a misrepresentation. First, the misrepresentation must have been either fraudulent or material.⁴⁸² Second, the misrepresentation must have induced the party victim of the fraud to contract.⁴⁸³ Third, this party must have been justified in relying on the misrepresentation.⁴⁸⁴ Thus, it is not enough that the assertion is false; the misleading party must have the intent to deceive.⁴⁸⁵

With respect to the use of electronic agents, if the person in charge of programming uses deceitful tactics knowing that the responding party will give his assent based on these tactics, there seems to be a classical case of fraud.⁴⁸⁶ Indeed, all the elements necessary to constitute fraud would be present. There is a misrepresentation with the purpose of inducing the other party to give his assent. The programming party acts with knowledge and the responding party is justified in relying on the misrepresentation. If the responding party is an electronic agent, the same conclusion can be reached. The responding electronic agent is programmed to respond to a certain type of messages and therefore it would act within its range of actions by sending a manifestation of assent.⁴⁸⁷

The remaining question is whether fraud can be proved if the misrepresentation has been made by the electronic agent itself, the programming party having not engaged in the fraud himself. In such a scenario, the parties would realize there has been a transmission error

⁴⁸¹ RESTATEMENT (SECOND) OF CONTRACTS §164 (1981).

⁴⁸² *Id.*, at §164 cmt a & b.

⁴⁸³ *Id.*, at §164 cmt a & c.

⁴⁸⁴ *Id.*, at §164 cmt a & d.

⁴⁸⁵ *Id.*, at §164 cmt. a.

⁴⁸⁶ See Daniel, *supra* note 155, at 340.

⁴⁸⁷ *Id.*

that has resulted in a misrepresentation. The intent or knowledge cannot be attributed to the computer. Thus, the main problem would be for the claiming party to prove that the sending party had the intent to mislead him in order to contract, which would be difficult if the mistake generated from the computer without the programmer's knowledge⁴⁸⁸

Moreover, we have said that the reliance on the misrepresentation must be justifiable.⁴⁸⁹ Hence, the question is whether it is reasonable to rely on unread transmissions from an electronic agent. This question is actually similar to the one raised under the doctrine of mistake. Should the parties who choose to contract through electronic agents bear the risk of malfunction of their electronic agents? The standard of the reasonable person may be used here.⁴⁹⁰ Would a reasonable person be aware of the possibility of errors? If so, reliance on the representation made by an electronic agent without human review would not be justifiable.⁴⁹¹ Nonetheless, since contracts can be made by electronic agents without any human review,⁴⁹² the possibility of avoiding such a contract so easily does not seem appropriate. People are likely not to use electronic agents if they cannot rely on the resulting contracts. Furthermore, the sophistication of the parties may vary significantly and should be taken into account in evaluating whether reliance was reasonable. Two professionals who use electronic agents are more likely to know the risks of their devices' use. On the other hand, when an individual is purchasing something on the Internet using an electronic agent, he may not have extensive (or even reasonable) knowledge of the electronic agent's features and mechanism. Thus, the reasonable person standard does not appear to be adequate.

Therefore, as long as the misrepresentation has been the result of the sending party, the traditional doctrine of fraud may apply. However, if the sending party did not engage any

⁴⁸⁸ *Id.*, at 341.

⁴⁸⁹ RESTATEMENT (SECOND) OF CONTRACTS, §164 cmt. a (1981).

⁴⁹⁰ Daniel, *supra* note 155, at 341.

⁴⁹¹ *Id.*

⁴⁹² UCC, art 2-204(4)(a).

improper conduct, fraud does not seem to provide any relief for agreements formed by electronic agents.

b. The Doctrine of *Dol* in France

The Civil Code provides that “[*dol*] is a cause of nullity of the agreement when the artifices practiced by one party are such that is evident that without those artifices the other party would not have contracted.”⁴⁹³ Three conditions are necessary in order for *dol* to be proven. First, there must have been artifices, that is, some kind of misrepresentation. One of the parties must have either lied or omitted to say something,⁴⁹⁴ and the misrepresentation must have been made with the intent to deceive.⁴⁹⁵ Second, *dol* must have been led to the conclusion of the contract. In other words, without the misrepresentation, the misleading party would not have given his assent.⁴⁹⁶ Finally, *dol* must have come from one of the parties.⁴⁹⁷ If a third-party is responsible for the misrepresentation, the party-victim may not avoid the contract based on *dol*. However, if the third party is the agent of one of the parties, the rule does not apply to him.⁴⁹⁸

Thus, whether examining French or U.S. laws, one can make similar remarks. If one seeks to obtain relief under *dol*, he will have to show the intent to deceive. In a scenario where one party programs the agent to send misleading representations, it seems to be a classical case of *dol*. However, if the electronic agent is responsible for the transmission error, the party alleging *dol* would have to prove the intent and would face the same obstacles as one claiming fraud under American law. Moreover, the fact that French law requires the *dol* to be

⁴⁹³ C. CIV., art. 1116.

