Contracts and Electronic Agents

Sabrina Kis

University of Georgia School of Law

Repository Citation
https://digitalcommons.law.uga.edu/stu_llm/25
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.
CONTRACTS AND ELECTRONIC AGENTS: WHEN COMMERCIAL PRAGMATISM AND LEGAL THEORIES DIVERGE.

by

SABRINA KIS
Maitrise Business Law, Jean Moulin University, France, 2001
DESS International Business Law, Jean Moulin University, France, 2003

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF LAWS

ATHENS, GEORGIA
2004
CONTRACTS AND ELECTRONIC AGENTS: WHEN COMMERCIAL PRAGMATISM AND LEGAL THEORIES DIVERGE.

by

SABRINA KIS

Major Professor: Robert Brussack
Committee: James Nehf

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
August 2004
DEDICATION

To my parents and grand-parents.
ACKNOWLEDGEMENTS

I would like to thank Professor Robert Brussack for his direction and Professor Gabriel Wilner for his assistance throughout the LL.M program.

I would also like to thank Professor James Nehf for his guidance and Professor Olivier Moreteau for his encouragement.

Finally, many thanks to my parents, Joane and Miljenko Kis, for their love, support and encouragement. I would not have come this far without you.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>ACKNOWLEDGEMENTS</th>
<th>vi</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHAPTER</strong></td>
<td></td>
</tr>
<tr>
<td>1 INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>2 DEFINITION OF ELECTRONIC AGENTS</td>
<td>3</td>
</tr>
<tr>
<td>A. Technical Features</td>
<td>3</td>
</tr>
<tr>
<td>B. Statutory Definition of Electronic Agents</td>
<td>9</td>
</tr>
<tr>
<td>3 VALIDITY AND FORMATION OF CONTRACTS CONCLUDED BY ELECTRONIC AGENTS</td>
<td>15</td>
</tr>
<tr>
<td>A. Distinguishing Older Forms of Electronic Contracting (Electronic Data Interchange) from the New Electronic Agents</td>
<td>15</td>
</tr>
<tr>
<td>B. Statutory Recognition</td>
<td>17</td>
</tr>
<tr>
<td>C. Doctrinal Problems</td>
<td>26</td>
</tr>
<tr>
<td>4 LEGAL CONSEQUENCES</td>
<td>49</td>
</tr>
<tr>
<td>A. The Terms of the Contract</td>
<td>49</td>
</tr>
<tr>
<td>B. The Avoidance Doctrines</td>
<td>53</td>
</tr>
<tr>
<td>C. Consumers: Should They Get Better Protection?</td>
<td>66</td>
</tr>
<tr>
<td>D. Third Parties’ Responsibility and viruses</td>
<td>68</td>
</tr>
<tr>
<td>5 CONCLUSION</td>
<td>70</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>72</td>
</tr>
</tbody>
</table>
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. 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,” 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.” 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

---

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,” there are almost as many definitions available as articles written on the topic. 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 systems have been developed and this number will probably increase in the next decades. Not all of these systems are relevant here, but it is interesting to note that different types of agents already coexist in cyberspace and that the possibilities of development are numerous. Thus, while researching electronic agents, one could come to read about “robots” or “bots” (also referred to as knowbots, softbots or taskbots),

---

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.
9 See Bin, supra note 1.
10 Middlebrook & Muller, supra note 8, at 343.
autonomous agents or other intelligent agents. Autonomous agents can accomplish many different tasks. Some of them will search the web and gather information needed by their users (data mining bots); others will be able to index millions of web pages (web crawlers). An exhaustive list of the robots currently in use would be too long and is not the purpose of this paper.

If all robots are software, does it follow that every software application can be seen as an electronic agent? Experts have tried to find attributes which, when present in software, make it “[behave] like an autonomous agent.” One of the most comprehensive theories developed 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.” Robots may also possess additional auxiliary features (the “strong notion”) 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.
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.\textsuperscript{22}

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

Autonomy is the key characteristic in distinguishing electronic agents from software in general.\textsuperscript{23} The “strong notion” of electronic agents comprises additional properties usually associated with humans. Some “strong notion” writers\textsuperscript{24} emphasize “mentalistic”\textsuperscript{25} concepts, such as beliefs or intentions; others\textsuperscript{26} refer to human-like attributes, such as emotions.

The following table shows some of the auxiliary attributes\textsuperscript{27} of autonomous agents. The list is not exhaustive. Other properties could be used to refer to an autonomous agent.

