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Internet Ethics:

**An examination of Information Ethics
as a theory to address Internet ethical concerns**

By

Dina Fox

This Thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of the degree of

Masters of Arts

Department of Philosophy

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Abstract

The Internet has introduced issues and problems that pose challenges concerning the potential development of an adequate ethical theory and the application of that theory on and to the Internet. Specifically, the global nature of the Internet concomitant with rapid technological change, continuously alters the circumstances to consider in both ethical theory and application. It is this ethical domain specific to the Internet that will be explored in this thesis. Within this domain, I will examine an innovative ethical theory, Floridi's *Information Ethics*, and its success or failure to deal with identified ethical concerns.

The first chapter of this thesis examines the historical efforts of Computer Ethics with a view to defining "Internet Ethics". The second chapter surveys the historical development of the Internet and then describes the existing and emerging ethical concerns on the Internet. The third chapter critically reviews Luciano Floridi's Information Ethic (InfoE) as a potential theory for Internet Ethics (IE). Finally, Chapter Four assesses the usefulness and applicability of Floridi's theory against the emerging ethical concerns identified in Chapter Two.

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This thesis, and the efforts it represents, is dedicated to my family without whom this experience would never have been possible.

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Introduction to and overview of the thesis:

The field of Information and Communication Technology (ICT) and related ethical concerns have emerged and developed over the past three decades. The popularization of the personal computer and the explosion of digitized information have fueled both this new field of ICT and the ethical concerns that emerge as a result of it. As ICT ethical concerns are identified, they pose considerable challenges for the application of traditional ethical theories because the theories are often either inadequate or inappropriate for the identified ethical concerns. In addition to these challenges, the exponential growth of the World Wide Web (www) network has introduced yet other issues and problems that pose additional challenges concerning the potential development of an adequate theory and the application of that theory on and to the Internet. Specifically, the global nature of the Internet, concomitant with rapid technological change, continuously alters the circumstances to consider in both ethical theory and application. It is this ethical domain specific to the Internet that will be explored in this thesis. Within this domain, I will examine an innovative ethical theory and its success or failure to deal with identified ethical concerns.

Traditional ethical theories have been criticized in general in the off-line world, and in particular with respect to the Internet. I will not assess the adequacy of these traditional ethical theories here, but simply report on the critiques of others such as Debra Johnson and Luciano Floridi as a stepping stone to introduce an innovative theory. This innovative theory, *Information Ethics* (InfoE), was developed by Luciano Floridi in order to pay special attention to the *infosphere* -- the information environment including but not

limited to the Internet. The infosphere represents the transformation of “the encyclopaedic macrocosm of data, information, ideas, knowledge, beliefs, codified experiences, memories, images, artistic interpretations and other mental creations” into a “global system of services and documents, encoded in any semiotic and physical media...with no limitations either in size, typology or logical structure.”¹ InfoE is Floridi’s theory, which changes the focus from an anthropocentric or biocentric bias in traditional ethical theories, to the minimal common factor shared by any entity; that of the information state. For Floridi, entities are not limited to people, sentient creatures or biospheres, but include “anything that exists, from paintings and books to stars and stones; anything that may exist may or will exist, like future generations; and anything that was but is not more, like our ancestors.”² Floridi considers any absence or loss of semantic information, such as the disorder, decay, degradation or decrease of information *entropy*. InfoE is a theory based on laws to determine what is morally wrong or right by way of avoiding, preventing or removing the causation of entropy. InfoE laws also encourage the extension of the quantity, quality and variety of the infosphere.

According to Floridi, InfoE is the philosophical foundation providing the moral principles to guide Computer Ethics (CE), where Computer Ethics is the practical arm consisting of professional codes of conduct, rules, guidelines, recommendations, standards, norms, regulation and legislation, based on the theoretical strength of InfoE.³

This thesis is in four chapters. The first chapter examines the historical efforts of Computer Ethics with a view to defining “Internet Ethics”. The second chapter surveys

¹ Luciano Floridi, Philosophy and Computing (London and New York: Routledge, 1999) 8.

² Luciano Floridi, “Information Ethics: On the Philosophical Foundation of Computer Ethics,” version 2 March 2002 <<http://www.wolfson.ox.ac.uk/~floridi/ie/ie/htm>> 9.

the historical development of the Internet and provides the necessary foundational assumptions to its development. Chapter Two continues with emerging ethical concerns on the Internet and describes categories of Internet concerns, which will be examined against Floridi's theory of InfoE. The third chapter critically reviews Luciano Floridi's Information Ethic (InfoE) as a potential theory for Internet Ethics (IE). And Chapter Four assesses the usefulness and applicability of Floridi's theory against the emerging ethical concerns identified in Chapter Two.

In the first chapter, I examine Computer Ethics and characterize the types of discussions provided in the literature. I examine the development of CE to see whether insight can be gleaned from this more general topic for particular use in IE. In the slightly more matured mapping of CE, concern has been expressed about the adequacy and accuracy of traditional ethical theory to address the novel issues and problems that are emerging because of technology. Debra Johnson and Luciano Floridi both criticize traditional ethical theory. Since it is beyond the scope of this thesis to critique traditional moral theory, it will be examined through the work of others only briefly. The examination of CE leads to a working definition of IE used for this thesis.

In the second chapter, I will provide brief histories of both digital information and of the Internet, followed by some foundational assumptions regarding the development of the Internet. These histories and foundational assumptions will provide the background for a description of hidden ethical choices made regarding the architecture of the Internet, that I will refer to later in the chapter. In the second half of this chapter, I identify three

³ Luciano Floridi and J. W. Sanders, "Mapping the foundationalist debate in computer ethics," *Ethics and Information Technology* 4.2002: 1.

categories of Internet ethical concerns including Internet crime that must be considered in any discussion of IE. They are:

- 1) Norms hidden in seemingly neutral technological protocols, rules and code
- 2) Commonly held views about what IE is and what it ought to consider: Crime and Standards of behavior
- 3) Social Impact Concerns: How the Internet affects our global society and values

The third chapter of this thesis begins with Floridi's description of the logical and historical development of CE, which leads to Floridi's innovative 'Information Ethics' as it evolved from CE and as it applies to IE. I will critically and charitably examine and expand on Floridi's innovative theory, InfoE in this chapter of the thesis. It is my assertion that IE ought to be grounded in InfoE, if InfoE is viable.

In Chapter Four, I will argue that although Floridi makes a contribution to meta-theory in describing the 'information object,' and in promoting the notion of stewardship for the infosphere, his theory is barren when it is applied to IE. I complete the fourth chapter by showing that a practical application of Floridi's InfoE would be inadequate to deal with the challenges of IE described in the second chapter of the thesis.

Early in this endeavor, it is important to declare that although the focus of this thesis deals with the problems faced or to be faced as a result of advanced technology, this work is not meant to attack, condemn or denounce either ICT or the Internet. Rather, an understanding of these emerging and existing ethical concerns will help to confront and prevent them in the future.

Chapter 1

Computer Ethics, as the genus of which Internet Ethics is a species:

It is a natural step, because of the interdependency between the computer and the Internet, to examine how IE stands in relation to CE. Internet Ethics (IE) is a part of the larger category of Computer Ethics (CE). In this section of the chapter, I will look at the various views of CE and compile a list of items that serve to define the nature of CE. This list is helpful when trying to define IE both in asserting those items that are still applicable, and in finding gaps not addressed in CE, but needing to be filled when examining Internet ethical concerns. A look at the historical landmarks in the development of information technology leading to CE as a general topic will help to put into perspective the nature of IE. To this end, an examination of the nature of CE and a comparison of that list to the nature of IE will follow.

In order to understand the challenges in defining IE, more of a background in the development of computer ethics (CE) is required. CE is most often *not* defined in the literature. Vague descriptions around topics to be included in discussions of CE are provided in lieu of a formal definition. The general discussion of CE centers around three interrelated topics.

- 1) One is to search for and identify ethical concerns unique⁴ or specific to the use, production, and regulation of ICT.

⁴ There are numerous authors who address the issue of 'uniqueness' as it applies to the field of CE. See Gotterbarn, Maner, Johnson, Graham or review Dina Fox's graduate paper which can be provided upon request by contacting foxcrest2@aol.com There are many interpretations of the term 'unique'. One may be in the weak sense of uniqueness being novel like the design of a new automobile, while other senses may be stronger and depict notions of the newness of the automobile as a mode of transportation. Specific concerns are those which, while they may be apparent in the off-line world, have specific challenges or specific ways of appearing as a result of ICT.

- 2) The second is to determine which of these concerns calls for intervention of any kind, and which ought to be ignored, reduced, watched or eliminated as concerns.
- 3) The third topic centers on determining which interventions are most appropriate to deal with the ethical concerns justified for CE in 2).

It is important to emphasize that not all ICT or Internet activities are concerns. In fact, it could be argued that ethical concerns regarding the Internet are a very small fraction of the total activity on and around the Internet.

'Computer ethics' is a relatively new label for an area of ethical study born from the technological boom experienced in most of the developed countries of the world. It was a subject area difficult to raise to the attention of philosophers because it has been looked at as a practical field of study more in line with professional ethics than philosophy. Interest in this area of study has recently grown in the philosophical community.

Walter Maner claims that in 1976, he had trouble convincing "anyone that computer ethics was anything other than an oxymoron."⁵ In fact today, the notion of IE has the same challenge. The notion of an ethical Internet is most often⁶ contrasted with an out-of-control, dog-eat-dog, immoral, uncensored, uncontrolled, unethical 'wild wild web' view of the network. Most of the books I have examined about computer technology focus on how horrible it is. Sara Baase, however, has a much more positive view of computers and the Internet. She describes their significant contribution to society in making routine tasks easier and faster, in the powerful exploration of space possible, and

⁵ Walter Maner, "Unique Ethical problems in information Technology" April 2002, <http://www.cs.bgsu.edu/maner/ethicomp95/keynote3-INTROUC.html> . 1

in global communication efficient. As with fire, she says, “the power of computers creates powerful problems: potential loss of privacy, multi-million dollar thefts [and] breakdowns of large, complex systems, such as communications networks and banking systems, on which we have come to depend.”⁷ We would be willing to give up neither fire nor our advanced technology, and yet we must be willing to deal with the calamities of both. I fully agree with Baase, and do not view technology as something purely evil. Technology is an important and beneficial component of modern society.

A look at the evolution of Computer Ethics

Computer Ethics developed as a result of the need expressed to highlight and deal with behavior considered to be problematic when using or producing computers or computer-related goods. Distinguishing ethical concerns unique to the use, production and regulation of ICT were not automatic or agreed upon. Prima facie, computers are simply used to expedite tasks that were previously completed by slower methods. Why would a new or unique field of ethics need to be created to address this increased efficiency? Here is an example of the need to identify the ethical concerns unique to the use, production and regulation of ICT. There are other, more complex issues rather than a new label that lead authors into claiming that computer ethics is a viable and necessary discipline. Deborah Johnson’s 1985 book called Computer Ethics was published by Prentice Hall in a series of volumes on “Occupational Ethics”. She dedicates the first chapter in her book to examining whether computer and information technology issues

⁶ This view has been demonstrated anecdotally as I have chronicled the responses to my thesis topic by people in various fields of work and study, and is sometimes reflected in the literature as the way in which most users view the Internet.

⁷ Sara Baase, A Gift of Fire, (New Jersey: Prentice Hall) 2.

are unique, or simply occupational or professional ethical issues disguised. Johnson in her 3rd edition (2001) of Computer Ethics says that the technological *changes* that have taken place over the past 16 years (since the first edition of the book – 1985) are awe-inspiring. She notes the most recent change being that of the exponential growth and penetration of the Internet into so many areas of life. Changes in the technology, infiltration of the technology into our culture, growth in popularity and growth in capacity of the technology, are not sufficient reasons for Johnson to assume that CE is a completely unique ethical field, but reason enough for her to dedicate much of her attention to the need to address the demand for ethical consideration with respect to these concerns.

The core computer ethical categories of issues she deals with, which prompted the original writing of her book, are the same categories she lists in her 3rd edition. They are: professional ethics, privacy, property, accountability and social implications along with social values.

These are not unique categories set apart from other ethical fields, and by themselves they do not provide a sufficient condition to recognize CE as a new field of ethical inquiry. In some cases, it is not the ethical concern that is unique, but the technology that is unique. These categories are Johnson's primary focus, but she maintains that a pivotal question that remains is "What is computer ethics?"⁸ As a derivative issue she asks, "What is the connection between ethics and technology?" These questions similarly apply to IE. It seems that these questions are neither new nor have they been sufficiently answered since Maner coined the term 'computer ethics' in the mid-1970's. They are, of

⁸ Deborah Johnson, Computer Ethics, (New Jersey: Prentice Hall) vii.

course, questions that center on determining which concerns specific to this inquiry ought to be justified by providing interventions to address them in ICT.

Some computer ethics champions are not as concerned about labeling the field or even gaining consensus on the definition of it as they are ensuring that it get proper attention, and can be applied in educational and practical situations. These concerns demonstrate the second topic to be included in the general discussion of CE, namely, determining which ethical concerns require intervention methods. Dr. Ramon C. Barquin created a simplified list of “Ten Commandments”⁹ as a way to deal with computer ethics. These commandments can be divided into two basic categories; restrictions (commandments 1-8 inclusive) and responsibilities (commandments 9,10). Here they are as published in the Computer Ethics Institute web page.

1. Thou shalt not use a computer to harm other people
2. Thou shalt not interfere with other people’s computer work
3. Thou shalt not snoop around in other people’s computer files
4. Thou shalt not use a computer to steal
5. Thou shalt not use a computer to bear false witness
6. Thou shalt not copy or use proprietary software for which you have not paid
7. Thou shalt not use other people’s computer resources without authorization or proper compensation
8. Thou shalt not appropriate other people’s intellectual output

⁹ Dr. Ramon C. Barquin’s “In pursuit of a ‘Ten Commandments’ for computer ethics” Feb. 2002, (from CEI’s website)
http://www.brook.edu/dybdocroot/its/cei/overv.../Ten_Commandments_of_Computer_Ethics.ht or try cei@brookings.edu.

9. Thou shalt think about the social consequences of the program you are writing or the system you are designing
10. Thou shalt always use a computer in ways that insure consideration and respect for our fellow humans

This list of guidelines serves to identify those concerns that need to be recognized as requiring intervention. If only the multi-faceted field of Computer Ethics were so simply coded and agreed upon. Barquin calls attention to some of the most popularized technological ethical concerns, provides a common ground for continued examination, and does so in a simple, memorable way. Unfortunately, this list is hardly complete, for it does not deal with more generalized social issues, nor is it significantly useful as a pragmatic guide to action. Guidelines such as these are often neither sufficiently developed nor fully inclusive to be effective. His views attract criticism. N. Ben Fairweather, for example, finds the commandments lacking in sufficient detail to provide practical guidance.¹⁰ Fairweather also lists easy-to-find exceptions to the *dos and don'ts* of Barquin's commandments, and cautions persons who might appeal to the insufficient code of ethics on two levels. First, he cautions that when "such a code of ethics falls into unwarranted disrepute, the whole idea of acting morally is brought into disrepute." Secondly, he reinforces that the list is not complete and that even if one keeps within these *Ten Commandments*, one does not necessarily act ethically.¹¹ To illustrate, the first commandment refers only to harming people, but Fairweather points out that harming

¹⁰ N. Ben Fairweather, Commentary of the Ten Commandments of Computer Ethics, Feb. 2003, <http://www.nd.edu/~rbarger/fairweather.html>.

¹¹ Fairweather, <http://www.nd.edu/~rbarger/fairweather.html>

animals or the environment would be unethical also. He has similar criticisms for the rest of the list.

Another simple approach to determining the content included in a discussion of CE and for determining which need intervention strategies, is from Richard Mason who constructs the acronym 'PAPA' as a heuristic vehicle to address the four ethical considerations he lists as central to computer ethics.

- **P**rivacy – information about oneself or one's associations
- **A**ccuracy – authentic information – Who is responsible and accountable for errors?
- **P**roperty – Who owns information? What are just and fair prices for its exchange?

Who owns channels/ How should access to this scarce resource be allocated?

- **A**ccessibility – What information does a person or organization have a right (or privilege) to obtain? Under what conditions?

These are four significant categories of concern in computer ethics and remain concerns in IE. Of course, they are not unique to ICT, but are exacerbated with high-tech developments. Their importance can be evaluated simply by noting the number of authors who refer to 'PAPA' either directly or indirectly in their own examination of information ethical issues. These concerns, however, do little to tightly define CE or IE, nor do they provide practical interventions for dealing with the ethical concerns identified, but they do draw boundaries around the types of things to address when dealing with IE.

‘Information’, the common property of all categories of ‘PAPA’ is not a consistently used term. Mason defines information differently than Tim Berners-Lee¹² as “the means through which the mind expands and increases its capacity to achieve its goals often as the result of an input from another mind. Thus, information forms intellectual capital from which human beings craft their lives and secure dignity.”¹³ Information for Mason turns on usefulness, and for Berners-Lee turns on relatedness. For Floridi, as we will see in the third chapter, information is the basic element of anything that did, may or will exist.

Johnson’s notions of information and CE are important. She says it is the manner in which information is permissibly transferred from ‘mind to mind’ as a result of technology. It is the transfer mechanism, not the transfer that is significant in CE or IE. Information is still at the center of the activity, technology or not. Johnson differentiates ethics as being about human action, while technology ‘instruments’ human action making it possible for people to do things today that they couldn’t do without technology. Technology *instruments* the accumulation of pertinent information that makes the information more valuable in many cases. In her analysis, traditional ethics and ethical theory have largely ignored the ‘instrumentation of human action.’

In the mid-1960s additional attention to ethical issues began to surface as Donn Parker focused on and examined the actions of computer professionals and their apparent willingness to leave ethics at the door when they entered the computer center.¹⁴ Examples of computer crime were collected as evidence to show the lapse of ethical

¹² Berners-Lee defines information as “only by what it’s related to, and how it’s related”.

¹³ Richard O. Mason, *Management Information Systems Quarterly* Volume 10, #1 March 1986.

¹⁴ Terrell Ward Bynum and James H. Moor, *The Digital Phoenix: How Computers are Changing Philosophy*, Blackwell Publishers, 1998, 276.

consideration within this selected group of professionals, and to substantiate the need for ethical training in computer professionals as a justified form of intervention, listed as the third topic included in CE discussions.

It has been a long-standing concern that anonymity tempts unethical behavior.¹⁵ Now, in the new millennium, Internet users who are able to disguise themselves with various virtual personalities provides ample ground for behavior from the seemingly benign *virtual masquerade ball*¹⁶ to criminal behavior involving theft or invasions of privacy to name a few.

In the 1970s, Walter Maner, who used the term 'Computer Ethics' to refer to "that field of applied professional ethics dealing with ethical problems aggravated, transformed or created by computer technology" created and delivered interventions such as workshops and courses in this field for both computer science and philosophy conferences.¹⁷ By the late 1970s and early 1980s, Maner was known as the creator of university courses, complete with discussions about privacy, computer crime, and professional codes of ethics, which influenced universities to adopt this new course in their curricula.¹⁸ Here we see a solid example of the third general topic to be included in CE discussions, that of prescribing a means to determining interventions that would reduce or eliminate those behaviors that raise justified ethical concerns in computer professionals. Maner's focus on 'applied' ethics has influenced much of the research in

¹⁵ Floridi substantiates this claim in many of his articles. See specifically *Information Ethics: On the Philosophical Foundation of Computer Ethics*, 4-6.

¹⁶ I coined this term to combine the novel feature of masquerading in the modern virtual world juxtaposed with the old-world tradition of masquerading with masks and disguises in a party setting. While both can be entertaining, criminal behavior can be exhibited in modern as well as in early times.

¹⁷ Bynum and Moor, *The Digital Phoenix*, 277.

¹⁸ Bynum and Moor, *The Digital Phoenix*, 277.

this thesis and provided focus to my attempt to provide practical approaches to IE as opposed to idealized but impractical theories.

In the mid-to-late 1970's growing concerns about 'privacy' issues and the fear of 'big brother' were dominating the populace during this period of technological advancement. Huge databases of personal information were being collected and maintained, and large-scale mathematical calculations were being used for space travel by NASA and weapons development by the military. Bits and pieces of information, individually innocuous, were combined and analyzed to produce invasive secondary information based on inferences.¹⁹ The acknowledgement of the differentiation between *personal privacy* and *privacy of computer records* began to immerge. Privacy Commissions were being formed to question the necessity of gathering information and products of information gathered by government or large organizations. A potential employer, for example, might inappropriately access health records from large insurance companies and use that information to disqualify the prospective employee from obtaining the job. The recognition of the power of technology against the backdrop of privacy illuminated the requirement of regulations to address the new needs of the technological revolution. These new needs were fundamentally based on technological advances leading to rapid decision-making, an exponential growth in information capturing capabilities and the instantaneous ability to connect disparate pieces of information. The needs were not necessarily unique or new in kind, but were altered significantly in magnitude from the previous needs for privacy or from decision making on a non-technical, smaller and slower scale.

¹⁹ Walter Maner, "review of Deborah Johnson and John Snapper's book "Ethical issues in the use of computers", *Metaphilosophy* Vol. 16, No. 4, October 1985; 323.

Issues of privacy dominate much of the literature on CE in general and IE in particular even today. The tension between privacy and national security given the destabilization of the world since September 11, 2001, is a current and hotly debated topic. Interventions related to advanced security such as encryption, intrusion detection devices, and firewalls for both individual privacy, and for the privacy of information required for national security have emerged from increased privacy requirements. Sophisticated surveillance techniques either in city streets or in the workplace foster fears from Orwell's 1984.

An attempt to apply interventions used within other domains to deal with CE concerns provided quick solutions that were often less than adequate. Johnson shows the weakness in 'filling the vacuum' or applying traditional principles to new situations provided by ICT. According to this traditionalist account, to which Moor is a proponent, we simply take the rules followed from pre-computer communication and 'carry them over,' to paraphrase Johnson, to post-computer communication practices. She describes this traditionalist account as both descriptive and normative. It is descriptive in the sense that it describes how the absence of rules (policy vacuum) is often addressed currently, and it is normative in the sense that it prescribes how the absence of rules *ought* to be addressed in the future, that is, by making use of past experience.

Johnson is critical of this traditionalist approach. As a descriptive approach, she cautions that it is too simplistic and that applying old norms to new situations as a routine does not work. The fluidic or synthetic²⁰ nature of this dynamic technology is ever-changing, with challenges such as understanding the nature of the Internet and clearly defining the entity of software getting in the way of a simple transfer of the old to the

new. The idea that this transfer is simple or mechanical is what Johnson sees as flawed, not the idea that it is a customary practice and moreover a natural step to extend what works in an off-line environment (OFLE) to the on-line environment (ONLE).

Furthermore, as a normative approach, the notion that recommending an extension of rules or principles from an OFLE to an ONLE, often ignores a significant difference, namely the 'novel feature'²¹ of the new technology. Johnson prefers a more proactive rather than reactive approach to CE.

In a continued examination of computer ethics, Mason predicted in 1986 that two main forces would threaten our society due to the technological revolution. The first is the rapid growth of information with an enhanced capacity for surveillance. Issues of privacy immediately come to mind, and the tension between privacy and things like security make for difficult ethical dilemmas. The second force is the increased monetary value of the information. The value of the information does increase as the result of piecing bits of information together to create buying patterns, market trends and holistic pictures of people rather than unrelated bits of data. Mason's predictions have come to fruition. Surveillance is constantly advancing with capacity trailing demand due to national security. The need to connect bits of data into related chunks of information is mounting. The increasing value of connected or related pieces of information is also a quest driven by the need to sort out simple data from information relating to a particular, often commercial need.²²

²⁰ Johnson, Computer Ethics, 8.

²¹ Johnson, Computer Ethics, 10.

²² For a complete description of data, information and knowledge, see Floridi, Philosophy and Computing, 106-119.

In Deborah Johnston's book, Computer Ethics (3rd edition), she examines Philosophical Ethics in terms of traditional ethical concepts and theories (in other words, "traditional moral norms and the principles on which they are based"²³) in order to "examine the reasons we have for our moral or ethical beliefs."²⁴ Because society shapes the direction of technology she says, "the study of computer ethics turns out to be the study of human beings and society - our goals and values, our norms of behavior..."²⁵ Johnson emphasizes *malleability* as an important characteristic of ICT, and views CE as a window through which we view the activities and economic forces of society affected by this technology.²⁶ Johnson notes the social considerations within the study of computer ethics largely as a result of watching the Internet emerge and swell in the time from her first edition of Computer Ethics to the third edition.

Since the inception of concern about information technology, the threat of a negative effect on human values has been identified. It is interesting to note that few authors concentrate on the change in human values resulting from ICT; however, most mention the phenomenon in their writings. Certainly, the particular concern about the impact of the *Internet* on human values is rooted in the concern about the impact of *information technology*, in general, on human values as illuminated by Gordon Graham in his book, The Internet. Norbert Wiener in the 1940's predicted a significant impact on human values (such as health, knowledge, and community) as a result of information technology. In fact, the fear of technological development as a menace to humanity was ardent in the mid 1940's (after WWII), as the 'threat' of Artificial Intelligence (AI) stimulated the

²³ Johnson, Computer Ethics, 7.

²⁴ Johnson, Computer Ethics, 26. Note that not all authors use the terms 'ethics' and 'morality' interchangeably. (see preface page XV for Johnson's rationale for non-distinction).

²⁵ Johnson, Computer Ethics, 12.

examination of ethical issues surrounding potential mechanistic decision-making powers (in conjunction with industrialization) usurping human capacity. We have come to witness that automation causes changes in the kinds of jobs people do, not necessarily a reduction of jobs.²⁷ As the Internet began to gain popularity, the number of social concerns about ICT also began to get noticed.

As CE centers on

- 1) identifying ethical concerns unique to the use, production and regulation of ICT,
- 2) determining which of theses call for intervention and
- 3) determining which intervention is most appropriate, so too does IE.

As a fourth component that begins to emerge through most recent writings of CE and as a result of the Internet, IE adds to this list the need to examine the resulting forces that may worsen our society or significantly alter social values. A list of topics to be included in IE discussions will help to construct a working definition of IE and will help to delineate further discussion in this thesis.

Working definition of 'Internet Ethics'

What is Internet Ethics? This seems to be a simple enough question, but curiously, absence in the literature for a consensus of a definition of IE suggests that it is not simple to answer. Historically, without a consensus for a definition of CE, it seems logical that a field of IE would emerge without boundaries delineated. But the question "What is Internet Ethics?" is pivotal in order to identify and deal with issues presented by various authors concerning the Internet, and to establish what types of concerns will be addressed

²⁶ Johnson, Computer Ethics, 12.

²⁷ Baase, A Gift of Fire, 9.

in this thesis. As an example, some popular articles are about ‘netiquette,’ a collection of suggested polite behavior when using the Internet, and categorize this behavior as Internet Ethics. I will not be dealing with issues of netiquette in this thesis because I would not consider concerns of politeness to be of significant consequence, even though a very wide notion of ethics might include these types of issues. It is also important to address the question “What is Internet Ethics?” in order to delineate the domain of conversation with respect to behavior on or about the Internet that I wish to tackle in this thesis. The following working definition was constructed, reworked and expanded from the list of topics to be included in CE discussions. An examination and inquiry into CE and the contributions it has provided has been very helpful in deciding on the topics to be included in IE. Imbedded in the following working definition of IE are the three topics identified in the examination of CE with one modification, and two other topics added to the list. As a working definition, we can list the following:

Internet Ethics

- 1) IE is a comprehensive inquiry into right or wrong doing on and about the Internet. This inquiry results in the identification of current or potential future ethical concerns unique to the use, production and regulation of the Internet.**
- 2) IE is a rigorous process that examines these concerns and determines which of these call for intervention.**
- 3) IE examines alternatives and determines the intervention that is most appropriate for timely implementation. IE includes, in this examination of alternatives, practical applications and recommendations concerning forms of**

regulation or other interventions regarding these ethical concerns. The examination of both deliberate and automatic regulating forces conspiring to worsen or ameliorate these concerns is needed.

- 4) IE identifies and examines changing social values as a direct or indirect result of the Internet in addition to right or wrong doing, and promotes intervention when necessary.**
- 5) IE requires a format for reflection re-evaluation and revision. Both the inquiry itself, and the direction of the theoretical and applied methods to deal with wrong doing on or about the Internet, ought to be subjected to this process of revision.**

IE is less focused about the uniqueness issue, as was CE in its early stages, but rather about identifying current or potential future ethical concerns unique to the use, production and regulation of the Internet. IE as I have stipulated in the working definition, and will defend, is grounded in practical focus, but is neither strictly practical nor purely theoretical. It stays between these two polarized horns by binding them together. The application of practical interventions addresses the important issues at hand, while the revision process recognizes that a less-than-perfect but practical approach may have been implemented. It is through the examination of concerns and through the revision process that theoretical discoveries may be detected, and the justification for further interventions made.