⁴⁹⁴ TOULET, *supra* note 356, 64.

⁴⁹⁵ *Id.*, at 65.

⁴⁹⁶ *Id.*

⁴⁹⁷ Civ. 1^e, 27.6.1973, Bull. Civ. I, n°219 ; Civ. 1e, 10.7.1995, D 1997, n°2 p.20.

⁴⁹⁸ TOULET, *supra* note 356, at 65.

the act of one of the parties may be a problem if electronic agents are not given the status of agents.⁴⁹⁹ Therefore, the French theory of *dol* does not appear to provide relief for contracts concluded through electronic agents.

C. Consumers: Should They Get Better Protection?

We have talked earlier about the sophistication (or lack of sophistication) of the parties to a contract concluded by electronic agents. With the development of the Internet, people are often led to use tools which they do not understand fully. It is hard to believe that one may be bound by terms he had no opportunity to read. On the other hand, since an electronic agent cannot act without instructions from its user, one could argue that the user actually defines for himself the terms of the contract he wishes to enter into. This scenario may be true in the near future. However, as has been stated above, with existing technology, electronic agents are mainly programmed to make choices based on price and quality. What is the solution if, for example, an agent concludes a contract which excludes all warranties? The approach may be different under French or U.S. laws. European law, and particularly French law, is very protective of consumers' interests.⁵⁰⁰ For instance, in France, if a contract is concluded between a professional and an individual, the professional will have to respect several rules. For example, a professional who wants to put a limitation of liability in the contract will have to inform the consumer.⁵⁰¹ In addition, the Civil Code provides that "[t]he seller is required to explain clearly that to which he obligates himself. Any obscure or ambiguous clause is interpreted against the seller."⁵⁰² Thus, courts are likely to hold in favor of the consumer, if it

⁴⁹⁹ See *supra* Chapter 3.C.1.b.

⁵⁰⁰ See for example, Council Directive 93/13/EEC of 5.4.1993 on unfair terms in consumer contracts, O.J., L 095, at 0029 (1993).

⁵⁰¹ C. CONS., art L.113-3.

⁵⁰² C. CIV., art. 1602.

appears than the latter did not have the opportunity to read and understand his obligations and rights.

However, things may be different under U.S. law. The UCITA states that a person “has an opportunity to review a record or term only if the record or term is made available in a manner that ought to call it to the attention of a reasonable person and permit review.”⁵⁰³ On the other hand, an electronic agent “has an opportunity to review a record or term only if the record or term is made available in manner that would enable a reasonably configured electronic agent to react to the record or term.”⁵⁰⁴ The redaction of the UCITA seems to mean that if the electronic agent has the opportunity to review the terms of the contract, the party cannot claim he did have the chance to read them. After all, the electronic agent has power to conclude a contract on behalf of the user. In addition, the Act refers to “a reasonably configured electronic agent.” Even for experts,⁵⁰⁵ “[i]t is unclear [...] what is meant by a manner in which the agent could not react. The abilities of a typical software agent to understand and react will be limited more by the effort expended by its creator than the state of the art.”⁵⁰⁶ Although the U.C.I.T.A. has not been enacted in many states, Article 2 of the UCC allows warranties to be disclaimed, even against consumers, so long as the disclaimer is clear and conspicuous.⁵⁰⁷ (The U.C.I.T.A. also provides that a disclaimer good under Article 2 or Article 2A is effective for the U.C.I.T.A.).⁵⁰⁸ However, if the disclaimer is blocked by some consumer law (e.g., a state or federal consumer protection law), nothing in the UCITA (or Article 2 or 2A) should interfere with such a block.⁵⁰⁹

⁵⁰³ U.C.I.T.A., *supra* note 65, at §112(1) & (2).

⁵⁰⁴ *Id.*, at, §112(2).

⁵⁰⁵ See Lerouge, *supra* note 41, at 424; see also James Raymond Davis, On *Self-Enforcing Contracts, The Right To Hack, and Willfully Ignorant Agents*, 13 BERKELEY TECH. L.J. 1145 (1998).

