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Are 'Agent' Exclusion Clauses a Legitimate Application of the EU Database Directive?

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Abstract

This article explores the implications of the implementation of the European Database Directive in the area of autonomous agents and the use of exclusion tools in the part of database owners to stop agents accessing their works.

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1. Introduction

The vulnerability of digital information to unauthorised copying has posed significant problems for the law of copyright. Digital information can be replicated with no decrease in the quality of replications and can be widely and instantaneously disseminated, at virtually no cost to the copier. The response of intellectual property rights-holders has been threefold:- i) to lobby for appropriate legislative protection, ii) to utilise technological tools of protection and iii) to utilise the law of contract as a means of imposing control.

The above strategy is evident in the protection of digital databases; protection arising from a combination of i) *sui generis* legislation, ii) technological protection and iii) strict licensing terms.

At its most basic an autonomous agent is a software tool that undertakes searches on behalf of the user. Common examples may include travel or auction 'bots' which review significant quantitites of data in accordance with the users specified requirements. Autonomous agents which access and utilise data contained within digital databases on the internet are perceived as 'free-riders', threatening the commercial exploitation opportunities of database makers. From an internet user's perspective however, agents are perceived as performing an increasingly fundamental function in facilitating information gathering and interpretation. Agents are used as a means of navigation, information filtering and task completion.

The existence of a database does not render it useful unless it can be used effectively.

Whilst agents are not necessary in order to enter and use a digital database, their value lies in the fact that they enable large amounts of information to be understood. Agents enable unmanageable quantities of information on the internet to be put in context, to cross reference / contrast / compare data sources at tremendous speed.

The dilemma for legislators therefore has been how to reconcile the social desire (and growing need) for agent applications, versus the rights-holders inherent resistance to any perceived form of 'free-riding.' The response of many online database rights-holders has been to impose exclusion clauses on their sites, preventing agent accessibility altogether.

The purpose of this paper is to consider the extent to which agent exclusion clauses are legitimised by the EU Database Directive. Following a brief analysis of the legal capacity of agents we will then focus upon the specific provisions of the EU Database Directive with a view to identifying what, if any, express rights are granted under the Directive which would embrace the activities of agents.

We will then focus on the concept of lawful use and whether this term could embrace the activities of agents where either the database being utilised does not merit protection under the Directive, or where the agent's activities do not constitute infringement. Finally we will consider what additional principles of law may be drawn upon in order to challenge the legitimacy of agent exclusion clauses.

¹ The terms database 'maker' / 'rights-holder' & 'proprietor' are used interchangeably throughout this paper and is intended to denote the party in whom the intellectual property rights of the database would be vested. The concept of 'autonomous agent' is explored in detail in section 2.1

Where an express right of access/use is granted pursuant to the Database Directive, any license provision seeking to negate that right is explicitly invalidated. Whilst it appears unlikely that an agent proprietor² will be able to rely upon fair use as a defence, individual users may well be able to if their useage amounts to 'research'.

Where a database does not fulfil the necessary pre-requisites so as to benefit under the Directive, or the type of activity undertaken by an agent does not constitute an infringement under the Directive, the question remains whether a database maker may generate equivalent protection via the terms and conditions of the user license.

It is submitted in this paper that if a database does not come within the scope of the Database Directive, or the particular activities of an agent are not deemed an infringement under the Directive, then both the agent proprietor and user should be considered lawful users and thus any restrictive license would also be rendered void by the Directive. In addition, it is submitted that broader principles of law may also be relied upon both in furtherance of the agents right of access and useage, specifically:- competition law, unconscionability, public interest and constitutional law.

Focusing on the issues surrounding agents therefore, this paper also serves as an illustration of the vulnerability of copyright's 'cultural bargain' to being displaced by restrictive license terms. Whilst license terms may simply apply established copyright law, they may also be used to supplement for perceived oversights in copyright law and more contentiously may also be used to seek to over-ride express or implied rights of access and/or use granted under copyright law.

2. Autonomous Agents

2.1 Defining Characteristics

The traditional and non-technological concept of an agent is that of a representative, one that has the express or implicit authority to act on another's behalf. One early account of the differences between human and software agents is that the latter are mobile are mobile, autonomous and able to 'interact independently of its user's presence'. This definition however fails to differentiate effectively between the two as in many instances the abilities of human agents will extend to incorporate the additional features described. This definition relates more to the difference between software per se and software agents.⁴

The definition of an autonomous agent is a problem which has eluded far more technically minded commentators than the present writer.⁵ The difficulty appears to lie in the fact that agents are incredibly versatile and moreover commentators differ fundamentally from a philosophical perspective as to the extent of so called 'autonomy' they are prepared to acknowledge within any form of software.

² The term agent 'proprietor' and 'maker' are used interchangeably throughout this paper and denote the party who either owns or developed the agent. The term agent 'operator' is used to embrace both the proprietor and users, unless indicated otherwise.

³ Heilmann K. (1995) p6

⁴ See Franklin S. & Graesser A. (1996)

⁵ See Nantes C. & Hagstedt T. (undated)

Rather therefore than attempting to impose an all-embrasive definition, a more effective approach in the writer's opinion, in order to better understand autonomous agents, is to identify their central features, namely:-

- i. Autonomy (ability to fulfil goals without the need for further instructions from the user)
- ii. Communication (able to communicate with various other information sources)
- iii. Cooperation (able to collaborate with other agents in the achievement of objectives)
- iv. Capacity for Reasoning (ability to reason is central to the concept of an autonomous agent, defined as 'the ability to infer and extrapolate based on current knowledge and experiences in a rational, reproducible way'⁶)
- v. Adaptive Behaviour (ability to adapt their behaviour in the light of previous experience)
- vi. Trustworthiness (agents should be trustworthy, that is the user should be able to trust the agent to fulfil a specified objective⁷)

Agents are also referred to as 'bots'⁸, intelligent agents, spiders and web crawlers.⁹ Hereafter when referring to the term 'agents', we are referring to a software based entity featuring the above characteristics. An agent's role is to undertake an activity or fulfil a task on behalf of its user and in so doing the agent has a variable degree of latitude as to the method of achieving its goal and is able to learn from its experience.

From a functionality perspective, agents are 'launched' by individual users or by the agent developers/proprietors. Agents can also be used to 'crawl' amongst various sites at rapid speed collecting information/data. The type of data collected would principally include price information, Uniform Resource Locators (URL's), e-mail addresses and product lists. More sophisticated agents enable broader types of information to be gathered such as event information / comparison, job information / comparison, extended product comparison / information e.g. warranty policies, shipping processes, customer satisfaction levels etc...

The abundance of information available on the internet has rendered the use of agents an essential form of navigation. Agents do what users either do not want to do themselves (because perhaps the task is repetitive or boring) or what users are incapable of doing themselves (perhaps due to logistical /complexity/ time obstacles).

Thus the most obvious benefit to agent users is that they are able to reduce 'transaction costs' by collecting, siphoning, examining and interpreting large amounts of digital information.

⁶ Belgrave, M (1995) Section 3.1

⁷ The issue of agent trustworthiness and the compliance of agents to the contractual principle of good faith is insightfully examined by: Schafer B. (2003), Weitzenboeck E. (2002) & Dowling C.(2001)

⁸ An abbreviation of robot, derived from the Czech word meaning work.

⁹ 'The Web Robots FAQ' http://www.robotstxt.org/wc/faq.html

¹⁰ See Sapherstein M. (1997) p1

2.2 Contractual Capacity of Agents

A valid contract requires that the contracting parties have the requisite 'capacity'. Traditionally such capacity has been granted to natural and legal persons, natural meaning human, legal referring to enterprises such as companies being granted an independent legal status. ¹²

The use of autonomous agents was not the first occasion upon which contractual relationships have arisen despite the absence of at least one 'legal personality'. Indeed such transactions are so deeply integrated into our society that their very existence goes virtually un-noticed or unquestioned e.g. vending machines and arcade games. It has never been disputed that the role of a vending machine in a contractual agreement jeopardises the legal status of the agreement or transaction.¹³ The key difference however is that agent is active participants and indeed initiators of the transactions rather than simple 'conduits.'¹⁴

Terms and conditions of database licenses, in accordance with standard contract law, must be incorporated into an agreement in order to be binding. A license differs from a standard contract in that the property rights in the copyright material remain with the owner only in the case of the former. A licensee therefore is granted certain rights of access and useage. Furthermore as a result of the owner's retention of property rights, these rights are 'enforceable against the world', whereas a contract can only be relied upon as against the other contracting party.

Online database users, whether agents or otherwise, will almost certainly be required to agree to the terms of the database maker's license, which in turn will invariably contain an agent/robot exclusion clause. The clause may be displayed in text form in the site terms and conditions or may be contained within software readable form, known as a 'robot.txt file.'

Basic contract law provides that the mere posting of terms and conditions with nothing more is unlikely to constitute the requisite notice. ¹⁵ In order therefore that web-sites and database makers may pre-empt any defences of ignorance of terms and conditions, demonstrable consent will be sought. The most popular method of achieving this is via a 'click wrap' agreement, typically requiring the user to agree to having read the site's full terms and conditions and to thereafter manifest assent in the form of manually clicking the 'I agree' icon. Whilst an agent is able to simulate the same action the question remains whether the agent's assent to the site terms and conditions would be binding on the agent operator.

¹¹ See generally: Allen T. & Widdison R. (1996), Lerouge J.F. (2000), Weitzenboeck (2001), Amissah R. (2000), Finocchiaro G. (2003)

¹² See generally Solum L. (1992) & Radin M.J. (2000)

¹³ See also Reed C. (2000) p175

¹⁴ Kerr I. (1999) p3

¹⁵ Thornton v Shoe Lane Parking [1971]; Specht v Netscape Communications Corp (2001)

2.3 Validity of Electronically Agreed Contracts

A 'click wrap' contract is a variation of the 'shrink wrap' 16 contract with the terms and conditions being displayed digitally, for example when first using a software program or when accessing digital content online. A contract is concluded once acceptance has been unconditionally communicated to an offeror. If therefore the actions of an agent when assenting to a click wrap contract are not deemed to constitute either an offer or acceptance, then it may be presumed that no contract will have been concluded.