One key challenge of IE is the attempt to achieve a delicate balance between the general requirements for the global nature of the Internet and the specific requirements

necessary for regulation where necessary. I am not arguing that IE has special (unique) challenges apart from any other ethical domain because these challenges might also be evident in human rights issues, international law, and environmental ethics. I am also not trying to argue that IE is separate or unique from Information Ethics or from Computer Ethics, for as I have already stated, IE is considered a species of the genus CE. IE does have concerns most appropriately addressed within the domain of the Internet even if the concerns appear in other domains as well. Issues of privacy for example are not unique or even specific to the Internet, but interventions such as regulations regarding privacy can be specifically formulated with the Internet as a primary focus. Even when these concerns straddle domains, the methodology for inquiry, identification, determination of intervention and revision ought to be applied within the parameters of IE. Lessons learned from the domain of IE can be shared with other domains and investigations as to how other domains handle similar concerns outside of the Internet ought to be explored.

Traditional moral theory may not have much to offer in this investigation. I side with Floridi and Johnson to question traditional moral theory as a way to determine IE recommendations. I question traditional moral theory not only because IE poses challenges not adequately addressed in traditional ethical theory, but because ethical theory has been criticized, to my mind successfully in non-technical domains as well.²⁸ If traditional moral theory fails to provide useful insight for moral dilemmas, or recommends conflicting behavioral action depending on which theory one chooses, why would it be otherwise in the technological arena? I will not present arguments against traditional

²⁸ For more information on this topic, look for articles by Barry C. Hoffmaster from the Philosophy Department at the University of Western Ontario.

moral theory in detail. What I will do is present a comprehensive view of the ethical concerns at hand, and address these concerns with reference to the Internet.

Possible objections to this working definition of Internet Ethics

Not all authors would agree with the stipulated working definition of IE provided. A list of topics to be included in a discussion of IE is not a clear definition of IE. This working definition provides the flexibility for the list to be expanded as other concerns surface. The malleability of this working definition, which is its shiny side, has the tarnished underbelly of being vague and somewhat unclear. Debra Johnson might take one of two differing views regarding the working definition of IE. One might be to accept the stipulated definition because it offers a quality of malleability through revision that she would accept. However, Johnson is still a proponent of the instrumentation of human action, and may resist this definition on the grounds that it seems to deal with the ethics of the Internet rather than the ethics of people using the Internet. As I will argue later in the thesis, it is not just the ethics of the people using the Internet, as Johnson would claim, because the technology chosen for the Internet is not purely neutral.

Barquin might accept most of the working definition for IE, as it seems that he has gone through much the same process of inquiry and identification to get to his Ten Commandments as a practical means of addressing CE. What is missing in his approach is the process to revise and re-evaluate the rules he provides, and concrete interventions to deal with the concerns he raises. It seems that the commandments he provides are indeed written in stone, and are not to be altered in any way. Parker too had a practical approach in focusing on the ethical education of computer professional in order to try and

provide interventions to reduce or eliminate some Internet ethical concerns, but might not concur with the idea that a practical approach can lead to some theoretical development. He has also limited his intervention to one group of the many that are interconnected to the Internet. Moor's practical approach to fill the policy vacuum does allow for revision, but has severe limitations in the quest of proactive discovery through a rigorous process of examining IE issues.

Mason's acronym 'PAPA' has delineated much of the IE area of concern but needs revision. At a minimum, "PAPAS" ought to be considered to include the (S) social impact of ICT we are experiencing. There is no evidence that an approach to revise would be or would not be supported by Mason.

Floridi would disagree that IE is anything more than the practical application of a theory, in his case, the theory of Information Ethics. The notion that a less-than-perfect practical approach embedded in the rigor of constant examination for revision that might produce the potentiality of an ethical theory, is the antithesis of his approach. In the applied vs. theory race, the theory must come first according to Floridi. With my stipulated working definition, the need for timely intervention provides sufficient example and learning to determine connections between issues that could lead to the cultivation of a theory.

In the next chapter, I will provide a history of the Internet and subsequent categories of concerns that are to be examined as part of IE.

Chapter 2

Internet Ethics: A summary of the ethical concerns

In this chapter, I will discuss the historical developments in ICT that led to the formation of the Internet. I will include some of the foundational assumptions by the designers of the Internet, which led to some IE concerns discussed in this thesis. The second half of this chapter is dedicated to describing three major categories of concern when examining IE.

A brief historical examination of the growth of technology leading to the Internet and the World Wide Web is an important first step in examining Internet Ethics for at least two reasons. It is important in order provide clarity and to gain a perspective on the connection and dependence between digitized information technology, the Internet, and 'the web'. Secondly, it is important to show ethical restrictions and considerations that have surfaced along with the technological development thus far. This historical perspective will help to establish the context for further discussion of Internet Ethics.

History of the Internet:

In 1940, Norbert Wiener of MIT coined the term 'Cybernetics' to describe a new discipline he identified as "the science of information feed-back systems."²⁹ The information was captured and 'fed-back' through technology. The unstable memory that used the oral tradition to transfer knowledge to future generations gave way to the written texts, which became indexed in libraries. Digitization of information is the current state of the art of managing information. This new way is a more efficient and reliable way of

²⁹ Bynum and Moor, The Digital Phoenix, 276.

managing knowledge, and has quickly gained widespread acceptance. There are significant implications from the evolution of digitized information that impacts IE. James H. Moor suggests that the technological revolution is analogous to the industrial revolution because both have significantly transformed society. The first stage, which paralleled the industrial revolution, was the introduction stage, where the creation and refinement of computers has already occurred. The second stage, the permeation stage, anchors technology as an integral part of social institutions and human activity.³⁰ We are solidly in this second stage now says Moor. Undoubtedly, information technology is now inextricably woven into the fiber of our human culture. Since civilized societies live on information connected through communications infrastructures, ICT is of vital importance to societies.³¹ It is important to establish the vital importance of ICT in modern societies in order to acknowledge the social implications resulting from the pervasive use of the Internet.

The formation and evolution of the Internet is a significant part of our history. The Department of Defense (USA) through the Advanced Research Projects Agency (ARPA) worked on developing and constructing a network in the late 1960's to provide communication structures even after severe damage to infrastructure such as nuclear attack might transpire. ARPANET was developed as a decentralized, non-hierarchical network with highly distributed nodes and switches that allowed multiple routing options so that packets of information could travel to their final destinations through any available route. The system was as independent as possible from any of the extended

³⁰ James H. Moor, "What is computer ethics?" *Metaphilosophy* vol. 16, No. 4, 1985, 270.

³¹ Floridi, "Internet: which future for organized knowledge, Frankenstein or Pygmalion?" *Int. J. Human-computer Studies* 43, 1995, 266

hardware and could function even if areas were heavily damaged.³² Any packet of information could travel to any destination through functioning routes even when particular routes were unavailable. Standard protocols for using the network and for defining the characteristics of breaking down and reconstructing information into packets provided a common language for use on this network. The information packet switching technology was seen as an efficient inexpensive way to communicate over long distances. The use of government workers and researchers to exchange electronic mail and other types of information popularized this network of communication. Through further innovation, by the late 1980's commercial services began to use the network. Initially as a military, then an academic international network, the commercial value of this type of communication began to get recognized. In 1990, ARPANET ceased to exist, but the first commercial providers of Internet dial-up access formed.³³

By the early 1990's the popularity of the Internet began to swell. The history about and definitions around the formation of what we now call the Internet are confusing. The term 'Internet' actually and accurately refers to the International Network of digital communications consisting of Local Area Networks (LANS) and Wide Area Networks (WANS) of various types, originated by ARPANET. These networks interact through standardized global protocols.³⁴ The *Internet* or *Web* are colloquial terms used for the 'Internet' (networks) in conjunction with the World Wide Web (www) using the 'Internet networks' to share information. Before what we now call the *Internet*, all computers that

³² Floridi, Philosophy and Computing, 57.

³³ Floridi, Philosophy and Computing, 60.

³⁴ Floridi, Philosophy and Computing, 61.

were connected needed to use dedicated cables from one to another.³⁵ One computer could not be linked to more than a few others because of the necessity of several cables. The 'Internet' is simply the communications infrastructure that links computers together. It is a network of networks based on a set of standard protocols³⁶, which allow computers to send and receive data such as text, sound, and image. The 'Net', the 'Web' or 'Cyberspace' all refer to what we now refer to as the *Internet* which consists of: computers, communications systems (wired, wireless, and satellite), commercial services and the network (the 'Internet'), the World Wide Web, (consisting of bulletin board systems, news and discussion groups, databases and more) and users. The Internet is accessible from virtually all over the world.³⁷ Floridi characterizes the Internet as having three dimensions. The first is the infrastructure or the physical space, the second is the memory system or the digital dimension and the third is the semantic space he refers to as the cyberspace dimension.³⁸ Simply stated, the 'Internet' is a system for the exchange of information (packets) along asynchronous³⁹ switched networks. Although an Internet was up and running in the 1970s, few non-computer experts were able to code and decode the various formats of information effectively in order to utilize it. A common system for integrating disparate pieces of information was needed.

³⁵ Tim Berners-Lee, *Weaving the Web*, The original design and ultimate destiny of the World Wide Web, (New York: Harper Collins 1999) 17.

³⁶ Protocols are agreed upon standards or conventions that everyone can follow. A cooking protocol is the measurement system of cups or milliliters, spoons or grams stipulated for any recipe.

³⁷ Baase, *A Gift of Fire*, 3.

³⁸ Floridi, *Philosophy and Computing*, 61.

³⁹ *Asynchronous* meaning that the packets of information can be broken down into smaller blocks of data labeled with its origin and destination, but these blocks or packets do not have to take the same route from the sender to the receiver, nor do they have to arrive at the same time. Alternate routes are preferred along a maze of networks in order to avoid bottleneck information routes or lapses of information due to certain routes malfunctioning.

In 1989, Tim Berners-Lee conceived the idea of the integration of a hypertext system as a universal and unconstrained way of integrating information. He developed the World Wide Web (www) as a documentation system allowing all information to be stored and later retrieved regardless of the format of this information. This system was created with few rules in order to gain maximum user acceptance. The structure of what we now call the Internet and foundational assumptions about the connections of information made by Berners-Lee established many of the architectural restrictions we now have when investigating Internet Ethics.

In his book Weaving the Web, Tim Berners-Lee chronicles his challenges to create an independent 'Web' despite those who wanted to control and profit from its creation and success. His was a vision solidified in the opinion that decentralization of information and the sharing of ideas were the goals of this independent web. Berners-Lee saw this vision as providing freedom by "arranging ideas in an unconstrained, weblike way"⁴⁰ intentionally providing very little hierarchical bureaucratic structure but opting instead for a completely flat structure with peer to peer interaction. The Web is a metaphorical space created by Berners-Lee where commonly used conventions allow people to use computers to work together in harmony. He was motivated by the conviction that if all computers were linked, they could create a shared global information space. Information was defined "only by what it's related to, and how it's related" for Berners-Lee.⁴¹

There was a principle of tolerance for the various formats of information included in Berners-Lee vision of this shared space. There was also tolerance for the nature of

⁴⁰ Berners-Lee, Weaving the Web, 3.

⁴¹ Berners-Lee, Weaving the Web, 12.

information others wanted freedom to share without placing value judgements on the quality of that information. Berners-Lee truly wanted this space to be universal (not unique) in the sense that it could accommodate all addresses of all accessible objects, and as such needed to be able to represent “any thought, any datum, and idea that one might have without concern for the label of truth.”⁴² There is an obvious tension between the accommodation and accessibility of ‘any thought’ with that of hate speech, pornography or even false information. Although some may argue that commercially motivated material and junk mail (spam) predominates the web space, Berners-Lee would argue that information that is put up for commercial gain is legitimate information and ought not be excluded from the Internet even though he created the Internet for free communication by information sharing.⁴³

The motivating force when he developed the notion of the web is captured in this quote: “communication through shared knowledge, and the driving ‘market’ for it was collaboration among people at work and at home...people...could easily express themselves, quickly acquire and convey knowledge, overcome misunderstandings, and reduce duplication of effort. This would give people...a new power to build something together.”⁴⁴ The system he created was based on a hypertext transfer protocol (HTTP) language that computers would use to communicate over the Internet with every piece of information identified with a specific address originally called a Universal Resource Identifier (URI) with the emphasis on ‘universal’. It is interesting to note that the name ‘URI’ had a political bias. Berners-Lee insisted that ‘universal’ was a key and important

⁴²Tim Berners-Lee, “The World Wide Web and the ‘Web of Life’”, Feb. 2003 <http://www.w3.org/People/Berners-Lee/UU/html> .

⁴³ Berners-Lee, *Weaving the Web*, 107.

⁴⁴ Berners-Lee, *Weaving the Web*, 162.

word in this specific address because it solidified the notion of universal acceptance for all information. This is an example of how language contributes to social attitudes. Unfortunately for him, he was not able to convince colleagues that this word was of primary importance, and the name of the code for the specific address was changed to the 'URL' – uniform resource locator. Notwithstanding his desire to use the word 'universal', Berners-Lee demonstrated the higher value he placed on consensus rather than dictatorship or hierarchical authority, and co-operated with his peers to accept the word 'uniform' for the specific resource locator. The process of co-operation to consensus is demonstrated in this decision, and in others revolving around the development of the Internet.

The 'Web' is not a place or a physical thing, but simply a design that includes URLs, HTTP⁴⁵ and HTML⁴⁶ in decreasing order of importance– a metaphorical *space* where information could exist.⁴⁷ Although initial progress was slow, Berners-Lee has compared the effort of creating the web to that of bob-sled racing where the initial push seems to be hard and lengthy, but the momentum builds and everyone jumps in.⁴⁸ Indeed the speed at which the phenomenon of the Internet has infiltrated our society (and those of developed and developing countries) is staggering. According to Floridi, in 1993, there were 300 million users of PC's and in 1997 almost 2 billion, with a very high percentage of these connected to the Internet some or all of the time.⁴⁹

⁴⁵ HTTP is hypertext transfer Protocol which is the language computers use to communicate over the Internet. Berners-Lee, Weaving the Web, 29.

⁴⁶ HTML is the hypertext Markup Language which describes how to format pages containing hypertext links. Berners-Lee, Weaving the Web, 29.

⁴⁷ Berners-Lee, Weaving the Web, 36.

⁴⁸ Berners-Lee, Weaving the Web, 39.

⁴⁹ Floridi, Philosophy and Computing, 20, and various other sources for connectivity including AOL, and other web sources. The actual statistics vary depending on who compiles the data and how it is compiled; however, in every case, the demonstration of exponential growth is demonstrated in the data.

In 1993-94 a Consortium (World Wide Web Consortium or W3C) was formed, not to control the Web, but to ensure that systems produced were appropriate and reasonable in a fair society.⁵⁰ Members of the consortium were aware of the importance of the notions of accountability and responsibility, with network security being one of the top priorities. They elected to provide 'recommendations' by agreeing on workable programs and getting 'trial' rather than setting 'standards' that would have to be subjected to lengthy international voting processes.⁵¹ Consensus rather than control was valued in this group. In fact, centralized control was seen as an undesirable bottleneck restricting the Web from scaling up to the required level of growth. Being 'out of control' was desirable.⁵² Berners-Lee saw this new technology as empowering, providing information about truth in economic, political and cultural spheres and allowing individuals to be heard worldwide.

Many of the assumptions made by Berners-Lee supported by users of the newly formed Internet have led to some of the concerns regarding IE we have today. The decentralized structure of the Internet, the liberal notion of 'information' as a relation, the importance of promoting peer to peer interaction forfeiting conventional notions of community and the principle of tolerance all contribute to IE concerns identified in this thesis. A closer look at the foundational assumptions will help to clarify the types of concerns identified.

⁵⁰ Berners-Lee, Weaving the Web, 92.

⁵¹ Berners-Lee, Weaving the Web, 98.

⁵² Berners-Lee, Weaving the Web, 99.

Foundational assumptions leading to IE concerns

Foundational assumptions about the necessary structure of the Internet and of notions of what would be considered information made by Berners-Lee and co-designers established many of the concerns we now have when considering Internet Ethics. Consider, for example, the assumption by Berners-Lee that a decentralized non-hierarchical schema with information arranged in an unconstrained way would promote freedom of expression and access to information. This system may have posed no concern for ARPANET, but continuing with this structure on a global scale has, in many cases produced the opposite effect. One is free to express information on the Internet, but the amount of information available on the Internet leaves little hope that others will want to find or be able to find that information. Access to information becomes halted when one is bombarded by so much information that looking for a particular concept seems impossible. Even with refined and advanced search mechanisms, it is often difficult to sieve through the numerous 'hits' provided by engines such as Google or Alta Vista.

When information is found, it is often unauthenticated, leaving the searcher to decide whether the information is legitimate or contrived. Internet research has created less than discriminating academic paper writers evidenced by unreliable Internet sources used as factual information in University assignments.⁵³

The assumption by Berners-Lee that peer to peer interaction allows peers to work in harmony is a hope rather than a reality. It is certainly true that some peers work well together, but I would argue that the working well together has little to do with the Internet and more to do with the personalities, social conditions, attitudes, beliefs and values of

⁵³ This is an anecdotal claim from personal experience marking papers as a Teaching Assistant (T.A.) at Carleton University, and supported by fellow T.A. colleagues.

the people involved. To illustrate this point, Berners-Lee assumes that sharing what you know should be as easy as learning what someone else knows.⁵⁴ Sharing what one knows is not easy. If learning what someone else knows is as easy as sharing what one knows, and sharing what one knows is not easy, then neither is easy. There are buried assumptions in his claim. One assumption is that if it ought to be easy, then it *is* easy to share, and a second is that if it ought to be as easy to learn then it *is* easy to learn what someone else knows. It is not the case that the normative leads to the descriptive claim, however; with the use of the concept of 'ease' it is simple to make this leap. It is questionable even in an academic environment where information is sometimes hoarded rather than shared or information is simply not easily shared. How does an experienced and artful Professor share the way complex topics can be taught with simple analogy? Indeed it is possible to share this information, but hardly easy. In the academic environment more than in any other, should information not be easily shared? If it is not easily shared, is it that the normative claim does not necessarily support the descriptive claim, or that it is not as easy as might be assumed? I assert that it is the claim of ease of sharing and learning information that is burdened with assumption.

In the business world, not only is sharing information discouraged from one competitive business to another, but also within companies. The hoarding of information often occurs when scarce skills are paid a premium. If an employee has a scarce skill and is paid more for that knowledge, which is often the case, there is a disincentive to share that information. Another barrier to sharing information is that a great deal of valuable information within various types of organizations is tacit. Trying to share or learn tacit information is not easy. Trying to document tacit knowledge into explicit knowledge is a

⁵⁴ Berners-Lee, Weaving the Web, 33.

huge task ignored by many large institutions. There are many large organizations that have not mastered the sharing of information so, as an example, mistakes are not repeated. Human nature is such that we are not willing to admit mistakes. Pride, and lack of time to understand how the mistake could be prevented in the future, are all factors limiting the ease to which we can share our knowledge or learn what others know. If information is explicit and people are looking for certain types of information within organizations, often the taxonomy used to store information is not useful and makes the *finding* task in the sharing of information as difficult as looking for a needle in a haystack.⁵⁵ Another huge and common barrier to sharing information is that many (most) organizations do not provide or promote the necessary time for reflection of learning while in the middle of a job or project. Ironically, since time is considered money, time to think is not considered valuable. These barriers are only a few of the many that fly in the face of Berners-Lee's assumption that sharing and gathering information should be easy. The assumption that sharing what you know should be as easy as learning what someone else knows is not easy, but in fact complicated, and full of obstacles.

Another foundational assumption of the Internet revolved around the notion of the universality of information. Every piece of information encoded with a URI, whether it is true or false, makes access to and access for information on the Internet equal. Berners-Lee assumes that all information is equally deserving of being considered and being shared. This might be the case, but the result is that we are often unable to discern falsehoods and misrepresentations on the Internet that we might be able to discern in the OFLE. I claim that not all information is equally valuable, nor ought all information to

⁵⁵ This analogy is often used by Knowledge Management experts and emerging businesses that concentrate on making the volumes of explicit corporate information, which usually sit collecting dust,

be treated as though it were equally valuable. Having made this claim, I am not prepared to create a hierarchy of information, *an information value scale*, or suggest a board of truth to sort out the relative value of information. Lawrence Lessig and Floridi promote the notion of independent authentication sites like University Libraries or the New York Times official web-sites providing a certain level of validity to the information posted there. False information regardless of the content seems to be less 'equal' in value than true information, but for Berners-Lee is treated equally. Since individuals value different information differently, the equity of information is particular to individuals. Much of the information on the Internet is not valuable to certain individuals because they have no interest in that subject matter. My academic research is of little interest to those with interests that might not intersect with mine. More significantly, many advertisements unwanted but appearing in my e-mail basket are not valuable to me. In fact, it is not that these forms of information have no value, but rather have a negative value. They are an unwanted drain on my computer resources and an intrusion on my time requiring me to examine their subject lines in order to selectively delete the spam and ensure that the e-mail is not a legitimate and wanted e-mail from an unknown e-mail address. Information for information's sake ought not to be considered universally valuable. Floridi builds an entire ethical theory (which he calls a macroethic⁵⁶) with the assumption that all information is valuable which will be examined critically in Chapter 3.

The problem of "Infoglut" concerns the degree to which retrievable information can be managed. We are often overwhelmed by the profusion of data, and need to cultivate a form of educated personal censorship in order to survive the vast amounts of information

somewhat useful.

⁵⁶ Floridi uses some terms in unconventional ways which I will discuss later in the thesis.

we need to filter and refine.⁵⁷ “Because the Internet is a free space, where anybody can post anything, the Internet can become a dumping ground for any sort of intellectual rubbish, and organized knowledge could easily get corrupted or lost in a sea of junk data.”⁵⁸

It is important to distinguish between the notions of ‘universal information’ and ‘universal access to information,’ which I will discuss later. Universal information is the system of the URL identifying, without exception, *any* information as defined by Berners-Lee, which follows the rules or protocols of setting up that specific and unique URL. Universal access on the other hand relates to the access people or geographies have to the Internet and will be discussed later in this chapter.

Another assumption about the Internet is that the valuable information it provided would not be used for negative purposes. The interconnectivity of the web challenged notions of privacy in addition to the challenges that existed because of digitized information. The Web provided a management tool to track patterns of work, the sharing of ideas and interactions.⁵⁹ Certainly, this management tool, perhaps conceived of with the best of intentions of sharing information and facilitating better and more efficient working environments, challenges the notions of privacy we expect in the workplace and in private Internet voyages. This type of tool is seen as surveillance and has direct tension with the human rights of freedom and privacy.

Having looked at some fundamental assumptions regarding the Internet and the resulting concerns either ethical or otherwise that follow from these assumptions, it is best now to turn to the categories of IE that are of greatest concern in this thesis. The

⁵⁷ Floridi, “Internet: which future for organized knowledge, Frankenstein or Pygmalion?” 271.

⁵⁸ Floridi, “Internet: which future for organized knowledge, Frankenstein or Pygmalion?” 272.

foundational assumptions in designing the Internet contribute greatly to the first of three categories identified as concerns for IE.

Three categories of IE concerns

There are three significant categories of IE concerns on which I will concentrate. The first category of concerns regarding the Internet is raised by the norms, rules and codes that are necessary in order to navigate on the web. These rules seem *prima facie* to be normative in the sense that they describe what one ought to do, but seem not to be morally bounded. They are the types of rules that falsely lead others to promote a 'technology is neutral' view. I will explore these seemingly ethically lacking rules in greater detail.

The second category concerns the more commonly held views about concerns of Internet Ethics. Issues like crime on the Internet, regulation and commandments or moral codes including professional standards have been proposed as priorities for Internet Ethics. Since traditional crime such as fraud, theft or invasions of privacy can be carried out with or without using the Internet, they are described and included in this category in order to provide examples of high-tech traditional crime. These examples also illustrate how traditional crimes have novel high tech versions that are emerging and need to be attended to in discussions of IE.

The third category and yet the most elusive for applied philosophy are ethical issues concerned with the implications or ramifications of the Internet with respect to the use of this technology, the behavior of its users, the values, beliefs and attitudes which are changing individuals and our society. There is consensus in the literature that the

⁵⁹ Berners-Lee, *Weaving the Web*, 35.

ubiquitous Internet has infiltrated our society and has thus transformed it. The extent to which the Internet has infiltrated certain nations or the globe is debated, but the notion that it has altered society wherever it exists is consistent. Thus the third ethical concern is about the Internet and social values.

Category 1: The apparently neutral norm

There are numerous rules, principles, codes, guidelines, protocols, policies and norms about the Internet. There are various meanings for these terms and various interpretations based on personal associations with these terms. "Guidelines" for example usually imply that one can follow or not follow them based on personal discretion. However, in many business settings, guidelines are norms that must be followed, and any exception to these must first be in some way authorized. In some instances, guidelines, if not followed precisely, result in one being excluded from a community. If research guidelines are not followed, one may be eliminated from a list of authorized researchers in a particular field. If one disregards the guidelines from a collective agreement, one may forfeit the support of the union or the organization. Guidelines can also refer to purely optional behavior with no consequences should an alternate course of action or behavior be chosen. Because these terms are not consistently used or defined, I will focus on the term 'norm' at this juncture with the stipulative meaning 'followed in a majority of instances'. These norms can range from optional suggestions to legal requirements. Rules of the road might be a good analogy for the types of norms I consider. One can follow preventive driving techniques if one

chooses to do so, but these techniques are not obligatory. On the other hand, the more regulated traffic violations such as speeding are punishable if the violator is caught.

In this section, I am particularly interested in those norms that need to be followed in order to navigate properly on the Internet, and the designer's decisions that have made the Internet both navigable and scalable. They are normative in nature, but seem to hold no moral or ethical value. There does not seem to be a moral component to the way in which one logs on to the web even though norms are followed to do so. The mechanics of numbering information addresses, hostname and domain management, ISP registration, and languages (hypertext) formulation are prescribed in order to conform to the structure of the existing network. There is "no . . . rule of law requiring Internet-connected entities, from businesses to educational institutions, and from Internet Service Providers to individual Internet users, to conform to the structure of the existing network and the currently defined policies."⁶⁰ Certainly, to act otherwise would mean that your information could not be saved or accessed, that you would not be able to access the Internet, or that you would not be able to take advantage of all the features the Internet now provides. If you fail to comply with all of these norms, you become excluded from the community of Internet users.

These norms to be followed seem to have no moral or ethical facet to their technological complex nature. That is at first glance. With more investigation, it is the case that some of these arbitrarily chosen systems and procedures do have ethical concerns associated with them in significant ways. Many of the concerns stem from the foundational assumptions made by the designers of this Internet. It is the case that

⁶⁰ People for Internet Responsibility, "Statement on Internet Policies, Regulations, and Control." July 23, 2000, Feb. 2003 <http://www.pfir.org/statements/policies> . 2.

conforming is necessary in order to function in the global community of the Internet, unless one has the time and the money to start a parallel networking structure and wait for its popularization. The foundational values of the Internet previously discussed, such as free access to any form of information, and the values and assumptions of Berners-Lee, such as the benefit of de-centralized information with unconstrained arrangements of information, are not morally neutral. They are based on values that do not necessarily reflect the values of other individuals of North America and Western Europe, or the values in other parts of the world. In addition to this almost invisible moral foundation of assumptions, there are numerous groups and organizations all vying for decision-making power about the Internet as it exists now, and how it may morph in the future.

There are political battles within the past and current Internet managing groups and monitoring associations⁶¹ regulating various activities such as expecting expensive, non-refundable application fees for top-level domain names that lock out many smaller organizations. There are numerous “tensions, problems and disputes” that present challenges to Internet policy, which are not visible to the average user.⁶² Elections are held for key positions such as directors who are instrumental in launching and awarding studies, and making decisions regarding contentious issues like domain name disputes even though conflicts of interest are often apparent. Many of these individuals are key officers in private or public companies with direct conflicts of interest. Decisions made for the Internet can and do affect the success of their respective profit driven

⁶¹ There are numerous groups included in monitoring, recommending, and promoting certain interests. Some of these include PFIR, WWW Consortium, PICS, ISOC, Digital Millennium Copyright Act, ICANN, PRIVACY Forum, ACM committee on Computers and Public Policy, RISKS Forum, ARPANET, IANA, ISOC, IAB, IETE, USC-ISI and many more too numerous to mention.

⁶² People for Internet Responsibility, Statement on Internet Policies, Regulations, and Control, 3.

organizations. These directors affect the Internet in many ways, and yet their conflicts of interest or ethical preferences are usually not investigated. Turf struggles between professional engineering groups and well-meaning advocates stall the necessary attention to the 'digital divide' – aid to developing nations thrust into the Internet highway, and aid to the economically disadvantaged individuals in already developed nations who have been left to fend for themselves on the digital highway. Norms fall out from the decisions these groups make, and users simply follow without question.