\textsuperscript{22} Middlebrook et al., supra note 8, at 345; see also Wooldridge et al., supra note 19.\textsuperscript{23} See RUSSELL & NORVIG, ARTIFICIAL INTELLIGENCE: A MODERN APPROACH 35 (Prentice Hall : New Jersey 1995).\textsuperscript{24} Id.\textsuperscript{25} Id.\textsuperscript{26} Bates, 1994, Bates et al, 1992 quoted by Wooldridge & Jennings, supra note 19.\textsuperscript{27} Wooldridge & Jennings, supra note 19; see also Bin, supra note 1.
<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>The agent can transport itself from one machine to another while preserving its internal state.</td>
</tr>
<tr>
<td>Reasoning</td>
<td>The agent can change its behavior based on current knowledge or past experiences.</td>
</tr>
<tr>
<td>Benevolence</td>
<td>The agent does not have conflicting goals</td>
</tr>
<tr>
<td>Veracity</td>
<td>The agent will not knowingly communicate false information</td>
</tr>
<tr>
<td>Ability to plan</td>
<td>The agent is able to choose between different courses of action in order to achieve its goals.</td>
</tr>
<tr>
<td>Learning</td>
<td>The agent may accumulate knowledge based on past experience and subsequently modify its behavior.</td>
</tr>
</tbody>
</table>

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 experience\(^ {30} \) 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

---

\(^ {29} \) 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. 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, 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.

Kasbah is one of the many agent-based systems available on the Internet. 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, and buyers go to the server to look for items. Users can develop buying or selling strategies before sending their agents into the marketplace. The Kasbah agents intervene at the fourth stage of the Consumer Buying Behavior Model—negotiation. Sellers’ agents “know” the seller’s bottom price and the price

---

33 *Id.*
36 See for instance Vendio.com (former AuctionWatch.com), Teksell.com, Ebay.com or Ebreviate.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.

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).\textsuperscript{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.\textsuperscript{43} Nothing obliged the states to enact it, but as of the beginning of 2004, it has been enacted by 46 States.\textsuperscript{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.\textsuperscript{45} The Act creates a set of rules that apply to electronic agents. The first important provision is the definition of an electronic agent.\textsuperscript{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.”\textsuperscript{47} The UETA’s

\textsuperscript{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).
\textsuperscript{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-UETA.asp (last visited May 24, 2004).
\textsuperscript{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.”
\textsuperscript{46} UETA §2(6).
\textsuperscript{47} Id.
drafters, despite the use of the term “electronic agent,” viewed current “agents” as tools of their users. The drafters appreciated, however, the experts\textsuperscript{49} conviction that the technology likely will evolve so that at some point electronic agents will “act autonomously, and not just automatically.”\textsuperscript{50}

The new Article 2 of the Uniform Commercial Code (UCC)\textsuperscript{51} as revised in May 2003\textsuperscript{52} includes provisions regarding contracts for the sale of goods concluded by one or two electronic agents. The definition of an electronic agent under the new Article 2 was borrowed from the UETA,\textsuperscript{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,\textsuperscript{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.\textsuperscript{56} E-Sign contains only two provisions on electronic agents,\textsuperscript{57} including a definition of electronic agent. E-Sign was based in part on the UETA,\textsuperscript{58} and the definition of electronic agent set out in E-Sign\textsuperscript{59} is similar to UETA’s definition.\textsuperscript{60} There is, nonetheless, a

\begin{footnotesize}
\begin{itemize}
    \item[\textsuperscript{48}] UETA §2 cmt. 5.
    \item[\textsuperscript{49}] See Allen et al., supra note 28; see also Bin, supra note 1.
    \item[\textsuperscript{50}] UETA, §2 cmt. 5.
    \item[\textsuperscript{51}] UCC §§ 2-101, 2-102 (1968).
    \item[\textsuperscript{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.”
    \item[\textsuperscript{54}] UCC §2-204 cmt. 4.
    \item[\textsuperscript{55}] ELECTRONIC SIGNATURES IN GLOBAL AND NATIONAL COMMERCE ACT (2000).
    \item[\textsuperscript{56}] Jane K. Winn & Robert A. Witte, E-Sign of the Times, 2 No. 9 E-Commerce L. Rep. 2 (2000).
    \item[\textsuperscript{57}] E-SIGN, § 101(a)(2). See also infra Chapter 3 for the recognition of the validity of contracts concluded by electronic agents.
    \item[\textsuperscript{58}] Winn et al., supra note 56.
    \item[\textsuperscript{59}] E-SIGN, §106(3).
\end{itemize}
\end{footnotesize}
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.” 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. 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, perhaps no issues will arise from these differences.

b. The UCITA

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

---

60 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 note 8, at 351.
66 See supra note 45.
68 UCC art.2 governs the contracts for sale of goods.
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.\textsuperscript{72} Thus, the project was renamed UCITA. The Act is more ambitious than the UETA\textsuperscript{73} and more controversial.\textsuperscript{74} In 2002, only Maryland and Virginia had adopted the UCITA.\textsuperscript{75}