Commentators have debated the issue for several years, querying whether the postal rule would apply, whether the buyer's or the seller's communication constitutes an invitation to treat etc¹⁷... The application of 'black letter' contract law to the digital environment has always been strained, attempting to map legal definitions and significance on individual elements of a digital process. The Electronic Commerce (Ecommerce) Directive¹⁸ may however render the debate effectively redundant by simply focussing attention on whether or not a specified result is achieved.

The Ecommerce Directive requires EU Member States enact enabling legislation so as to ensure that the formation of electronic contracts is not impeded by national laws. ¹⁹ The Directive clarifies;

'in cases where a recipient, in accepting a service provider's offer, is required to give his consent through technological means, such as clicking on an icon, the contract is concluded when the recipient of the service has received from the service provider, electronically, an acknowledgement of receipt of the recipient's acceptance.'²⁰

One interpretation of the above is that the user clicking on an icon constitutes the offer, whilst the service provider's acknowledgement constitutes the acceptance. That being the case, it has been suggested that the Directive contradicts existing principles of contract law in the UK (i.e. seller makes offer, buyer accepts). However, crucially, the Directive enables parties to understand what constitutes a completed contractual agreement. ²²

¹⁶ Shrink wrap referring to contractual terms and conditions attached and displayed on the external packaging around a product. See *Beta v Adobe* [1996] held 'shrink-wrap' contract enforceable on basis terms of software incorporated at point of sale. Shrink-wrap contracts also upheld in *Microsoft v Electrowide* [1997]

 $^{^{17}}$ See Allen T. & Widdison R. (1996), and Murray A. 'Entering into Contracts Electronically' (2000) in Edwards L & Waelde C.(2000)

¹⁸ 2000/31/EC, enacted 8 June 2000

¹⁹ Recital 34

²⁰ Article 11

²¹ Lloyd I (2000) p565

 $^{^{22}}$ See also Allen T. & Widdison R. (1996) p12 who also suggest focus be placed on the 'fact' of agreement rather than on the 'process'.

2.4 Validity of Agent Agreed Contracts

The question remains whether a contract concluded by an agent would fall within the scope of the above definition. A strict interpretation of the E-Commerce Directive may be that it allows an automatic electronic response to fulfil the necessary conduct needed to conclude a contractual agreement. This is not the same as recognising the legal status of an agent initiating the transaction. Indeed, the language used in the Directive refers to 'a recipient' and 'his consent', both of which suggest a human rather than an electronic agent.

However, it could also be argued that there is no express exclusion in the Directive which precludes 'a recipient' from being an agent. Indeed, to conclude otherwise would be in direct conflict with the central ethos of the E-Commerce Directive, namely:

'Member states shall ensure that their legislation allows contracts to be concluded electronically (and that) the legal requirements applicable to the electronic process neither prevent nor result in such contracts being deprived of legal effect and validity on account of their having been made electronically.'²³

There is no suggestion in the above paragraph that the requirement of legal effect be limited to *automatic* electronic activities. One could forcefully argue therefore that the Directive should be interpreted in accordance with the above-professed ethos and thus it must have been the intention of the drafters of the Directive to grant legal effect to the actions of agents.

Within the US, the requirement of the 'manifestation of consent' within electronic contracts has achieved legislative status in the Uniform Computer Transactions Act (UCITA). The Act provides that assent to terms can be manifested without regard to the party's subjective knowledge or understanding of them (except unenforceable terms).²⁴ Assent may be manifested if:

'acting with knowledge of, or having an opportunity to review the record or term or a copy of it, she intentionally engages in conduct or makes statements with reason to know that the other party may infer assent from the conduct or statement.'25

The UCITA attributes an electronic authentication to the person who implemented the electronic agent.²⁶ This will certainly include the individual user of the agent, and may arguably also include the agent designer / operator / proprietor. If therefore an agent is required to assent to license terms before accessing a site, an agent/principal relationship would be assumed, thus binding the principal to the acts or omissions of the agent.²⁷

²³ Article 9

²⁴ s208(1)

²⁵ s112

 $^{^{26}}$ s213

²⁷ s213 - Rosenfeld J. reaches the same conclusion (2002) p14

A requirement of UCITA for the contract terms to be binding is that the user must have had an opportunity to review the terms before assenting to them. This requirement does not undermine the enforceability of a contract entered into by an agent.²⁸ In clarification (and arguably in anticipation of agents acting beyond their scope of authority or indeed agents simply committing errors) the principal's responsibility is defined as follows:

'A person that uses an electronic agent that (he or she) has selected for making an authentication, performance, or agreement, including manifestation of assent, is bound by the operations of the electronic agent, even if no individual was aware of or reviewed the agent's operations or the results of the operations.

2.5 Summary

Legislative focus on the manifestation of assent rather than the level of comprehension and understanding on the part of the assentee provides significant scope to extend contractual capacity to agents. The current status of online contracts / licenses entered into by an agent within the EU does however remain slightly ambiguous, even under the terms of the E-Commerce Directive.

On balance, one must conclude that contracts entered into by agents, on the instructions / programming of a human user, would be granted legal status in accordance with the express principle of the Ecommerce Directive and in unison with the UCITA and the UN's own Model Law on Electronic Commerce. ³⁰ Therefore, it is submitted that agent/robot exclusion clauses would also be deemed binding upon an agent operator.

3. Agents & Copyright

3.1 Agent Functions v Copyright Functions

'any technology that promises to change fundamentally the way information is gathered will raise the eyebrows of the artistically or intellectually creative individuals (and their lawyers) who possess legally granted ownership rights in expressions of this information.'31

Agents may perform a number of activities on behalf of a user. The focus of this paper is with respect to the collection, reproduction and/or re-utilization of data within freely available online databases such as:- price information, product names, product

²⁸ s206(a)

²⁹ s107(d)

³⁰ 'Model Law on Electronic Commerce, adopted by the United Nations Commission on International Trade Law (1996) Key provisions include: i) legal recognition of data messages (Article 5), ii) incorporation by reference (Art 5bis) & iii) formation and validity of Electronic Contracts (Art 11(1))

³¹ Sapherstein M. (1997) p1

details, service names and service details. All of which would fall within the category of factual information.³²

Search engines³³ which merely retrieve URL's (whatever the strict technical copyright implications) are not considered to create a problem for agents as such because unless such activity was explicitly or implicitly authorised, the internet would all but disappear. In addition to which of course Meta keywords and Meta descriptions are inserted into the HTML code of websites, the sole function of which is to provide matches for search engines.³⁴

The function of a copyright system is to provide authors with an incentive to publish, in return for the public dissemination of information. In order to maintain this balance the copyright system must adapt to technological innovations which have the potential to jeopardise this 'cultural bargain'.

Copying however is an integral feature of the internet and the digital nature of the content renders reproduction both simple and virtually cost free. The particular vulnerability of digital content to reproduction has focussed the attention of legislators on devising ways to *prevent* copying of information goods rather than on the *type* and *effect* of copying. Overlooking perhaps that 'control of reproduction is the mechanism, not the goal' (of copyright law).³⁵

Agents are radically changing the way in which information on the internet is perceived, handled and understood. Internet users regard information as a means to an end, such as the answer to a question or the solution to a problem or simply the provision of knowledge. Internet access, it is submitted, is perceived by many as tantamount to a constitutional right. Likewise, there is also a perception that the information on the internet should be freely accessible to all and should not be the subject of unreasonable access and useage terms and conditions.

Rights-holders whose very existence depends upon the preservation of a continuing notion of complete ownership and control over digital databases are eager to dispel any beliefs that data published on the internet equates to the surrender of corresponding intellectual property rights.³⁶

3.2 Technological Exclusion

The most straightforward method to prevent an agent accessing a database (thus avoiding completely any arguments regarding an agent's contractual capacity) is to install appropriate code into the robots.txt file of the server.³⁷ Such files may prevent access altogether or restrict the areas accessible to agents. The problem with this

³² Ruse H.G. also includes news headlines within this category (2001) p300

³³ As opposed to super engines, meta search engines and special search engines.

³⁴ See also analogy with 'derogation from grant' principle upheld in *British Leyland v Armstrong Patents Co Ltd* [1986]

³⁵ See Cmttee on IPR Report (The Digital Dilemma) (2000) p141

³⁶ The focus of this paper is on the issue of infringement. The multitude of problems which the issue of enforcement and indeed detection gives rise to are beyond the scope of this paper

³⁷ Technical procedure detailed at http://www.robotstxt.org/wc/faq.html

method is that it depends on the visiting agent having been programmed to follow the instructions of the robots.txt file.³⁸

Alternatively, database makers may place restrictions on site access requests emanating from specific Internet Protocol addresses which are believed to be agents. The difficulty with this additional measure is that agents are able to disguise their appearance, for example instead of making numerous requests from the same location, the requests are made from several different locations, or even simpler - via a proxy server.³⁹

Any agent that is programmed to ignore agent exclusion clauses may well fall foul of Draft Copyright Harmonisation Directive⁴⁰. Article 6 of the Directive renders unlawful any circumvention 'without authority' of effective technological measures designed to protect copyright or related rights. 'Technological measures' being defined as 'any technology, device or component that, in the normal course of its operation, is designed to prevent or inhibit' infringement of copyright or related rights.'

Autonomous agents that encounter robot.txt files and are designed to ignore them arguably fall within this definition, as they are designed to over-ride technological means to protect apparent copyrighted information, and this ability would naturally be a part of the agent's design, whether or not it is used on each occasion.

Technology therefore by itself does not enable database proprietors to exert the level of control upon agent users as they would like. Increasing reliance therefore has been placed by rights-holders upon license terms and conditions.

3.3 Contractual Exclusion

Contract law, it has been suggested, offers the prospect of a 'perfect alternative to copyright' on the internet. The structure of the internet facilitates contractual relationships in various ways:- agreement to terms and conditions can be communicated instantaneously, all communication can be fully recorded and preserved, written communication is the predominant form of communication used, contract terms and conditions can be made readily and permanently accessible and programs can be utilised to ensure that terms and conditions must have been agreed to before the contract is entered.