The interests of profit and non-profit groups are often in conflict, and are different from the needs and the representation from the public sector. This conflict of interest is exhibited in numerous ways. The ability to get information from search engines can be influenced by code that allows certain sites to be listed before others regardless of the appropriateness of the search. Fundamental ethical issues like privacy or access to information can be affected by these groups, yet the decisions are made outside of the domain of ethics. Research is distributed among institutions or generated from one think tank depending on who has the authority, or the money to decide, rather than focusing on what the right decision ought to be. When international Internet disputes arise such as the different interpretations of free speech in Western European countries and the United States, these groups gather to involve themselves and try to resolve the issue with little or no training on ethical consequences. Often the result is focused on efficient consumerism. Business values trump human values and the policies which end up looking like benign coding changes, research grants, commercial information requirements, search engine delays, or invisible filters are rarely morally neutral.

I will not spend additional time talking about this category (although much more could be said) except to suggest two things. The first is that in a discussion of Internet Ethics, this category of the 'apparently neutral norm' ought to be included. Although many of the issues are ethical or moral, they are not necessarily so *because* of the Internet. They are ethical and are simply about Internet issues. The second item is that even though these norms are not accepted in any formal way, they are followed because there is a reward attached to using them. The reward is that by following these norms, one can participate as a full member of the Internet community. This type of system is evident in the Open Source community where norms are followed or participants are shunned from accessing or contributing. It is an interesting way to accommodate both personal choice and following norms of a particular community.

Category 2: Crimes and other concerns

This category of IE deals with crime and the regulation or various restrictions of the Internet to deal with criminal concerns. Other behavior that may not be considered criminal but is still considered wrong doing will be examined also. As well, this category includes the more commonly held notions of IE which deal with codes of conduct and revolve around Privacy, Access, Property, Accuracy, and professional standards or occupational ethics as described in the previous section on computer ethics.

In 1983, the Organization for Economic Co-operation and Development (OECD) defined computer crime as "any illegal, unethical, or unauthorized behavior involving automatic data-processing and/or transmission of data."⁶³ This definition is vague and

⁶³ Robert W.K. Davis and Robert C. Hutchison, Computer Crime in Canada, (Carswell Thomson Professional Publishing 1997) 3.

remains ineffective for international harmonization of computer crimes, but has led to a Canadian working definition of computer crime which is: "A criminal offence involving a computer as the object of the crime, or the tool used to commit a material component of the offence⁶⁴" and is broad enough to include the abuse of telecommunication systems because they operate with computer-driven devices. Computer crime then includes crime on the Internet.

One factor that drives the research in IE is the impact of the Internet on young members of our society. The evidence that students are accessing inappropriate materials is one of the main concerns motivating the advancement of Internet ethics. Predominantly, criminal and moral concerns about Internet access to pornography by students in particular attract many of the authors in popular references to contribute their views. Other violations of common-sense ethical behavior are prevalent in the young Internet user community as well. Although these offenses are not limited to student Internet users, and may not be considered criminal, impersonating teachers or alumna online, a disregard for password protection, intercepting private e-mail, ignoring copyright or intellectual property regulations, and flaming⁶⁵ are contemporary issues of Internet wrong doing. Many schools are initiating Internet ethics courses at the middle school level (grades 7-9) and are generating acceptable use policies (AUPs) for addressing online behavioral problems.⁶⁶ These policies are difficult to enforce, but are intended to produce responsible users at a young age that will maintain their virtue as they and technology grow.

⁶⁴ Davis and Hutchison, Computer Crime in Canada, 4.

⁶⁵ 'Flaming' is sending inflammatory messages to a number of addresses about an individual.

⁶⁶ "Teaching Virtue in a Virtual World" Nov. 2002
<http://mte.anacortes.k12.wa.us/library/sixth/ethics.htm>

Other examples of unethical and criminal behavior for wider target groups include the misuse of research material, deliberate misinformation, penetrating the information of other people or institutions, spoofing,⁶⁷ cranks such as hacking or cracking or denial of service incidents, fraud, spamming or flooding, viruses & worms, electronic sabotage, forgery, masquerading, lurking,⁶⁸ piracy, unauthorized copying, engaging in pornographic activity, hate mail, breaches of privacy, stealing (theft) using credit information, telephone access, passwords, funds from bank accounts or earning sources.⁶⁹ Computer crime is not always easily definable or recognizable. In fact, many argue that there is no such thing as computer crime such as there is no such thing as 'lawnmower crime'.⁷⁰ The notion that there may not be a unique category of 'computer crime' does not mean that we already have reliable ways to detect, locate, charge, prosecute and punish the criminals when traditional crimes are performed with high tech equipment. Many of the Internet crimes are extensions of traditional crimes such as theft, fraud, espionage, extortion and vandalism, but new threats such as viruses are also a major concern.⁷¹ The extensions of traditional crimes through technology provide challenges not yet met by detection, regulation, enforcement and punishment. The freedoms and rights of individual citizens and the protection of society are often at odds. There must be a delicate balance between the law enforcement personnel and their need to investigate criminal behavior, monitor communication and search collections of data on one side of

⁶⁷ 'Spoofing' is one of many terms which has various meanings. One use of the term is for the threat and insult by a virtual intruder. Another lists spoofing as the executing of a program that imitates the action of legitimate programs such as the interception, alteration and transmission of digitized signals in order to mislead the receiver.

⁶⁸ 'Lurking' is watching by reading what others write in a chat room with the intent to deceive by gathering information to be used to lure.

⁶⁹ Many of the items in this list are taken from Computer Crime a crimefighter's handbook.

⁷⁰ Davis and Hutchison, Computer Crime, 2.

⁷¹ Davis and Hutchison, Computer Crime, X.

the scale, and the rights and freedoms of the societies they are charged to protect on the other. The Information superhighway must have clear road signs for everyone to obey and for law enforcement personal to respect. Catching a criminal using criminal tactics will not eliminate crime but increase it.

In the mid 1990s the FBI's National Computer Crimes Squad estimated that somewhere between 85% and 97% of computer intrusions go unnoticed.⁷² Since then, with the proliferation of the Internet, even though security in many areas has been improved, we can expect the figures for undetected computer intrusions to remain as high. Though the average computer user probably does not have information of great value to access, we are all vulnerable, not just organizations such as corporations or governmental institutions. Edmund Byrne parallels current security issues to those of stagecoach times. He notes that whether moving gold bars or electronic funds, "neither a human nor a technological armed guard can guarantee the security of in-transit goods...if an intruder can hide behind the electronic equivalent of a face-concealing mask, the free rider rides again."⁷³

The courts and the media sometimes turn computer crime criminals into heroes. Our movies model the young hacker as highly intelligent, righteous, techno-junkies who follow virtuous self-proclaimed rules for the right.⁷⁴ Indeed, the criminal is often diagnosed with pathological Internet use and is treated as though he or she has an

⁷² Davis and Hutchison, Computer Crime, 3.

⁷³ Edmund F. Byrne, "The two-tiered ethics of electronic data processing," *Society for Philosophy & Technology*, Volume 2, Number 1: 4.

⁷⁴ There are many movie examples, see Hackers or The Net which demonstrate the tendency to portray the criminal into a hero in high tech crime.

addiction. It is this love for cracking code, which sent Kevin Mitnick, (code name Condor) a well-known hacker, to a Los Angeles addiction treatment center.⁷⁵

Not all breaches of security are seriously criminal. There are the familiar crimes directed at financial organizations, and terrorists have penetrated military and defense sites, but there are less serious invasions as well. Grudges are isolated attacks from those who simply want to damage or destroy rather than gain information. They can cause major problems but are usually minor disruptions. Disgruntled or former employees often perform such attacks. Because many computer criminals are not after financial rewards, they are often tempted solely for the intellectual challenge.⁷⁶ Whether an activity is considered a prank or an attack depends on the intention (motive) of the hacker, the type of organization and the type of information obtained, and the intensity of the damage caused.

Floridi highlights those situations where the agent perceives crime as a game, which poses problems for IE not solvable with some traditional ethical theories. It is a new situation he describes that agents perceive themselves in a virtual, dream-like magical Internet world where crime is analogous to killing an enemy in a virtual game.⁷⁷ Floridi points out some essential issues contributing to this virtual/real world confusion.

- a) The virtual nature of actions is often undetected.
- b) ICT distances the agent, and diminishes sense of direct responsibility. The anonymity of the agent makes moral sanctions (a concept supported by John Stuart Mill) less perceptible by the agent the more indirect, distant and obscure the consequences of his actions are.

⁷⁵ Davis and Hutchison, Computer Crime, 10.

⁷⁶ Davis and Hutchison, Computer Crime, 13.

- c) There is de-personalization and an increased sense of anonymity where the agent's activity is considered only marginal and a microscopic component of a wider and more complex course of action. Diffusion of responsibility fuels the diminished ethical sense in the agent and a corresponding lack of perceived accountability prevails.
- d) Resulting from the above, when human nature is left to itself, a Hobbesian and Darwinian behavior is exhibited. Computer criminals do not perceive or at best perceive in a distorted way, the nature of their actions because they have been trained to conceive of immorality only in human interactions.
- e) The complexity of the constantly changing infosphere makes long-term global consequences of the agent's actions impossible to predict accurately.
- f) Individual rights (specifically of types of privacy) become more important not just as an agent, but also as a potential target of another agent's actions.
- g) In virtual action, individuals are not evenly strong. Some individuals are completely left behind, while those who master technology excel in employment opportunities and redefine notions of literacy. The 'game' of virtual connection is heavily biased in favor of the hacker. Most computer crimes still remain undetected, and therefore unpunished.⁷⁸

There are federal and local laws protecting individuals against attacks on computers, passwords and privacy, but many crimes are less explicitly computer crimes and are typified by the use of computers to keep records, or transmit messages over the Internet.

⁷⁷ Floridi, "Information ethics: on the philosophical foundation of computer ethics," 40-41.

⁷⁸ Floridi, "Information ethics: on the philosophical foundation of computer ethics," 40-41.

Although the importance of the instrumentation of computers in crime cannot be over-emphasized, there are reasons to acknowledge the view of others (David Newman for example) who argue that for reasons of “impersonal interaction”, there is a requirement for improved protocols governing the operation of a computer. In essence, Newman describes his activity of *research surfing*⁷⁹ when an unexpected pop up page appeared on his screen advertising pornography. Not only did the unwanted pop up page cause distress, but the attempt to return to the original browser page by pressing the back button simply opened up other suggestive images. When Newman tried to ‘close’ the window on his screen, yet another suggestive image and further advertising appeared. Not only are these unwanted pages automated to appear without request, but also they change the normal and customary operation of the computer. The web page authors changed the expected function of the ‘back’ and ‘close’ command keys, which changed the computer without the user/owner’s consent. Newman tries to argue that this situation of *impersonal interaction* “brings about a species of moral problem that is only possible with computers.”⁸⁰ Clearly, this situation violates one’s right to control one’s owned property as it prevents one from operating their computer as they wished. There are few ways the average user can anticipate this type of control from occurring and try to avoid the interaction. A normal expectation, says Newman, is “that web pages will not change the normal effects of the controls of a . . . computer.” Although Newman has a point, I am unwilling to accept that this situation is really new or novel in ethics; rather, it is novel or new technology. I would place this case in with those relating to privacy and treat it

⁷⁹ I mean this combination of terms to refer to the act of looking around for material needed for a research topic, not trying to find one specific piece of information known to be on the web.

⁸⁰ David V. Newman, “Impersonal Interaction and Ethics on the World-Wide-Web,” *Ethics and Information Technology* 3: 239-246, 2001: 241.

similarly to the ways in which we need deal with negative privacy rights. One possible solution as Newman proposes it is to create and enforce new protocols for the Internet that would prevent web pages from hijacking the controls of the computer. The success of this solution would be in terms of the reduction of impersonal interaction, not a total elimination, because Newman is well aware of the ability of hackers to circumvent protocols.

The theft of software is a multi billion dollar business some of which involves the Internet and much of which does not. Consider that a loaded computer or just some software may be physically stolen. Friends and family often copy software in direct violations of user agreements whether or not they are connected to the Internet. Since software is intellectual property, it can have tremendous value if, for example, a competitive company obtained unpublished code from another. Other types of software theft may fall into an area with less precision. Consider, for example, an employee using work related software in order to work at home, or the individual who wants to try (test) some software before investing in it. It is estimated that pirating software is out of control.⁸¹ Some software companies have cleverly created self-limiting characteristics on software. Quicktax TM cannot be copied, can only be downloaded once, allows only 6 returns to be run from one computer and virtually closes down after these have been used. This is a clever way to prevent pirating and is a wonderful example of Lawrence Lessig's notion that code can be a form of regulation on the Internet.⁸²

⁸¹ David Icove, et all., Computer Crime, A Crimefighter's Handbook, (O'Reilly & Associates Inc., 1995) 19.

⁸² Lessig, Code and other Laws of Cyberspace.

Sabotage can be explicit or subtle. Gaining control of national defense information, airline navigation, or security systems can cause enormous damage.⁸³ Viruses, worms and logic bombs can creep or explode on a network while unsuspecting users watch in vain. Denial of service (DOS) attacks such as mail bombs, wedging, spamming or flooding clog networks often crashing computers until available space can be reclaimed on the affected systems. Although nothing might be damaged, lost time due to systems crashing means lost money. Often the magnitude of the loss is difficult to measure, but the gravity of the loss relative to the size and nature of the system is considerable.

Trojan Horses attack the accuracy and integrity of the information stored in systems by sneaking in unauthorized instructions while performing a useful and authorized function. They are commonly used to commit fraud and are difficult to detect.⁸⁴ A typical situation is that a virus or worm⁸⁵ is hidden in a game or new program that promises to be exciting. The user is impressed by the initial exposure to the program but doesn't know that the fourth use, for example, will disable the entire network. Salami⁸⁶ computer crimes have been popular on the Internet. By slicing a thin portion from millions of bank accounts, fortunes can be gained. This strategy exhibits the dehumanization of any institution and allows the criminal to hide behind a cloak of innocence because the crime is so foreign to traditional stealing that it is not considered theft. When the amount missing is so miniscule (like a fraction of a cent) the crime is often never reported.

⁸³ Icove, Computer Crime, 19.

⁸⁴ Icove, Computer Crime, 45.

⁸⁵ A virus is a program that modifies other programs so they replicate the virus by inserting a copy of itself in the code. A virus doesn't infect networks as worms do, but can be inadvertently copied to a disk and transferred to another computer. A worm replicates itself on one computer and tries to infect other computers that are attached to the same network. (from Computer Crime p.46)

⁸⁶ Icove, Computer Crime, 47.

Unauthorized use of a computer system or use of a computer for unauthorized activities in an organization may or may not be deemed criminal depending on the jurisdiction of the activity, the nature of the activity and the guidelines and restriction of the organization.⁸⁷ In general, when the financial loss to the organization is small, the violations are not reported nor are the criminals found or prosecuted.

The prevention of computer crime seems to be the first step in handling it. Computer crime prevention focuses on various types of security from the physical security of the system to the personnel security of the user. Detection of a security violation is important because so many intrusions can cause damage or cost corporations dearly but leave no trace. And finally, the prosecution phase must provide appropriate laws for gathering and handling evidence, have expert witnesses who can follow the criminal's trail, provide some sort of retribution for the act (when and if possible) and finally serve as a deterrent to future criminals.

In addition to these crimes or acts of wrong-doing, there are many policies, regulations, standards principles and protocols regarding the Internet that are to be followed. Here are some of the norms found on and about the Internet. The People For Internet Responsibility (PFIR) have several documents revolving round ethical issues like 'Statement on Internet Policies, Regulations and Control, Legislating Internet Security, A proposal for Representative Global Internet Policy Organization, and Basic Principles.'⁸⁸ These tend to be general concerns about the present and future of the Internet developed by an ad hoc group. Although this group is concerned with normative issues regarding the operation, the development, management and regulation of the Internet, there are no

⁸⁷ Iove, Computer Crime, 21.

⁸⁸ PFIR home page will give access to these and many other documents see <http://www.pfir.org/>.

‘SMART’ (specific, measurable, achievable, realizable and timely) recommendations in the literature I could find at the time of this writing.

There are guiding principles from the ISOC (Internet Society) including:

- ◆ Open, unencumbered, beneficial use of the Internet
- ◆ Self-regulated, content providers; no prior censorship of on-line communications
- ◆ On-line free expression is not restricted by other indirect means such as excessively restrictive governmental or private controls or private controls over computer hardware or software, telecommunications infrastructure, or other essential components of the Internet
- ◆ Open forum for the development of standards and Internet technology
- ◆ No discrimination in use of the Internet on the basis of race, color, gender, language, religion, political or other opinion, national or social origin, property, birth or other status
- ◆ Personal information generated on the Internet is neither misused nor used by another without informed consent of the principal
- ◆ Internet users may encrypt their communication and information with out restriction
- ◆ Encouragement of cooperation between networks: Connectivity is its own reward therefore network providers are rewarded by cooperation with each other.⁸⁹

Again, these are vague statements with interpretations of terms like ‘beneficial’ left to the reader’s discretion. There is a document issued by the IAB (Internet Activities

⁸⁹ Internet Society, Internet Society Guiding Principles, Feb. 2003
<http://www.isoc.org/isoc/mission/principles/>

Board) concerning the proper use of the Internet according to the US government.

Activities deemed to be unacceptable and unethical include any that purposely:

- ◆ Seek to gain unauthorized access to the resources of the Internet
- ◆ Disrupt the intended use of the Internet
- ◆ Waste resources (people, capacity, computer) through such actions
- ◆ Destroy the integrity of computer-based information, and/or
- ◆ Compromise the privacy of users⁹⁰

The terms are vague and clarification is needed for these unacceptable activities to be clearly defined for identification and prosecution. There are similar types of documents listed as Codes of ethics for Engineers⁹¹ and Codes of ethics and Professional Conduct provided by ACM (the Association for Computing Machinery).⁹² Unfortunately, they provide moral imperatives like 'be honest and trustworthy'; Professional responsibilities like 'accept and provide appropriate professional review'; and Leadership imperatives like 'manage personnel and resources to design and build information systems that enhance the quality of working life.' There is no doubt that these are honorable codes, but are lacking in specificity and add only to the flavor of the intentionality of Internet users and professionals, not instrumentally to regulation which can make them realizable.

The National Board for Certified Counselors (NBCC) provides a Code of Ethics for various forms of counseling as minimum standards to be used by counselors, clients, the public, counselor educators and organizations that examine and deliver Internet

⁹⁰ Internet Activities Board document sent to me as an internal document used today in the Canadian Government as a guide for action. It is document 1087 written in January 1989.

⁹¹ This document was embedded in an on-line course outline. <http://www.nd.edu/~rbarger/engine.html>.

counseling. What is valuable is that this group provides a list of adopted standard practices that are reviewed as a result of the recognition that as technology advances, acceptable practices may have to be revised or reformed. One of these specific guidelines is as follows:

- ◆ ‘The Internet counselor has an obligation, when appropriate, to make clients aware of free public access points to the Internet within the community for accessing Internet counseling or Web-based assessment, information, and instructional resources.’⁹³

These types of more specific guidelines are useful even though they are not necessarily regulated with punishment other than being excluded from the list of recognized ethical counselors. Legal regulations on such matters will flow from these guidelines.

Category 3: Social Impact concerns:

How the Internet affects our global society and values:

In addition to the norms found on and about the Internet, there are some directions of the use of the Internet that underscores ethical issues. Sara Baase points out the “importance of learning about the social, legal, philosophical, political, constitutional, and economic issues”⁹⁴ of our technological revolution as responsible members of society. She, however, deals specifically with ethical issues as they pertain to computer professionals, calls for standard personal values like honesty, responsibility and fairness to guide action, and does not deal with the social values she sees as important to

⁹² Association for Computing Machinery (ACM) Code of Ethics and Professional Conduct, Feb. 2003
<http://www.acm.org/constitution/code/html>

⁹³ National Board of Certified Counselors, Code of Ethics Feb 2003.
<http://www.nbcc.org/ethics/webethics.htm>

consider.⁹⁵ It is this collection of social values, along with judgements and ethical considerations, which seem suspended, inappropriate or irrelevant when assessing behavior on the Internet.⁹⁶ Berners-Lee is concerned about the standard values of “information quality, bias, endorsement, privacy and trust” being susceptible to exploitation by certain users.⁹⁷ However one defines ‘values’ it is clear that the Internet affects them, and that there are ethical implications when examining them.

Debra Johnson claims that a ‘seemingly endless set of ethical issues’ resulted from the expanded use of the Internet in so many different ways in so many different domains of life.⁹⁸ While the Internet transforms and re-creates our world, pre-Internet concerns resurface. Issues like privacy and property rights, which were concerns during the information gathering stage of the technological evolution, were resurrected and became more complicated because of the Internet. The technology became more complicated too, by providing a new reality. Floridi agrees that the Internet has a significant impact on people in society and says that “the Internet has transformed the physical citizens of a modern society into the disembodied netizens of a postmodern cybercommunity”.⁹⁹

◆ Commercialism:

An increase in commercialization on the web challenges social values of our communities. The Internet was the technological marriage of telecommunications (such

⁹⁴ Baase, A Gift of Fire, v.

⁹⁵ Baase, A Gift of Fire, v.

⁹⁶ This concept taken from Hoffman and Moore in their book Ethics and the Management of Computer Technology.

⁹⁷ Berners-Lee, Weaving the Web, 125.

⁹⁸ Johnson, Computer Ethics, ix.

⁹⁹ Floridi, “Internet: which future for organized knowledge, Frankenstein or Pygmalion?” 264.

as telephone lines, cable, TV wires and satellite channels)¹⁰⁰ with computers providing an unparalleled range of information at an enormous speed. This marriage, however, was, and *is* fused with commercialization. The Internet, according to Professor Randal Marlin, is used predominantly:

1. to send and receive electronic mail (e-mail) messages;
2. to engage in bulletin boards (where ideas are floated, questions asked and answered by others, debates pursued etc);
3. to circulate and access information via mailing lists (where advertisers as well as information providers indulge); and
4. to access information through search engines, or provide web-sites for location by search engines.¹⁰¹

In addition to Marlin's items, I would add that chat rooms have flourished and have become a predominant area of Internet use. E-commerce, arguably the reason so much effort and money has been placed on developing the Internet, is a growing not yet fully materialized business with e-bay being one of the most successful businesses relying totally on the Internet. Although other e-businesses such as '• Coms' successes have been rare, the expectations are that Internet market opportunity will expand rapidly. The potential for this business model has always expected to be in hyper-growth mode.

A significant pressure on privacy issues surface as the envelope for accumulating information like buying patterns, shopping preferences and new advertising methods is pushed. The successes of these types of accumulated information stashes allow commercial Internet business to flourish through targeting specific customers and

¹⁰⁰ Berners-Lee, Weaving the Web, 18.

¹⁰¹ Marlin, Propaganda, 286.

evaluating projects quickly. Clearly, 'cyberspace' (to which the Internet is sometimes referred) is *not* a non-commercial or a non-profit entity in the way Berners-Lee began the project. Marlin suggests that the Internet may in fact help to commercialize rather than inform. Much of the information accessible on the Internet is clouded with advertisement or is better classified as 'infotainment'.¹⁰²

McChesney¹⁰³ claims that private corporations have unquestionably been determining the future of the Internet. Commercialization and private organization influence might out-shadow the benefits of connecting like-minded people to each other for discussion and information sharing. These influences are seen during web research as unwanted windows pop up to advertise anything from books to porn, and as spam clogs mailboxes.

♦ Virtuality:

'Virtual reality' or simulation activities provided advanced medical imaging, scientific models, and even computer program testing simulation processes, but not all created realities were of the positive sort. 'New' challenges of the potentially negative sort began to emerge as well. Floridi illustrates one challenge by directing attention to our human tendency to anthropomorphize computers. We tend to project human agency to the computational system. 'It is not unusual', he says, 'to hear people dismiss an error as the fault of a computer.' In a recent meeting, an attendee declared, "computers are incredibly intrusive" as an accusation of unwanted 'computer behavior' resulting from the programming of *Word* documents to capitalize first letters of words typed on a new line. Along with the birth of the *computer consciousness*, is the death of the human

¹⁰² Marlin, Propaganda, 293.

¹⁰³ Marlin, Propaganda, 293-296.

agent's sense of moral responsibility and the rationalization of 'victimless'¹⁰⁴ crimes began to get noticed. In fact Floridi presents, as proof that CE problems cannot be solved with traditional ethical theory, the notion that victimless crimes are evident on the computer. To extrapolate, we can also extend this argument to the notion of virtual criminals who can rationalize their behavior and reject responsibility for their criminal action because of novel identity confusion. The notion of participating in a crime because one cannot identify a victim is an ethical issue that needs to be considered in any discussion of IE.

Individuals are able to try on and adopt 'virtual' carefree personalities and are able to experiment in realms that might have been avoided in their identifiable 'real' and responsible selves. A *twentieth-century virtual masquerade ball* has developed and is still attended regularly by millions of computer users. The human agent is often anonymous, often untraceable and is able to role-play in a seemingly theatrical or virtual setting with responsibilities distanced and diminished beyond reclamation. There is a direct relationship between the lack of commitment and the degree of anonymity.¹⁰⁵ An anonymous, untraceable agent can create many different digital personas. A digital or virtual persona can provide a different sense of self, which can alter interaction with the digital other. A virtual self might be a freer, empowered and more socializing self but this distorted self may be devoid of the commitment associated with the actions of that self and may also overstep the traditional boundaries of personal interaction.¹⁰⁶ With

¹⁰⁴ Where victim is taken to be a particular person versus an institution like a bank or software company.

¹⁰⁵ Brian T. Prosser and Andrew Ward, "Kierkegaard and the Internet: Existential reflections on education and community," *Ethics and Information Technology* 2, 2000. Much of this article speaks to this concept.

¹⁰⁶ Prosser and Ward, "Kierkegaard and the Internet", 173.

anonymity a lack of a sense of commitment in personal interaction often results. For some, the experimentation with a novel identity can be fun, liberating, and maturing¹⁰⁷ but for others, the temptation to engage in anonymous technical fraud, libel or deception has resulted in perplexing ethical considerations.

Anonymity tempts illegal action. Estimates in excess of 12 billion dollars in North America alone are reported for telecom fraud. But the same technology is also used to capture the perpetrators and remains a huge money making industry as well. Floridi proposes that human nature is perhaps more rule dependent than virtuous.¹⁰⁸ Floridi says that:

Computer criminals (often perfectly respectable and honest people) often do not perceive, or perceive in a distorted way, the nature of their actions because they have been educated to conceive as potentially immoral only human interactions in real life, or actions involving physical and tangible objects.¹⁰⁹

These virtual challenges of camouflage and deceit enabled by the Internet; the ease of engaging in hidden advertising, or the ease of maintaining anonymity as a result of technology are issues that Internet ethics needs to tackle in an ideal sense, or at the very least, acknowledge as a concern.

¹⁰⁷ The popular children's trilogy by Philip Pullman (*The Golden compass*, *The Subtle Knife*, *The Amber Spyglass*) demonstrate the trial of different personalities (called daemons in the novels) as a way for pre-pubescent children to find their true selves.

¹⁰⁸ Floridi, "Information Ethics" 5.

◆ Addiction:

Unanticipated negative aspects of the Internet on society include the addictive human factor. 'Pathological Internet use' is a documented and clinically legitimized condition concerning inappropriate use or addictive use (or both) of the Internet. "'Web-addicts' [are] people who engage in repetitive, obsessive, interpersonally dysfunctional, anonymous interactions with other people."¹¹⁰ Personal experience has provided witness to people totally immersed in cyber-cocoons neglecting personal health and a balanced life-style. Children are particularly susceptible to this seductive medium, and recent news bulletins¹¹¹ have reported that young teens are skipping school to spend time at local libraries indulging in this sedentary activity. Unfortunately for the teens, their activities are less associated with seeking information and more predominantly focused on finding pornographic sites, playing computer games or chatting on-line with friends.

◆ Lack of Zoning:

It is also an unfortunate reality that children (under 19) are able to purchase restricted goods such as tobacco products over the Internet. Certain geographical areas (zones) have been able to enforce regulations to circumvent underage access to restricted goods like getting signatures from adults when the goods are delivered, but these regulations are stopgaps to limit the damage caused by loose regulations on the Internet. Human addictive tendencies have been around since snake oil and opium and cannot be blamed solely on the Internet, however, in any discussion about Internet Ethics, these issues need to be taken into consideration.

¹⁰⁹ Floridi, "Information Ethics" 5.

¹¹⁰ Prosser and Ward, "Kierkegaard and the Internet," 169.