The UCITA addresses electronic agents.\textsuperscript{76} According to the UCITA drafters,\textsuperscript{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.”\textsuperscript{78} This definitional language incorporates the notion of autonomy. On the other hand, the Act’s comments\textsuperscript{79} 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.”\textsuperscript{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.\textsuperscript{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.\textsuperscript{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

\textsuperscript{72} David D. Wong, \textit{The Emerging Law of Electronic Agents: E-Commerce and Beyond...,} 33 Suffolk U. L. Rev. 83, 92 (1999).
\textsuperscript{73} See Middlebrook & Muller, supra note 8, at 352.
\textsuperscript{74} Id.
\textsuperscript{76} See infra pp.25 -26.
\textsuperscript{77} See supra note 67.
\textsuperscript{78} UCITA §102(28).
\textsuperscript{79} UCITA §102(28), Reporter’s Note.
\textsuperscript{80} Id.
\textsuperscript{81} See infra Chapter 2.C.1.
\textsuperscript{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.  

\[83\] 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, mainly with the use of Electronic Data Interchange (EDI). EDI is a method that businesses use to exchange information electronically, from orders and confirmations constituting a contract to inventory management and shipment status. EDI was developed in the early 1970s. 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.” In the 1990s, some said EDI introduced “fundamental changes in the manner in which contracts for the sale of goods are made and performed.” 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. The traditional rules of interpretation were also said inadequate for contracts

---

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 EDI 96 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.
102 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 Signatures\(^ {104}\) 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.\(^ {108}\)

\(^{105}\) Directive 97/7/EC on Distance Contracts, 1997 O.J. (L 144) (hereinafter Directive on Distance Contracts).
\(^{106}\) Id.
\(^{108}\) 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.\textsuperscript{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.\textsuperscript{110}

The newest and most important European regulation regarding electronic contracting is the Directive on Electronic Commerce.\textsuperscript{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….”\textsuperscript{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.\textsuperscript{113} Therefore, the Directive on Electronic Commerce requires the European States to remove every legal obstacle to the use of electronic contracts.\textsuperscript{114} Article 9 of the Directive regarding the treatment of contract states that

\begin{quote}
Member 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.\textsuperscript{115}
\end{quote}

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

\textsuperscript{109} Zaremba, supra note 107, at 490.
\textsuperscript{110} Directive on Distance Contracts, supra note 105, at art. 3(1) & 3(2).
\textsuperscript{111} Directive on Electronic Commerce, supra note 103.
\textsuperscript{112} Id., at Preliminary Introduction (8).
\textsuperscript{113} Id., at Preliminary Introduction (1).
\textsuperscript{114} Zaremba, supra note 107, at 489.
\textsuperscript{115} Directive on Electronic Commerce, supra note 103, at art. 9(1).
by the Executive Summary of the Proposal text of the Directive, which provides that the “Member States will … not prevent the use of electronic systems as intelligent electronic agents.”

Paragraph (2) of Article 9 provides a list of exceptions. 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. 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.

It is important to note here that these Directives are not self-executing. They must be transposed into the national legal systems of the different States. The States usually have two years to adopt new laws or modify their existing regulations to comply with the European Directive. When a contract is concluded, therefore, it is national law (and not the Directive) that governs the transaction, 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

---

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.”
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. Luxemburg, Austria and Germany were the only countries to meet the deadline. Today, France still has not transposed the Directive. France, however, and other States 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. 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.

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, 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. The Model Law aims to remove legal obstacles regarding the use of electronic commerce and to set a framework for it. 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.
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.
133 Id.
effect. Nevertheless, Illinois in the United States, and Ireland and France in Europe, have adopted the UNCITRAL Model Law on Electronic Commerce. Furthermore, both the United States, with the UETA, and the European Union, with the Directive on Electronic Commerce, used the Model Law on Electronic Commerce in their legislation regarding the matter. As stated in Article 5, 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.”

Although the Model Law does not expressly use the term “electronic agent,” the notion is implied in Article 2, 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.” In addition, in the comments on Article 2, the drafters explain that the notion of “person” must be understood as referring both to natural persons and legal entities. “Data messages that are generated automatically by computers without direct human intervention” 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.” The drafters of the Model Law decided not to address fully and directly,

---

134 Zaremba, supra note 107, at 486.
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: UETA 149, E-Sign 150 and UCITA. 151

a. UETA & Article 2 of the UCC

We have seen earlier 152 that the new Article 2 of the UCC as revised in May 2003 borrows the definition of electronic agent from the UETA 153 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.\textsuperscript{154} Indeed, the UETA does not aim to provide substantive law regarding electronic contracts.\textsuperscript{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.\textsuperscript{156} Section 14\textsuperscript{157} 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.\textsuperscript{158}