Contractual terms and conditions are also necessary for copyright owners simply from the perspective of 'shoring up' the proverbial foundations established under copyright law. For instance copyright legislation does not address:- choice of law issues, arbitration, limitation of liability, governing law or forum. Contract law (in the form of licenses) performs a valuable and necessary function for both rights-holders and users, however contract law also enables database makers to exert extremely strong

³⁸ It is estimated that in 1997 one third of sites from which BargainFinder sought price and product information, endeavoured to erect technological restrictions, see Delong J.B & Froomkin M.(1999) as cited by O'Rourke M.(2002) p1975

³⁹ i.e. a remote server which renders anonymous the searching party

⁴⁰ Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001, On the Harmonisation of Certain Aspects of Copyright & Related Rights in the Information Society.

⁴¹ See generally Hugenholtz P.(2000)

control over their digital content. When complemented by appropriate digital technology this *strong* level of control elevates to virtual *complete* control.

Whether or not agents are recognised as having legitimate access and usage rights to online databases, any such arguments are of little application if the license terms imposed by a database rights-holder (reinforced by technological protection) ignore any identified rights. More specifically, does the attempted exclusion of agents from online publicly available databases constitute a valid application of the rights granted under the Database Directive? Furthermore, if under the terms of the Directive, a database does not merit protection, or the agent's activity does not constitute infringement, does this render the agent's activity a 'lawful use,' thus nullifying any agent exclusion clause contained within a user license agreement?

3.4 Summary

Agents may undertake various tasks on behalf of their operators. However, agent operators encounter significant resistance from database makers in the form of technological and contractual exclusion measures. The fallibility of technological protection, has resulted in increasing reliance by database makers upon license provisions. The parameters of copyright licences however are determined by the rights granted in turn under copyright law.

4. EU Database Protection

4.1 UK Copyright Law

Under the Copyright Designs and Patents Act 1988 (CDPA) original literary and artistic works are protected by copyright, these are defined to include:- a) tables or compilations (other than databases), b) computer programs c) preparatory design material for a computer program, and d) databases.⁴²

Under the CDPA tables and compilations can be considered as literary works. Copyright in a table or compilation derives from protecting the skill and labour utilised in selecting, collecting or arranging the content. The content on its own (materials, numbers or facts) is not protected.

For present purposes, if there is indeed a distinction between tables or compilations and databases, it would be a fruitless task seeking it out, given that both are granted protection under the CDPA in any event. As with tables and compilations, a database can also obtain protection under the CDPA as a literary work 'by reason of the selection or arrangement of the contents of the database the database constitutes the author's own intellectual creation.'43

⁴² s3 CDPA 1988 as amended by the *Copyright (Computer Programs) Regulations 1992* SI 1992/3233

⁴³ s3A(2) CDPA 1988

The database must be the author's own intellectual creation either due to the selection or arrangement of the contents.⁴⁴ Such right is enforceable against any who have appropriated the whole or substantial parts of the database.

If therefore a database maker is unable to exclude an agent by technological means, and seeks to rely on copyright law to protect their database, one must establish sufficient originality in the database, ⁴⁵ (that is the selection and arrangement of the content must derive from the author's own *intellectual creation*) and moreover the most valuable part of the database i.e. the content, is beyond the scope of protection under traditional copyright law. ⁴⁶

4.2 Database

The EU Database Directive (1996),⁴⁷ requires Member States to enact legislation granting database makers the right to 'prevent extraction and/or reutilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively of the contents' of a database⁴⁸. Sui generis protection therefore arises where there has been a substantial investment in obtaining, verifying or preserving the database contents, whether or not the selection and arrangement of the contents justifies copyright protection.⁴⁹

A database is defined in the EU Database Directive as follows:-

'a collection of independent works, data or other material arranged in a systematic or methodical way and individually accessible by electronic or other means'. 50

The Directive preamble clarifies that the term Database extends to include:- 'literary, artistic, musical or other collections of other material such as texts, sound, images, numbers, facts, and data...' The database is protected against 'unauthorised extraction' or 're-utilisation' of all or a substantial part of its contents.⁵²

⁴⁴ Both the database as a whole (i.e. its structure) and the individual elements may attract copyright protection in their own right (Art'1, CDPA) however the individual elements themselves must of course also incorporate the necessary creative element.

⁴⁵ CDPA 1988 s3A(2)

⁴⁶ The following databases having been deemed capable of protection in the UK:- a football pools coupon *Ladbroke (Football) Ltd v William Hill (Football) Ltd* [1964], railway timetable in *Leslie v Young and Sons* [1894]& professional directories in *Waterlow Directories Ltd v Reed Information Services Ltd* [1984] - exemplifying a low standard of creativity compared with the majority of other EU countries.

⁴⁷ Directive 96/9/EC OJ L 077, 27.03.1996 P.0020-0028. Implemented in the UK by the Copyright and Rights in Databases Regulations 1997 (SI 1997/3032)

⁴⁸ Article 7 / Regulation 13 (1)

⁴⁹ See Cornish W.R (2002) p525

⁵⁰ Art 1(2) / Reg 3

⁵¹ Recital 17 / Reg 12

⁵² Article 7 (1) / Reg 16 (1)

4.3 Contractual Conflict

Within the US, the pre-emption doctrine dictates that copyright law over-rides contradictory contractual provisions. The US legal system contains two legislative authorities, state and federal. The federal law is the superior authority thus in the event of conflict federal law prevails. Copyright law comes within federal jurisdiction, whilst contract law falls within state jurisdiction. Clause s301of the US Copyright Act provides for the pre-emption by copyright law as against any state 'legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright.'

The doctrine however has been considerably diluted by the decision in *ProCD v Zeidenberg*. The database in this instance comprised a compilation of national residential and commercial listings, which in turn had been obtained from public telephone books. From the Court's perspective, the absence of copyright status in the database itself was inconsequential; the case being decided entirely on the basis of the issued licence. Notwithstanding the fact that the terms and conditions were not known prior to purchase, the Court deemed the terms binding on the grounds that a) the defendant had known or been made aware of the presence of terms by virtue of an external indication to this effect and b) the defendant retained the product after reading the terms and using software. ⁵⁴

In *ProCD* the Court of Appeal for the Seventh Circuit held that the contractual limitation imposed under the license was not pre-empted by copyright law because the rights created by contract are distinct from the rights granted under copyright law. As observed by L Guibault, this decision effectively suggests that a licence can never be over-ridden by copyright principles in the US, because the two areas of law are simply not 'equivalent' to one another. The highly contentious reasoning of this decision has now effectively been incorporated within \$105(a) of UCITA which provides that 'a provision of this Act which is pre-empted by federal law is unenforceable to the extent of the pre-emption.' 57

The preference of the US Judiciary for the supremacy of contract law was further illustrated by the dictum in *eBay v Bidder's edge*, in which the Court referred to the necessity of consumers to accept the user agreement, one of the terms of which prohibited robots /agents from monitoring or duplicating information contained on the

⁵³ (1996) 86 F3d 1447

⁵⁴The above decision was subsequently extended to non-shrink wrap terms, in the case of *Hill v Gateway* 2000, Inc (7th Cir 1997) - click wrap contracts also received judicial acceptance in *Hotmail Corp v Van\$ Money Pie, Inc* (N.D.Cal April 16, 1998); *Capsi v Microsoft Network* (N.J Super Ct App Div 1999); *iLAN Systems, Inc v Netscout Service Level Corp* (Dis Mass 2002)

⁵⁵ 86 F3d @ 1455

⁵⁶ Guibault L (c) (2002) p151

⁵⁷ See also Vault Corp v Quaid Software Ltd (Fifth Circuit 1988) - where the Court of Appeals upheld a decision whereby a license seeking to prohibit decompilation or disassembly was deemed to be preempted under s 117 of the US Copyright Act.

site.⁵⁸ Had *Bidder's Edge* agreed to the terms of the user agreement, the Court maintained that the term would have been binding.⁵⁹

In the absence of an EU equivalent to the Pre-emption doctrine, attention must focus on the rights and remedies granted within the relevant legislation. In this regard Article 15 of the Database Directive provides that 'any contractual provision contrary to Articles 6(1) and 8 shall be null and void.'

Article 6 (1) provides that 'the performance by the lawful user of a database or of a copy thereof of any of the acts listed in Article 5 which is necessary for the purposes of access to the contents of the databases and normal use of the contents by the lawful user shall not require the authorisation of the author of the database.'

Article 8 allows a lawful user of a database which has been made available to the public to extract and/or re-utilise for any purposes whatsoever insubstantial parts of the contents of a database protected under the *sui generis* right, provided such use does not conflict with the normal exploitation of the database or unreasonably prejudice the legitimate interests of the database maker.

4.4 Public Domain / Fair Use

Within the EU, once a database has been made available to the public, lawful users cannot be prevented from extracting or re-utilising insubstantial parts of the database, ⁶⁰ for whatever purpose, subject to the following conditions:

- a. the lawful user may not perform acts which conflict with normal exploitation of the database or unreasonably prejudice the legitimate interests of its maker⁶¹
- b. the lawful user may not cause prejudice to the holder of a copyright or related right in respect of the works or services contained in the database⁶²

A difficulty in interpreting the above has been that of defining when digital material is deemed published / made available to the public. Rarely is information placed on a site with an invitation that anyone do as they please with the content.

The mere presence of information on a publicly accessible site may well constitute publication in the absence of any terms/conditions, however there still remain fundamental differences in the effect and control over information which is published in the physical world and information which is published online.

Fair use of a publicly available database will constitute lawful use. The Directive entitles fair dealing with a 'substantial part of the database for the purposes of illustration for teaching or research.' 63

⁵⁸ 100 F. Supp. 2d 1058 @ 1060

⁵⁹ See also the case of Register.com v Verio (SDNY 2000) the Court held that a term of the user agreement pertaining to agents had been breached.

⁶⁰ Article 8(1)

⁶¹ Article 8(2)

⁶² Article 8(3)

⁶³ Article 9 / Reg 20 (1)

The fair dealing right however does not extend to commercial purposes, be they teaching or otherwise. The purpose of copying is fundamental to an evaluation of 'fair use'. Thus as far as agent proprietors /operators are concerned, copying for a rival (parasitic) commercial purpose will be fatal.⁶⁴ However, individual users, using agents to research issues / prices on the internet, themselves have no commercial interest in the agents activities, thus fair use may well be argued.