◆ Software:

Historically, the development and success of the personal computer and network access to interconnected webs both in the private and business sector focused ethical concerns into the software domain. Issues of software ownership, intellectual property ownership, and software responsibility and liability rose to meet the growing list of ethical concerns. Recent digital music material available on-line from Napster led the music companies to file suit, win and essentially shut the Internet site down legitimizing the copyright laws relating to music that pre-dated the Internet.¹¹² Without shutting this site down, users felt perfectly justified in taking what did not belong to them. What is available on the Internet seems to be free at least as far as society is concerned. In the real world, not all property needs to be locked away in order for ownership to be understood. A bicycle in someone's backyard is not free for anyone to take. If it were to be taken, the bike would be considered stolen. In the virtual world, what is available, even if ownership is understood, is often taken without guilt, remorse, or the admission of theft.

◆ Transformation:

It is important to realize that the Internet can have deceptive powers over our social and political life. It is deceptive in the sense that it has the ability to alter while the changes are largely unnoticed. Graham says the Internet can be transforming in two ways. The Internet has the "ability to serve recurrent needs better" which allows for

¹¹¹ CFRA news report early April 2002.

¹¹² Nabster still exists but has been prevented from providing any copyrighted music material.

both a qualitative and quantitative increase in power.¹¹³ What this means is that we can do more with technology in general and with the Internet in particular than without it. Graham shows the relationship of this increased power (in terms of information) with increased choice. This choice settles at the level of the people, and as users participate, it provides more power to the people. The second way the Internet is transforming is that it ignores national boundaries, which changes and challenges notions of community, and socio-political behavior. These transformations may be considered progress, or may be challenging notions of value in our society and as such, need to be examined for ethical content. One such transformation is the altered way we come to understand or perhaps re-define 'community' with Internet use.

◆ Community

In cyberspace the individual is regarded as part of a relation one has to other people or other groups independent of geography.

In a geographically based world, the embodiment of a person is an essential component of his or her identity. This physical embodiment adds a certain stability to the person's identity and accounts for a significant portion of one's own sense of self. In cyberspace, though, divorced from an embodied existence, personal identity is increasingly determined by the information relations that one has to other people. At its most extreme, the self is entirely constituted by those information relations. However, without the geographical grounding, the information communities in which one participates often have no common link.¹¹⁴

¹¹³ Gordon Graham, *The Internet: A philosophical inquiry* (Routledge, 1999) 37.

¹¹⁴ Prosser and Ward, "Kierkegaard and the Internet," 174.

The notion of community changes from a geographically bounded association to information relations. Given the ability for agents to select diverse digital identities, the association to Internet communities can be transient and unreliable. It is not unusual, then for the Internet to be considered a major cause for an increase in individualism in our society. There are other causes that are significant contributors to our social changes including individualism. Graham points out that the decline of family unit, the acceptance of birth control methods, an increase in formal education, and increase in hours of watching television coupled with a decrease in voluntary associations and social networks like church groups and clubs are contributing factors in our changing society. Sara Baase adds that modern transportation and working mothers are additional factors changing society and that these changes began before the widespread use of the Internet.¹¹⁵ In fact, she argues that the automated service offered by the Internet frees up time to socialize “with people we know well and associate with by choice.”¹¹⁶ She supports her argument further by revealing that because the Internet “conquers distance” the population is reversing the concentration in cities in favor of small town where a traditional sense of community and connection flourishes.

Not all social science reports agree with Baase. The Internet was associated directly with “declines in social involvement as measured by communication within the family and the size of people’s local social networks . . . with increases in loneliness. . . [and] with increases in depression”¹¹⁷ in a Carnegie Mellon study. Stanford University’s Norman Nie concludes that there is a direct relationship between the increased number of hours of Internet use the decreased number of hours interacting with real human beings.

¹¹⁵ Baase, The Gift of Fire, 296.

¹¹⁶ Baase, The Gift of Fire 296.

Nie generalizes his findings as a wave of “social isolation” in the United States leaning toward “an atomized world without human contact or emotion.”¹¹⁸ The visual impact of a ‘TechnoCocoon’¹¹⁹ illustrates the way the Internet is changing society.

The complexity of the Internet shows in the paradox identified by Mick and Fournier. They show polar-opposite conditions existing at the same time. These are: control/chaos; freedom/enslavement; new/obsolete; competence/incompetence; efficiency/inefficiency; fulfills/creates needs; engaging/disengaging; and finally, assimilation/isolation.¹²⁰ Floridi points out yet another paradox. “The Internet is fostering the growth of knowledge, while at the same time generating unprecedented forms of ignorance.”¹²¹ This paradoxical nature of the Internet explains the two camps of isolation and assimilation previously identified. Some users reported an increase in the affiliation with others with respect to the Internet while others used it as a way to avoid direct personal interactions.

Sarah Baase acknowledges the impact of the Internet on community interaction with isolation and greater individuation. An increase in Internet use at schools is dangerous, she says, as it tends to downplay the social skills normally learned by children through personal interaction with teachers and fellow students. The ‘value’ of people and personal connections may be lost to those children she says.¹²² Although addiction to the Internet is a real problem for some people, the Internet also acts to form online communities through similar interests.

¹¹⁷ Prosser and Ward, “Kierkegaard and the Internet” 169.

¹¹⁸ Prosser and Ward, “Kierkegaard and the Internet” 169.

¹¹⁹ Prosser and Ward, “Kierkegaard and the Internet” 169.

¹²⁰ Leon Schiffman, Elaine sherman and Mary M. Long., “Toward a Better Understanding of the Interplay of Personal Values and the Internet,” *Psychology & Marketing*, Vol 20(2): Feb 2003, 172.

¹²¹ Floridi, “Internet: which future for organized knowledge, Frankenstein or Pygmalion?” 264.

¹²² Baase, *A Gift of Fire*, 295.

Internet communities are based on common interests with rules (or norms or standards) which establish voluntary membership. They are unlike traditional off-line communities in that they are “blind” to gender, ethnicity, handicap and geographical location. This “relative blindness”¹²³ increases freedom of expression and cultivates the exchange of ideas. ‘Open source’ is an Internet community working in programming languages, software applications and intrusion detection devices with requirements, rules and common practices which must be met for a piece of software or source code to be officially labeled ‘open source’.

The **basic idea behind open source** is very simple: When programmers can read, redistribute, and modify the source code for a piece of software, the software evolves. People improve it, people adapt it, people fix bugs. And this can happen at a speed that, if one is used to the slow pace of conventional software development, seems astonishing.

We in the open source community have learned that this rapid evolutionary process produces better software than the traditional closed model, in which only a very few programmers can see the source and everybody else must blindly use an opaque block of bits.

Open Source Initiative exists to make this case to the commercial world. Open source software is an idea whose time has finally come. For twenty years it has been building momentum in the technical cultures that built the Internet and the World Wide Web. Now it's breaking out into the commercial world, and that's changing all the rules.¹²⁴

The claims made by Open Source advocates have been challenged, but it serves as an example of users of the Internet developing their own rules. These Open Source rules are not only changing the way commercial software has traditionally been developed in closed houses, but are also changing ethical rules of the Internet. Those who wish to be part of the community must follow these rules labeled by this community as ‘criteria’. Some of the criteria include free redistribution, integrity of the author’s source code, no discrimination against persons, groups, or fields of endeavor, and technology-neutral and

¹²³ Graham, The Internet 143.

unrestricted software licenses.¹²⁵ Open source participants are an example of a group developing a type of Internet Ethics that begins and is re-enforced at the grass-roots level. It is non-traditional because it addresses neither the inherent virtue nor vice of humans, but instead calls on a group (in this case a virtual Internet community) to form and maintain the rules. Although we could undoubtedly find examples within this community of violations of traditionally held values like democracy¹²⁶ the point is that this community is shaping the way we can see ethical considerations expressed on the Internet.

Internet communities are utilized for computer mediated communication (CMC)¹²⁷ in the education process. A close examination of whether students and teachers are linked together as a community through Internet based courses reveals a derivative model of the traditional notion of 'community'. A 'community of learners' has traditionally meant a physical, interpersonally linked, geographically based group of students. This tradition has been challenged as students and teachers network globally. Bricks and mortar classrooms or lecture halls can be shifted to 'virtual classrooms' with global inclusion. But virtual classrooms do not necessarily enhance education, nor do they foster traditional concepts of community. Rather, isolation, the inability to distinguish the trivial from the important, the destabilization of authentic relationships between individuals (teacher to student, student to teacher, student to student and in some cases, teacher to teacher) and impersonal, incomplete communication (because e-mails and on-

¹²⁴ Open Source Initiative, OSI, April, 2003 www.opensource.org.

¹²⁵ Open Source, April, 2003 http://opensource.org/docs/def_print.php.

¹²⁶ It is commonly held that these types of communities are dominated by technical 'gurus' who make unilateral decisions rather than seek majority opinions or other types of consensus agreement.

¹²⁷ Communications that make use of the Internet, the world wide web, or some similar form of information technology as outlined by Prosser and Ward in their article 'Kierkegaard and the Internet'.

line chat rooms exclude body language and tone) are often fostered. It can be debated whether e-learning is a 'better than no education' model, or an 'equal or superior model' of education. What cannot be debated is the novel notion of community.

The values, attitudes and beliefs a society has about community share ethical and non-ethical concerns. The novel notion of community related to education might be an experiment with future results to be determined by the students and teachers involved. It might be discovered that the lack of personal relationships in early learning could create 'impersonal' communicators in the future. This potentiality may or may not be considered an ethical concern by some, but ought to be realized as likely change in the values, attitudes and beliefs of our society. The altered notion of community from geographical associations to associations of information relations has clearer ethical potential. Whether the Internet promotes individualism and loneliness or whether it promotes integration through relative blindness are ethical social concerns that need to be examined and re-evaluated frequently. These social concerns are ethical concerns as are those of a political nature like the role of democracy in any society.

◆ Democracy:

Proponents of the Internet argue that societies become more democratic with this technology because more people can obtain more information and express their opinion more easily. Knowing more, however, can lead to frustration, as there is no direct connection with being able to do more with the increased information and knowledge one acquires. Luddites counter this argument for democracy via the Internet with the

observation that many groups are self-forming and further that the Internet promotes anarchy.

It is assumed that democracy is a good thing, and that if the Internet is the means to a more democratic world, it too must be good. Two questions are apparent. The first is to question whether democracy as experienced in the Western world is a good thing, and the second is to question whether, in fact, the Internet contributes to a more democratic world.¹²⁸ Graham argues that democracy may only be theoretically plausible in small, self-governing cities where all people would gather in a common area, a political forum would be held, and all would participate in decision making. This direct form of democracy was partially demonstrated in ancient Greece; however, it was not representative of all, because women and slaves were excluded from the process.¹²⁹ Today, democracy is not direct but only representative, and delegates either represent the views of their constituents or make decisions based on the known interests of them. Some representatives use their own knowledge and judgement to make decisions regardless of the wishes of constituents because they feel that they have been voted into office not to make decisions based on the wishes of the constituents, but instead, on behalf of the constituents.

It is important to reiterate that only a small portion of the world has access to the Internet. If the Internet can contribute to a good form of democracy, then it can do so in only in the homes of North Americans and Western Europeans who have a high portion of the population with access to the Internet. It is estimated that two fifths of the Internet user population is in the United States, and roughly two fifths are in Western Europe.

¹²⁸ Graham, The Internet 59.

¹²⁹ Graham, The Internet 62.

If the amount of information and the timeliness of the information provided to the population are indications of achieving democracy, then the Internet has much to offer. Graham says, "If availability and efficiency of the means of communication and expressions are important elements in the realization of democracy, and if in the Internet we have an unprecedentedly good means of communication and expression, we may infer that the Internet puts within our grasp an unprecedentedly good form of democracy."¹³⁰

The nature of information available on the Internet needs to be examined more closely.

◆ Information:

Certainly, the Internet has vast amounts of available information, and this information is available faster than newspapers or television reports can provide. The information, however, is not always accurate. Information on the Internet is not checked for accuracy¹³¹, and misinformation¹³² may be continually reinforced. Often rumors in chat rooms are repeated and can ultimately influence things like stock market prices positively or negatively. Accredited information is not properly understood. The Internet is only a medium, but inhabited with virtual personalities who can deceive. We may be fortunate to find sites like *Encyclopedia Britannica* with a long history of accredited information, or can be scammed by a seemingly medical site selling ineffective herbal remedies. Some sites are simply more trustworthy than others, but detecting these on the Internet is not

¹³⁰ Graham, *The Internet*, 66.

¹³¹ There are some 'authenticated sites' which publish only researched information.

¹³² Misinformation is commonly understood to include the intent to misinform. For an alternate view, see "Information and Its Counterfeits: Propaganda, Misinformation and Disinformation" by Elizabeth Kirk of Johns Hopkins University. <http://milton.mse.jhu.edu/research/education/counterfeit/html>

obvious. Rules for Internet research have been developed in order to try to deal with the plethora of accurate and misinformation available to trusting users.

Our ability to discern the important information from the trivial or the accurate from the inaccurate is suspect.¹³³ Superficial, vicarious interests are fed infotainment and frivolous tidbits consisting of a movie star's latest escapades or the latest survey on "Why men lie" on the Internet.¹³⁴ Newsworthy items are not as visible, and when accessed can contain less than accurate 'factoids'.¹³⁵

Those with power and financial backing can influence through the Internet. Those without can speak, but cannot influence to the same degree because they cannot purchase the expensive web eye candy. The less powerful have a weaker voice on the Internet and are often drowned out by the volume of the powerful. Web-sites promoting corporate propaganda lure surfers in with interactive, attractive sites spewing half-truths or biased statistics. Monsanto has such a site promoting Genetically Modified Organisms (GMO's or GMF's – Genetically Modified Foods). These sites are often countered by opposing groups who promote their version of the truth. The result of this propaganda battle is that the influence of each site is diluted with the number of sites increasing so significantly. Graham points out that as the amount of information grows, the attention to any one site decreases. Satellite television is another example of a dilution of programming due to the hundreds of stations available.

With so many sites to choose from, it is more likely that the Internet will attract the like-minded to coagulate and cause social fragmentation. Discussion and debate on the Internet serves to reinforce opinion in these cohesive groups rather than shedding light on

¹³³ This concept is taken from Prosser and Ward, in their article "Kierkegaard and the Internet".

¹³⁴ Simply view an ISP welcoming page like that of AOL to verify this claim.

an opposing view. Those with opposing views tend to gravitate to a site reflecting their own opinion and dark silos of entrenched opinion develop.

Because access to information and listing of information is essentially unconstrained, there is no real system of censorship.¹³⁵ The Internet provides a perfect burgeoning ground for the criminal element. Terrorist conspiracies and dangerous instructions for things like the making of bombs in addition to pornography flourish on the Internet. It is the *irony of the Internet* that increases knowledge and freedom, but simultaneously increases harm and fear. To re-state Floridi, the paradox of fostering knowledge growth and generating ignorance proliferates. Graham contends that liberty can be destructive in that it can encourage dissent and untutored desires.¹³⁷

◆ Free Speech

Another current topic that is hotly debated is *Free Speech* and the Internet. Although free speech relates most recognizably to pornography (obscene material), it is “the right to be free from punishment by the government in retaliation for at least some speech.”¹³⁸ Free Speech is a constitutional right in the United States. It allows one to criticize politicians (even the President) but does not protect one from threatening him or her. It is a value shared by North Americans, but not necessarily shared by the rest of the world. Repressive regimes like China, for example, reject this political ideology completely.

¹³⁵ Anne P. Mintz, *Web of Deception*, (New Jersey: Cyberage Books, 2002) XVII.

¹³⁶ There is censorship in North America for pornography, and in Europe for hate speech, but these restrictions challenge law and enforcement which must be able to tightly define the offenses.

¹³⁷ Graham, *The Internet*, 99.

¹³⁸ Lessig, *Code and other Laws of Cyberspace* 164.

Scandinavian countries are puzzled over western myopic notions of freedom when they see that only the wealthy can speak and pornography is repressed.¹³⁹

If we look specifically at Internet pornography as an issue of free speech, it is apparent that there is no easy solution. For example, the distributed nature of the Internet with packets of information distributed along asynchronous networks makes control difficult. Because the current system was developed as a decentralized network, there is a challenge in regulating content should regulation be the desired manner to deal with pornography. Since the Internet was originally developed for military and academic purposes, the values exhibited by this select group that might include “tolerance of dissent and antipathy to control”¹⁴⁰ heavily influence the current debate about content in general and free speech in particular. American culture, their constitutional history and their dominance in terms of Internet use has a significant impact on how IE is seen and addressed, especially in the matter of free speech. Who will decide on sensitive issues of pornography, how we select what group has decision-making power and where responsibilities for IE rests, are significant challenges to be tackled. Where and how to identify, filter or block information deemed pornographic is a complicated project with problems yet to be solved because there is not one entry point that all information on the Internet must use. Whether we recruit companies specializing in infrastructure, browsing capabilities, portal businesses or Service Providers, different values will result in different recommendations that may not be transferable to our global neighbors. Indeed the very complex nature of the technology, the rapid advancement of the technology, the

¹³⁹ Lessig, *Code and other Laws of Cyberspace* 167.

¹⁴⁰ Roger Darlington, “Internet Ethics: Oxymoron or Orthodoxy?” Nov. 2002 <http://www.rogerdarlington.co.uk/Internetethics.html>.

global pluralistic values to consider all combine to create this virtual and multidimensional labyrinth an ethical Pandora's Box.

◆ Surveillance

Surveillance of city streets infringes on privacy laws. The streets hiding cameras do not inform pedestrians or drivers that cameras are activated. Although streets are public, the accumulation of information gathered while watching public streets, in conjunction with other unrelated pieces of information could lead to false accusations. A suspected international terrorist might be asking someone for directions, but the street cameras only capture an extensive conversation with an innocent party who might then be associated with a terrorist group. The concept of being in public while on a city street brings with it the assumption that any party watching is in some sense visible. A stolen kiss between two lovers when 'no one is watching' is reasonable behavior whereas the same couple may refrain if they knew street surveillance was activated.

In spite of these challenges, there are North American streets virtually 'watched' continuously. It seems that some in society are willing to give up certain rights for other rights, namely rights privacy for rights of safety. The point at which the slippery slope descends into the absurd and one right is allowed to completely override the other is contingent on the individual and that society.

In an Internet study in Pakistan that examines the transmission of HIV, global communities of research and health professionals are challenged by the fact that results are difficult if not impossible to obtain because of the fear expressed by patients who have contracted the disease. The fear of death from fellow Muslims should the patient's

identity be accessed through the Internet is greater than the fear of dying from the disease.¹⁴¹

♦ Universal Access:

Access to information by those who have access widens the gap between those who have, and those who do not have access. There are various studies that support the economic and education factors leading to access to information. A family with college or University education with a higher than average family income is significantly more likely to have Internet access at home. These studies also show that children without basic computer skills and Internet surfing capabilities are disadvantaged because these skills are required for many jobs.¹⁴² Although computer products and Internet services are available at steadily dropping prices, Baase points out that all technological innovation is initially available to the rich early adopters.¹⁴³ She differentiates between the 'haves' / 'have-nots' and the 'haves' / 'have-laters'. There are market fixes for those who cannot initially or eventually afford computer services, as there are popular market fixes for those who cannot afford washing machines at home. Low-income neighborhoods stores selling used goods are adding computer products to their inventory. Cyber-cafes are popular and innovative storefront locations providing hourly Internet access for a fee. The ability to log on at a local cyber-café promotes only a very limited notion of universal access.

¹⁴¹ Pam Thomson, Acting Project Director, Canada Pakistan HIV/AIDS Surveillance Project (CIDA funded), Personal interview, May, 2003.

¹⁴² Baase, *A Gift of Fire*, 297.

¹⁴³ Baase, *A Gift of Fire*, 298.

Some say used (out-dated) equipment and cyber-cafes are just a 'fix'. The poor and disadvantaged do not have the same convenient access as the better off. Access at home with updated (whether new or upgraded) equipment is more convenient and therefore different than inferior home equipment with no access to the Internet. For access, those disadvantaged must travel to trendy cyber-cafes not normally located in the poor neighborhoods in which they are needed. Elementary, junior high, and high school students in poorer neighborhoods have to share computers at school (that is to say if the school has working computers at all) in higher ratios than schools in better neighborhoods.

Still, even if we could provide access to all households in our nation, we would have a skewed version of the notion of 'Universal'. Third world countries have neither the literacy rates nor the infrastructure required for Internet access. Access is contained within those countries that are privileged even if the access within those nations' borders is based on socio-economic factors. China is joining the Internet bandwagon by sidestepping the infrastructure requirement. Wireless cell phones have been extremely popular, and the technology to use cell phones for Internet access and use is rapidly evolving. Although China may have access to the Internet through the wireless phone system, the information available is severely filtered or blocked by the government. Access to the Internet does not then ensure access to information.

The relatively low cost of disseminating information, combined with the lack of special skills required to navigate (or surf) the net has contributed to the explosion of the use of this technology. Universal access to the Internet is reported by some to be the reason for the explosion of users. Some of the assumptions about worldwide access of

the Internet have lead to an examination of various definitions or interpretations of 'Universal access'. Statistics from various sources vary only slightly with 74% of experienced users¹⁴⁴ under the age of 45 years, 50% earning \$60,000.00 annually, and almost 90% having at least some college education.¹⁴⁵ If these demographic statistics are directly related to access, then access is hardly universal. Lack of universal access to the Internet, and lack of universal computer literacy both globally and intranationally, need to be recognized as a limitation to the acquisition of knowledge through this medium, but the exponential growth of the media cannot be ignored. It can only be expected that the services with the number of web-sites, users and networks will continue to grow at an exponential rate on a global level.

If the Internet development is based on universal access, and upon close examination one determines that access is indeed limited, then ethical considerations such as fairness or human rights are important to consider. If universal access is the goal, then an examination as to how the goal is to be reached and the progress in relation to that goal needs to be considered. Other social ethical considerations ought to be examined as well. One such consideration is the way in which the values of technology in general and the Internet in particular challenge the values of societies.

¹⁴⁴ Experienced users were considered those who had experience using e-mail, visiting chat rooms, surfing or using other Internet applications.

¹⁴⁵ Leon Schiffman et al, "Toward a Better Understanding of the Interplay of personal Values and the Internet" Psychology & Marketing. These figures are expressed in US dollars.

◆ Challenge Values

The Internet challenges values of societies. The types of values touted by technology are business values. These include 'efficiency' and 'productivity' and 'growth'¹⁴⁶. In one sense, we may even go so far as to say that there is a clash between these business values exemplified through technology, and, presumably other, human values previously mentioned like liberty, privacy and autonomy.¹⁴⁷

Neil Postman has a test that is intended to challenge technophiles and the assertion that technology has wonderful things it can do for us. He asks, "What is the problem to which... *blank*... is the solution?" For example, in one of his encounters when in the market for a new automobile he asked, "What is the problem to which the electric car window opener is the solution?"¹⁴⁸ Having previously felt no inconvenience in manually opening his car windows, he concludes that he is better off without this needless invention.¹⁴⁹ The value of a new type of technology that provides efficiency or convenience may in fact clash with traditional human values.

The Internet values are technologically driven in the sense that users want better resolution, faster speed and more memory. The traditional human values are challenged by the messages promoted by the commercialization of the Internet. Both of these value challenges entail ethical consideration. The promotion of business values over human values either alters the fabric of our society or is reflected because of the change of values of our society. In either case, the change ought to be recognized. One reason to do this

¹⁴⁶ These ideas are taken from Ethics and the Management of Computer Technology.

¹⁴⁷ These are commonly held western values that I can attribute to many authors, but I noted initially in Spinello's work.

¹⁴⁸ Graham, The Internet, 5.

¹⁴⁹ Graham, The Internet, 5. Unfortunately for Mr. Postman, there are no new cars manufactured without this feature.

is to provide awareness to users that the insidious nature of the Internet affects value change that is often unperceived. Another reason to examine the challenging of values once awareness has been achieved is to ensure that the change is desired. One such change is the identification of new needs or altered needs as the result of technology and as promoted heavily on the Internet.

◆ Need creation:

Postman's point is that we are often told we need things, particularly in the technological age, when we might have been better off without them. Our common sense intuitions are sometimes overshadowed by the novelty of new gadgets not really needed at all. Postman's values are based on necessity, when for most of the rest of the world, at least the North American world; value is based on other factors. Values such as convenience or efficiency; newness and increased productivity (because it is assumed that anything old must be inferior); and growth to drive up purchases for expensive and current goods are most common. Western materialism values technology and its ability to make what was at one time impossible a present day reality. Technology becomes the 'servant of desire'¹⁵⁰ as it stimulates new desires. Technology is a means to an end, and often an end in itself. Graham classifies 'information' (presumably the increased information as a result of the Internet), as one of these new and artificial needs. We come to depend on these new desires that were not previously needed. What comes to mind is the remote control, which in any true sense, is not needed, but has come to be essential, like automated car windows, in the production of many sound and visual devices.

¹⁵⁰ Graham, The Internet, 41.

The Internet in many cases outside of the work environment where some might argue it is essential, is simply a convenience. With it we are more easily connected to remote friends, can perform our banking while at home and can search for information rather than going to the library. Like the remote control, we depend on the Internet as essential to our being in the world. It is this significant change from the usefulness of the Internet to the dependence on the Internet that can have ethical concerns. As this particular form of technology changes values in society, we ought to step back and examine those changes to be sure we want to continue to accept those changes.

Technology in general and the Internet in particular not only can stimulate need, but can also alter our needs. Consider, for example, that we are now more likely to consider 'health' as extending life beyond previous age ranges over previous notions of avoiding sickness.¹⁵¹ The Internet has contributed greatly to this altered need. The commercialization of products and the easy access to unauthorized information via the Internet serves to extend and expand our needs. If the needs are considered healthy by a particular society such as the extension and expansion of knowledge, ethical considerations might be limited to ensuring that the 'right' knowledge is pursued. If, however, the needs are not condoned by a society, such as the extension and expansion of an accumulation of Nazi war propaganda then there are ethical concerns such as freedom of expression and controlling hate crimes to be examined.

There are other consequences as to the pervasiveness and dependence a society has with respect to the Internet. Some of these are the levels of pollution resulting from the use of equipment needed to access the Internet, the sedentary lifestyle promoted through

¹⁵¹ Graham, *The Internet*, 42.

constant Internet use and the challenge to the notion of what being human is in a post technological culture.

◆ Consequences:

Luddites who oppose technological innovation altogether are concerned with the consequences of the Internet, and challenge the assumption that most technological advances provide more benefit than cost. One could even challenge the values used to decide what is a cost and what is a benefit. The ‘usefulness’ of technology is a relative and subjective term. Many would argue that the usefulness of ‘better’ weaponry is in serious question, and yet technology advances this field. There are other costs to the Internet. The Internet, Luddites would argue, does not promote book reading, nor does it promote face-to-face communication. The value of reading a book and the value of face-to-face communication can be disputed but ought to be considered within the ethical arena within the context of a change in the values, beliefs and attitudes of a society. Ian Boal considers the Internet as “radical social isolation” chosen by computer junkies in “fantastical worlds of virtual reality”.¹⁵² Some of these Luddite opinions are so strong, that in efforts to preserve human values, they can lead to horrific actions. Consider this passage from Dr. Theodore Kaczynski’s (known as the Uni-bomber) Manifesto:

The industrial revolution and its consequences have been a disaster for the human race. They have greatly increased the life-expectancy of those of us who live in advanced countries, but have destabilized society, have made life unfulfilling, have subjected human beings to indignities, have

¹⁵² Graham, The Internet, 7.

led to psychological suffering in the 3rd world (to physical suffering as well) and have inflicted severe damage on the natural world.¹⁵³

The thirst to create a new technology seems to blind the technologist to potential unpredicted outcomes of the future. One cannot know that any potential benefit will outweigh future costs. Graham parallels this syndrome to the Faustian bargain,¹⁵⁴ like selling the future for some benefit today. It is assured that the Internet has consequences. In the joust between Luddites and technophiles, we must find a balance between the futility of technology for technology's sake and idealized technology. One grave consequence relates to the ecological effects resulting from the proliferation of the Internet.

◆ Ecology:

Certainly, there are ecological concerns regarding the Internet. We have all heard the fallacy of the paperless office due to e-mail. According to Edward Tenner, networking has actually multiplied paper use.¹⁵⁵ E-mails are more frequent than pre-computerized memos or letters, and may contain less information per printed page. With the experience of lost information either as a result of felonious system interference, or as a result of unintentional system failure, people in general feel more secure about having hard copies of documented business transactions and negotiated duties.

¹⁵³ Graham, The Internet, 7.

¹⁵⁴ Graham, The Internet, 39.

¹⁵⁵ Graham, The Internet, 11.