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

\textsuperscript{154} UETA, supra note 42, at § 2(1) & cmt. 1.
\textsuperscript{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).
\textsuperscript{156} UETA, supra note 42, at §14(1) & (2).
\textsuperscript{157} \textit{Id.}, at § 14.
\textsuperscript{158} \textit{Id.}, at §14(1) & (2)
\textsuperscript{159} \textit{Id.}, at 5(b).
\textsuperscript{160} \textit{Id.}, at 5(c).
\textsuperscript{161} Daniel, supra note 155, at 325.
\textsuperscript{162} \textit{Id.}
\textsuperscript{163} \textit{Id.}
difficulties may arise. 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. It is also interesting to note that Article 2 opens the door to new possibilities (or problems) 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. 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-Sign contains only two provisions on electronic agents: a definition and a principle similar to the UETA that a contract may not be denied effect solely because it was formed by electronic agents. 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.” These last words may encourage parties to avoid responsibility by denying that the actions of the electronic agent are legally attributable to them. Once again, these issues may never arise since E-Sign contains an express savings clause regarding state enactment of the UETA.

---

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.” It also attributes an electronic agent’s actions to its owner. But the UCITA goes further than the other texts by trying to set rules as to the manifestation of assent by an electronic agent. Section 112 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.” 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. Nevertheless, the UCITA drafters have tried to foresee the possible problems by adding in the Comments 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. Moreover, the conduct or operations manifesting assent may be proved in any manner. The UCITA also provides an opportunity to review the contract and explains how this opportunity must be understood when exercised by an electronic agent. 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

\[^{174}\text{UCITA, supra note 65, at §107(d).}\]
\[^{175}\text{Id., at §213.}\]
\[^{176}\text{Middlebrook & Muller, supra note 8, at 352.}\]
\[^{177}\text{UCITA, supra note 65, at §112(b).}\]
\[^{178}\text{Id., at §112(b)(1) & (2).}\]
\[^{179}\text{Middlebrook & Muller, supra note 8, at 353.}\]
\[^{180}\text{UCITA, supra note 65, at §112 cmt. 3(c).}\]
\[^{181}\text{Middlebrook & Muller, supra note 8, at 353.}\]
\[^{182}\text{UCITA, supra note 65, at §112(d).}\]
\[^{183}\text{Id., at §113(b).}\]
reasonably configured electronic agent to react to the record or term."\textsuperscript{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.\textsuperscript{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

\textsuperscript{184} Id.
\textsuperscript{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

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.
does not result from biological processes should not matter.\textsuperscript{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.\textsuperscript{198} And even assuming that self-conscious software will emerge, self-consciousness may not be an adequate criterion for legal personhood.\textsuperscript{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.\textsuperscript{200} The protection of the software, which does not have any separate interest in the transaction, is not really relevant here.\textsuperscript{201}

Another possible reason for conferring legal personality on software agents is the recognition of social reality.\textsuperscript{202} Under this theory, an entity is recognized as a legal person because it is already seen as a person by society.\textsuperscript{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.\textsuperscript{204} On the other hand, in the legal context, a legal person is simply an entity whose acts have legal consequences.\textsuperscript{205} Thus, under social reality theory, deeming entities legal persons is necessary in order to adapt the law to an existing situation.\textsuperscript{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

\textsuperscript{197}Allen & Widdison, supra note 28, at 35.
\textsuperscript{198}Id.
\textsuperscript{199}Id.
\textsuperscript{200}Id.
\textsuperscript{201}Id., at 36.
\textsuperscript{202}Id.
\textsuperscript{203}Id.
\textsuperscript{204}Id.
\textsuperscript{205}Id.
\textsuperscript{206}See Gunther Teubner, \textit{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.
\textsuperscript{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 feature. 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.
210 Id.
211 Id.
213 Allen & Widdison, supra note 28, at 40.
computer as a legal person.” Some authors go further by envisaging a “social hybrid person” 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. And this concept still would enable the human to distinguish himself from his electronic agent’s actions. 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. The main purpose under this view is to protect the persons who reasonably rely on the actions of the machine. 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, 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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{224} In addition, there may be a problem regarding the identification of the electronic agent.\textsuperscript{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.\textsuperscript{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

\textsuperscript{222} See Lerouge, supranote 41, at 410-411.
\textsuperscript{223} Wein, supra note 196, at 141.
\textsuperscript{224} Bellia, supranote 84, at 1067.
\textsuperscript{225} Allen & Widdison, supranote 28, at 42; see also Bellia, supranote 84, at 1067.
\textsuperscript{226} Allen & Widdison, supranote 28, at 42.
only on the creation of legal personality in private law. Like American law, French law recognizes various sorts of artificial persons. Companies, associations and economic organizations may be deemed legal persons with rights and obligations. The creation of the artificial person generally 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. 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. Nonetheless, legal personality in both cases implies the existence of a patrimony. Patrimony refers to the duties and rights that have an economic value. To calculate the patrimony of a person, one must look at the person’s assets and debts. 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.
233 Id.
234 MERCADAL, supra note 227, at 135.
235 Id.
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. 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. Under agency law, an agent may have the power to contract on behalf of the principal. In order for the principal to be bound by the agent’s actions, the latter must have authority from the former. 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.
238 See RONALD T. ANDERSON, AGENT’S LEGAL RESPONSIBILITY 32 (1980).
239 Id.
principal. 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” and may be actual or apparent.