⁵⁰⁶ *Id.*, at 1148.

⁵⁰⁷ UCITA, *supra* note 65, at §406(b) & (c); see also UCC §2-316(2) & (3).

⁵⁰⁸ UCITA, *supra* note 65, at §406(b)(4).

⁵⁰⁹ UCITA, *supra* note 65, at §104; see also UCC 2-102 & 2A-104.

The adequate solutions are perhaps better found in technology than law.⁵¹⁰ For instance, if the agent does not find an offer meeting the requirements of its user, it could just provide the user with a list of offers similar to the first one and wait for further instructions.⁵¹¹ In addition, electronic agents could be developed that are programmed to meet a certain degree of sophistication and to accept contracts only with terms and conditions specified by the user. Consumer agents could, for example, be programmed only to accept contracts that have certain warranty characteristics. They could also be programmed to keep a record of the instructions in order to be used as evidence in the event of litigation.⁵¹²

D. Third Parties' Responsibility and Viruses

One important debate among the drafters of the UCITA was responsibility in the event of a virus.⁵¹³ A virus may be defined as “any instruction to a computer that materially disrupts, damages, or destroys information, or inappropriately interferes with the use of a computer or communications facility, without the consent or permission of the owner and in a manner not otherwise authorized.”⁵¹⁴ Criminal law makes a party responsible for willfully introducing a virus to someone else’s computer.⁵¹⁵ This remedy may be appropriate if the person responsible for the virus is one of the parties or at least someone whose identity is known or may be found by the parties to a contract. However, it is not always easy to find the identity of a misfeasor in cyberspace. In the context of contracting, would a party be able to avoid a contract because of an unknown misfeasor? What if one of the parties did not have an anti-virus program on his computer? Should it be seen as an assumption of risk? There is no

⁵¹⁰ See Lerouge, *supra*note 41, at 432.

⁵¹¹ *Id.*

⁵¹² *Id.*

⁵¹³ See Charles Cheatham et al., *Report on The Uniform Computer Information Transactions Act*, 57 *Consumer Finance Law Quarterly Report*, 37, 41 (2003).

⁵¹⁴ *Id.*

⁵¹⁵ *Id.*

case law yet on how to allocate the risk of viruses.⁵¹⁶ In such a scenario, it would seem fair to be sure that the innocent and cautious party does not have to pay the consequences of the somehow negligent behavior of the other party. On the other hand, even with anti-virus programs, it is difficult to say that cyberspace is always a safe place and that people who are willing to contract online are aware of the risks. Once again, the question is mainly one of circumstances and it is difficult to foresee what the courts could decide in this type of cases.

⁵¹⁶ *Id.*

CHAPTER 5.

CONCLUSION

The aim of this analysis was to study the formation of contracts concluded by electronic agents both in Europe and the United States. It has been shown that traditional rules may be inadequate for this new category of contracts. Some progress has been made recently, especially in the United States with the adoption of different important texts. However, the new Acts do not provide enough substantive law and often leave us with questions as to the remedies available to the parties. Thus, to ensure that the use of electronic agents is attractive for users, a set of specific laws should be enacted. We have discussed the possible legal status to give to electronic agents and the difficulties that arise from applying an existing theory to a new tool. In choosing the best solution, drafters and legislatures in general will have to keep in mind the realities of business. Electronic agents are used because they are convenient and allow their users to save money and time. By placing an unjustified burden on one party, laws may discourage people from contracting through electronic agents. On the other hand, if no safe environment can be created, users may not rely on electronic agents. The question is one of balance. Perhaps this is the reason why legislatures struggle to find adequate solutions. Or as some argue, cyberspace law should not be viewed as a distinct body of legal doctrine and there is nothing that existing principles cannot solve. In light of our analysis, this approach appears doubtful. If a new set of rules is not created, at least a revision of the existing ones seems necessary. This is an opinion that the legislatures apparently share since several changes have been made both in the United States and in Europe recently (notably with the revision of Article 2 of the UCC and the European Directive on Electronic Commerce).

Technology is in constant evolution and the possibilities offered by electronic agents today are far from the ones that could be developed tomorrow. Thus, law faces a permanent

challenge to adapt itself to these changes. Alternatively the solution may not be in the law but in the technology itself. If electronic agents offered a wider range of services, such as choices based on different criteria and the possibility to define in advance the terms and provisions of the contract, a lot of issues that are faced today may not be relevant anymore.

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