“Until recently, manufacturers and consumers haven’t had economic incentives to recycle”¹⁵⁶ outdated hardware. The poorer nations who are not privileged to the on-line world are the recipients of the polluted spoils of the technology. The rapidly changing faster, better, stronger technology promotes hardware obsolescence frequently. Consumers are persuaded to buy a new system for the same or less cost than upgrading a previous edition. The poorer nations who are not privileged to the on line world are the recipients of the polluted spoils of the technology. Chad Raphael from the Markkula Center for Applied Ethics in Santa Clara reports that Chinese villagers contaminate their drinking water by smashing lead-laden monitors for \$1.50 a day while children play in toxic heaps from burned circuit boards.¹⁵⁷ E-Waste is also sent to Mexico, India and other poorer nations. Reducing one nation’s pollution by shipping the waste to a poorer nation is unjustly discriminatory. If it is wrong for our water to be polluted, and for our children to bear the burden of super sites oozing hazardous waste, then how could it be right to co-opt another nation in need of funds to do so? The pollution is not only exported. Raphael points out that in 1997, 3.2 million tons of e-waste was dumped into U.S. landfills, and that this figure (according to the Environmental Protection Agency) has likely quadrupled over the last few years.

Voluntary plans for recycling have not been effective. An insignificant number of the millions of computers and peripherals sold every year are ever recycled by manufacturers. If manufacturers were required to take back products after their useful life, they would take more seriously the responsibility to re-design them responsibly with

¹⁵⁶ Chad Raphael, “Taking Responsibility for E-Waste,” Markkula Center for Applied Ethics, Feb. 2003 <http://www.scu.edu/ethics/publications/ethicalperspectives/raphael.html> 1.

¹⁵⁷ Raphael, “Taking responsibility for E-Waste,” 1.

more reusable parts and fewer hazardous materials and longer life spans. Manufacturers might even be more inclined to refurbish and upgrade rather than design for product obsolescence if sufficient incentives were to be offered, and consumers were less driven by the created need to have the latest novel system.

Another consequence of the Internet is the sedentary lifestyle it promotes.

♦ Sedentary lifestyle:

What is to be made of the sedentary nature of surfing on the net, the addictive tendency resulting from this seductive media, or the advertising we are subjected to when trying to do research?¹⁵⁸ Health concerns relating to obesity plague North America. It would seem that the Internet is not helping the battle of the bulge even if quick weight loss medications are unwelcome and advertised frequently. Pathological Internet use is a novel, high tech form of human compulsive behavior. "Web-addicts are people who engage in repetitive, obsessive, interpersonally dysfunctional, anonymous interactions with other people" are already a significant and growing group in the United States.¹⁵⁹ The 'cyborg' is a term describing a human individual who relies on technology for his or her survival. There is an unnatural bonding with the interface applications used on the Internet, and boundaries of the human and the machine are merged. This concept of the cyborg is a way of reflecting on the 'post' human, technologically addicted condition that is affecting our society. Some may refer to this condition as progress, but others see the changes as serious to humanity and conventions of being human.

¹⁵⁸ Graham, *The Internet*, 5.

¹⁵⁹ Prosser and Ward, "Kierkegaard and the Internet," 169.

◆ Human 'being'

Gordon Graham is sufficiently convinced that this type of technology so greatly impacts society that he asks if being in cyberspace is a 'new' kind of being. He distinguishes between 'new' and 'novel' with the comparison of a fresh car design being novel, and the invention of the automobile being new. When he talks of a 'new' kind of being, he is suggesting that the technology of the Internet so significantly alters our way of being in the world, that it puts into question the human 'being'. Being connected in the world, a form of personal interaction has been reconstructed in to being wired into technology. Being informed is now considered having access to vast arrays of unauthenticated data found on the Internet. Being political allows for less than ideal notions of democracy because polls taken through the Internet do not represent the opinions of those too poor or uninformed to participate through the false notion of 'universal access'. And being knowledgeable accepts knowledge as it appears on the computer screen. Knowledge is a social construct. It is clear that these types of concerns have ethical considerations and cannot be addressed with simply increasing technological fixes or regulating content.

These are some of the social values to be considered when discussing Internet Ethics. They are often ignored, set aside or are not identified when formulating norms for the Internet. It is true that some of these social values are not entirely influenced by the Internet, but ignoring them because the problem is too big or too complicated is not the answer. Although Internet norms are required, they must not be formed as a substitute for the impact the Internet has on social values.

For Berners-Lee, the intent to build the Internet to support the kind of society focused on *working together* was of primary importance. He wanted to provide personal interconnectedness through technological connections. His goal was to “assure that the Web accommodates the maximum diversity of public policy choices. In areas like freedom of expression, privacy, child protection, intellectual property, and others, governments do have a role.”¹⁶⁰ But he maintained that the individual’s control over his or her online experience trumped the effectiveness and the assurance of governmental laws. In the examination of this third category of IE concern, it is unclear that the individual has indeed maintained control over online experiences.

Having described three major categories of IE concern, I will now turn to InfoE as a potential ethical theory to address these concerns.

¹⁶⁰ Berners-Lee, Weaving the Web, 124.

Chapter 3

The intricacies of Luciano Floridi's Information Ethics

In this chapter, I will examine Luciano Floridi's mapping of the Computer Ethics (CE) debate. Floridi chronicles the development of CE in order to show how the differing views of what was required for CE were formulated as a reaction to what previous authors and experts said. It is important to stress that this is Floridi's logical history and his interpretation of what was significant, leads to his theory. His views are slightly altered from the evolution of CE provided for different purposes in Chapter One of this thesis. I used the history of CE to formulate topics to be included in discussions of CE and mapped them to the field of IE, and Floridi used his history to note the policy vacuum and how the other approaches failed to fill this vacuum.

An important clarification at the beginning of this chapter is required. Floridi uses the term(s) "macroethics" (and/or "metaethics" and "microethics") in a rather unconventional way. It seems that Floridi uses *macroethic* to mean a theoretical, field-independent, applicable ethic, such as deontology or consequentialism rather than the more common use of the term to mean clarification of terms and concepts, with a formulation of sufficient and necessary conditions for application of ethics on a macro level. Microethics according to Floridi is a practical, field dependent, applied and professional ethic.

Floridi developed an ethical theory to respond to what he considered the need for a macroethic to provide the framework for microethical practical requirements of CE, which were lacking in other approaches. In outlining the historical stages of CE development, Floridi takes the opportunity to provide a critique to traditional ethical

theories such as utilitarianism and deontology and explains that they are not adequate or effective for CE. Information Ethics (InfoE) is the innovative macroethic Floridi presents. After setting the historical development of CE through Floridi's vantage point the balance of this chapter is dedicated to unpacking the elements of his theory. A brief look at the historical development of the CE debate from Floridi's point of view will help to lay the groundwork for examining Floridi's theory more closely.

There are five approaches to CE ending with the innovative approach, which provides a new perspective allowing for the expansion of metaethics according to Floridi. He provides an overview of the history of CE beginning with the views of Moor and the absence of policies to deal with real world technical issues as technology advanced. I will present each of these and then focus on InfoE for the balance of the chapter.

In "Mapping the foundationalist debate in computer ethics," Floridi begins by explaining the need for CE stemming from the need for a practical tool required to deal with the concerns arising from Information and Communication Technologies (ICT). A *policy vacuum*, originally described by Moor in 1985 portrayed the absence of policies to deal with real world technical issues as technology advanced at a quicker rate than ethical, legal and theoretical developments.¹⁶¹ Unanticipated problems that surfaced in ICT needed practical answers, but there was no way of getting those answers due to the policy vacuum. The challenge for CE was to "reach decisions based on principled choices and defensible ethical criteria, and hence to provide more generalized conclusions – in terms of conceptual evaluations, moral insights, normative guidelines, educational programs, legal advice, industrial standards. . . which may apply to whole classes or

comparable cases.”¹⁶² Case studies were a way of studying decisions that could reveal defensible ethical principles leading to normative guidelines, educational programs and legal regulations.¹⁶³ The emerging field of CE operates in cyberspace, a novel metaphorical space, which is characterized as a self-contained, self-regulated environment.¹⁶⁴ This environment poses challenges unlike the challenges provided in the geographical real world.

Floridi chronicles the approaches to the foundation of CE that have resulted from the aforementioned challenge, and from the desire to produce a “coherent and cohesive discipline” for the justification of CE. The first of five approaches Floridi mentions is the ‘*no-resolution*’ approach, which is credited to Donn Parker. Attention to ethical issues began to surface as Parker focused on and examined the actions of computer professionals and their apparent willingness to leave ethics at the door when they entered the computer center.¹⁶⁵ Examples of computer crime were collected as evidence to show the lapse of ethical consideration within this selected group of professionals and to substantiate the need for ethical training for computer professionals. Parker conducted a test with computer professionals regarding technological scenarios. The results of this test showed that there was a wide diversity of opinion regarding the scenarios. He concluded from these results that there was no such thing as CE, and therefore it could

¹⁶¹ Luciano Floridi and J. W. Sanders, “Mapping the foundationalist debate in computer ethics,” *Ethics and Information Technology* 4: 2002, 1. The idea that the digital revolution outpaced ethical, theoretical and legal developments was attributed to Bynum 1998; 2000; Johnson 2000.

¹⁶² Floridi and Sanders, “Mapping the foundationalist debate in computer ethics,” 1.

¹⁶³ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 38.

¹⁶⁴ Luciano Floridi and J. W. Sanders, “Artificial evil and the foundation of computer ethics,” *Ethics and Information Technology*, 3: 2001, 55.

¹⁶⁵ Bynum and Moor, *The Digital Phoenix*, 276.

not be taught. But as Floridi cautions, “It is dangerous to infer, from inconsistent replies to a question, that it has no answer.”¹⁶⁶

Donald Gotterbarn criticizes the no resolution view as being too pessimistic. Further he criticizes Parker’s conclusion that there is no CE from inconsistent replies to questions relating to CE. It seems obvious that a diversity of opinion ought not to lead one to the conclusion that an answer does not exist. Parker’s contribution significantly raised sensitivity to the ethical consequences from ICT, and this is an important first step. As with the development of Business Ethics, the initial step was simply to point out what was absent. Providing a solution to a problem that has not been identified is futile. Identifying the CE problem even if there seemed to be little or no hope for a solution had another advantage. It helped to sketch the nature and complexity of the issues at hand. As a result of identifying the problems, concerns in CE are now known to be multifaceted and usually call for professional, technical, legal, moral, social, political, environmental, and personal considerations. This realization alone is a huge contribution to the work needed in CE or in Internet Ethics (IE).

The second logical and historical approach to CE is the *‘professional approach’* focusing on the social responsibility of computer professionals. The development at this stage was to introduce ICT students to their responsibilities and to try and develop proactive skills so as to reduce or eliminate ethical problems in the future. This approach was aimed at developing courses to create ethically minded professionals who were aware of the required role they played in the recognition of and reaction to ethical issues. This approach reinforced the necessity of CE education and resulted in tools like standards, codes of conduct, professional guidelines, regulations and protocols emerging

¹⁶⁶ Floridi and Sanders, “Mapping the foundationalist debate in computer ethics,” 2.

as watermarks for ethical development in ICT. This approach addressed those involved in software or hardware development where standards provided a minimal frame of reference.¹⁶⁷ The professional approach was not meant to address the whole field of CE, but only the side of CE concerning some of the activities of those professionally involved in development (software or hardware). It was meant to offer more than mere indoctrination of the 'Ten Commandment' approach. According to Floridi, it was the next logical "step towards a mature approach that can uncover, evaluate, criticize and modify at least some of the accepted presuppositions working in CE, and thus hope to improve them."¹⁶⁸

The professional approach led to questions regarding the nature of CE and logically led to investigations regarding theoretical issues avoided in the professional approach. Principally, the theoretical questions at this stage concerned the characteristic of 'uniqueness' as it applies to CE and led to normative claims about the development of an independent field of study.

If the characteristic of uniqueness applies to CE, as the third approach in Floridi's chronicle, the '*radical approach*' proposes, then the field would be justifiable to be examined with rigor. The uniqueness of computer ethics is one sure way to justify it as an important area of study. However, the label 'unique' is ambiguous, misleading and often inaccurate in describing the field of computer ethics. Some have a weak notion of the term and use it interchangeably with 'special' or 'novel', 'rare' or 'unusual'. For others uniqueness possesses a stronger notion necessitating a 'one of a kind' or incomparable quality, with complete distinction and differentiation from any other ethical domain.

¹⁶⁷ Floridi and Sanders, "Mapping the foundationalist debate in computer ethics," 3.

¹⁶⁸ Floridi and Sanders, "Mapping the foundationalist debate in computer ethics," 4.

Which definition of ‘uniqueness’ is selected drives much of the discussion about whether or not computer ethics is in a strong, or weak sense (or at all) unique. Although the radical approach bases its existence on the uniqueness question, according to Floridi, it is unable to show that any CE problem is uncontroversially unique in a strong sense.¹⁶⁹ In addition, even if we could prove that unique ethical issues in CE did exist, Floridi claims that we could not necessarily argue that we needed a new metaethic¹⁷⁰ to address them. Moderate adaptations of traditional ethical theories could still prove valuable in dealing with even unique issues.¹⁷¹ Floridi cautions that the radical approach risks isolating CE from more generalized ethical discussions, potentially missing opportunities to discover other macroethical approaches.¹⁷² The focus on the uniqueness question detracts from the more important issue, which is finding a practical way to deal with the issues identified in the second chapter of this thesis, or for Floridi, the enrichment of the discussion through a possible new ethical theory.

The fourth is the ‘conservative *approach*’ which Floridi classifies as a microethic, is actually a combination of practical, applied, field-dependent and professional ethics.¹⁷³ It is based on the notion that traditional ethical theories (such as consequentialism, deontologism, virtue ethics and contractualism) are sufficient (with adaptation and extension), to deal with the policy vacuum provided in CE.¹⁷⁴ This approach is also based on the notion that ICT is the instrument transforming ethical issues, but does not generate a new (unique in the strong sense) species of moral issue. As a result, according

¹⁶⁹ In Maner ‘Unique Ethical Problems in Information Technology’, he tries to argue that CE issues can be unique on several grounds, but does little more than show that they are different in scope, not in kind. See, also “Computer Ethics – Is it Unique” by Dina Fox, 2002 for a detailed discussion of this question.

¹⁷⁰ Here Floridi is using “metaethic” as a reflection on the nature and justification of ethical theories.

¹⁷¹ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 64.

¹⁷² Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 64.

¹⁷³ Floridi and Sanders, “Mapping the foundationalist debate in computer ethics,” 5.

to this approach, existing traditional ethical theories can effectively be applied to these novel technological issues. The conservative approach rejects the no resolution approach and stresses the importance of pragmatic approaches for ICT professionals, but also for non-professional citizens of the information age.¹⁷⁵ According to this approach, the issues need to be addressed both theoretically and practically. This approach however still has limitations. It does not disclose which macroethics ought to be used, or hint as to whether CE issues could be used to test specific macroethics, and it risks missing new CE issues that could lead to new macroethics.¹⁷⁶

Floridi seems to shift from the logical historical perspective he offers and leaps into the '*innovative approach*'. There is no clear reason that the preceding history necessarily leads to this theory. It seems to me that the innovative approach could have easily been attempted after the professional approach, or anywhere else in the historical picture he provides. There is no logical progression from the conservative approach to this one. The history he provides does serve to provide his interpretations of the most relevant stages in CE development in the order in which he chooses to present them.

The innovative approach rejects the paradigm of using traditional ethical theories, and proposes, instead, a paradigm shift. It is based on the notion that ICT radically transforms the way ethical issues arise, pushing us to reevaluate our current ethical foundations.¹⁷⁷ The profound transformation of society and the ethical issues which arise as a result of ICT "not only adds interesting new dimensions to old problems, but leads us to rethink, methodologically, the very grounds on which our ethical positions are

¹⁷⁴ Floridi and Sanders, "Mapping the foundationalist debate in computer ethics," 5.

¹⁷⁵ Floridi and Sanders, "Mapping the foundationalist debate in computer ethics," 6.

¹⁷⁶ Floridi and Sanders, "Artificial evil and the foundation of computer ethics," 64.

¹⁷⁷ Floridi, "Information ethics: on the philosophical foundation of computer ethics," 38.

based.”¹⁷⁸ CE highlights the limitations of traditional ethical theories and in so doing, offers the possibility of an innovative, enriching perspective with distinct contributions to metaethics and to the microethics of CE.

According to Floridi, the innovative approach invites and encourages modification or alteration by breaking out of the limitations imposed by traditional or standard theory. Floridi’s innovative approach is more in line with the ‘patient’¹⁷⁹ oriented, non-standard forms of Medical ethics, Bioethics and Environmental or Land ethics (where patient can be interpreted as a component of the environment). These non-standard ethics commonly call attention to the intuitive impulse of valuing and respecting life even if there are overriding other values to be considered concomitantly. The important distinction is that the receiver (patient) becomes the center of the orientation of the ethical relation, not the agent or the consequence.

Floridi (and Sanders) have an innovative approach that they call *Information Ethics*. It is the “theoretical foundation of applied CE, is a non-standard (non-traditional) environmental macroethics, patient-oriented and is based. . . . on the concepts of information object/infosphere/entropy rather than life/ecosystem/pain.”¹⁸⁰ What this means is that InfoE is neither agent-oriented (as in virtue ethics) nor action-oriented (as in consequentialism, contractualism and deontologism) according to Floridi, but rather, information-oriented, where information can be an information object, a human being, or any other entity he refers to as a patient. InfoE morally evaluates an interaction on the

¹⁷⁸ Floridi and Sanders, “Mapping the foundationalist debate in computer ethics,” 7.

¹⁷⁹ In their article ‘Artificial evil and the foundation of computer ethics’, Floridi and Sanders call attention to the fact that ‘agent’ and ‘patient’ are standard terms used in Ethics and continue to use these terms in their work. However, a more accurate term they would prefer to use for ‘patient’ is ‘reagent’ because it reflects the interactive nature of the process and the notion that the patient is rarely a passive receiver of an action. 56.

¹⁸⁰ Floridi and Sanders, “Mapping the foundationalist debate in computer ethics,” 7.

basis of the information object, the infosphere and the avoidance of entropy, whereas traditional theories morally evaluate an interaction on the basis of life, the ecosystem and the avoidance of pain. InfoE was developed by Floridi in order to pay special attention to the *infosphere*. Just to recall, Floridi says that the infosphere represents the transformation of “the encyclopaedic macrocosm of data, information, ideas, knowledge, beliefs, codified experiences, memories, images, artistic interpretations and other mental creations” into a “global system of services and documents, encoded in any semiotic and physical media... with no limitations either in size, typology or logical structure.”¹⁸¹

InfoE reduces the object of concern from anthropocentric or biocentric biases addressed in other ethical theories, to what he calls the minimal common factor shared by any entity; that of the information state. For Floridi, entities are not limited to people, sentient creatures or biospheres, but include “anything that exists, from paintings and books to stars and stones; anything that may exist may or will exist, like future generations; and anything that was but is no more, like our ancestors.”¹⁸² Floridi considers any absence or negation of semantic information, such as the disorder, decay, degradation or decrease of information *entropy*. InfoE determines what is morally wrong or right by way of avoiding the causation of entropy, preventing or removing it and instead, by extending the quantity, quality and variety of the infosphere.

Information objects are important objects in Floridi’s theory. In his book, Philosophy and Computing (1999), Floridi defines information by comparing it to data and knowledge. Information, he says, is “data plus meaning or meaningful data.”¹⁸³ He defines data as an answer without a question, like the number 12, for example. It is not

¹⁸¹ Floridi, Philosophy and Computing, 8.

¹⁸² Floridi, “Information Ethics: On the Philosophical Foundation of Computer Ethics,” 9.

informative because, as Floridi points out, it could be the number of astrological signs, the size of a pair of shoes, or a particular bus route. For data to become information, a piece of data must be appropriately associated with a relevant query. Floridi says that the association of the data and the query must be done by an intelligent being, which makes the notion of computers understanding information a controversial one. He then goes on to define knowledge as information with understanding, or information with a relevant explanation. When describing InfoE, Floridi's describes information objects as *anything*, that is all entities, which, because of attributing moral worth as far as they are information objects, deserve to have at least some level of respect. The notion of information objects necessarily having meaning is not presented in the context of InfoE. Information objects as described for InfoE are not just "all persons, their cultivation, well-being and social interactions, not just animals, plants and their proper natural life, but also anything that exists."¹⁸⁴ As clusters of information, or perhaps more appropriately called 'entities' "constituted by a bundle of properties"¹⁸⁵, all information objects have moral worth according to Floridi and deserve to be cared for and respected.¹⁸⁶ Information objects are considered and treated as discrete, self-contained, encapsulated packages. They contain appropriate data structures that constitute not only the nature of the entity, but also the state of the object, its unique identity, attributes, collection of operations, and functions or procedures (methods). According to this

¹⁸³ Floridi, Philosophy and Computing, 106.

¹⁸⁴ Floridi, "Information Ethics: on the Philosophical foundation of Computer Ethics," 43.

¹⁸⁵ Floridi, "On the intrinsic value of information object and the infosphere," 288.

¹⁸⁶ Floridi, "On the intrinsic value of information object and the infosphere," 287.

approach, information objects are not only prerequisites for morally responsible action, but are the only primary objects.¹⁸⁷

How then can information, defined as data plus meaning, be reconciled with information objects as anything that exists? Is a plastic bag an information object? My interpretation of Floridi is that the plastic bag is potentially an information object. It is so when it has meaning. If the plastic bag were used to suffocate someone, then the bag could be an information object as evidence in a murder trial. With this interpretation, anything can be an information object, but not everything (like inaccessible files for example) would be considered meaningful. Meaningfulness becomes contingent on the circumstances he calls “the sphere,” which I will describe later.

Information objects are activated by interactions or stimuli (messages) received from other objects or can be activated by changes within the information object itself. The messages define how the object behaves or reacts to them. The messages, according to Floridi, can be disrespected as morally unworthy, but not the information object, which is always morally worthy.¹⁸⁸ “InfoE suggests that there is something even more elemental than life, namely *being*, understood as information; and something more fundamental than pain, namely *entropy*.”¹⁸⁹

Floridi does not clarify the determination of information objects whether as types or tokens or both. This lack of clarification leaves many questions unanswered. Are two copies of the identical program each to be considered information objects and equally respected?

¹⁸⁷ Floridi and Sanders, “Mapping the foundationalist debate in computer ethics,” 8.

¹⁸⁸ Floridi, “Does Information have a moral worth in itself?” 17.

As InfoE lowers the bar for objects to be considered as the center of ethical concern from traditional anthropocentric views to innovative views focused on information, it significantly enlarges the scope of what may be the center of ethical concern because it includes all information entities. It is for this reason that Floridi presents his theory as a “non-standard, patient-oriented and ontocentric macroethics.”¹⁹⁰ With this innovative macroethic, CE issues can be examined not through the old traditional lens of consequences or intention, but through the new lens examining the positive and negative effect on the infosphere. This certainly is a new and interesting ethical view.

Floridi analyses (ethical) moral action through the interaction of seven components of moral interaction. These are:

1) the agent, 2) the patient, 3) their interaction, 4) the shell - the agent's general frame of information, 5) the factual information concerning the situation that is at least partly available to the agent, 6) the general environment in which the agent and the patient are located, 7) the specific situation in which the interaction occurs.¹⁹¹ Not all interactions are to be considered morally laden.

I will examine these as he presents them. The moral (*inter*)*action* in this view is an information process, such as a message (or series of messages) which is the third component of the interaction as listed above. With a model of moral action as a paradigm, *the agent* that is the first component, is an active source conveying an information process (or message) to a designated *patient or patients*, the second component. Both agents as the active sources convey information, and patients, as

¹⁸⁹ Floridi and Sanders, “Mapping the foundationalist debate in computer ethics,” 8.

¹⁹⁰ Floridi and Sanders, “Mapping the foundationalist debate in computer ethics,” 8.

¹⁹¹ Floridi, “On the intrinsic value of information object and the infosphere,” 287.

receivers of the information, are separate, discrete, self-contained, encapsulated¹⁹² entities. Floridi claims that patients can also be processes. This is rather obscure, but remember that Floridi is including patients such as computer programs, which could be a series of repetitive processes or routines. Here Floridi appeals to Leibniz¹⁹³ and the view of the monad as the most basic level of reality. Floridi borrows from Leibniz the notion of the minimal common factor shared by any entity, and combines this property with information. For Floridi, the 'information monad' is "the ultimate primal component of all beings".¹⁹⁴ This is a pivotal point in the formation of his metatheory, because it is this 'information monad,' which he says is deserving of respect.

Here it is easy to understand part of the theory, but remain perplexed about its scope. Some information objects obviously deserve respect, such as people, or sentient creatures that are considered information objects. But the all inclusive notion Floridi presents that *all* information objects need to be respected as least potentially, even if we allow for differing degrees of respect, provides at least two problems. One is that we have no principle to help guide one to provide the various degrees of respect. This is the same criticism Floridi makes for the conservative approach for CE and yet it seems to apply to this component of moral interaction as well. The other problem is that with his theory, we seem bound to respect, even if only minimally, information objects like unwanted advertising.

¹⁹² Floridi, "Does information have a moral worth in itself?" Footnote #3 "encapsulation refers to the technical technique of keeping together data structures and the methods which act on them in such a way that the package's internal structure can be accessed only by means of the approved package routines"

¹⁹³ I am not researching the original Leibniz text to verify whether Floridi has interpreted Leibniz correctly or not, but use Floridi's explanation at face value.

¹⁹⁴ Floridi, "Does information have a moral worth in itself?" 3.

The *shell*, or 4th component is the “personal or subjective frame of information within which the agent operates.”¹⁹⁵ It encapsulates the agent’s “moral values, prejudices, past patterns of behavior, attitudes, likes and dislikes, phobias, moral beliefs acquired via education, past ethical evaluations, memories of moral experiences or of other moral actions performed in the past, expectations and so forth.”¹⁹⁶ This shell, because of its subjective nature based on experience, changes over time, and is generally only partially accessible to the agent. It is partially inaccessible in the sense that we often do not recognize our own biases. The resulting filtering and shaping of perspective is based on selected information and interpretation of the objective factual information available to the agent.¹⁹⁷ Some of this information may be factual, but essentially it represents the interface between the agent and the environment and evolves with the agent over time.

The fifth component Floridi describes is this *factual information* concerning the actual moral situation. This factual information is actually similar to the shell observed in a detached and objective way. What Floridi fails to do is describe how, if at all, this factual information is accessible to anyone. It is this factual information that determines if the agent is consciously aware of his actions, reasonable, sufficiently free and factually

¹⁹⁵ Floridi, “Does information have a moral worth in itself?” 3.

¹⁹⁶ Floridi, “Does information have a moral worth in itself?” 3.

¹⁹⁷ As an example, Michael Yeo uses the term ‘Interpretive’ when examining bioethics to incorporate the interpretive dimension of moral enquiry. In the application of ethics, according to Yeo, there are included in moral deliberations interpretations of the situation colored with background assumptions; the values, beliefs and attitudes of interpreters; what is excluded from the facts considered relevant; and the blurred distinction and co-dependency between principles and values juxtaposed against facts and events. In order to act, an understanding of the ‘meaning and significance’ includes more than the facts of the matter, requiring the inclusion and recognition of the ‘interpreting’ subject(s) and the ‘interpreted’ object(s). The important point illuminated by Yeo, is that the moral issues we identify, are those that we see. “Seeing is always seeing from somewhere, from some vantage point or point of view.” The issues are in some sense constructed or constituted differently depending on the history, interests, background assumptions, beliefs, attitudes and values of the observers who interpret the situation. Neutrality then is a theoretical ideal - a Platonic form - something to strive for, but not achievable in the worldly realm.

informed about the moral situation. It seems that factual information is objective information but all interpreters of this information are agents of one sort or another, and are subjected to the same filters and screens on their perceptions (the shell in his terms) of the actual situation. Perhaps Floridi is describing the fifth component as a theoretical component as opposed to an actual one. Even if the factual components concerned facts about the agent's freedom of choice, reasonableness, conscious awareness, intelligence to anticipate possible consequences or ability to act either to initiate or stop an action, as Floridi suggests in his paper 'Does information have a moral worth?', he has not untangled the agent's conscious perspective of the factual moral situation from the subjective nature of the agent's perspective. Floridi has failed to convince me that this moral situation can be anything more than an interpretative view, that of an agent looking at himself or of an agent looking at another agent, and is a subjective perspective. Charitably interpreting his fifth component, however, examining the agent's situation relative to the above mentioned list has great value. It is possible that Floridi is suggesting that we need to consider the moral situation of the agent by eliminating any obvious or outrageous absence of the conditions listed as opposed to verifying that they exist in any absolute or factual sense. As Floridi claims, "there is no morality in a state of total determinism and/or ignorance" (as in animal behavior).¹⁹⁸

The sixth component, the *infosphere*, is a context-based view of the relevant information objects. It is the dynamic interaction of the agent with culture, society, history, family, financial status, and working conditions that Floridi describes as the infosphere.¹⁹⁹ The infosphere represents all data, information, ideas, knowledge, beliefs

¹⁹⁸ Floridi, "Does information have a moral worth in itself?," 4.

¹⁹⁹ Floridi, "Does information have a moral worth in itself?," 4.

etc. into encoded media. It is, if you will, the entire universe in which the information object resides.