Actual authority is given through oral or written instructions and usually includes so-called “implied authority, defined as the authority to perform acts that are incidental to the main transaction or necessary to carry it. 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. Implied authority also may allow the agent to delegate parts of his task to sub-agents.

Apparent authority, on the other hand, does not result directly from the principal’s instructions, but “is derived from the circumstances of a situation.” The focus is on third parties’ reasonable perceptions. 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. The principal may seek relief from the agent, but he or she still will be responsible to third parties. The purpose is to allow an innocent third-party to recover from the principal when he or she is misled, either intentionally or negligently.

240 Id.
241 Middlebrook & Muller., supra note 8, at 355.
242 Bellia, supra note 84, at 1059.
243 Id., 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 Id.
248 "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.”
249 Id., supra note 238, at 33.
250 Id.
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.\footnote{John P. Fisher, \textit{Computers as Agents: A Proposed Approach to Revised UCC Article 2}, 72 IND. L.J. 545, 570 (1997).}

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,\footnote{\textit{Id.}, at 557.} 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.\footnote{\textit{Id.}} 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.\footnote{\textsc{Restatement (Second) of Agency} §1 (1958).} While it has been argued that an individual who uses a software to conclude contracts gives actual authority to the program to do so,\footnote{Bellia, supra note 84, at 1059 n.56.} the problem regarding the consent of the agent remains.\footnote{\textit{Id.}, at 1060.} The agent must give consent because agency implies rights and duties.\footnote{\textit{Id.}} Hence, most authors\footnote{Fisher, supra note 252, at 569; see also Lerouge, supra note 41, at 408.} recognize that “[i]n a principal-computer-agent relationship, the concept of the computer consenting is absurd.”\footnote{Fisher, supra note 252, at 569.} 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.\footnote{Bellia, supra note 84, at 1061.} Some writers\footnote{Fisher, supra note 252, at 569.} therefore opt for
the use of a presumption or a legal fiction of consent, 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. In this case, the agent will be liable for his wrongdoing. As has been discussed earlier, 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.” Indeed, the principal’s liability may extend to other robots. It has been noted earlier 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. 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? 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. 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 relationship) 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. Title XIII 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.” There has been almost no modification of the law of agency
since 1804. 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.
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.
\[282\] Id.; see also for translation JOHN H. CRABB, THE FRENCH CIVIL CODE (AS AMENDED TO 1 JULY 1994), 370
\[283\] Only one modification was made, concerning the civil death of one of the parties. See ENCYCLOPÉDIE
DALLOZ, REPERTOIRE DE DROIT CIVIL, VOL IV, Mandat 3.
\[284\] See ENCYCLOPÉDIE DALLOZ, REPERTOIRE DE DROIT CIVIL, VOL IV, Mandat 3.
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. In addition, differentiation must be made between salaried and gratuitous agencies. Since salaried agency cannot apply to robots (unless the robot is supplied by a third party for a fee), we will not develop it here and will focus our analysis on gratuitous agency.

In order for the principal-agent relationship to exist, the law requires acceptance by the agent. As in American law, this condition seems to raise a difficulty as to the application of agency principles to robots. Article 1985 states that the “[a]cceptance of an agency may be only tacit and result from the execution given to it by the agent.” 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 experts 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 1123 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, REPORTE 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, REPORTE DE DROIT CIVIL, VOL IV, Mandat 7-393, see also J. GUYÉNOT, THE FRENCH LAW OF AGENCY AND DISTRIBUTORSHIP AGREEMENTS (1976).
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.
Thus, it must be decided whether a robot is a person by law and as we have developed earlier, 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, who is usually not considered a legal person under the law. Nonetheless, according to the authors, agency requires legal capacity. Minors, as well as married women before 1965, can be chosen as agents because they are supposedly not bound by their own acts. The principal has to answer for the agent's actions. 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.

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. If the agent acts within his authority, the principal will be responsible for the agent. 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
298 See C. Civ., art. 1124.
299 The doctrine see Encyclopédie Daloz, 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 Daloz, 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 Crabbs, 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 D’ALLOZ, 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. The robot would be treated as a fax machine or a telephone, 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.”