In addition, if the agent were simply placed on the internet with no apparent commercial benefit to the agent proprietor, there is a prospect of fair use arguments being pursued. Again, however any use of the agent must still amount to teaching and/or research. The fair use provision under the Directive therefore greatly restricts the established principle of fair use under general copyright law.

By way of contrast, in the US, where no equivalent legislative database protection exists at present, it was held in *Feist Publications v Rural Telephone Service Co*⁶⁵ by the US Supreme Court that fair use extended to unauthorised extraction of data for competing or value added uses. Naturally, this decision bodes well for US agent operators where something is done with the data over and above simple copying.

The above decision was developed further in the US case of *Kelly v Arriba Soft Corp*, ⁶⁶ in which the defendant had displayed photographic images from the indexed websites in response to user enquiries. The District Court held that the retrieval of images in this manner amounted to fair use, a key issue for the Court being that the 'infringers' use of the image was entirely different from that of the original site, i.e. the former's was 'functional' whereas the latter's was 'aesthetic'. ⁶⁷

Within the UK it has been held that re-arrangement of data still undermined the initial investment by the database maker.⁶⁸ However we will return to this issue in section 6.2 when discussing the possible application of competition law to agent activities.

5. Lawful User

In the absence of express rights under the Database Directive, it is submitted that an agent's actions may still constitute lawful use and thus an agent exclusion license term to the contrary would be deemed void.

A 'lawful user' is defined under the Directive as a person who 'has a right to use the database' (whether under a license to do any of the acts restricted by any database right or otherwise).

Certainly therefore a licensed user will constitute a 'lawful user.' Although, the fact that the terms of a license have not been complied with does not necessarily render the user unlawful. This is clearly illustrated in a recent decision of the Hague District

⁶⁴ Such a finding would be fairly conclusive - *Pro Sieben Media AG v Carlton UK Television Ltd* [1999]

⁶⁵ 111 S Ct 1282 (1991)

⁶⁶ 77 F.Supp.2d 1116, 1121 (C..D.Cal.1999)

⁶⁷ cf. *Los Angeles Times v Free Republic* (USPQ 2000), however 'non-transformative' nature of the reproduction thought to have been decisive in case.

⁶⁸ British Horse Racing Board Ltd v William Hill Organisation Ltd (2001) ECLR

Court⁶⁹ in which a student had posted on his website sections of a commercial CD-Rom which contained Dutch Legislation. The Publisher maintained that such publication was contrary to the terms of the contract as printed on the product packaging. The Court acknowledged that it was common practice for publishers to indicate terms in this manner, but that the terms were often broader than the law actually allows. Thus the Court considered that a purchaser could reasonably be expected to interpret such terms as little more than an indication of statutory limitations of use.

It is the submission of this paper that an agent's lawful use of a digital database could also be deemed to arise where either the Database being accessed / used does not fulfil the necessary pre-requisites of the Directive and therefore does not merit protection, or the activity of the agent does not constitute an infringement under the Directive. In both of the these scenarios, the agent's access and use of the database should be considered lawful and therefore any agent database restriction/exclusion clause should be deemed void in accordance with Article 15 of the Database Directive.

5.1 Substantial Investment

The requirement of a 'substantial investment' is a pre-requisite to protection under the Directive. This will depend upon the resources expended in each case and whether 'substantial' is assessed from an objective or subjective basis. The only guidance provided by the Directive is that the investment may be assessed on a qualitative or quantitative basis and may relate to the 'obtaining, verification or presentation of the contents.'⁷¹

The basis of protection underlying the Database Directive differs fundamentally from traditional copyright principles, in that the protection is based principally on an *investment* having been made. The Directive is believed to have been prompted by a desire on the part of the European Commission to expand and protect the market share of EU Database rights-holders.⁷² The final version of the Directive differed in a number of ways from its initial draft version, most pertinently the final version adopted a definitively property based rather than a liability based model of protection.⁷³ The fundamental difference being that in the case of the former, conditions of access and particularly exclusion are determined by the rights-holder, whereas in the case of the latter there is an inherent requirement to consider the respective interests of the property owner and the alleged infringer.

The Directive relies upon a 'sweat of the brow' test rather than the creative / originality threshold upheld under traditional copyright law both within the UK and

⁶⁹ *Vermande v. Bojkovski*, District Court of the Hague 20/03/1998 in Informatierecht/AMI 1998 pp 65-67 as cited by Guibault L (1998) p223

⁷⁰ Art 7 (1) / Reg 13 (1)

⁷¹ Article 7 (1) / Reg 12 (1)

⁷² Cmttee on Issues of on Issues in the Transborder Flow of Scientific Data (Bits of Power) Chptr 5 p5

⁷³ First EC Directive on Databases, articles 1(1), 2(5); Commission of the European Communities (1992), Explanatory Memorandum to the Proposal for a Council Directive on the Legal Protection of Databases, COM (92) 24 final - SYN 393 @ pp. 21-22, 25, 35. As cited by 'Bits of Power' FN 73

the US. The current US position was established in the case of *Feist Publications v Rural Telephone Services* where the US Supreme Court held that copyright could not be used to protect facts. The Court held that compilations of facts were only copyrightable to the extent that the selection or arrangement of the contents '*possesses at least some minimal degree or creativity*'. Under US law therefore, copyright protection does not extend to functionally dictated collections of data in the absence of creative selection or arrangement. Attempts have been made in the US to establish a database protection regime equivalent to the EU's⁷⁵ although to date these have been unsuccessful. The court is a stable of the case of the contents of th

5.2 Substantial Amount

With respect to the requirement of a substantial amount be extracted and/or reutilised, the threshold is also uncertain. For example, if one were to use auction agents to seek out and compare prices on a specific item, only a very small percentage of the data from an auction site's database would have been used. If on the other hand, the agent copied the entire database this will almost certainly constitute substantial copying.

As agents are normally tasked with specific objectives, they are clearly capable of restricting any copying to a small proportion of the available data. That is not to say that complete database searching and copying does not already occur, the point being that the amount of content accessed and used by an agent can be reduced to a bare minimum.

An insight into how the UK Courts actually assess the issue of a 'substantial amount' was provided in the case of *Cantor Fitzgerald International v Tradition UK Ltd.*⁷⁷ In this case a former employee was alleged to have copied the source code from a program developed for his former employer. During discovery, it transpired that circa 3000 of the 77,000 lines of code had indeed been copied. The Court held that just as with the traditional arts, computer software should be assessed on a qualitative basis. The Court accepted as a general principle that the 'architecture' of a computer program merits protection where it involves 'a substantial part of the programmer's skill, labour and judgment.' However, other than finding a very limited degree of infringement, the Court held that the 'similarities' related to insubstantial pieces of work or could be explained by reasons other than copying.

The decision in *Cantor Fitzgerald* is surely a pragmatically correct one, otherwise the protection being granted to the original copyright owner would be tantamount to a patent.⁷⁹

⁷⁴ 111 S Ct (1991)

⁷⁵ In accordance with the reciprocity principle – Art'11

⁷⁶e.g. 'Database Investment and Intellectual Property Antipiracy Act' (1996) (H.R.3531 104th Congress) & 'Collections of Information Antipiracy Act' (H.R.2652, 105th Congress)

⁷⁷ 2000 RPC 95

⁷⁸ 2000 RPC 95 @ 134

⁷⁹ A good example of which is *Lotus Development Corporation v Paperback Software International and Stephenson Software Ltd* 740 F Supp 37 (1990)

5.3 Temporary Extraction

Both unauthorised 'extraction' and 're-utilization' are deemed infringements under the Directive. 'Extraction' being defined as 'the permanent or temporary transfer of all or a substantial part of the contents of a database to another medium.' Thus caching, would appear to fall foul of the Directive. The process of caching is simply that of making copies of material originating from another location. The benefit being that the information can be accessed much quicker by the user, and the demands placed on the originating provider are also duly minimised as a result.

Article 2 of the Draft 'Copyright Harmonisation' Directive⁸¹ grants authors the exclusive right to prohibit direct or indirect, temporary or permanent reproduction of the protected work by any means or in any form. Article 5 exempts temporary acts of reproduction from the above right of authors where they are:

'transient and incidental, which are an integral and essential part of the process, whose sole purpose is to enable:

a transmission in a network between third parties by an intermediary or

a lawful use,

of a work or other subject matter to be made, and which have no independent economic significance.'82

It is debateable whether or not the activity of caching can be considered an 'integral' and 'essential' activity. 83 On occasion it may serve the originator, on other occasions it may serve the cacher. The act of caching simply makes use of the internet more efficient for users.

It is also debateable whether an autonomous agent being used by an independent party may be considered an intermediary within the context of a) above. More likely the type of intermediary envisaged is one which simply relays data from party A to party B. Where the intermediary is the collector of such data, their role has clearly changed from that of intermediary to supplier.

5.4 Repeated & Systematic Extraction

Even if insubstantial parts of a database are used by an agent, this does not absolve the agent of responsibility as the Directive also prohibits the 'repeated and systematic extraction and/or re-utilisation of insubstantial parts,' where the result is to conflict

⁸⁰ Article 7 (2)(a)&(b) / Reg 12 (1)

⁸¹ Directive 2001/29/EC of the European Parliament and of the Council 22 May 2001 on The Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society' at http://www.patent.gov.uk/about/consultations/responses/copydirect/index.htm.

⁸² Art 5(1)

⁸³ Lloyd I. (2000) p432

with the normal exploitation of the database or results in the unreasonable prejudice to the legitimate interests of the database maker. ⁸⁴

It has been argued that the constantly changing nature of online databases means that 'repeated' access/extraction does not in fact take place, each database constituting a new one. Whilst this would appear to coincide with the renewable protection granted to database makers as a result of 'substantial changes' to the database, this argument has been firmly rejected in the UK.