The last component of moral interaction, *the envelope*, fine-tunes the context of the infosphere within the boundaries of space and time defining the specific context within which the moral action takes place. Propagation of an information object can occur due to direct and indirect effects often beyond the control of the agent. Propagation then flows from object to object with potential changes in both force and direction.²⁰⁰ It is interesting that Floridi considers all seven components as possible patients. Here again Floridi makes a contribution. It is both the infosphere and the envelope that offer a rich recognition of the contextual nature of Internet Ethics and global differences which need to be addressed.

Floridi argues that information objects have more than just instrumental value, even if the instrumental value has degrees of worthiness. If information objects had instrumental value only, this condition would relegate CE into a practical, field-dependent microethic. Instead, he attempts to show that information objects are more than their mere instrumental value but rather are significant and help to determine normative ethical duties and responsibilities. In some cases, it is difficult to accept that information objects like books, for example, have any intrinsic value. It would seem that they are instrumentally valuable only to humans or beings that read.

InfoE becomes Floridi's new macroethical theory based on information objects. He provides two claims about InfoE and requires them to be accepted for his theory to be seriously considered. The first is that information objects can be moral agents. Not only a human can be an agent, but he says an abstract information object such as a software

program can be interpreted as a moral agent also. The second is that information objects have intrinsic value. These need to be examined individually.

Moral agents had previously been described by Floridi as humans (beings) with proper consciousness, freedom, intelligence and awareness. Animals had been excluded from this group. Floridi does not explain how abstract information objects can be considered agents and yet animals do not qualify as agents. If there is no morality in determinism and/or ignorance as Floridi claims, then both animals and abstract information objects need to be excluded as agents because neither qualify. The characteristics of an agent as an information object other than a human are not clearly explained. Certainly, it is possible to consider moral agents in an extended way, but the methodology to do so is not clear. Perhaps Floridi is keeping options open for future AI programs that seem to contain the attributes of consciousness, freedom, intelligence and awareness. I will not deal with this problematic potentiality in this thesis because it would require intricate knowledge of AI and developments in the field.

The notion that information objects have intrinsic value is pivotal in Floridi's theory. Floridi's interpretation²⁰¹ of Kant is that only rational human beings have intrinsic value. First, he challenges the view that humans less than rational still have intrinsic value, and then shows that an anthropocentric view of moral worth is inadequate. He articulates the historical maturation from a narrow view of what can be accepted as morally worthy, namely humans, to a wider inclusion of the biosphere as morally worthy. The next logical step is to deepen the extension further to include the infosphere and information

²⁰⁰ Floridi, "On the intrinsic value of information object and the infosphere," 290.

²⁰¹ I have not researched the original Kant text to ensure that Floridi has correctly interpreted his views, but take Floridi's interpretation at face value in order to examine Floridi's argument whether or not it hinges on Kant.

objects as morally worthy in our technological environment. “According to InfoE, the least, unconditional intrinsic and absolute worthiness of any entity... consists in its nature *qua* information entity.”²⁰² Here is Floridi’s most significant contribution. Finding the lowest common denominator for intrinsic value is a necessary revision to the anthropocentric view proposed historically. Whether he is correct that this lowest common denominator is the information object is less intuitive. What he proposes is that any agent “should transcend his own specific nature, recognize his minimal status as an information object himself and hence extend the respect that he would expect any other agent to pay to himself as an information element, to any other information element that may be the patient of his actions.”²⁰³ The empathy required of an agent to treat other similar information objects with respect is challenging, but the empathy required to treat other non-similar information objects is much more of a challenge. The difficult part to swallow is that an agent (let us say in this case a human) as an information object deserves respect as does the information object of a software program. In order to make Floridi’s claim more palatable, I will interpret his meaning to be that all information objects are to be respected, but not necessarily to the same degree. Even if we grant degrees of respect as Floridi may call on us to do, the idea of ‘respect’ for human information objects as being necessary and respect for information objects such as data being less intense is not helpful. It is not a familiar notion to speak of ‘respect’ for non-sentient computer generated information objects, and less intuitive to attach a low level of respect for something Floridi argues has intrinsic value. Something having intrinsic value is usually given respect in a moral theory, but not usually offered in degrees. What

²⁰² Floridi, “Does information have a moral worth in itself?,” 15.

²⁰³ Floridi, “Does information have a moral worth in itself?,” 15.

Floridi is trying to convey is that the agent, as a human, ought to empathetically recognize the minimal status as an information object of himself and of the patient.

What are the minimal conditions required for an entity to have the lowest possible level of intrinsic worth allowing it to claim at least some respect? Historically, the exclusive anthropocentric criteria opened up to include biocentric entities, and have widened further due to views of Deep Ecology to include inanimate objects. UNESCO protects “masterpieces of the oral and intangible heritage of humanity”²⁰⁴ which seems to be an area requiring protection. The lowest possible level of respect according to Floridi is the information object, which is a necessary axiom for the macroethic of Information Ethics he describes. The destruction of an information object is not morally indifferent. It is unclear whether Floridi would find any condition where the destruction of information objects is morally acceptable. The demolition of an old hospital to make a new hospital can be regarded as ultimately increasing the information in the infosphere and might be sanctioned by Floridi, but the reduction of information objects occurring in a demolition derby for pure entertainment most likely would not be sanctioned by him.

Floridi points out that any entity that can act as a moral agent can also qualify as a moral patient, but not vice versa.²⁰⁵ Animals for example can be considered moral patients, but are not generally regarded as moral agents. Floridi assumes that it is better to focus on the patient as an information object. He shows that traditional ethical theories focus on the agent (virtue ethics) or the action (consequences). Floridi developed his patient oriented InfoE by examining non-standard ethics like Bioethics, Environmental and Medical ethics that center on the patient. It is true that there are examples of ethics

²⁰⁴ Floridi, “On the intrinsic value of information object and the infosphere,” 297.

²⁰⁵ Floridi, “On the intrinsic value of information object and the infosphere,” 292.

that are patient oriented, but he fails to argue *why* that is the correct model in every CE issue, especially when non-classical patient-oriented ethics have challenges of their own, and are not universally accepted as valid theories. We live in a world with several different notions of ‘human rights’ and with various interpretations of how notions of ‘human rights’ are best implemented even though the patient in this case is clearly a human. Floridi’s assumption that patient oriented is better, as opposed to requiring consideration is flawed. Bioethics and Environmental ethics fail to achieve a level of complete universality and impartially because they are biased against inanimacy, he claims.²⁰⁶ He says, “classic ethics are philosophies of the wrongdoer, whereas non-classic ethics are philosophies of the victim. They (the non-classic) place the ‘receiver’ (patient) of the action at the center of the ethical discourse and displace its ‘transmitter’ to its periphery.”²⁰⁷ And these ‘receivers’ are no longer confined to the human, sentient being or component of the environment, but also include the minimal common factor shared by any entity, namely its information state.²⁰⁸

Third, he argues that the moral worth of an information object as a patient can be generalized to include any information object which may be affected by the actions of the agent, and therefore, also qualify as a patient of a moral process: “Other envelopes [moral situations], the infosphere itself and the methods can be considered patients of a’s [the agent’s] actions.”²⁰⁹ The agent develops a respect for the intrinsic value or worthiness of information objects as patients and treats the patient ‘appropriately’. Certainly Floridi is not claiming what the appropriate treatment would be because he is

²⁰⁶ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 43.

²⁰⁷ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 42.

²⁰⁸ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 43.

²⁰⁹ Floridi, “On the intrinsic value of information object and the infosphere,” 292.

clear that theory and practicality need to be polarized. How appropriate treatment ought to be applied when it rests on the subjective agent is a significant hurdle that Floridi does not tackle. Perhaps these are the types of issues he sees resolved with a practical application of his metatheory, not yet tackled at the time of this writing. I am doubtful that basing a metaethic on the requirement of an agent treating a patient ‘appropriately’ can add significant value in helping to create an Internet microethic. I will return to this topic in detail in Chapter 4, but briefly, treating a patient appropriately is subjective and provides no concrete guidance allowing one to recognize appropriate or inappropriate treatment in moral interaction.

InfoE then, regards information objects as not just people, not just animals, not just plants in a system, but “anything that exists from paintings to books to stars and stones, anything that will exist, like future generations, and anything that was but is not more, like our ancestors,” and includes every instance of information, physically implemented or not.²¹⁰ The notion that any future possible existence of information not physically implemented ought to be treated as an information object, and subjected to Floridi’s rules is difficult enough to understand. This concept is more complex than the concept of sustainability. With sustainability, the notion is that we ought not to jeopardize the needs of future generations while meeting (or exceeding) our present needs. Possible future information not implemented can be regarded as vague and imaginary. The further notion that these non-existent possible future information entities ought to be subjected to InfoE or any other ethical theory is problematic, and certainly poses significant barriers to implementation.

²¹⁰ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 43.

Floridi describes the following as principles and concepts embraced by InfoE.²¹¹

- ◆ Information processes understood as streams of activity generate a trail of information and therefore are to be respected in his theory. Processes do generate valuable information in some instances that can prove very valuable in sharing and learning practices. It seems to me that these processes seem to be instrumentally valuable rather than intrinsically valuable as Floridi would claim. Not all information processes however have value, and Floridi fails to distinguish between those that do, and those that generate streams of unending useless activity resulting from faulty processes or disinformation.
- ◆ Floridi notes that, “the absence of an information process is also an information process”²¹² and takes into consideration the distinction between action and omission as a factor in his theory. For clarification here, a distinction between an action or an omission needs to be noted. An action omitting a process could be part of an information object just as the omission of a process could be considered part of an information object. As an example of an action omitting process, a software program may be designed to delete all information about an individual who is deceased. An example of an omitting process might be a software program that omits entries of people earning less than \$10,000.00 annually from being accessed a certain tax, but keeps those individuals in the database. Floridi includes both to be embraced by InfoE. Here again Floridi lumps together all entities as information objects deserving respect, possible future information objects not physically implemented, and actions of omission making the implementation of such a theory very cumbersome to say the

²¹¹ The following are captured in Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 43-45.

least. It is an enormous task to take into consideration all information objects that were, are and might be, and then to spin exponentially more information objects such as those that might have been possible if certain minor conditions had changed. Why might I consider the 4 children I never had rather than the two I presently have in any moral interaction?

- ◆ A contradiction such as (A and $\neg$ A) is considered an instance of total entropy of information, so only logically possible information processes, and all logically possible information processes are considered information entities. This is not to say that contradictory information processes do not exist, but that an information process involving a contradiction ends up being a case of entropy. I think this concept is required in order to accept the digital information process, which is reliant on binary logic.²¹³ Floridi fails to note that binary information has value, but binary information is not the only information that exists. Binary tools are used to navigate on the computer and used with certain forms of mathematics, but binary decisions are unrepresentative of the moral or ethical world in which we live. Contradiction, compromise, ambiguity and illogical circumstances drive much of moral consideration and ought to be considered rather than eliminated from a theory.
- ◆ An agent is any entity consisting of a packet of information with no contradiction and can affect the infosphere. But not all information objects are agents. This is a different way of describing an agent than we have previously described, placed here by Floridi as a principle. Agents need to be able to affect the infosphere significantly beyond their mere presence and need to be responsible (meaning able to acquire

²¹² Floridi, "Information ethics: On the philosophical foundation of computer ethics," 43.

²¹³ But he fails to explain non binary forms of logic used in other computational systems.

awareness of the situation and capable of planning, withholding and implementing their actions with some freedom).²¹⁴ Floridi is unclear as to how animals can be excluded from agency and which software programs are to be included. When Floridi talks of actions affecting the infosphere as being significant in his theory, he seems to fall back on consequential ethical considerations. InfoE seems to concern itself primarily with the result of the infosphere, or bluntly, the consequence of any action evaluated by how it affects the infosphere.

- ◆ Entropy is the decrease, degradation, disorder, noise, random error or decay of meaningful information, or, in Floridi's words, "the opposite of information capacity." Floridi is unable to define 'meaningful' with respect to information. Floridi could be using 'meaningful' based on relative considerations, which poses significant problems, or he needs to be clear about definitions of meaningful in universal terms. Floridi is also unable to deal with the obvious problem of the "infoglut" arising as a result of battling entropy.
- ◆ The infosphere is the compilation of all information entities including agents, processes, proprieties and mutual relations.²¹⁵
- ◆ "InfoE holds that every entity as an expression of being, has a dignity, constituted by its mode of existence and essence. . . which deserve to be respected and hence place moral claims on the interacting agent and ought to contribute to the constraint and guidance of his ethical decisions and behavior. . . any form of reality (any instance of information), simply for the fact of being what it is, enjoys an initial, overridable,

²¹⁴ Floridi, "Information ethics: On the philosophical foundation of computer ethics," 44.

²¹⁵ Floridi, "Information ethics: On the philosophical foundation of computer ethics," 44, #7.

equal right to exist and develop in a way which is appropriate to its nature.”²¹⁶

Floridi is unclear when and how and by whom the characteristic of “overridable” is evaluated and implemented, but I am interpreting overridability an indication of various degrees of respect for information objects.

- ◆ Actions need to be impartial, universal and “caring.” In Rawlsian tradition, actions must be independent (impartial) of our position as agent or patient. They (actions) must be universal in the sense that the action can be expected of any other agent placed in a similar situation. And finally, the actions must take into consideration both the welfare of the agent and the welfare of the patient. Floridi fails to provide insight at to what actions ought to be considered when the result differs between patients. When entropy is considered evil, to what approach does one appeal if an action destroys or damages some information, but in the process, generates more?
- ◆ InfoE evaluates any rational being through its contribution to the growth of the infosphere.²¹⁷ Here I am assuming Floridi takes into consideration purely benevolent actions that don’t create information per se, but that add to the infosphere by enriching the agent. However, cleaning pollution from a beach might actually be interpreted as entropy in Floridi’s theory, and therefore might be considered evil.

Taken at face value, what Floridi says seems to indicate that it is good and moral to generate spam, because spam contributes to the growth of the infosphere. He may be conflating a (controversial) scientific view that there is a biological drive toward growth and that if there is no growth, there is decline. If he is, then I might suggest an extension

²¹⁶ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 44.

²¹⁷ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 45.

of that view and that the information system he proposes would systematically move to a level of chaos and then collapse. What he must mean, but does not say, is that 'growth' of the infosphere has unspoken and unwritten rules to follow and value judgements about what kind of growth ought to be nurtured. There seems to be a tacit notion of good growth and bad growth embedded in his last claim, but not explained. Perhaps this too is left for the application of his metatheory into practice.

Entropy negatively affects the infosphere and according to Floridi's view is considered evil. Floridi and Sanders write in detail about moral evil, natural evil and artificial evil. In Western philosophy, discussions of evil have often been launched as an objection to theism. More recently, and due significantly to CE, a distinction between the theological and the axiological analysis of evil has been identified.²¹⁸ According to Floridi and Sanders, Natural evil occurs in nature as in natural disasters such as earthquakes. Moral evil has typically been about those evil actions performed by beings (agents) with consciousness (agent is aware of his or her actions, and the factual information about the circumstances of the situation), sufficient freedom to bring about or stop the action, intelligence and reasonableness.²¹⁹ Since non-human animals are considered ignorant with respect to the listed characteristics, they are not considered moral agents, or perpetrators of moral evil.

According to Floridi, due to ICT and science, control over nature has transformed what may have counted for natural evil into moral evil. Dying from smallpox, for example, would now be considered morally evil because through science and technology,

²¹⁸ Floridi and Sanders, "Artificial evil and the foundation of computer ethics," 58.

²¹⁹ Floridi, "Does Information have a moral worth in itself?" 3-4.

prevention is not only possible, but also easily accomplished.²²⁰ As long as science and technology can increase human power over nature, natural evil will be eroded, and moral evil will expand. Floridi points out how this is yet another proof that ICT is contributing to molding the way the world is.²²¹ But that is not all. With ICT, he says, comes a new class of evil Floridi describes as ‘artificial evil’. These are evils that fall between the moral and the natural. They are typified by examples like death due to an ambulance delayed in traffic or a software program rebooting during a surgery posing fatal risks to patients.²²² More importantly, artificial evil in cyberspace may occur without any agent being morally blamable for it.²²³ For Floridi, cyberspace offers support to actions originating from artificial agents allowing for evil beyond the scope of human beings or nature.²²⁴

Floridi’s and Saunder’s ‘new’ distinction of artificial evil is somewhat extreme. It can be argued that humans create the artificial cures for natural evil, and responsibility for fallibility of that cure remains with them. Of course, for purposes of discussion and reflection, the intersection of ICT and natural evil does offer a hybrid view. This hybrid view can be considered ‘artificial’ evil as Floridi and Sanders suggest, or can be considered simply a change in the spectrum of what is considered moral and what is considered natural. It is the ‘newness’ through the naming of the view that is in question, as well as the significance of the title ‘artificial’ that Floridi and Sanders inflate to a false level of importance. Unintended consequences arising when many different intentional actions interact is an interesting category of evil, but not with differing notions of moral

²²⁰ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 59.

²²¹ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 59.

²²² Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 59.

²²³ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 59.

responsibility. The responsibility, it seems to me, falls within the realms of either natural, moral or a little of both. It is also the shedding of the properties of an agent such as intention and ability to impact a situation that Floridi seems to suppose here, and that poses challenges to traditional parameters around moral evil, potentially lost in some cases of artificial evil.

It is clear to Floridi and Sanders that certain actions on patients such as computer programs are both artificial and evil. Viruses as an example are evil because they delete useful data, which is an example of what Floridi calls entropy. Judgements are required to distinguish between deleting useful data that would be considered evil, and deleting inaccessible data thus providing more memory, which would be considered good. Entropy must consider “judgements about desirable features of cyberspace with its discrete, and hence unambiguously definable, nature. An entropy structure is an ordering on cyberspace defined to capture the notion of a bad state change. . . where the state after is worse than the state-before.”²²⁵ But viruses and worms are themselves information objects, and sophisticated ones compared to simple spreadsheets or trashy e-mail filing cabinets. How is consistent judgement to be applied when assessing a state change especially if the change is considered good by the virus developer, and bad by the e-mail loser, and on what criteria is information to be considered ‘useful’?

For Floridi and Sanders, only actions are primarily evil, and sources of evil are agents with intentional states.²²⁶ It seems then that information objects as Floridi describes are not all potential agents, but only some human information objects qualify, and yet this anthropocentric notion of agent is denied in other writings. It is unclear what Floridi’s

²²⁴ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 63.

²²⁵ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 63.

position is on agency for an information object other than a human if agents require intentional states.

Agents with a predominance of evil actions or evil intentional states are considered “overall evil.”²²⁷ Intentional states are considered evil if they can lead to evil actions, but since the set of intentional states is probably infinite, so the notion of predominance (Floridi uses “preponderance”) is slightly contrived. Actions are considered evil only to the extent that they cause damage²²⁸ to the patient.²²⁹ “Evil exists not absolutely, per se, but in terms of damaging actions and damaged objects.”²³⁰ To summarize, an agent must initiate evil, and there is no evil if a patient is not damaged.

Floridi and Sanders attempt to clarify the connection between InfoE and evil with the following five theses:

- 1) InfoE can defend a deflationary approach to the existence of evil
- 2) ICT modifies the interpretation of some evils, transforming them from natural into moral
- 3) ICT extends the class of agents, generating a new form of artificial evil
- 4) ICT extends the class of patients, promoting a new understanding of evil as introduction or increase of entropy
- 5) (1)-(4) contribute to clarifying the uniqueness debate in computer ethics²³¹

²²⁶ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 56.

²²⁷ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 56.

²²⁸ Traditional theories use the term ‘harm’ which pre-supposes a sentient creature as a patient. Floridi and Sanders prefer the term ‘damage’ which is more neutral, and for the most severe level of damage, the term ‘annihilation’. Damage and annihilation refer to entropy in the infosphere.

²²⁹ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 57.

²³⁰ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 58.

²³¹ Floridi and Sanders, “Artificial evil and the foundation of computer ethics,” 57.

A deflationary approach to evil for Floridi is detailed in his four basic laws of entropy provided shortly. Since Floridi has failed to explain how we can practically exist in this world without engaging in destroying at least those information objects we have no use for such as unwanted advertising, his deflationary approach is unachievable. In addition, because InfoE has failed to legitimize the new category of artificial evil (however, he does legitimize the artificial patient), I have shown that IE cannot defend a deflationary approach to the existence of evil as Floridi describes. I do accept Floridi's claims 2 and 4, that a transformation of evil from natural to moral can occur because of ICT and that ICT extends to patients, but cautiously resist the limitless notion that evil is the introduction or increase of entropy. In 3) Floridi claims that the class of agents is extended, but since he also claims that the agent must still be conscious, free, aware, intelligent and reasonable, he seems to be limiting agency to the previous group, namely certain humans. The extension of the agent as a result of ICT is unclear. The only way extension can currently be understood, is in the extension of the patient listed in 4).

The prescriptive and normative principles Floridi presents are meant to be used to guide and provide moral codes helping to provide direction for people. Information processes are evaluated on how actions will improve or impoverish the infosphere.²³² Floridi outlines four basic moral laws. Listed in order of increasing moral value, they are:

0. entropy ought not to be caused in the infosphere
1. entropy ought to be prevented in the infosphere
2. entropy ought to be removed from the infosphere

²³² Floridi, "Information ethics: On the philosophical foundation of computer ethics," 47.

3. information welfare ought to be promoted by extending (information quantity), improving (information quality) and enriching (information variety) the infosphere²³³

Here he lists evaluative qualifiers such as quality and variety that need to be applied to quantity. The best moral action according to Floridi is “the action that succeeds in satisfying all four laws at the same time.”²³⁴ Any program which caused a DOS (denial of service) due to flooding a network would satisfy all of these laws although admittedly minimally in the case of 3, and yet we consider this practice unethical. Disinformation according to Floridi, consists of killing, stealing, lying, torturing, betraying, causing injustice, discriminating, while goodness, he says, has the ability to keep the level of information in the infosphere steady, or in some cases to restore it to previous higher levels.²³⁵ It is clear, then, that Floridi is not just talking about CE if he includes killing. Floridi indeed intends for InfoE to be field independent. Floridi does, however, account for entropy balance, referring to many actions that fall outside of ethical concerns, which can charitably be applied to the reduction of spam, deleting recycle bins, and destroying viruses and worms, but this is a very charitable interpretation of the moral laws he presents, and not something explicit in his writings. Taken at face value, and with support from the literature he has produced, his laws seem to say that generating more information is good, and destroying information is bad. So much for computer recycle bins, and old videotapes of re-runs.

Floridi identifies and answers some additional objections he anticipates for his theory. In order to have a practical form of CE that aids in deciding ICT ethical issues,

²³³ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 47.

²³⁴ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 47.

Floridi argues that information objects need to be accepted because of the minimal common factor shared by any entity; that of the information state. Any entity as an information object is a possible patient of an agent. The intrinsic value of information objects and their “integrity, understood as unimpaired and uncorrupted unity and persistence (persistence is the property of any object that outlives the process that generates it.)”²³⁶ affects the agent’s action and requires an information ontology. This ontology does not only affect [InfoE], as some critics might assume, but is a macroethic based on an ontology of information objects.²³⁷ If critics object on the grounds that an information based ontology is impossible, again they are considered wrong by Floridi because the ontology is modeled after the Object Oriented Programming (OOP) methodology, which is both possible and successful. In addition to the success of OOP, an ontology based on information objects is neither biased nor ethically pre-loaded with the baggage carried by traditional ethical ontologies.

The successfulness of OOP is debatable, and certainly OOP is not uniquely successful. Other programming languages, particularly non-binary programming as demonstrated in fuzzy logic²³⁸, are also considered successful. Even if OOP is considered a successful methodology, it is a giant leap and an unnatural one, to claim that this methodology can then be used as the foundation of his macroethic. Floridi’s rationale might just as well have us look at the combustion engine, or rocket science as a foundation for a new ethical theory.

²³⁵ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 48.

²³⁶ Floridi, “On the intrinsic value of information object and the infosphere,” 298 (including footnote).

²³⁷ Where other metaethics (ethical theories) use human or biological grounds for worthiness.

²³⁸ Fuzzy Logic is used to program things like the Japanese speed train, subway system and image stabilizer features on video cameras. These are considered ‘successful’ as well as other programming languages other than OOP.

The information ontology is not normatively empty as Floridi anticipates other critics might suspect. Rather, that information objects can be respected despite the fact that they may be neither human nor biological, is a legitimate framework for ethical examination.²³⁹ Floridi describes an “ethical stewardship” of the infosphere - the information environment. Information entropy²⁴⁰ is still considered to be evil.

To tackle another potential objection, Floridi challenges P. W. Taylor’s argument, to enlarge the domain of respect from an anthropocentric bias, to an inclusion of animals and plants. Taylor’s argument is presented as follows:

- i) an entity x is subject to moral respect if and only if x has an intrinsic value
- ii) x has an intrinsic value if and only if
 - ii.a) x has a good of its own, that is x can be benefited or harmed; and
 - ii.b) x’s flourishing is a good thing
- iii) biological entities (Taylor’s teleological centers of life) including non-sentient beings, satisfy (ii.a) and (ii.b)
- iv) it follows that biological entities have an intrinsic value and hence are subject to moral respect
- v) non-biological entities, including information objects, fail to satisfy (ii.a) and therefore (ii.b)
- vi) it follows that non-biological entities do not have any intrinsic value and are not subject to moral respect.²⁴¹

²³⁹ Floridi, “On the intrinsic value of information object and the infosphere,” 298.

²⁴⁰ Entropy is defined as the destruction, pollution and depletion (that is the marked reduction in quantity, content, quality and value) of information objects.

Floridi, “On the intrinsic value of information object and the infosphere,” 298.

Certainly, Taylor's argument increases the domain of consideration from the previous anthropocentric one to one including animals and plants, but "intrinsic value and moral respect are treated as binary phenomena, which can either occur or fail to do so, but have no degrees."²⁴² Floridi substantiates a new version of the argument by providing examples of non-sentient beings like a government party that satisfies (ii) but not (v), and yet ought to be respected. He also provides examples of things excluded by (vi) either because they have an ontological status higher or lower than a biological entity, but that ought to be included. Floridi argues that God, for example, is an entity deserving of respect which can neither be harmed nor can flourish, and, according to Taylor, must be excluded from moral considerations. According to Taylor's argument, God would have no intrinsic value. Physical objects or national treasures (Mount Rushmore, or the Giant Buddha statues near Bamiyan) would have neither intrinsic value nor any degree of moral respect for Taylor.

Floridi sees one key problem with Taylor's argument. It is the relation between intrinsic value and x having a good of its own. Floridi argues that "if x has a good of its own and x's flourishing is a good thing, then x has an intrinsic value, not vice versa, and certainly not 'if and only if'".

Floridi challenges the exclusions in (v) and (vi) and revises the argument to:

- i) an entity x is subject to moral respect if and only if x has an intrinsic value
- ii) x has an intrinsic value if and only if (ii.a) x has a good of its own, that is x can be enhanced or damaged; and (ii.b) x's existence as x is a good thing
- iii) all existing entities, including information objects, satisfy (ii.a) and (ii.b)

²⁴¹ Floridi, "On the intrinsic value of information object and the infosphere," 299.

²⁴² Floridi, "On the intrinsic value of information object and the infosphere," 299.

- iv) it follows that all existing entities have some intrinsic value and are subject to some moral respect.

This new version cultivates respect not only for biocentric entities like spiders, biological systems²⁴³ (not just individuals) but for God, the Buddha statues, personal diaries, for a corpse and for a database.²⁴⁴ Floridi cautions, however, that not all information objects have intrinsic value to the same degree, and are subject to various degrees of moral consideration (respect). Floridi's error is in (ii.b). Note the change from Taylor's argument "x's flourishing is a good thing" to Floridi's "x's existence as x is a good thing." He falls back into a binary and logical trap of assuming that x (information object) is good qua x not good or bad to any degree in connection to other information objects in the infosphere. Nor is he allowing that x could be good for one agent and bad for another, which is where most moral dilemmas and CE issues rest. In (iii), he insists that all existing entities satisfy both (ii.a) and (ii.b) but I can think of several information objects such as the existence of a video tape of a counseling session which qualifies as (ii.a) but not necessarily (ii.b).

Here, despite the previous criticisms, Floridi has made a significant contribution. As indicated earlier, the respect for information objects as possible considerations while in conflict or competition with other ethical considerations is illuminating. In addition, the expansion of ethical stewardship to consider the infosphere an expanded domain of ethical consideration is plausible and possibly even required, although I am not prepared to defend this claim here. However, the notion of all entropy being evil seems to require a descent on the slippery slope of saving all information objects, and the further

²⁴³ Things like ecosystems.

²⁴⁴ Floridi, "On the intrinsic value of information object and the infosphere," 299.

generation of additional information objects into an information quagmire, dysfunctionally buried within the very objects we are forced to maintain.