This approach has the advantage of solving several difficulties. First, there is no need to change the existing rules of contracting, 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, 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. Moreover, this view seems to be shared by some courts. In 1972, the Court of Appeals for the Tenth Circuit held an insurance company liable for a mistake, which was claimed to have been made by the company’s computer system. In this case, 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.
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. Bockhorst claimed he was covered, while the insurance company later argued it was only a computer mistake. Deciding in favor of Bockhorst, the court stated:

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.

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. 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 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
325 Allen & Widdison, supra note 28, at 46.
adequate remedy in such cases. 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, a contract is “a promise or a set of promises.” This promise is expressed by a party, usually through words, although it may be also inferred from his conduct. A party’s subjective assent is not necessary to make a contract. The manifestation of intention only matters. 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. 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.
328 Id., at §1.
329 Bellia, supra note 84, at 1053.
330 Lerouge, supra note 41, at 416.
331 Id.
promisee in understanding that a commitment has been made.” Second, each party’s manifestation of assent must be made with reference to the manifestation of the other.

The use of electronic agents could be seen as an act of conduct. 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. Subsequently, if the clerk nods, there is acceptance and a contract is formed. 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. 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.” 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, some 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

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.
340 Kerr, *supra* note 34.
user’s assent through his electronic agent.\textsuperscript{341} Therefore, the reasonable person standard regarding the other party’s intention becomes relevant:\textsuperscript{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 an 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.\textsuperscript{343}

In dealing with the issue, the drafters of the \textit{UCITA}\textsuperscript{344} officially recognize the ability of electronic agents to manifest assent.\textsuperscript{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.”\textsuperscript{346} In addition, a party may prove that an electronic agent manifested assent in any manner.\textsuperscript{347} Notably, a party may show that a processing procedure existed which the electronic agent must have executed in order for processing to be

\begin{footnotesize}
\begin{enumerate}
\item Id., at 23.\textsuperscript{341}
\item Id.\textsuperscript{342}
\item Id.\textsuperscript{343}
\item See \textit{UCITA}, supra note 65.\textsuperscript{344}
\item \textit{UCITA}, \textit{supra} note 65, at §112.\textsuperscript{345}
\item Id., at §112(b).\textsuperscript{346}
\item 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.”\textsuperscript{347}
\end{enumerate}
\end{footnotesize}
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. The theory of the autonomy of the will was taken as the foundation of contractual doctrine in the nineteenth century. Accordingly, a contractual obligation can exist only if the other party has willed it. 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.” This approach led to the development of the supremacy of the inner will. 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. However, this theory has been vigorously criticized by the French legal scholars over the past decades. Today, the application of the autonomy of will has numerous exceptions, often to protect the weaker party in the transaction.

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.
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 Commerce\(^ {359}\) 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.
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 UCC\(^{361}\) 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.


\(^{363}\) CORBIN ON CONTRACTS §573 at 357 (1960).

\(^{364}\) Id.; see also Daniel, supra note 155, at 331.
look at the intention of the parties.\textsuperscript{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).\textsuperscript{366} It must be noted also that while an integration or merger clause is some evidence of integration, it is not conclusive.\textsuperscript{367} In addition, the absence of a merger clause in a writing does not necessarily permit the use of extrinsic evidence.\textsuperscript{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.\textsuperscript{369}

With respect to the use of electronic agents, the parol evidence rule seems difficult to apply.\textsuperscript{370} In the traditional world, courts already proceed with caution as to the application of the rule.\textsuperscript{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.\textsuperscript{372} Indeed, it is particularly true when such a conclusion would prevent the party from introducing extrinsic evidence regarding the making of the agreement.\textsuperscript{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.”\textsuperscript{374}

\textsuperscript{365} \textbf{WILLISTON} \\ & \textbf{JAEGER}, \textbf{A TREATISE ON THE LAW OF CONTRACTS}, §633 at 1014-16 (3d ed. 1957).
\textsuperscript{366} Masterson \textit{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.”
\textsuperscript{367} Sierra Diesel Injection Service, Inc. \textit{v.} Burroughs Corp., 656 F Supp 426 (9th Cir. 1987); for an opposite ruling see Luther Williams, Jr., \textit{Inc. v. Johnson}, 229 A2d 163 (DC 1967).
\textsuperscript{368} Bank Leumi Trust Co. \textit{v.} Wulkan, 735 F Supp 72 (NY 1990).
\textsuperscript{369} See Masterson \textit{v.} Sine, 436 P.2d 561, 563 (Cal. 1968); see also CORBIN ON CONTRACTS, §578, at 411 (1960).
\textsuperscript{370} \textit{See Daniel, supra} note 155, at 332.
\textsuperscript{371} See\textsuperscript{Masterson v. Sine}, 436 P.2d, at 563.
\textsuperscript{372} \textit{Daniel, supra} note 155, at 333.
\textsuperscript{373} \textit{Id.}
\textsuperscript{374} \textit{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, a party could limit acceptance of his offer only to terms contained in his proposed form. The other party could make his acceptance conditional to the offeror’s acceptance of new terms in his own form. 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. Thus, electronic agents would not have to object to non-matching terms in order to keep them out of the agreement.