The above provision appears on face value to embrace any agent related database search. Indeed this appears to have been the interpretation in a recent German decision where an agent was used to systematically search through the advertisement sections of various newspapers for selected items.⁸⁷

The German Court had little difficulty finding that the information available on the individual advertiser's sites amounted to a database under the Directive⁸⁸ and that the compilation of the site amounted to a substantial investment. As the very act of an agent is extraction and re-utilisation, infringement was concluded to have occurred. Regarding the issue of 'unreasonable prejudice' the Court based their decision simply on the fact the agent was believed to have reduced site traffic meaning less advertising revenue could be generated by the database rights-holder.

5.5 Unreasonable Prejudice

The US case of *Ebay v Bidder's Edge*⁸⁹ provides an illustration as to the factors taken into account by a Court when considering whether 'unreasonable prejudice' or harm has been sustained by a website. A Preliminary Injunction was granted against *Bidder's Edge* by a US District Court (a metasite service similar in function to the German advertising searcher described above) from using search agents to scan eBay's site⁹⁰ in this manner. *Bidder's Edge* argued that the data on the site was both in the public domain and could not be the subject of copyright protection.

Were the same case to be pursued in the EU, there would be little difficulty satisfying the requirement that the site is organised in a logical manner and the items displayed

⁸⁴ Art 7 (5)

⁸⁵ Art 10 (3)

⁸⁶ Laddie J, *British Horse Racing Board Ltd v William Hill Organisation Ltd* (2001) ECLR 257 - a referral was made by the Appeal Court to the ECJ (Ref: C203/02) for guidance on interpretation of various of the terms and concepts used in the Directive, including 'a substantial part...evaluated qualitatively and quantitatively', the meaning of 'insubstantial parts' and clarification of acts which conflict with the 'normal exploitation' of a database. The Advocate General's response is expected in September 2003. Full details of issues referred to ECJ available at: http://www.patent.gov.uk/about/ippd/ecj/2002/c20302.htm

⁸⁷ Landgericht Berlin 08.10.1998, O 448/98 as cited by H G Ruse (2001) p21 FN 91

⁸⁸ as enacted in the German Copyright Act

⁸⁹ eBay Inc v Bidder's Edge Inc. (F.Supp 2d 2000) - preliminary injunction granted 24 May, 2000 (No. C-99-21200 RMW)

⁹⁰ The well known online auction site http://wwwebay.com

are individually accessible.⁹¹ The more difficult issue would once again be that of whether a substantial enough investment had been made into the database.⁹²

In the case of an online auction site, the investment relates to the site infrastructure rather than the content *per se*, the content being provided by third parties. Whilst the auctioneer may incur significant costs maintaining and securing the database, it is doubtful that such an investment could fall within the scope of Directive. Were the outcome otherwise, one could equally submit that a database produced by a search engine as a result of a keyword search is equally deserving of protection, as the search engine itself and the facility to compile a resultant database would also no doubt have been the subject of a substantial investment. This clearly can not have been the intended result of the Directive.

As to the issue of 'unreasonable prejudice' eBay maintained that agents utilise the capacity of their site, resulting in reduced/ slower access by customers and further that the data displayed by the agent site may be inaccurate. He Courts eventual decision in eBay to grant the injunction was based on trespass rather than copyright / database infringement. However, the decision is illustrative nonetheless of the degree of interference with a property owner's right which may be deemed necessary to give rise to a liability /infringement.

'Cybertrespass' was the basis of the Courts decision in both *eBay v Bidders Edge* and *Register.com v Verio*. ⁹⁶ In both cases it is understood that the agents generated 1.53% and 2.3% of the queries for the respective sites. ⁹⁷ Whether the same decision would be reached within an EU Court is debateable. However, if similar enquiry levels were encountered, it is difficult to comprehend how such a low level of capacity usage can be said to interfere with the 'normal exploitation' of the Database proprietor's rights. Indeed subsequent cases in the US have refused to follow the reasoning in eBay on the basis that no demonstrable harm or obstructed functionality was in fact sustained by the complainants. ⁹⁸

It has been suggested that the mere exploitation of a database site via licensing could also be deemed a normal right of the database owner. 'Normal' is of course a relative term, however were this interpretation correct this would effectively mean that any interference with a database owner's ability to generate revenue from the use of or access to the database amounts to infringement.

⁹¹ Article 1 II

⁹² Article 7 I

⁹³ Ruse H.G. (2001) p321 suggests that the requisite investment may arise from the 'time and money necessary to transfer the data to e-Bay's server, to structure and categorise the data by using computerised indexation systems.' See generally 'Copyright in Computer-Generated Works: Whom, If Anyone, Do We Reward?' (2001) *Duke L.& Tech Rev.*0024

⁹⁴ See also Kramer D. & Monahan J. panel discussion featuring eBay's counsel (2000)

 $^{^{95}}$ re critique of CyberTrespass see Burke D.L (2000), Remington M.J. (2002) and Epstein R. (2003) & O'Rourke M (2002) & Reed C (2000) p69

⁹⁶ (S.D.N.Y. 2000)

⁹⁷ As cited by Rosenfeld J. (2002) p2

⁹⁸ *Ticketmaster v Tickets.com* (CD Cal 2000); *Intel v Hamidi* (Cal June 30, 2003) - in which the Court expressly held that trespass to chattels does not and should not be extended to encompass an electronic communication that neither damages the recipient's computer nor impairs its functioning.

The contents of Recital 42 of the preamble to the Directive appear to contradict the above contention, providing that interference of itself is insufficient (in the absence of a resultant 'parasitic competing product') and that there does indeed appear to be a minimum threshold of interference required, namely a 'significant detriment...to the investment'. It is submitted therefore that 'significant detriment' is unlikely to be constituted by the minimal levels of capacity useage witnessed in the eBay and Register.com cases, in the absence of proof of actual rather that anticipated loss or harm.

There appear to be three main issues which rights-holders refer to in support of their contention that harm has been sustained 99:-

- i) Reduced Profit Margins By preserving 'elevated search costs', i.e. not enabling ease of price comparison, sellers hope to benefit from price disparities. Removing the 'elevated search cost' enables simple price comparison and thus buyers rather than sellers benefit from price disparities. Sellers also may wish to preserve 'elevated search costs' so that product / service comparison is not made on the basis of price alone, ignoring for example service quality / guarantees / after-sales.
- ii) Disturbed Revenue Model Advertising revenue is a significant source of income for many web sites. The amount of revenue which can be generated will depend on the popularity of the site, which in turn is based on the number and duration of site visits. Agents can reduce the viewing figures on a site, by rendering obsolete the need for consumers to visit the various sites themselves.
- iii) Capacity Shortage Site owners contend either that agents' utilise a significant amount of a site's capacity, or the proliferation of agents accessing the site will utilise a significant amount of capacity, to the detriment of individual users.

All of the above, it must be said, are valid concerns by site owners. An agent could adversely impact the future viability of a rights-holders online database, however are such concerns realistic or justifiable?

i) Preservation of Elevated Search Costs - It is difficult to condone an economic model the success of which is dependent on the preservation of consumer ignorance. Whilst sellers may have a vested interest in wishing to ensure that their products and services are assessed not merely on price but on the added value the particular sellers bring to the market, it is surely the prerogative of the buyer to determine the basis upon which a product or service is assessed. 100

Of course price is only one factor in a consumer's decision, there are numerous other factors which will influence a consumer's decision, in particular:- brand loyalty, convenience, trust, privacy and security. ¹⁰¹ In addition to which O'Rourke speculates that consumers would in any event be deterred by agents which provide incomplete information. BargainFinder for example has evolved from providing price

⁹⁹ Based on categorisation suggested by Rosenfeld J.M. (2002) p5. See also O'Rourke M. (2002) with the additional category of 'product differentiation and misleading information' p1977

¹⁰⁰ In addition to which, as Rosenfeld (2002) p6 observes agents could instead be perceived as offering the potential to dramatically reduce the cost of distributing product and price information.

¹⁰¹ Smith M.D. (2000) pp12 -14

information only to include delivery speed, merchant providers and to incorporate shipping costs. ¹⁰²

- ii) Disturbed Revenue Model Any technological innovation has the potential to disturb the established revenue models of existing enterprises. It is somewhat ironic that the very enterprises which have benefited if not come into existence as a result of technological internet innovations are the very same ones who wish now to undermine further technological enhancements. The fact that revenue models may be disturbed is a natural commercial complaint but does not of itself constitute a substantive basis upon which to contest technological innovation. 104
- iii) Incapacity Sites are under no obligation to extend their site capacity in order to accommodate agents. However much capacity is being used by an agent, the complaint of the site operator is that it is too much. This argument appears mostly borne of a fear of the future proliferation of agents rather than their current manifestation and effect. It also overlooks the fact that an agent may in turn service numerous enquiries based upon the data already obtained from the originating site, thus reducing the amount of individual visitors than would otherwise have been the case.

5.6 Summary

The basis upon which infringement is defined under the Directive appears at first to be so broad that the mere fact that an agent has accessed an online database would constitute an infringement. However, as has been discussed above, fair use arguments appear to remain open to individual users using agents to conduct private research. Stronger arguments of justification revolve around the concept of lawful use and the apparent need of the database maker to demonstrate that an unreasonable degree of actual as opposed to anticipated harm has been sustained. In either event, the effect could be to render void an agent exclusion provision contained within a database maker's user license.

6. Over-riding Principles

An agent's best prospects for challenging a restrictive agent license exclusion clause lies primarily in the identification of lawful uses of data. Courts are most likely to be persuaded by drawing upon directly relevant case law and legislation, which in the present instance would revolve around the interpretation and application of the EU Database Directive. However, broader principles of law may also be drawn upon as a means of reinforcing the validity of the interpretations of lawful use suggested above.

¹⁰² O'Rourke M. (2002) p1977

¹⁰³ Odlyako A. (2003) proposes that one reason for the widespread commercial resistance to agents may be the desire to preserve and strengthen price discrimination.

¹⁰⁴ O' Rourke M. (2002) p1983 observes '(the) issue is whether there is a legal right to stop unauthorised indexing. If there were, sites could protect the revenue they derive from licensing the right to index. But to argue that because sites make money in this way, they must have an entitlement to stop 'unlicensed' indexers, indexers bootstraps the result without any consideration of the normative implications of granting such a right.'