One consequence from his revised version of the argument, which Floridi examines, is that it may be too inclusive. Floridi argues that the idea that *any* entity may enjoy at least a minimal level of moral consideration is very rational. He says that it is not a law to respect every information object, but to recognize degrees and an appeal to do the best one can. “Respect information objects for their own sake, if you can” and “adopting an ethics of stewardship towards the infosphere” is what he is promoting.²⁴⁵ Floridi favors an approach that is inclusive, possibly to a fault rather than to err with discrimination through too narrow a view. Above all, he re-states that InfoE is about a particular context, namely the ethical issues revolving around the CE, and needs to address the creators, the users and responsibilities of the technology in order to be a valuable theory. This position however is contradictory to the claim that InfoE could be examined as a theory in other disciplines.

Floridi tackles the problem that intrinsic worth and moral respectability to *anything* would be meaningless because it would prescribe worth to worthless and unworthy entities. He provides a negative analysis to treat the class of entities lacking of respect, and entities needing to be prevented, removed or modified so that they no longer are lacking of respect. He says that if an entity is *worthless*, then it is simply irrespectable, and there is moral indifference as to how the agent ought to treat that entity (patient). However, if the entity is *unworthy*, then it is to be actively disrespected, and it is morally wrong to treat it neutrally. The notion that *something* that is intrinsically worthless can be considered *something* that is not an information object, is a contradiction to Floridi’s

earlier claims about information objects. Floridi concludes that the only object that qualifies as a '*something*', which is not an information object, is the entity that represents zero degree in the scale of moral worth. Below the zero degree mark, we are actively required to prevent, remove or modify. As ethical stewards, we are required to improve the infosphere where possible by nurturing positive messages and disrespecting negative ones. Floridi's theory provides no assistance to implement this principle in consistent and reliable ways.

I call attention to the 'JunkYard Case.'²⁴⁶ Floridi's example is built on moral intuitions that seem idiosyncratic. His example is not based on the intuitions shared by reasonable people. Floridi describes a situation where a boy plays in a junkyard breaking abandoned and useless windows and mirrors in cars with skillfully thrown stones. Floridi specifically says that no one ever uses anything in this junkyard, nor will anyone be able to use anything in this junkyard in the future. The boy enjoys himself enormously, yet Floridi claims that 'most of us' would be inclined to judge his behavior as 'positively depreciable'. That is not my inclination at all. Even though I would agree with Floridi that the boy might be encouraged to entertain himself differently, I do not agree that the behavior ought to be considered vandalism, nor do I have a sense of dissatisfaction with the boy's behavior. My intuitions are simply different and consistent with others I have questioned regarding the matter. Vandalism concerns property of others (schoolyards, overpasses or roadside rock faces) which are used and/or appreciated by others. This property includes any public natural site given that someone might be able to enjoy that location in the future. Since the abandoned junkyard does not have these characteristics,

²⁴⁵ Floridi, "On the intrinsic value of information object and the infosphere," 300.

²⁴⁶ Floridi, "Information Ethics: On the Philosophical Foundation of Computer Ethics," 23.

and since the boy is not hurting himself or others, (through toxic leakage should the throwing of stones and breakage be transferred to lead filled computer screens), through noise pollution (as he might violate should he use a gun), or through the dangers of broken glass (since no one ever uses this junkyard) I do not share the same intuitions with Floridi.

With this case, Floridi foreshadows a practical approach to bridge InfoE with CE. But again it is fruitless. The car windshield is worthy to Floridi as an information object but is not considered an information object by reasonable people. The worth, worthlessness or unworthiness of a patient is not clear in many cases and obvious in others such as in the case of a human. If it is the agent determining the worth of a patient, then we are back to ethical relativism. If it is to be decided on other parameters, then we are driven back to classical ethical theory to select and decide on those parameters. Alternatively, we are left with nothing but the anticipation of a practical approach to guide CE as yet undeveloped.

Floridi points out that it is easier, much easier in fact to foster respect for an entity like us rather than a non-human animal and even more difficult with a mountain.²⁴⁷ The challenge of his theory is that it places the fostering of respect further from familiarity when we are asked to respect, in an ethical context, an information object such as a database. The attitude is abstract and unnatural often blocking a spontaneous or empathetic feeling available in the biologically oriented theories. The change in ethical sensibility Floridi requires in order for information object based IE to take hold, is that the level at which all entities share a lowest common denominator is their nature as information objects, not their nature as biologically centered. This realization allows the

agent to appeal to a normative judgement, given that agent's perspective. The agent is required to deal with all entities in the infosphere as having moral value as information objects. Only an advanced form of agent could come to realize this perspective. Again, we seem left with only human (and certain human) agents. Floridi has still not offered a way out of the information quagmire he proposes, yet his insights do place us on a solid foundation fortified by common connection.

Finally, Floridi tackles the objection that the information object metatheory of InfoE may be coherent, but irrelevant in the sense that it might be far too abstract to be useful. In other words, if other information objects of higher worth can override the value of information objects, or if other metaethical analysis can override the value of information objects, how can InfoE be useful? Floridi claims that it is false that there are always contrasting and overriding ethical concerns and that ethical theories do not have to disagree.²⁴⁸ In fact, according to Floridi, they are often complementary and mutually enriching. Furthermore, since InfoE pertains to CE, and traditional theories have been insufficient or inadequate to deal with the problems of CE, InfoE should be seen as the answer to the information age's need through the acknowledgement of the information object. If we accept the significant impact of the Internet on society as so many experts have claimed is the case, then Floridi has a point that the environment of information objects sharing a connection with other information objects is the ethical approach that is badly needed. Floridi fills the policy vacuum identified by Moor in 1985 with information object InfoE metatheory. But as Floridi is clear to point out, the value of this

²⁴⁷ Floridi, "On the intrinsic value of information object and the infosphere," 301.

²⁴⁸ Floridi, "On the intrinsic value of information object and the infosphere," 302.

theory will only be realized if there are applications from the theory that will aid in the quest to deal with the ethical issues such as those identified in Chapter Two.

Floridi concedes that we cannot ensure that actions will be morally right if our knowledge is limited or biased and does not include a wider degree of attentiveness to the patient.²⁴⁹ Moral luck arises, he says, when the interests of the patient are respected only by chance, and yet he says in a later article, that one of the seven components is necessarily the interpretive element.

InfoE endeavors to be non-subjective in its information object oriented approach; however, as the agent asks 'what ought to be respected most?' the answer is again subjective no matter how much effort is concentrated on objectivity and impartiality. Moreover, we are left with the problem that one information agent is deciding what is good for the patient which may not be good at all, nor it may not be the patient's wish to have that judgement imposed on it, if that patient has wishing capacities.

Floridi admits that InfoE is controversial, but that most of the problems with InfoE are also problems concerning the whole class of macrotheories. For a macroethic to be considered, it need not be perfect, but it would seem to me that it would need to offer at least a better solution than we already have to the problems at hand. He says that whatever problems are identified are not unique to InfoE and the potential for solutions will provide InfoE original contributions for ICT or any other field. The contribution that information objects ought to be considered is indeed a contribution, however, the fact that original problems of classical moral theories are still there present a degree of pessimism to InfoE's overall contribution. Most significantly, the notion of entropy as evil needs to be examined more extensively to allow for a meaningful and workable interpretation.

Action-oriented, agent-oriented and anthropocentric or biocentric theories are inadequate to tackle problems identified, but InfoE does not (as it has thus far been developed) provide significant help either.

Floridi does not attribute value to information equally, but into a scale of classes according to their potential capacities to improve the infosphere.²⁵⁰ He says that all entities have moral value but not the same degree of dignity. A way to judge the value of information objects on credible, consistent and moral grounds is not provided by Floridi. Without general criteria for judgement, we are thrown back to subjectivism or relativism, which will render any widespread ethical agreement on how to handle concerns practically impossible. If principles allow us to judge on the moral value of information, then it seems to me that we are thrown back to traditional consequential notions of ethics because our actions will be based on what happens to information and the infosphere.

If we use Floridi's deontological version of IE with the moral imperative to "act so that you never treat information as a means but always as an end at the same time" it is obvious that expansion beyond the Kantian human-centered approach offers an advantage. Clearly, however, the imperative is defiled each day as we eat²⁵¹ to survive, throw away 'junk' snail mail or delete unwanted e-mail messages. Further, if the action is to be considered from the patient's point of view rather than the agent, then no e-mail would volunteer to have itself destroyed. Even though Floridi acknowledges that entropy may be inevitable, he says it is never morally justified, and therefore InfoE is called an ethic of *conviction* rather than one of absolute terms. It seems non-intuitive to have a

²⁴⁹ Floridi, "Information ethics: On the philosophical foundation of computer ethics," 44.

²⁵⁰ Floridi, "Information ethics: On the philosophical foundation of computer ethics," 50.

²⁵¹ Eating plants could be considered destroying the information entities, just as eating flesh destroys other information objects (patients).

conviction to respecting all entities of information, even if I have a conviction to do so under my own personal categorization of degrees. For example, I know that I will destroy old phone records (let's say bills over 10 years old) as a desired practice of culling information I no longer find useful. However, the elimination of absolute terms is required in ethics due to its changing nature and contextual differences, and I applaud Floridi for promoting this concept. Specifically in ICT, as societies change and are changed by the rapid advancement of technology, conviction will propel us into a process or methodology of revision rather than anchor us, cemented in absolute and defunct terms.

Floridi proposes an apparent contradiction when in principles of IE he claims that we can deal fairly with actions we perform when we “*can regulate the behavior of any other agent placed in any other similar moral situation*”²⁵², and then claims that “IE does not place different processes in competition with each other, and so *does not have to rank what has been done by two agents in different situations.*”²⁵³ If both agents have done their best to improve the infosphere, then their actions are considered morally commendable for Floridi, and widespread ethical agreement for addressing concerns is again beyond reach.

Floridi appeals to privacy as a way to illustrate the new ethical perspective of InfoE, the patient (information object) and the infosphere. Although he maps out four kinds of privacy (physical privacy, mental privacy, decisional privacy and information privacy), he focuses only on informational privacy defined as clusters of information about an entity. The collection, assembly transmission and manipulation of data of individuals,

²⁵² Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 45.

²⁵³ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 52.

corporations, groups or nations has become easier and therefore more urgent. He channels the discussion away from the ownership of this information, to a lack of respect for the information. He suggests that we ought to treat personal and private information in the same way we would treat and respect other people, living bodies or environmental elements.²⁵⁴ According to Floridi, intrusion into information is equivalent to intrusion into the body. Although I have no real issue with his normative claim, he fails to deal with people who treat others including non-humans and environmental elements with little to no respect, as long as they are treated equally. If that agent can prove that he or she is treating private information in the same way he or she would treat the person, body or environmental element, would that be moral action? I think Floridi needs to clarify. More at issue, however, is his lack of treatment with the first category of privacy, which he lists as physical privacy with specific reference to freedom from interference or intrusion.²⁵⁵ This is the category under which I would place spam and unwanted advertising in pop up windows contributing to much of the dissatisfaction of the Internet in western society.

Floridi does not describe InfoE with expectations that it will be immediately useful to solve specific CE problems, however promotes this theory as a foundation for the moral principles that will then guide problem solving. "Professional codes of conduct, guidelines, advices, instructions or standards, computer or information related legislation, are all based on an implicit philosophical ethics."²⁵⁶ If these codes, guidelines, and various other levels of regulation are specifically focused on the proliferation of the infosphere and the avoidance of entropy, how well does this new ethical metatheory

²⁵⁴ Floridi, "Information ethics: On the philosophical foundation of computer ethics," 53.

²⁵⁵ Floridi, "Information ethics: On the philosophical foundation of computer ethics," 52.

address the issues identified in the second chapter? Acknowledging that Floridi does not propose that InfoE will be immediately useful, we can extrapolate some consequences of his theory to examine the cohesiveness of InfoE. *Prima facie*, it seems that many issues are not addressed by this metatheory, but a closer examination of how and why will be conserved for Chapter Four.

²⁵⁶ Floridi, "Information ethics: On the philosophical foundation of computer ethics," 43.

Chapter 4

Contributions and criticisms of Floridi

Floridi contributes to the development of ICT ethical considerations in many ways. The first contribution is his historical outline of the attempt by others to address issues of CE. By chronicling the development of CE, he presents the major directions taken that attempted to fill the policy vacuum and resolve ethical issues and allows those interested in the field to capture the challenges, some proposed solutions, and criticisms of those directions. He describes the milestones in the quest for CE and by offering his historical outline, identifies at least some of the problems that need to be resolved in IE. This is a significant contribution in that only after the problem is presented, can a solution be sought.

In addition to his concise outline of CE development, he categorizes the final approach as the *innovative approach*. With this title, Floridi challenges those interested in the ethics of ICT to unseat the old paradigms of ethical theory and create new and innovative approaches to deal with the issues at hand. It is not that the old or traditional paradigms cannot enlighten the problems of the present; in fact, Floridi takes the time to outline how those traditional paradigms have tried and failed to solve the problems of the present ICT ethics with his “foundational debate” article. Rather his point is that the traditional paradigms of deontological or consequential theory have been, according to Floridi, proven inadequate to deal with the issues of the OFLE and continue to leave a vacuum to be filled in the ONLE. With my interpretation of an innovative approach as the intersection between theoretical and practical ethics, this vacuum can be filled with intermediate actions to deal with current issues, and at the same time be searching for

potential new ethical theories to fill the vacuum with more long-term solutions.

Furthermore, an innovative approach has the potential of being one that deals with all or most of the issues as identified in the second chapter of this thesis.

Floridi makes several contributions to ethical theory in his work on the theory of Information Ethics. Proposing a lowest common denominator of worth, which he identifies as an 'information object' allows a theoretical basis for respecting things like the giant Buddhas, works of art, artifacts and personal treasures.²⁵⁷ He 'allows' for this respect, but does not present iron-clad arguments to support this respect. The result is that allowing for respect becomes individual and subjective, and casts us back into searching for another guiding principle to help keep the allowance for respect generalized and consistent in some way. With one respecting the eco-system of a swamp and the contributions to ecology it provides, others might respect the homes this land can provide if drained and filled. How ought decisions for ethical action to be decided, and on what principles? In addition to the lack of guidance for conflicting values, 'allowing' for a behavior or action is not enforceable. This is not to say that all ethical behaviors must be enforced, or that all ethical theories must lead to enforceable actions, but that any theory that is based on voluntary action proves challenging not only in practice, but in establishing itself as a theory. 'Allowing' is in line with suggesting a course of action at best or in tolerating a behavior at worst, but does not in any way allow for enforcing that behavior.

Even if Floridi did resolve the voluntary aspect of respecting conflicting information objects and was able to clarify how one might arrive at decisions, or processes for decisions regarding conflicting values of information objects, respect for information

objects, should it be provided in any practical arm of his theory, would not resolve many of the issues identified in Chapter Two of this thesis. Most notably, the social implications would largely be left untouched and not considered in Floridi's ethical discussion. In addition, many of the criminal actions described in chapter two like *flooding*, might even be sanctioned using Floridi's information ethics theory because one interpretation of these actions has them adding to the infosphere rather than establishing entropy.

Floridi does contribute to ethical theory by introducing the notion of respecting the lowest common denominator he calls the information object. By beginning with Kant and anthropocentric views of intrinsic value, Floridi extends the notion of patient to include humans whether conscious or unconscious, intelligent or not, then extends to other sentient creatures, living beings, biological systems and finally the information object. Those who question and criticize environmental ethics will remain unconvinced of the value of information objects and will argue against attributing to them any amount of intrinsic value. Those who consider all things valuable if and only if there are living organisms to value them, can criticize the very notion of intrinsic value. That is, for this group, intrinsic value of anything non-sentient can collapse into a slightly extended version of instrumental value, and any entity becomes instrumentally valuable if and only if there are sentient creatures to appreciate it. However, those of us who hold a reverence for items not necessarily 'useful' in material terms, but respectable enough to want entities such as Stonehenge preserved, can begin to think of a common denominator of these entities deserving of respect and dignity as information objects.

²⁵⁷ Floridi, "On the intrinsic value of information objects and the infosphere," 297- 299.

There may be other interpretations of what ought to be considered the 'lowest common denominator' of worth such as 'energy' proposed in some fields of physics. Certainly, an ethical theory based on valuing energy as the lowest common denominator, just as an example, would be significantly different from Floridi's theory. If we grant that considering information objects as the lowest common denominator is the best theory for the world of ICT, we still are left with a significant hurdle in Floridi's theory. One area where Floridi seems to lose acceptance for his theory, is in the extreme to which he considers information objects (for example as those entities which may exist in the future and those entities which did exist, but exist no more) and the extreme to which he describes entropy. Floridi fails to explain how one is to determine degrees of respect for entities that exist now, let alone those that are no more, or those that may exist in the future. He expresses no way of determining which ought to be considered more valuable when conflicting issues arise. Ought we to forgo the future for the present or visa versa, or place higher value on past information objects over the present and potential future entities? And finally, he also fails to explain how the agent can determine the worth, unworthiness and worthlessness of any entity unless by subjective criteria.

Floridi is a proponent of authenticated information and organizing knowledge in some form of Internet Library. He writes extensively about the necessity of certified sources to ensure the capture and survival of the human encyclopedia.²⁵⁸ This too is a significant contribution Floridi provides to the discussion of IE. He proposes Internet 'infostructures' like the Virtual National Library to keep track of legitimized information, and I support the notion that legitimized information ought to be valued differently than false information. Floridi, however, does not offer advice as to how this process of

authentication ought to proceed, nor does he highlight that any process of authentication poses significant challenges. These challenges stem not only from the potential bias of an information authentication process, but from the very architecture of the Internet. With decentralized and minimalist control consciously established as the foundational construction of the Internet, where and how information becomes authenticated becomes both political and architecturally problematic. It is political in the sense that authentication needs to be given on the basis of some criteria which is interpreted by individuals carrying with them values, attitudes and beliefs; and it is problematic because there is no central portal through which all information must pass. Some information might be relatively easy to authenticate such as news items, (although it is argued by people like Randal Marlin that news items are also biased due to reporter subjectivity) – whereas other types of information like breakthrough or novel ideas might be rejected because of a political bias against challenging the status quo. Floridi's InfoE then, might be a theory he intended to be applied to an already authenticated Internet, but that is only a charitable interpretation, and InfoE is not free from many of the other problems listed.

Floridi also proposes the notion of no absolute solution, but a workable one. This notion is an important contribution. It supports Darlington's claims referred to earlier in this thesis, and provides justification for dealing with Internet issues on a practical level even if the theory is being examined and developed along side the application of intermediate interventions. Floridi separates theory and application by proposing InfoE as the theory, and CE to be developed as the applied version later. Here I think he is wrong. He runs the high risk of shoehorning the applied recommendations into a theory that may be (and in this case, is) flawed. Theory must evolve and be revisited and

²⁵⁸ Floridi, "Internet: which future for organized knowledge, Frankenstein or Pygmalion?"

revised if necessary as the application of the theory gets tested. At the same time, applications of reasonable and well thought out solutions for problems ought to be examined for theoretical content. Theory and application must be tied together for ethics to develop and be meaningful. We require practical solutions or interim fixes for the Internet issues described in Chapter Two of this thesis. Developing the theory with unknown or unlikely application effectiveness does not help with the short-term challenges we are currently facing in IE.

Floridi recognizes the 'envelope' in his analysis of seven components of moral interaction. The envelope is contained in the infosphere and is bounded by space and time. "The infosphere is the whole system of services and documents, encoded in any semiotic and physical media, whose contents include any sort of data, information and knowledge with no limitations either in size, typology or logical structure."²⁵⁹ It is the global data containing "information, ideas, knowledge, beliefs, codified experiences, memories, images, artistic interpretations and other mental creations"²⁶⁰ that are transformed into a synthetic and digitized construct interconnected to agents. Floridi's contribution is recognizing the importance of the contextual and dynamic relationship of the agent with the infosphere, which needs to be considered when dealing with ethical issues especially on a global level. I applaud Floridi for recognizing this important characteristic of IE.

Although moral agency seems to remain with certain humans²⁶¹ in his theory, Floridi seems to *want to* extend moral agency to other information objects. Perhaps he is thinking of future computer programs that are gifted with artificial intelligence.

²⁵⁹ Floridi, Philosophy and Computing, 8.

²⁶⁰ Floridi, Philosophy and Computing, 8.

Whatever his thinking, he fails in his theory to extend agency. We are left with moral evil as it relates to IE, and return to the views of Debra Johnson who claims that computers are only instruments to human action. In fact, Floridi himself identifies and explains Internet crimes where the agent is distanced from reality and has a diminished sense of direct responsibility in the virtual world.²⁶² His theory, however does not address the altered perception of the agent, but focuses on the information object as a patient which may not be destroyed or degraded by the agent even when crime occurs. By failing to extend agency Floridi provides more evidence to support notions of individual responsibility on the Internet. Unintentionally, or at least indirectly, he supports the notion that we need to hold humans with certain attributes ultimately responsible for IE.

If we look at some of the areas of CE to be considered as another test for Floridi's theory, we can see that Mason's four ethical considerations (**P**roperty, **A**ccuracy, **P**rivacy, **A**ccessibility) are not fully addressed by InfoE. For example, Floridi does not deal with property ownership as long as any action produces a state change that is better than the previous state. It seems that someone could steal software in order to produce more information objects and InfoE would not discourage this action. In fact, if the state change is better than the previous state as a result of the theft, InfoE might actually encourage criminal behavior.

The accuracy of the information object may be considered in the theory because Floridi is a proponent of authenticated information. There is a correlation between authenticated information and accurate information. How he can weave the value he claims for the accuracy of information with his InfoE is unclear. Certainly it can be the

²⁶¹ Humans who are conscious, free, intelligent etc.

²⁶² See page 65-66 of this thesis.

case that authenticated information can be spread over the Internet in the form of spam and this seems to be sanctioned by the theory. Floridi is not explicit about unauthenticated information spread over the Internet, but seems to allow for it in his principles of the theory and laws of entropy.

Floridi addresses *privacy* in a limited and somewhat contradictory way. As an example, he suggests that dignity and respect for information objects such as personal diaries be revered in the same way we would treat the person. Even if it is the case that we do treat the privacy of the person and the privacy of the person's diary respectfully but differently, Floridi suggests that we 'should exercise the same care and show the same ethical respect' to both. I think that although both the person and the diary ought to be respected, they are to be respected in different ways and because of different aspects of privacy.

Privacy is multifaceted. Floridi distinguishes between four kinds of privacy.²⁶³ The first is a person's physical privacy considered to be freedom from the interference of others due to a restriction on the other to intrude. The second kind of privacy is a person's mental privacy considered to be freedom from psychological interference of others due to a restriction on the other to mentally manipulate. The third kind of privacy is a person's decisional privacy considered to be freedom from the exclusion of others resulting from decisions the person may have made or will make. This kind of privacy is closely related to the personal rights and freedoms one has regardless of the status, religion, or education, for example which one has chosen. The fourth kind of privacy is a person's informational privacy considered to be freedom from interference due to a

²⁶³ These four kinds of privacy are from Floridi's article "Information Ethics: On the Philosophical Foundation of Computer Ethics," 21-22.

restriction of access to information about a person or a person's behavior. What Floridi has in mind with this fourth kind of privacy is "complex relations among data-producers, data-collectors, data-processors and data-consumers [in] an ecosystem in which data may be recycled, collated, matched, restructured and hence used to make strategic decisions about individuals."²⁶⁴ For Floridi it is not that what we don't want to share with the public, ought not to be accessible for public scrutiny, but rather that "when treat[ing] personal and private information...exercise the same care and show the same ethical respect [we] would exercise and show when dealing with other people, living bodies or environmental elements."²⁶⁵ If Floridi wants privacy of personal information to be respected as human beings, his distinction regarding four kinds of privacy does not reflect this notion. The fourth kind of privacy he describes is still privacy of the person, not privacy of the information about the person. Floridi does not express the privacy of the diary as an information object to be respected, but the privacy of the individual's information to be respected in the form of the diary. Either Floridi needs to extend kinds of privacy, or clarify how one can treat the information about a person in the same way one treats the actual person. His concept is additionally challenging when we consider past and present information objects. The diary of famous early explorers are read, published and respected even though we violate informational privacy. Furthermore, the privacy one expects in one's e-mail in basket is violated by spam, which seems to be legitimized in Floridi's InfoE theory, but objected to in his categorization of the first and second categories of physical and mental privacy.

²⁶⁴ Floridi, "Information Ethics: On the Philosophical Foundation of Computer Ethics," 22.

²⁶⁵ Floridi, "Information Ethics: On the Philosophical Foundation of Computer Ethics," 22.

In addition, Floridi's comparative reverence between information objects as things and information objects as persons needs to be examined a little more closely. I might have great respect and reverence to my Mother's wedding gown, but would not compare the treatment of it to the treatment of her. Others without a loving relationship to their mother may have a great deal of respect for the gown, and little or none for the original wearer. The notion that an information object other than a human can be respected in the same way as a human is not necessarily what Floridi is trying to obtain. The notion that objects other than humans are to be revered is desirable *is* a significant contribution to ethical theory. Ironically, it allows for ancient aboriginal notions of earthly respect demonstrated in principles such as 'tread softly and leave no trace' while dealing in a modernized high tech environment.

There is no reference to information objects contributing to entropy in InfoE through accessibility to information. There is a connection between notions of accessibility to information with privacy and accuracy of information. If information about me exists in a health records database, should I have access to that information? Should I have access to health information about my spouse or my adult children? If the information about me is incorrect, should I be able to change it? If the information is true but private, should I be able to change or block that information? Although Floridi makes reference to a personal diary and appeals to respect for that information object he does not directly address access to information in his InfoE theory. Access to information is an important concern in IE. There are no principles or guidelines in his theory to aid us in dealing with this concern.

Although Floridi makes contributions to ethical theory, the biggest disappointment is that his Information Ethics fails to address the IE issues identified in Chapter two of this thesis. I can illustrate the point using the three general categories I have created. The first category referred to in Chapter two, namely the 'apparently neutral norm,' refers to the technology or the architecture of the Internet, and challenges the notion that technology is always and completely neutral. Floridi does not examine the bases of the decisions to construct the Internet with a self-regulating, decentralized free flow of information. Not only are these issues ignored by Floridi, they would be ignored by an application (such as CE) of InfoE. These decisions on how to construct the Internet were based on the values of the Internet developers, and will not be addressed with InfoE even if CE could be developed and applied.

The fact that values were integrated into the design of the Internet does not mean that further design cannot alter those values or that future design cannot regulate the unwanted behavior resulting from the that design while preserving the original intention. One example to illustrate this point is the notion of free information. Free information can be preserved within certain boundaries on the Internet. One such boundary might be the authentication or certification of information Floridi promotes, which I have already mentioned. Information objects adhering to the regulations of those boundaries can be respected within the InfoE while those that do not can be considered worthless or unworthy.

Concepts discussed in Chapter Two such as the potential for conflict of interest for executives on the boards of Internet ethics committee would not be adequately attended to with InfoE. Floridi's natural rebuttal might be that conflicts of interest are not matters

of InfoE, but more appropriately rest with professional and occupational ethics. With the same thinking, controversial issues regarding domain names might best be left for professional ethics to recommend the most appropriate action regarding pricing and distribution of certain highly desirable domain names. This may be the case, but when a policy vacuum exists in professional or occupational ethics, and individuals fail to recognize these ethical issues, or if they recognize and fail to act on these ethical issues, what then? Certainly I would not promote that a new ethical theory be developed to deal with those issues that fall through the cracks, but the issues do need to be pointed out and addressed. The process of examining and re-examining issues as part of my definition of IE allows issues to be identified and 'farmed out' to other ethical bodies to resolve if appropriate. It is unrealistic for professional ethics to pre-determine and anticipate any and all issues that may arise as a result of the popularization of the Internet. Once IE identifies issues, those issues can be communicated to those established ethical institutions or professional organizations most suitable to deal with them.

Another way to acknowledge Floridi's theory with respect to this first category might be to eliminate or dismiss the category of the 'apparently neutral norm' altogether. If InfoE were to be fully developed and applied, it might be the case that the '*apparently* neutral norm' becomes *truly* neutral. After all, if the inconsistencies in Floridi's theory can be worked out regarding what types of situations override information objects and clarity and consistency were to be developed around different degrees of respect for information objects, then the issues of a self-regulating, decentralized free flow of information might not pose a regulatory problem at all. In fact, the effectiveness and

efficiency of stewardship of information objects on the Internet might require the open architecture that is now in place.

In this first category of the apparently neutral norm, I talked about the norms one needed to abide by in order to participate as a full member of the ICT community. InfoE has no direct reference to notions of community except for the stewardship for information objects all are to embrace. Floridi is suggesting that all agents unite as a group to respect and maintain the stewardship of information objects. "IE is not an ethics of virtue, happiness or duty" he says, "but of respect and care (the respect for the patient and the agent's care)."²⁶⁶ Perhaps if this theory is applied in CE we might experience this utopian connection of global information stewards, but even if this were possible, there are still issues about which information objects ought to be respected when conflicting opinion occurs.