2. French Solution

As has been seen earlier, in French law, contracts are considered the “law for those who make them,” 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.” And when the contract is clear and unambiguous, the judge must respect the agreement as to the result of the parties’ intentions. 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
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.
agreement. 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. 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. 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. 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, 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.” 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.

384 TOULET, supra note 356, at 132.
385 Civ. 3e, 5.2.1971, Bull. Civ. III, n° 89.
387 Id.
389 Id., at art.9(1).
390 See supra Chapter 3.B.1.
individuals may still invoke it before national courts. France is still working on the transposition 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.” 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.” It is usually used as a defense to avoid an otherwise enforceable contract. 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.
occurred at the time the contract was made. 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. As developed by the courts, mutual mistake requires four elements. First, “the parties to a contract were mistaken in their belief regarding a fact.” 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, impracticability or frustration of purpose, 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.” Third, “the mistake had a material effect on the bargain.” 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.” Generally speaking, if mutual mistake results in “a quite different exchange of values” than what the parties thought at the time the agreement was made, then the contract is voidable (cancelled) or reformable (modified).

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

---

397 Id., §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.
402 Krell v. Henry, 2 K.B. 740 (King’s Bench 1903).
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).
409 Id., §153.
must prove the four elements required for mutual mistake.\textsuperscript{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.\textsuperscript{411} It must be noted that a unilateral mistake will usually not enable a party to avoid the contract.\textsuperscript{412} Nonetheless, there may be rescission or modification for unilateral mistake, if there has been “fraud, misrepresentation, or other misconduct.”\textsuperscript{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.\textsuperscript{414} Whether the other party knew or had reason to know is a case-by-case question.\textsuperscript{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.\textsuperscript{416} Unconscionability may be a defense by itself.\textsuperscript{417} Nonetheless, the level necessary in order to obtain relief for unilateral mistake seems less burdensome.\textsuperscript{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,\textsuperscript{419} the time of contracting corresponds to the time when the accepting

\textsuperscript{410} See supra p.54.
\textsuperscript{411} \textsc{Restatement (Second) of Contract} §154, see §203.
\textsuperscript{414} \textsc{Restatement (Second) of Contract} §154, see §203.
\textsuperscript{416} \textsc{Restatement (Second) of Contracts}, §154.
\textsuperscript{417} Ting v. AT&T, 319 F.3d 1126 (Cal. 2003).
\textsuperscript{418} Sydnor v. Conseco Financial Servicing Corp., 252 F.3d 302 (4th Cir. 2001), see also Northrop Corp. v. Litronic Industries, 29 F.3d 1173 (7th Cir. 1994).
\textsuperscript{419} UCC §2.
electronic transmission is sent.\textsuperscript{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.\textsuperscript{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.\textsuperscript{422}

In addition, it has been stated that a party may not seek relief for mistake if he bears the risk of mistake.\textsuperscript{423} A party bears the risk of mistake when the risk is allocated to him or her by agreement of the parties.\textsuperscript{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.\textsuperscript{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.\textsuperscript{426} For some,\textsuperscript{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.”\textsuperscript{428} This could be characterized as conscious ignorance and therefore acceptance of any mistakes that follow. In addition, the UETA\textsuperscript{420} tries to set rules regarding errors.\textsuperscript{430} However, the Act only deals with human errors in automated transactions and it

\textsuperscript{420} UCC §2-204(4)(a), 2-212 & 2-213 (2003); see also Daniel, supra note 157, at 342.
\textsuperscript{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.”
\textsuperscript{422} See Daniel, supra note 155, at 342.
\textsuperscript{423} RESTATEMENT (SECOND) OF CONTRACTS, §154.
\textsuperscript{424} Id.
\textsuperscript{425} Id.
\textsuperscript{426} RESTATEMENT (SECOND) OF CONTRACTS §154.
\textsuperscript{427} Id.
\textsuperscript{428} Id.
\textsuperscript{429} UETA, supra note 42.
\textsuperscript{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., 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

---

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. 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. According to the doctrine of the autonomy of the will, consent is the key element in the formation of contracts and, to be binding, an agreement must have been freely made. In order for the contract to be enforceable, consent needs not only to exist but also to be without defect. Mistake or erreur is one of the three defects that may void consent. 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. 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. Beyond that basic definition, there are several types of mistakes. Some are mentioned by the Civil Code, while others