It is submitted that the following legal principles could be utilised to further persuade a Court that a restrictive interpretation of the Database Directive would be not only contrary to the wording of the Directive and the very function of copyright law but also would also be contrary to fundamental underlying principles of law. Principles which arguably all Court decisions should be in furtherance or defence of.

6.1 Public Interest

One of the arguments submitted on behalf of *Bidders Edge* was that the activities of aggregate sites perform a public service. Within the UK, there is no legislative foundation to such a defence, nor does it appear that the Courts are willing to recognise such a defence in relation to copyright. However it has been suggested that a defence of Public Interest is enshrined within s171(3) of the CDPA which provides that:- 'Nothing in this Part affects any rule of law preventing or restricting the enforcement of copyright, on grounds of public interest or otherwise.'

Torremans¹⁰⁷ suggests however that rather than affording a defence against alleged infringement, public interest is instead utilised by the Courts to resist the attempted pursuit of infringement actions by copyright holders themselves, where for example their own conduct is deemed to have been against the public interest.¹⁰⁸ In either event, the effect is the same, namely that public interest concerns defeat attempts to enforce contractual terms and conditions which may conflict with copyright / database protection principles.

Fundamental to any public interest argument is the belief that agents have the potential to create a fairer marketplace. It is suggested for example that a prerequisite to fair market competitiveness is 'the costless exchange of information' In the sense that consumers should ideally be able to obtain product information without themselves incurring a cost. Such a marketplace is arguably achievable with modern software agents. Agent detractors may well emphasise the absence of a costless marketplace at present, to contradict any contention that economic advantages may be brought about by agents. However, this may in fact be attributable to a number of unrelated factors such as:-

a) Entry Barriers - The costs of establishing and maintaining a presence on the internet are high as demonstrated by the rate of business failure witnessed following the bursting of the dot com bubble during the late 1990's. There is also the lock in effect which existing retailers will naturally seek to create and exploit. 111

¹⁰⁵ As held by Court of Appeal in Hyde Park Residence Ltd v Yelland [1999] RPC 655

¹⁰⁶ Torremans P (2001)

¹⁰⁷ *Ibid* p254

¹⁰⁸ e.g. A.G v Guardian Newspapers Ltd (No 2) [1990] ('Spycatcher case')

¹⁰⁹ O'Rourke M. (2002) p1967

¹¹⁰ Categorisation based on O'Rourke (2002) p1972

¹¹¹ Re Network Effect see Robinson P. (2000)

- b) Imperfect Information Just as individual search engines have limitations in terms of the quantity of sites they can scan, so too aggregate search engines will have the same, albeit lesser, problem. The issue here is one of perception, in that the aggregate sites may be perceived as more thorough and complete than perhaps they are.
- c) Search Costs Search costs, although lower on the internet, are still present, for example the overwhelming numbers of sites that basic searches produce.
- d) Homogeneous Products Price alone is not determinative of choice on the internet; security, brand-name and privacy all play a fundamental role in the consumer's decision. O'Rourke suggests that one effect of intelligent agents may be that the trust imbued in a brand may transfer to an agent. On the proviso that the agent was independent, this would clearly be beneficial to consumer's seeking to purchase the 'best' product or service based on their unique individual requirements, thus obviating distracting marketing.

Efficiency is central to the Electronic Commerce Directive, ¹¹² for example Information Society Services (ISS) ¹¹³ are exempted from liability for the 'automatic, intermediate and temporary storage' of information transmitted in a communication network, where the same is performed 'for the sole purposes of making more efficient the information's onward transmission to other recipients'.

Few would dispute the efficiency gains realised by agents, however a condition of the Directive is that the intermediary does not modify the information. Assuming that the agent were able to fulfil the definition of an ISS, most agents would modify data in some way taking them outside the scope of the exemption, unless for instance a database were re-produced wholesale, in which case this will almost certainly constitute an infringement under the *sui generis* rights in any event.

6.2 Competition Law Conflicts

Whilst there was initially a proposal to incorporate a compulsory licensing clause in the Database Directive, 114 such a provision was not incorporated in the final version.

However, it does remain open for agent operators to seek to invoke general competition principles in order to challenge what may be perceived to be abusive/monopolistic market practices. In support of which Recital 47 of the Database Directive expressly provides:

'in the interests of competition between suppliers of information products and services, protection by the sui generis right must not be afforded in such a way as to facilitate abuses of a dominant position, in particular as regards the creation and distribution of new products and services which have an intellectual, documentary, technical, economic or commercial added value.'

¹¹² Directive 2000/31, OJ 2000 L 178/1

^{113 &#}x27;Any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services'

¹¹⁴ Lloyd I (2000)

Anti-competition arguments must first over-come competing business justification arguments. In the case of database producers and owners for example, it could be argued that the use of their content on an alternate site would deprive them of advertising revenue and thus make their business model unworkable. However, consideration of this argument requires a case by case analysis. For example, many agents will merely detail and compare relevant sites or products, it does not necessarily follow that the site from which the data originated will be deprived of business, in fact this may *generate* business, having the exact opposite effect.

One of the arguments raised against eBay by Bidders Edge was that eBay's attempts to restrict access to its site by the Bidders Edge agents amounted to monopolistic practices. Indeed the US Justice Departments Antitrust Unit commenced an investigation on this basis; however enquiries ceased in 2002 without any action being taken against eBay. 115

Within the EU, a key decision by the European Court of Justice (ECJ) on the issue of anti-competitive conduct is the case of *Radio Telefis Eireann & Independent Television Publications v The Commission*¹¹⁶ (also known as *Magill*). The defendant TV networks were held by the Commission to have abused their dominant market position by refusing to grant a licence to *Magill* to produce TV Guides. ¹¹⁷ The information on forthcoming TV shows was held by the Commission to constitute an essential facility given the fact that *Magill* were producing a TV guide.

The ECJ held that an abuse of a dominant position contrary to Article 82 of the EC Treaty may arise where copyright is used to prevent the development of a new, value added product for a secondary market, not offered by the rightholder themsleves. Agents would in most cases be able to demonstrate an added value product is being provided via their activities. If however there are a variety of potential sources for the necessary data, it is unlikely that monopolistic practices will be found. 118

6.3 Constitutional Rights

Guibault observes as a basic constitutional principle that under continental European constitutional law, an 'absolute renunciation of a party's fundamental rights...would be null and void'. ¹¹⁹ Guibault suggests that the following factors would be taken into account by the Court, namely:-

- the respective bargaining power of the parties
- type of contract used
- seriousness of the encroachment upon the right

¹¹⁵ 'Online Auction Site eBay subject of DOJ Antitrust Investigation' *Andrews Computer & Online Industry Litigation Reporter* (Feb 15, 2000)

¹¹⁶ Radio Telefis Eireann and Independent Television Publications Ltd (joint cases) v. Commission of The European Community [1995] E.C.R I-743

¹¹⁷ Contrary to Article 86 of the EC Treaty - now Article 82

Re: Analysis and effect of statutory licenses of copyright material see - NII Task Force, White Paper, Sept' 1995 p52 as cited by Guibault L. (a) (1998) p24

¹¹⁹ Guibault L.(b) (2002) p265

- purpose of the contract
- whether the restriction imposed is proportional to the purpose of the contract

Certainly these are arguments which may be raised in the context of news reporting or legitimate criticism of another's work. However as Guibault herself concludes it is 'highly improbable' that a Court would invalidate a restrictive copyright licence term to which the parties had voluntarily agreed. Were such a term contained however in a standard form contract, there would be a stronger basis upon which to challenge its legitimacy.

In addition to the above, freedom of expression and the Public's fundamental right to information are protected under the *Universal Declaration of Human Rights* (1948)¹²⁰ Article 19 addresses freedom of opinion and expression and the freedom to impart, receive and seek information. This principle is also embodied in Article 10 of the European Convention on Human Rights.

6.4 Unconscionability

Contractual terms and conditions are subject to regulatory standards to ensure as far as possible that unequal bargaining power is not exploited. Online database licenses are presented on a 'take it or leave it basis' leaving no scope for negotiation of terms and conditions. Thus while freedom of contract is a central tenet within UK and EU contract law, to suggest that mass market licenses grant prospective users any genuine freedom is, at the very least, extremely unrealistic.

Detailed review of legislation seeking to curtail unfettered imposition of contractual terms is beyond the scope of this paper, however, the most relevant legislative source is the *Unfair Terms in Consumer Contracts Directive*. ¹²¹ This Directive applies to consumer contracts; an unfair term being defined as a provision within a standard form contract which creates a *significant imbalance* in the parties rights and obligations. ¹²²

It is debateable whether or not a copyright license would fall within the scope of the Directive as terms assessed must relate to neither the main subject matter nor the adequacy of a price or remuneration for goods and services rendered. It is arguable whether or not a clause restricting database accessibility / useage would be considered to pertain to the main subject matter of the contract, and thus excluded from the scope of the Directive. It has been persuasively argued in this regard that 'because the permissions and restrictions actually define the nature of what will be delivered in information transactions, restrictive terms may be exempt from the Directive on the ground that they 'define the product'. ¹²³

A further obstacle with applying the Unfair Terms Directive is that it is directed towards a commercial transaction and may therefore have little if any direct

¹²⁰ Adopted unanimously by the UN General Assembly on 10/12/1948

¹²¹ 93/13/EC as implemented in the UK via the *Unfair Terms in Consumer Contracts Regulations 1999* SI 1999/2083

¹²² Art 3(1)

¹²³Elkin-Koren N. (2000) p204, as cited by L Guibault (2002) p158

application with respect to license provisions for online databases, in the absence of a financial transaction.

By way of contrast, within the US, a contractual term may be judicially reviewed under the unconscionability doctrine. The application of this doctrine is limited to individual persons, rather than professionals or commercial organisations. Individual complainants are required to demonstrate that a restrictive license term was either oppressive or caused unfair surprise as a matter of contract law. Contract terms may be deemed unenforceable if they are considered to violate a conflicting, over-riding, public policy. The Official Comments accompanying UCITA clarify that such offsetting policies to be considered with regard to UCITA include those relating to innovation, competition, fair comment and use. 125

6.5 Summary

As detailed above, there exist over-riding legal principles which may be utilised to challenge the legitimacy of agent exclusion clauses contained within site licenses, principally:- Public Interest, Constitutional Law, Competition Law & Unconscionability. The strongest argument rests on anti-competition principles, although success would depend on the database rights-holder being the virtual sole available source of the relevant data.