---

434 See Lerouge, supranote 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.\textsuperscript{444} The Code\textsuperscript{445} envisions only two kinds of mistake (\textit{erreur sur la substance} and \textit{erreur sur la personne}) under the general category of \textit{erreur-nullité}, that is, a mistake that raises the nullity of the agreement. The first category is \textit{erreur sur la substance}. The language of the Article 1110\textsuperscript{446} is very vague.\textsuperscript{447} It states that the mistake must relate to the “very substance of the thing which is the object of the agreement.”\textsuperscript{448} The word “substance” has been subject to various interpretations.\textsuperscript{449} The courts have talked about “determining consideration”\textsuperscript{450} or “the quality without which the buyer would not have bought.”\textsuperscript{451} Once agreeing upon the definition, authors still diverge on whether the “substantial quality” should be seen \textit{in abstracto} or \textit{in concreto}.\textsuperscript{452} \textit{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 \textit{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.\textsuperscript{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.\textsuperscript{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.

---

\textsuperscript{443} C. CIV., art. 1110.
\textsuperscript{444} See Mazeaud & Chabas for instance.
\textsuperscript{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.”
\textsuperscript{446} Id.
\textsuperscript{447} TOULET, supra note 356, at 61.
\textsuperscript{448} NICHOLAS, supra note 349 at 80.
\textsuperscript{449} TOULET, supra note 355, at 61.
\textsuperscript{450} Cass. civ., 17.11.1930, S 1932.1.17 note Breton. It must be noted here that the term \textit{consideration} has not in French law the same meaning and consequences that it has in American law.
\textsuperscript{451} Orléans 21.1.1931, DH 1931.172.
\textsuperscript{452} TOULET, supra note 356, at 62.
\textsuperscript{453} Id.
\textsuperscript{454} Id.
The second category of *erreur-nullité* is the mistake as to the person (*erreur sur la personne*). The Civil Code\(^\text{455}\) 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.”\(^\text{456}\) This type of contract is called *intuitu personae*.\(^\text{457}\) *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.\(^\text{458}\) 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.\(^\text{459}\) Writers\(^\text{460}\) 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.\(^\text{461}\) 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.\(^\text{462}\) 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.\(^\text{463}\) 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.


obstacle as to the existence of the contract. The famous illustration is the case\textsuperscript{464} 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.\textsuperscript{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.”\textsuperscript{466} The main difference concerns the category of people the legislature tries to protect.\textsuperscript{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.\textsuperscript{468} Thus, as long as the judge has not pronounced the nullity, the contract has the appearance of a valid agreement.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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,
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 betweenerreur-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.
476 TOULET, supra note 356, at 63.
477 Id.
478 See supra p60.
479 TOULET, supra note 356, at 58.
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. 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. Second, the misrepresentation must have induced the party victim of the fraud to contract. Third, this party must have been justified in relying on the misrepresentation. Thus, it is not enough that the assertion is false; the misleading party must have the intent to deceive.

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. 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.

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.

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 knowledge.\footnote{488}{Id., at 341.}

Moreover, we have said that the reliance on the misrepresentation must be justifiable.\footnote{489}{RESTATEMENT (SECOND) OF CONTRACTS, §164 cmt. a (1981).} 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.\footnote{490}{Daniel, supra note 155, at 341.} 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.\footnote{491}{Id.} Nonetheless, since contracts can be made by electronic agents without any human review,\footnote{492}{UCC, art 2-204(4)(a).} 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
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.
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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.”\textsuperscript{502} Thus, courts are likely to hold in favor of the consumer, if it

\textsuperscript{499} See supra Chapter 3.C.1.b.
\textsuperscript{501} C. CONS., art L.113-3.
\textsuperscript{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.” 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.” 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, “[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 expanded by its creator than the state of the art.” 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. (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.). 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.

---

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

D. Third Parties’ Responsibility and Viruses

One important debate among the drafters of the UCITA was responsibility in the event of a virus. 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.” Criminal law makes a party responsible for willfully introducing a virus to someone else’s computer. 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.
514 Id.
515 Id.

case law yet on how to allocate the risk of viruses.\textsuperscript{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.

\footnotetext[516]{\textit{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.
REFERENCES

Legislation


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


**Cases**

**United States**

9. Luther Williams, Jr., Inc. v. Johnson, 229 A2d 163 (DC 1967).
23. Ting v. AT&T, 319 F.3d 1126 (Cal. 2003).

France


Books

United States

1. ISAAC ASIMOV, I, ROBOT (1950)
2. CORBIN ON CONTRACTS §573 (1960).
7. RONALD T. ANDERSON, AGENT’S LEGAL RESPONSIBILITY (1980).
France

1. **BARRY NICHOLAS, FRENCH LAW OF CONTRACT** (Butterworths, 1982).


**Articles**