7. Conclusion

Established models of intellectual property protection have experienced difficulty embracing digital information goods. The response has been to devise customised protection such as the EU's *sui generis* Database Directive. The customised protection however is resulting in a distortion of the pre-existing 'cultural balance' sought under copyright law and may be perceived as endemic of the 'high protectionist tilt in worldwide Intellectual Property systems'. ¹²⁶

The Database Directive is the subject of particular criticism in view of the unprecedented protection granted to raw data:

'Under the EC Directive, the most borderline and suspect of all the objects ever to enter the universe of intellectual property discourse: raw data, scientific or otherwise - paradoxically obtains the strongest scope of protection available from any intellectual property regime except perhaps for the classical patent paradigm itself.' 127

The speed, quality and versatility of data dissemination on the internet has lead to rights-holders using restrictive license terms and conditions, whether or not such

¹²⁴ Codified in Section 2-302 of the UCC & s111 UCITA

¹²⁵ NCCSUL, UCITA Official Comments s105, comm. 3, p20

¹²⁶ J H Reichman & J.A Franklin (1999) p896. See also Anderson R. (2003) on the proposed Copyright Enforcement Directive, which proposes to criminalise all deliberate intellectual property violations conducted in the course of a business - thus firmly tipping the 'protectionist tilt' well and truly over the proverbial edge.

¹²⁷ J.H Reichman & P Samuelson (1997) p94

terms contradict what may otherwise be perceived as lawful uses of data under the terms of the EU Directive. When such terms are further reinforced by technological means, the cultural balance sought by copyright law is jeopardised.

The issue of agent exclusion clauses within online database licenses exemplifies the over-protectionist tilt described above and also illustrates the power and limitations of contract law, in the form of licensing, as a means of copyright protection.

The provisions of the EU Database Directive raise very significant obstacles for agent makers or users seeking to justify rights of database access or usage. The arguably extreme restrictions placed on data use and accessibility under the Directive necessitate a very close analysis of the wording of the Directive in order to identify potential loopholes or lacunas. Thus, fair use arguments could be utilised on behalf of agent makers and users to justify digital database accessibility and/or usage, based upon explicit rights granted under the Directive.

Moreover, the concept of lawful user could be utilised to embrace circumstances which appear to fall outside the scope of protection granted to Database makers.

Fundamentally, a Database maker's ability to confer or exclude user rights to online databases derives in turn from the Database Directive, just as the rights of a copyright rights-holder derives from copyright law. Thus, if a right of exclusion has not been granted under the Directive then it should not be possible for a license term or condition of equivalent effect to be imposed by the rights holder.

Broader principles of law may also be drawn upon to justify agent accessibility and use of digital databases, both in furtherance of the above arguments and indeed as concurrent arguments, valid in their own right. Specifically: - competition law, constitutional law, unconscionability and public interest.

The need for reliance upon the above principles arises by virtue of the lack of an EU equivalent to the US Pre-emption doctrine. Aside from isolated provisions within the Database and Computer Programs Directive ¹²⁸, the legal status of what may otherwise be termed fair or lawful uses of information remains unclear. It is submitted that a liberal interpretation of the Database Directive in an agent operator's favour would be justified both under the specific wording of the Directive and would be consistent with over-riding principles of law.

At present the legal focus as regards the application and implications of agents revolves around shopbots, metasites etc... where there is little difficulty drawing the connection between the agent and the commercial incentive of the operator. However, the wholesale exclusion of agents from databases derives from an over-zealous fear and mis-understanding of the resultant harm which may be sustained.

The resistance of database makers to agent technology appears premature given their significant development and application potential. Whilst database makers may persist or even bolster their endeavours to exclude agents, they are likely to encounter increasing resistance as the usefulness, convenience and versatility of agents increase.

Furthermore, the effects of denying agents data access and use may have broader ramifications than simply diminishing the effectiveness of the agent. Facts and data are of course the basic building blocks upon which knowledge is based, to allow such

¹²⁸ Art 15 Database Directive & Art 9 (1) Computer Programs Directive

rigorous control of data, may result in the inhibition of applications, refinements, improvements and automisation 129 to the detriment of all internet users.

¹²⁹ J.H Reichman & J. A Franklin (1999) p910.

BIBLIOGRAPHY

'Antitrust and the Information Age: Section 2 Monoploization Analyses in the New Economy' (2001) 114 Harvard Law Review 1623

Anderson R. 'The Draft IPR Enforcement Directive - A Threat to Competition & Liberty' (2003) http://www.fipr.org/copyright/draft-ipr-enforce.html

Allen T & Widdison R. 'Can Computers Make Contracts?' (1996) 9 Harv J L 9 @ http://www.dur.ac.uk/Law/centre/hjolt.html

Amissah R. 'The Autonomous Contract: Reflecting the Borderless Electronic-Commercial Environment In Contracting' (2000) @ http://www.jus.uio.no/lm/the.autonomous.contract.07.10.1997.assimah/doc.html

Apistola M., Brazier F., Kubbe O., Oskamp A., Schellekens M. & Voulon M. 'Legal Aspects of Agent Technology' in Proceedings of the 17th Bileta Conference, Amsterdam (2002)

http://www.iids.org/publicationdata/db/107/pubdetail

Bain M. & Subirana B. 'E-Commerce Oriented Software Agents: Towards legal programming: a legal analysis of ecommerce and personal assistant agents using a process/IT view of the firm', Computer Law & Security Report Vol 19 No.3 (2003)

Bain M. & Subirana B. 'E-Commerce Oriented Software Agents; Some legal challenges of advertising and semi-autonomous contracting Agents' Computer Law & Security Report Vol 19 No.4 (2003)

Barbosa G.P. & Silva F. 'An Electronic Marketplace Architecture Based On Technology of Intelligent Agents and Knowledge' Lecture Notes in Computer Science (2001) Vol 2033 p39

Belgrave, M. "The Unified Agent Architecture: A White Paper' Section 3.1 'Fundamental Attributes of Agents' (1995) http://www.ee.mcgill.ca/~belmarc/uaa_paper.html

Brazier F., Oskamp A., Schellekens M. & Wijngaards N. 'Are Mobile Agents Outlawed Processes?' in *Proceedings of LEA 2003: The Law of Electronic Agents*, June 2003 (Oskamp A. & Weitzenboeck W.) http://www.iids.org/publicationdata/db/lea03 integrity/pubdetail

Brazier F., Kubbe O., Oskamp A. & Wijngaards N. 'Are Law Abiding Agents Realistic?' in *Proceedings of the Workshop on the Law of Electronic Agents, LEA 2002*, July 2002 (Sartor G. & Cevenini C.) http://www.iids.org/publicationdata/db/177/pubdetail

Burke D.L. 'The Trouble With Trespass' 4 J Small & Emerging Bus L 27 (2000)

Cohen J. & Martin W. 'Intellectual Property Rights in Data' (2001) http://www.nap.edu/html/infosys_env/cohen.html

Committee on Intellectual Property Rights & The Emerging Information Infrastructure 'The Digital Dilemma: Intellectual Property In the Information Age' (National Academy Press 2000)

Cornish W.R 'Intellectual Property: Patents, Copyright, Trademarks and Allied Rights' 4th ed (Sweet & Maxwell 2002)

Cowan R. & Harison E. 'Intellectual Property Rights in Intelligent-Agent Technologies: Facilitators, Impediments and Conflicts' in: Institute for Technology Assessment and Systems Analysis (ITAS) and VDI/VDE-IT Information Technologies (eds.), *Innovations for an e-Society: Challenges for Technology Assessment*, Conference Pre-prints, Berlin, ISBN: 3-89750-097-3. http://www.itas.fzk.de/e-society/preprints/ecommerce/CowanHarison.pdf

Cruquenaire A. 'Electronic Agents as Search Engines: Copyright Related Aspects' International Journal of Law & Information Technology, Vol 9, No.3 (2001) p327 http://www.eclip.org/documentsII/elecagents/copyright.pdf

Delong J.B. & Froomkin M. 'Speculative Microeconomics for Tomorrow's Economy' (1999) @ http://personal.law.miami.edu/~froomkin/articles/spec.htm

Dowling C. 'Intelligent Agents: Some Ethical Issues and Dilemmas' (2001) in *Informatics and The Digital Society: Social, Ethical and Cognitive Issues*, Open Conference on Social, Ethical and Cognitive Issues on Informatics and ICT, July 2002, Dortmund, Kluwer (2003)

http://www.cm.deakin.edu.au/AICE/aice2000/dow.pdf

Edwards L. & Wealde C. 'Law and the Internet; A Framework For Electronic Commerce' 2nd ed. (Hart 2000)

Elkin-Koren N. 'A Public-Regarding Approach to Contracting over Copyrights' in 'Expanding the Boundaries of Intellectual Property' Oxford University Press (2000) Dreyfuss R.C., Zimmerman D.L & First H.

Epstein R.A. 'Cybertrespass' (2003) Uni Chic L Rev 73

Finocchiaro G. 'Electronic Contracts and Software Agents: The Conclusion of the Electronic Contract Through 'Software Agents' A False Legal Problem ? Brief Considerations' (2003) Computer Law & Security Report Vol 19 No 1

Fisher J.H. 'The 21st Century Internet: A Digital Copy Machine: Copyright Analysis, Issues, and Possibilities' 7 Virginia Journal of Law & Technology (2002) @ http://vjolt.net

Franklin S. & Graesser A. 'Is It An Agent, or Just A Program: A Taxonomy for Autonomous Agents', Proceedings of the Third International Workshop on Agent Theories, Architectures and Languages, Springer-Verlag (1996) http://www.msci.memphis.edu/~franklin/AgentProg.html

Gonzalo S. 'A Business Outlook on Electronic Agents' International Journal of Law and Information Technology Vol 9, No.3 (2001) p189 http://www3.oup.co.uk/inttec/hdb/Volume_09/Issue_03/

Grossman M., Hift A.K. & Rothman R. 'Click-Wrap Agreements - Enforceable Contracts or Wasted Words' (2001) Becker & Poliakoff (Law Firm) @ http://www.becker-poliakoff.com/publications/article_archive/click_wrap.htm.

- a) Guibault L. 'Pre-emption Issues In The Digital Environment: Can Copyright Limitations Be Overridden By Contractual Agreements Under European Law ?' in F.W. Grosheide & K. Boele-Woelki (red.), *Molengrafica nr. 11. Europees Privaatrecht 1998. Opstellen over Internationale Transacties en Intellectuele Eigendom*, Lelystad: Koninklijke Vermande 1998, p. 225-262. http://www.ivir.nl/staff/guibault.html.
- b) Guibault L. 'Copyright Limitations & Contracts: An analysis of the Contractual Overridability of Limitations on Copyright' Information Law Series 9 (Kluwer Law International 2002) http://www.ivir.nl/staff/guibault.html.
- c) Guibault L. 'Copyright Limitations & Contracts: : Are restrictive click-wrap licences valid?' Journal of Digital Property Law, Vol 2, No 1, December 2002 pp144-183 (Korean Legal Publication article kindly supplied direct by author)

Haentjens O.V. 'Shopping Agents and Their Legal Implications Regarding Austrian Law' (Masters Dissertation) (2002) http://soapbox.cs.vu.nl/ALIAS/LEA 2002 Papers/1027430318/O v Haentjens Agents austria.pdf.

Hayes D.L. 'Advanced Copyright Issues on The Internet: Part VIII' Computer Law & Security Report Vol 18, Issue 1 (2002)

Hedger S. 'Intelligent Agents and the Internet' @ http://osiris.sunderland.ac.uk/cbowww/AI/Texts/Agents5/ass ht~1.htm (undated).

Hedley S. & Aplin T. 'Blackstone's Statutes on IT and e-Commerce' 1st ed (OUP 2002)

Heilmann K., Kihanya D., Light A. & Musembwa P.'Intelligent Agents: A Technology and Business Application Analysis' (1995) @ http://www.mines.u-nancy.fr/~gueniffe/CourseEMN/I31/heilmann/.

Hugenholtz P. 'Copyright and Electronic Commerce: An Introduction', in P.B.Hugenholtz (ed), Copyright and Electronic Commerce, The Hague, Kluwer Law International (2000).

Jennings N.R. & Wooldridge M. (2000) 'Agent-Oriented Software Engineering' in *Handbook of Agent Technology* (ed. J. Bradshaw) AAAI/MIT Press. http://citeseer.nj.nec.com/article/jennings00agentoriented.html.

Kerr I.R. 'Providing For Autonomous Electronic Devices in the Uniform Electronic Commerce Act' 1999 *The Annual Meeting of the Uniform Law Conference of Canada. Winnipeg, Manitoba*: May 1999.p70. http://www.chlc.ca/en/cls/index.cfm?sec=4&sub=4f

Koelman K. & Helberger N. 'Protection of Technological Measures' in *Copyright & Electronic Commerce: Legal Aspects of Electronic Copyright Management*, Information Law Series 8, ed. Hugenholtz P. (Kluwer Law International 2000)

Kramer D. & Monahan J. 'Panel Discussion: To Bot Or Not To Bot: The Implications Of Spidering', 22 Hastings Communication And Entertainment Law Journal 241 (2000)

Lerouge J.F. 'The Use of Electronic Agents Questioned Under Contractual Law: Suggested Solutions on a European and American Level', John Marshall Journal of Computer & Information Law (2000) http://www.droit.fundp.ac.be/textes/lerouge2.pdf.

116

Lipton J. 'Databases as Intellectual Property: New Legal and Regulatory Approaches' Proceedings of the Third International Conference Law & Technology (2002) Cambridge-MA, USA

Lloyd I. J. 'Information Technology Law' 3rd ed. (Butterworths 2000)

Lodder A.R. & Voulon M.B. 'Intelligent Agents and the Information Requirements of the Directives on Distance Selling and E-commerce', International Review of Law Computers & Technology Vol 16, No.3 227 (2002)

Nantes C. & Hagstedt T. 'Intelligent Software Agents' Presentation for Dalhousie University Networking for Electronic Commerce Course (undated) http://www.cs.dal.ca/~eem/6016/talks/agentOverview/.

The Committee on Issues in the Transborder Flow of Scientific Data 'Bits of Power: Issues in Global Access to Scientific Data' (April 1997) http://www.search.nap.edu/readingroom/books /BitsOfPower

O'Rourke M. 'Shaping Competition on the Internet: Who owns Product and Pricing Information?' Vanderbilt Law Review Vol 53:6:1965 (2002) http://law.vanderbilt.edu/lawreview/vol536/orourke.pdf.

Odlyzko A. 'Privacy, Economics & Price Discrimination on the Internet' (extended abstract, revised version, July 27 2003) http://www.dtc.umn.edu/~odlyzko/doc/privacy.economic.pdf.

Oren J.S.T. 'Electronic Agents And The Notion of Establishment' (2001) Electronic Commerce Legal Issues Platform (ECLIP) http://www.eclip.org/summerschool/2nd/presentations/elecagents_establishm.pdf.

Oskamp, A. & Brazier F. 'Intelligent Agents for Lawyers' in *Proceedings of the Workshop Legal Knowledge Systems in Action: Practical AI in Today's Law Offices* (2001) http://www.iids.org/publications/2001brazieroskamp.pdf.

Phillips J. & Firth A. 'Introduction to Intellectual Property Law' 4th ed. (Butterworths 2001).

Radin M.J. 'Humans, Computers and Binding Commitment' (2000) 75 Ind L.J 1125 @ http://cyber.law.harvard.edu/ilaw/Contract/Radin_Full.html.

Reed C. 'Internet Law: Text & Materials' (Butterworths 2000).

Reed C. & Angel J. 'Computer Law' 4th ed (Blackstone 2001).

Reichman J.H. & Samuelson P. 'Intellectual Property Rights in Data' 50 Vand L Rev 51 (1997) http://cyber.law.harvard.edu/ilaw/Contract/reichman%20samuelson.html.

Reichman J.H. & Franklin J.A. 'Privately Legislated Intellectual Property Rights: Reconciling Freedom of Contract with Public Good Uses of Information' 147 U.Penn.L.Rev.875-890 (1999).

Remington M.J. 'The Ever-Whirling Cycle of Change: Copyright and Cyberspace' N Carolina Journal of Law & Technology Vol 3 Issue 2: Spring 2002 http://www.jolt.unc.edu/vol3/Remington-V3I2.pdf.

Rosenfeld J.M. 'Spiders and Crawlers and Bots, Oh My: The Economic Efficiency and Public Policy of Online Contracts that Restrict Data Collection' 2002 Stan Tech L Rev 3 @ http://stlr.stanford.edu/STLR/Articles/02_STLR_3/article.htm.

Ruse H.G. 'Electronic Agents and the Legal Protection of Non-Creative Databases', International Journal of Law and Information Technology, Vol 9, No.3 (Autumn 2001) pp295-326.

Sapherstein M. 'Intelligent Agents and Copyright: Internet Technology Outpaces the law...Again' (1997) Boston College Intellectual Property and Technology Forum http://infoeagle.bc.edu/bc_org/avp/law/st_org/iptf/articles.

Samuelson P. & Opsahl K. 'The Tensions Between Intellectual Property & Contracts In The Information Age: An American Perspective' in *Molengrafica, Europees Privaatrecht* (1998)

(F.W. Grosheide & K. Boele-Woelki, eds.) p163.

Sartor G. 'Agents in Cyberlaw' (2002) in *Proceedings of the Workshop on the Law of Electronic Agents, LEA 2002*, July 2002 (Sartor G. & Cevenini C.) http://soapbox.cs.vu.nl/ALIAS/LEA 2002 Papers/1027674402/G Sartor Agents in Cyberlaw.pdf.

Schafer B. 'It's Not Just Cricket - RoboCup and Fair Dealing in Contract' (2003) in *Proceedings of the 2nd Workshop on the Law and Electronic Agents, LEA 2003* (Oskamp A. & Weitzenbock E. http://www.iids.org/projectfolder/alias/events/ProgramLEA2003.htm/lea2003/Paper3 Schafer.pdf.

118

Smith M.D. 'Understanding Digital Markets: Review and Assessment' in *Understanding the Digital Economy: Data, Tools and Research* (eds E Brynjolfsson & B Kahin, 2000) http://ecommerce.mit.edu/forum/papers/ER140.pdf.

Solum L. 'Legal Personhood For Artificial Intelligences' North Carolina L Rev (April 1992) http://home.sandiego.edu/~lsolum/Westlaw/legalpersonhood.htm.

Stuurman K, & Wijnands H. 'Intelligent Agents: a Curse or a Blessing? A Survey of the legal aspects of the application of intelligent software systems', Computer Law & Security Report, Vol 17, March-April 2001 pp92-99

Trompenaars B. 'Legal Support for Online Contracts' in *Copyright and Electronic Commerce: Legal Aspects of Electronic Copyright Management*, Information Law Series 8, ed P Hugenholtz (Kluwer 2000)

Torremans P, 'Holyoak & Torremans Intellectual Property Law' 3rd ed. (Butterworths 2001)

Wagner D.N. 'Software Agents Take The Internet As A Shortcut To Enter Society; A survey of new actors to study for social theory' (2000) First Monday, Issue 5 http://www.firstmonday.dk/issues5 7/wagner/.

Weitzenboeck E. 'Electronic Agents & The Formation of Contracts' (2001) International Journal of Law and Information Technology' 9(3) 204 http://www.eclip.org/documentsII/elecagents/contract_formation.pdf.

Weitzenboeck E. 'Electronic Agents and Contract Performance: Good Faith and Fair Dealing' in *The Law of Electronic Agents: Selected Revised Papers*, LEA Workshop on the Law of Electronic Agents, (Bologna, 2002) pp. 67-73.