With the second category listed in Chapter Two, of Internet crime and other concerns, it is unclear how Floridi's InfoE as a theory could be applied to address issues like the misuse of research material, hacking, masquerading, pornography or the types of regulation listed in this category. It seems that we could engage in all of these criminal activities, and still be within the boundaries of InfoE. We could also avoid most of the regulations and moral codes suggested on the Internet and still be within the boundaries of InfoE. One way to reconcile Floridi's theory with providing IE, is to be reminded that the crimes we have identified in this category are largely those that are traditional crimes transformed because of ICT. They are still, however, crimes essentially to be dealt with by modernizing traditional methods of identifying, capturing, prosecuting and deterring

²⁶⁶ Floridi, "Information Ethics: On the Philosophical Foundation of Computer Ethics," 49.

criminals. Laws imposing criminal punishments, fines, or loss of privilege²⁶⁷ might currently not be efficient for Internet crime, but can be revised and extended to allow for high tech versions of traditional crime. A closer examination of the crimes and acts of wrong doing is in order.

Traditional crimes such as theft, fraud, espionage, vandalism, unauthorized copying, hate speech, pornography, security breaches or extortion are exhibited using ICT. These crimes prove to be more difficult to detect, and the criminals difficult to identify, capture, prosecute and appropriately penalize. It is not that traditional laws do not apply to the high tech environment, but that they are inadequate to deal with the new technology used to expedite the crimes. Part of IE needs to be the extension of these traditional laws to include high tech crime, and an examination of how best to reduce or eliminate violations. Floridi's InfoE considers crimes like "killing, stealing, lying, torturing, betraying, causing injustice, discriminating, etc."²⁶⁸ as great forms of disinformation. Obviously, these crimes as Floridi lists them are not ICT specific. In fact, it can be argued that ICT would have a very minor role if any in the killing of anyone.²⁶⁹ The point is that InfoE, while recognizing in an abstract way the severity of these crimes, provides no way to deal with them. Nor does Floridi's theory allow for considering the torturing of a terrorist, lying to save a life, or stealing to feed a family – all examples of moral dilemmas which challenge ultimate principles such as 'refrain from disinformation'. It could be that Floridi is waiting for the practical arm of InfoE such as CE to help in applying the theory to real situations, but in the mean time, the theory

²⁶⁷ Laws that revoke drivers' licenses are examples of this type of punishment but would prove even more difficult to enforce with respect to the Internet.

²⁶⁸ Floridi, "Information ethics: On the Philosophical foundation of computer ethics," 48.

provides no assistance to the requirements of today. InfoE abandons traditional crimes acknowledged in the high tech environment.

Crimes dealing with privacy issues such as the disregard for password protection and penetrating information of other people or institutions, including intercepting private e-mail, are also unaided by InfoE. Floridi does talk about privacy as “a fundamental concept referring to the integrity and well-being of an information entity. . . not only an individual’s problem, but may be a . . . orporation’s problem, or a whole nation’s problem.”²⁷⁰ Floridi considers the actual private information quite irrelevant, but instead considers breaches in privacy lacking in care and respect for the *individual*.²⁷¹ This view is contrary to the most popular being that ownership of personal information is similar to ownership of property and is to be respected. It is not that Floridi’s view is unpopular that makes it less appealing, but that it is obscure. Floridi says that “any information about ourselves is an integral part of ourselves, and whoever has access to it possesses a piece of ourselves, and thus undermines our uniqueness and our autonomy from the world.”²⁷² It just isn’t the case that medical personnel who have access to my medical records possess a piece of me, and that any private information which is seized without authorization alters the uniqueness or autonomy of any person. With this skewed view of privacy, Floridi provides no assistance in the practical privacy concerns raised in Chapter Two such as password protection or the unauthorized penetration of private e-mail or other private information.

²⁶⁹ Perhaps a scenario that included high tech medical equipment that failed and contributed to death as part of this category, or Floridi’s notion of artificial evil might be summoned to fill this role.

²⁷⁰ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 52.

²⁷¹ Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 52-53.

²⁷² Floridi, “Information ethics: On the philosophical foundation of computer ethics,” 53.

Some of the crimes listed in Chapter Two fall into the group considered vandalism. Such crimes are electronic sabotage such as DOS (denial of service) like flooding, or viruses and worms. Other cranks like hacking, spoofing or Trojan Horses are extensions of the group of crimes considered vandalism. Floridi talks of vandalism in the case of a boy playing in a dumping-ground. His scenario leaves at least two serious questions with the reader. The first is to ask why the boy ought not break windshields to his delight when no one will ever have use for them in the future as examined in Chapter Three. The second question leaves the reader puzzled as to how Floridi is using the term 'vandalism.' Floridi's notion of vandalism extends to useless objects not seen or used by anyone other than the boy who breaks them. More common views of vandalism extend to useful objects or things seen and enjoyed by others. Although Floridi's conclusion to his scenario is that objects need to be respected for what they are, and the absence of consideration of the object increased the level of entropy in a particular environment, namely the dumping-ground, his conclusion is not so easily extracted from InfoE.

If we consider Floridi's conclusion that objects need to be respected for what they are, then how can we not consider the value of the information object of the virus or worm? The Trojan Horse brings with it an increase of information objects so should it not be respected also? Flooding and spamming add to the infosphere and do not increase the level of entropy in the environment. It is not that Floridi's views on vandalism are necessarily to be rejected, but that these views do not reconcile with the principles and moral laws of his InfoE that allow this criticism.

Other crimes listed in this category include flaming, deliberate misinformation, misuse of research material, masquerading and lurking. These too can be considered traditional crimes and not only provide a challenge to detect and penalize, but have been transformed due to ICT. What they have in common is the negative intent of the agent often accompanied by the unwillingness or inability to take responsibility for the action taken. Floridi talks extensively in his writings about the agent otherwise responsible in society not taking responsibility for his or her behaviors on line. What Floridi fails to do, is to show how InfoE would help in any way to alleviate this concern. InfoE does promote agents who care and respect as stewards of information objects, but does not provide any insight as to how to generate these conditions. Here too, Floridi might allow the practical arm of CE to do this job for him. As the job of CE becomes more and more cumbersome, the confidence in InfoE becomes weak.

This second category of IE consisting of crime, also includes the norms dealing with protocols, regulations, restrictions, and codes of conduct on the Internet. It is in this category that Floridi anticipates a contribution of an applied CE based on InfoE. The development of CE according to Floridi will produce the guidelines, policies, legislation, codes, minimum standards and norms to guide action on the Internet. Since this practical branch of the development of InfoE has not yet occurred, I cannot criticize the adequacy or accuracy of it. Floridi may have more ambitious goals for CE, but speculating is not fruitful. I am, however, pessimistic that it can be beneficial due to the criticisms I have already put forth for the theory.

If we look at the norms that are currently on the Internet, there is some contribution to IE in terms of strict regulation and enforceability. The main role played by these

norms is to provide attention to certain boundaries loosely drawn and to provide guidelines to be followed or expulsion from a particular group could result. Guidelines for certain research projects, particularly projects that involve human participants must be followed or the researcher is eliminated from the legitimized group of recognized researchers. Similar codes of conduct are used for professionals like doctors and accountants. The challenge with these norms is that they are difficult to enforce. Often, much of the content is based on 'intent,' which proves problematic. That it is problematic is not to say that it is impossible. Our justice system uses 'intent' as an element of murder trials to differentiate the crime of manslaughter from various degrees of murder. Compensatory punishments are given depending on the judgement of the intent, namely pre-meditation of the crime.

Intent is also considered a factor in professional performance. Accountants are allowed to make mistakes and if they do so, reputation may be damaged. If they knowingly produce false information, and are caught, they are subject to punishments like fines or jail time and can lose their professional license. The recent blurring of the allowable boundaries in cases such as *Enron* show that codes, guidelines and protocols, while in place, are often stretched to the point of breaking. It is only when professional reports are questioned and a regulating force steps in and punishes the 'rule breakers' that the norms regain their importance and respect.

What has InfoE to offer in this realm of norms on the Internet? InfoE appeals to the intent of the agent to provide care and respect as stewards for the information object. There are no guidelines for care or respect offered by Floridi. The four basic moral laws having to do with entropy provide a normative guideline for InfoE including

condemnation for any action eliminating information objects. These basic moral laws are fundamental to Floridi's theory, and yet provide the basis for increasing the level of concern for information generating crimes of vandalism including spamming and flooding. Again, InfoE provides no consistent foundation on which to create norms or guidelines that will address the crimes listed previously.

In the second chapter, I identified three categories of IE concerns. The third relates to the implications or ramifications of the Internet with respect to the users and society. Floridi does preach a feeling of reverence for information objects, which could be an interesting impact on society, should this feeling take hold globally. What would the world be like should care, respect, dignity and reverence be attributable to all information objects? Not only would the sentient world be respected, but also all ecosystems plus the entire human encyclopedia of knowledge would be revered and allowed to flourish. Certainly, if one could span the hurdle of how degrees of respect needed for various objects would be developed, and the clear differentiation between evil objects that reduce the infosphere from legitimate objects that add to the infosphere, Floridi's notion of a caring and respectful world has appeal. It may be an impossible utopia, but if InfoE even in theory only, were to solve the societal issues identified in chapter two, it ought not to be a theory dismissed. The problem is that InfoE, with care and respect for information objects, and the avoidance of entropy does not deal with the legitimate social concerns I identified in Chapter Two of this thesis. Unfortunately, extrapolating the potential change in society indoctrinated with a fervent respect for information objects is the only sense in which Floridi tackles the impact on society resulting from the Internet, and he does not deal with the issues I highlighted for this category in Chapter Two. Notions of

community, ethical concerns regarding surveillance, the privilege of access to the Internet, implications on 'needs', environmental and health concerns just to name a few are not issues Floridi deals with. What is more, is that these issues would not be a concern should InfoE in some practical way be possible.

A closer and systematic look at the social impact concerns described in Chapter Two, and how InfoE offers no guidance or consideration for these concerns is in order. The commercialization of the Internet is of no concern to InfoE. Abiding by the basic moral laws of InfoE, as long as the information grows and does not deteriorate or get destroyed, 'infotainment' is not a bother for Internet users. The impact of infotainment on society or its members is not a concern of InfoE, but might be considered a concern for Floridi who promotes the authentication of organized knowledge on the Internet in order to preserve the human encyclopaedia. The generation of cookies contributes to the infosphere and would be sanctioned according to the basic moral laws even though these cookies violate certain forms of privacy. InfoE provides no guidance as to how to resolve such competing concerns of commercialization and privacy.

The concern for 'virtuality' is recognized by Floridi in his writings, but again is not addressed with InfoE. By adhering to the 4th basic moral law of InfoE, the promotion of extending (increasing quantity), improving (quality) and enriching (promoting variety) the infosphere is recommended. Individuals with many virtual personalities increase the quantity and promote variety without degrading the quality of the infosphere. The knowledge that anonymity tempts illegal behavior is not a concern of InfoE, even though the consequences of illegal behavior such as stealing are considered disinformation by

this theory. Although Floridi identifies this concern, he does not offer a solution for this concern in his InfoE theory.

Floridi does not recognize the concern of addiction to the Internet nor is this condition addressed in InfoE. In fact, to the contrary, to extend, improve and enrich the infosphere, as his basic moral law dictates, one might be forced to spend even more time on line and neglect a balanced and healthy lifestyle. The only way in which his theory may be used to minimize tendencies to addiction to the Internet is by allowing for the extension of stewardship for information objects to include the agent as an Internet user. By caring and respecting the agent as an information object, one might assume that a healthy and balanced lifestyle would have to be promoted even if indirectly.

InfoE does not address the notion that there is no zoning regulation on the Internet. Either Floridi has not identified this concern, or does not feel it is worthy of theoretical effort. This concern may, however, be one left to the practical arm of CE. One way to deal with the lack of zoning might be to follow Lawrence Lessig's suggestion that Internet users have some form of certification confirming things like identity and age in order to gain access to certain sites or be able to order certain products on line.

Floridi says that stealing is a violation of information and is considered disinformation or entropy. The unauthorized use of software retrieved on the Internet like the music obtained from Napster would be considered disinformation according to the InfoE theory. How to deal with that theft would be left to the practical arm of CE. It seems, however, that caring for and respecting information objects like software might arguably encourage duplication of the software thus adding to the infosphere. In this case, InfoE might promote that the information object, namely the software has priority

over the information object as the developer or composer of the software. The theory either falls back on other traditional theories to aid in moral dilemmas or disagreements, or pushes this task to the operational arm of CE, which is no easy task.

Floridi acknowledges the transformation of society by the Internet and supports the notion that with the ICT technology, recurrent needs are served better both qualitatively and quantitatively. However, he ignores the aspect of transformation as it pertains to geographic boundaries being blurred or invisible due to the Internet. His InfoE does nothing to highlight the global challenges of differing values coming to the forefront of IE. These differing values pose significant challenges to the rules and regulations including but not limited to enforcing some global norm for all to follow.

InfoE ignores new notions of community complete with increases in individualism and relative blindness. The solidarity of a community joined in the effort of caring and respecting information is novel, but Floridi does not delve deeply enough to recognize the way communities are being formed on the Internet. The 'open source' community and CMC's (computer moderated communication) used in education and health care counseling are altering the way we regard members of a community, and InfoE ignores this change.

The important ways in which the Internet affects our views on democracy and access to information are not dealt with in Floridi's InfoE. Access to more information even if we grant that the information to be accessed is authenticated, as Floridi would like, does not promote better-informed constituents. More quality information can result in overload and people feeling frustrated by not being able to sift through the sheer volume of information bombarding them on the Internet. Access to information does not promote

an increase in the number of voters. The Internet was not developed to assist in the democratic process, but if the Internet proponents claim that it aids this process, then IE needs to examine this claim. InfoE fails to do so. Floridi seems to be promoting more information with his theory without looking at the context of information pertaining to the interests of the individual. InfoE ignores the potential enhancement of the democratic process through the Internet and promotes a continuance of the infoglut now being experienced by Internet users.

InfoE ignores Free Speech and Pornography concerns. North American Internet authorities consider pornography as the primary concern when identifying IE. It would seem that InfoE would be remiss if not dealing at least indirectly with these issues. Again, it might be Floridi's defense that CE would apply the InfoE principles in order to create pornography and free speech policies. Just following the basic moral laws provided in his theory, no restriction for content unless the content promotes entropy needs to be formed. It seems that here too, we are left with a theory with no substance in which to deal with significant social issues currently at hand.

The tension between surveillance and privacy are heightened as the world changed post-September 11, 2001. InfoE has no contribution to make regarding surveillance. Floridi does talk about privacy, but only with respect to personal information and the consideration of this information to be less associated as property controlled by the person and more in line with the person as seen through and captured by this private information. This obscure treatment of personal information as previously discussed provides little assistance with the problems we are facing now with breaches of privacy, and unknown surveillance techniques on the rise. Rather than stepping back to formulate

a theory, perhaps Floridi needs to step forward to engage in the real world concerns we are now engaged in. InfoE does not provide guidance or assistance in dealing with these ICT concerns.

Floridi does not deal with the ambiguous and inaccurate notions of universal access. InfoE seems based on an assumption of true universal access both globally and socio-economically. Any theory based on assumption needs to be examined closely for applicability. Even if his theory could be applied to the countries with access, the limited access within a geography ought to be considered in some way at least in the practical application of CE.

InfoE does not recognize the challenge of human values overridden by business values in the world of ICT. But InfoE maintains some human value as it encourages the care and respect for ancient treasures and works of art. Notions of care and respect are human capabilities, not fostered by the business world. In this way, InfoE steps up to the challenge, and opts for the more humane view. I applaud Floridi for taking this less popular position in the dominant business realm of ICT.

The unknown long term consequences of technology, the ecological factors of producing obsolete components and the recognition of the sedentary lifestyle promoted by the information age are all ignored by Floridi and InfoE. As he concentrates on the human encyclopaedia and how to maintain and increase this vast collection of information, he ignores the costs of altering or compromising what it means to be human. Information is important for human survival, but so are the emotional elements that provide reason for being. If Floridi is proposing that with care, respect and stewardship for other information objects including other human beings, we can make the world a

more ethical place, I agree with him. If he promotes this more ethical world using his theory of InfoE as he describes, I cannot defend him.

Another way one could interpret InfoE into a plausible theory addressing social issues resulting from the Internet, is to suggest that InfoE is based on virtue ethics. If we are to accept the stewardship of information objects, as Floridi proposes, then we are to be able to respect things most removed from us like books, paintings, stone carvings or digital data. This advanced level of stewardship and empathy require advanced and highly ethically developed beings. Floridi may then be describing a potential utopian world, which still needs to be sorted out with the practical application of CE, but might prove promising nonetheless. If it weren't for the fact that Floridi takes great effort to discount traditional ethical theories like virtue theory in his attempt to describe his innovative approach, this interpretation might offer a way in which he addresses the social implications of the Internet.

Granting Floridi's claims for InfoE, there is not a clear way to deal with the issues of Internet and how they effect a changing notion of community, universal access, pollution, a sedentary life style, and notions of what 'being' human is all about. What may work is an interpretation of Floridi that InfoE is a customized layer of ethical considerations for ICT to be added to the traditional theories already evident in our society. But Floridi is clear that he thinks his theory is interdisciplinary. He says disinformation, are things like killing, stealing, lying, torturing, betraying, causing injustice, discriminating, while goodness, he says has the ability to keep the level of information in the infosphere steady, or in some cases to restore it to previous higher levels.²⁷³ It is clear, that Floridi is not promoting InfoE for ICT only, and with this thinking, relegates InfoE into a theoretical

closet of daydreaming. Floridi may have more to say about respect for information objects either when the applied CE gets formulated or if the theory gets expanded further. As it stands so far, InfoE will not aid in keeping the information object 'human' healthy by advocating a balanced lifestyle complete with basic needs in addition to exercise, social interaction, intellectual stimulation and spiritual development. In fact, the requirements necessary to adhere to Floridi's InfoE might very well prevent one from having a balanced life style at all.

Regulation in terms of market forces, architecture and social norms in addition to laws continue to effect behavior on the Internet. There may be other methods of regulation yet to be developed, but as it stands, Floridi leaves us at the drawing board of the 'innovative approach' to come up with theories or applications for trying to achieve IE.

Some forms of Regulation

Lawrence Lessig claims that even without formal regulation, the forces of the market, the norms of users and the architecture (the code) will act as regulating factors on the Internet. Left to itself, he says, the Internet will become a tool of control. The market plays a significant and defining role in controlling behavior on the Internet with technologies of commerce supported by law and the justice system. Secure credit card transactions are the result of SET (Secure Electronic Transfer Protocol) adopted by a consortium of credit card companies. Changes in the Internet that make commerce possible and more secure are the changes that might make regulation easier. The

²⁷³ Floridi, "Information ethics: On the philosophical foundation of computer ethics," 48.

challenge according to Lessig, is how to preserve the free thought and decentralized control while various forces of regulation seem to be emerging on the Internet.

When needs are unmet, and anarchy prevails, history²⁷⁴ has demonstrated that services like police, hospitals and courts are not provided by private interests. As security evaporates, so does freedom in both political and in virtual worlds. Governments could not simply regulate cyberspace because behavior could not be effectively controlled. Even if laws were passed, those laws would be meaningless unless direction was defined from the user community.²⁷⁵ Lessig argues that the values that will emerge from the grass roots are free speech, privacy and due process.

Lessig points out that we ought not confuse or conflate 'what is' with 'what ought to be' concerning the nature of the Internet. He illustrates that Chicago University has an open and nonproprietary network requiring no personal ID whereas Harvard has a closed, tightly controlled proprietary network granting access only to those with express authorization. But we can use 'what is' for now, and steer toward 'what ought to be' in the future by examining various networks, their strengths and weaknesses. We can enable more or less control by layering control specific code on top of the Internet. One control worth investigating is control over anonymity. Not knowing who the user is challenges many regulations that might be considered for the Internet. Even though there is no way to verify who the user is, additional security systems can help to control the Internet. Credentials like virtual driver's licenses can be used to grant access, but these, like a set of car keys can be stolen.

²⁷⁴ Lessig draws on the history of Eastern and Central European countries.

²⁷⁵ Lessig, Code and other Laws of Cyberspace, 4.

There is the additional challenge of dealing with the difficulty of 'zoning' the Internet. Geographical locations can simply limit patrons, and with the exception of one stealing credentials from an authorized patron, these limitations have some controlling ability. Even real world credentials such as stolen ID would not permit a normal looking 12-year-old into an adult bar, but might not prevent a mature looking 17-year-old from entering. "The net, oblivious to geography, makes it practically impossible for geographically limited governments to enforce their rules over actors on the net."²⁷⁶ Using credentials on the Internet could facilitate zoning to a certain extent, and enable the beginning of international control. Certainly there are positive and negative effects such as the cost of technology, the loss of freedom and the willingness to regulate on the Internet, but individual countries can evaluate these costs. China is willing to block access to a great deal of information using technology while other governments are not willing to do the same.

The use of credentials has the potential of transforming an unregulatable space to a more regulated one, but not without a considerable shift in societal value. Lessig points out that this strategy is not perfect even though it has value. Locks can be picked or broken, but this does not mean that locks are useless, he says.²⁷⁷ More secure systems such as retinal eye detection or thumb print readers may be accepted as possible future credential tools, if societal values find these tools acceptable. Mandating credentials for access to the Internet is likely to cause a revolt in the Western world, so Lessig suggests a voluntary system with high incentives to use credentials. Indirect regulation could then

²⁷⁶ Lessig, Code and other Laws of Cyberspace, 55.

²⁷⁷ Lessig, Code and other Laws of Cyberspace, 57.

occur through these credentials offering money (credit for Internet use) and incentives of convenience like getting information first.

“Choices among values, choices about regulation, about control, choices about the definition of spaces of freedom –all this is the stuff of politics. Code codifies values, and yet, oddly most people speak as if code were just a question of engineering.”²⁷⁸ Software and Hardware engineers determine what the Internet is by setting up defaults of the Internet, how much if any privacy will be protected, the degree to which anonymity will be tolerated, and the extent to which access will be guaranteed.²⁷⁹ It is this connection between the code makers and values, and the code and formal regulation, which forms a triad of control solidified in a foundation of the needs of commerce. It is this connection, according to Lessig, which threatens the properties of freedom and openness on which the Internet was created.

America on line (AOL) has over 32 million subscribers and even more users since 7 screen names are allotted to every subscription. In 1998, it was the largest online service provider. Current ISP (Internet Service Provider) rating statistics are difficult to trust because they are not compiled consistently. There are both formal and customary ISP rules or norms to be followed. As an example on AOL, one of the 7 screen names must be stable while the other 6 can change anytime. ‘Rattlesnake’ could be a screen name used by one who describes him or herself in creative yet incomplete ways. The description could be true or false, explicit or vague and could include a gender change from the actual person sitting at the computer screen. Such gender flips are called ‘virtual cross-dressing’ and are not unusual or against norms for AOL use. One service

²⁷⁸ Lessig, Code and other Laws of Cyberspace, 59.

²⁷⁹ Lessig, Code and other Laws of Cyberspace, 60.

AOL provides is the ability to set up a chat room. Approximately 23 screen names²⁸⁰ can occupy a chat room at once. An AOL member can then send messages to those people, but not to the entire AOL membership. Members can compile their own mailing lists of any length. AOL owners and those they chose to authorize to do so can send messages to all AOL members. AOL can also track your activities while on line, including watching those you classify as 'buddies.' They can collect information about you for customer demand considerations, buying patterns, demographic information, and credit card activity. They are forbidden to sell this information, but can use it to direct their own future marketing plans. A subscriber both abides by and accepts these norms, or can go elsewhere and try other Internet Service Providers. Not complying with these norms results in being excluded (toaded) from the AOL subscriber list. After a search, a message appears which says, "Web results may contain objectionable material not endorsed by AOL." Offended Internet users either accept this material, or refrain from searching. Another alternative is to install filtering or blocking software so that offensive messages will, for the most part, be avoided.

This type of norm is contrasted with the norms of 'Netiquette' where norms are suggested and are enforced by fellow users. An example of such a norm is refraining from typing messages in capital letters because upper case signifies virtual 'yelling'. Stronger netiquette norms discourage rudeness or on-line or censorship from fellow users or from AOL could occur.

Norms do regulate behavior on the Internet to a certain extent. In text based virtual worlds called "MUD's or MOO's inappropriate behavior can result in one being 'toaded'

²⁸⁰ According to AOL sources, this number can change moderately depending on the purpose of the chat, and who sets up the room, but numbers are usually less than 26 participants.

or filtered if one talks too much. Communities can shun those who don't follow the unwritten norms of the group, and do so in OFLE and in ONLE. Markets also regulate by charging for certain web sites (e-journal subscriptions) or by altering prices for ISPs depending on competitive situations. In the OFLE, the market helps to keep pornography away from children largely because it is expensive, and because it is difficult to hide that one is a child face to face with an adult. Although not perfect, this regulation in the real world works relatively well and pornography is not generally (readily) available to children. The ONLE offers a different reality. There is generally no cost to Internet pornography at least initially, so minors do have access. With the architecture of the Internet, it is easy to disguise one's identity, and without the requirement of credentials, one can engage in the virtual masquerade game. Lessig offers alternatives to prevent minors from accessing a class of speech to which adults are privy to, but to which children are not. The burden could be placed on the parents (or schools or libraries) to block inappropriate speech, or virtual zoning could allow adults into an area where minors are excluded. Lessig suggest that as possible solutions, either block information to minors or provide information only to adults with credentials. Blocking does not permit entry to a site, but it does inform one that there is a site to which they have been banned. If there might be valuable information in that site, an individual can take action to unblock that information by asking a parent to help for example. Filtering, however, requires labeling from a body that rates content, or filters according to certain labels, images words or phrases. It can occur at any level of the distribution chain. Filtering can occur at the user's site, through a company or place of work, through the ISP or even through a district or country. Filters are invisible, and users do not know what has been

filtered from their access. Lessig prefers exposure to more information and therefore would tend to promote blocking rather than filtering.

A form of regulation trying to promote a secure Internet is Encryption. Encryption is the making and breaking of codes both in the storage of information as well as in the transmission of information. It is used to scramble messages, and is a tool for maintaining national security as well as keeping personal communications private. Encryption is essential to all financial institution transactions, for consumer transactions with automated tellers and credit card numbers, for cable television signals and sensitive business or personal correspondence. As one is trying to develop difficult to break encryption codes, others are equally busy trying to break the codes! Encryption debates have continued since the Clipper chip²⁸¹ was introduced, but to simplify the current status, encryption is permitted as long as government has access should they require information.

Just some of the Challenges of IE

Working with the intersection between theoretical and practical ethics as a way to obtain a progressively more ethical Internet is significantly challenging. The Internet has several characteristics that pose significant challenges to the development, implementation and revision of ethical positions. The Internet is decentralized by design, and treats all types of information equally. Without a centralized location, regulation

²⁸¹ According to Sarah Baase, the controversial aspect of the Clipper Chip was that the government would hold the keys for the codes used in the chips and thus would be able to decode intercepted conversations and electronic communications. The purpose of this policy according to the government was to aid in law enforcement in protection from criminals and terrorists, however, critics declare a significant threat instead to privacy, global competitiveness and civil liberties. The Clipper Chip failed to achieve standard status for encryption. (See Gift of Fire, 90 and Lessig, Code and other Laws of Cyberspace, 35-48.)

proves extremely difficult. With information treated equally, the Internet can scale up to a much larger collection of information provided by anyone who follows the norms, but this scalability allows for information such as hate propaganda or pornography to be readily accessible as well. Examining the emerging rules followed by certain communities such as the Open Source community can assist in the development of rules to be followed if one is to be included in a particular community.

The Internet has a scattered and diffuse user base with unclear and unclaimed responsibilities over and to various parties. The notion of responsibility and where it should rest is a significant challenge. In Germany, the CEO for an ISP was convicted because inappropriate material was available on the Internet network. Similar charges would not be upheld in North America. Responsibility rests not only with the ISP's but with developers and individual users as well. How to enforce regulations when users gain access from their private homes is a significant challenge.

The notion of a citizen has grown from the individual to citizens of a town, to citizens of a larger community such as a state, to citizens of a country to citizens of the world. 'Community' is no longer geographically bound, and rules and regulations that bind a community can be enforced by law or by social pressure like that of a fraternity. It is this global nature of the Internet that must allow for the varying conventions and values around the world, and varying levels of enforcement. In some cases being excluded or shunned by an Internet community can help to regulate behavior. In other cases, being charged and convicted under the legal system is necessary to regulate behavior. Communities, both geographic and virtual, will have to decide on policies, both implicit

and explicit to tackle inappropriate behavior or concerns already identified on or about the Internet.

Since there are three general categories of digital information criminal offenses with differing prison sentences resulting from convictions,²⁸² we know that all wrong doing on the Internet need not be discouraged in the same way. Some violations can be left to the norms of society with consequences of exclusion being the primary deterrent while some need to be regulated by law.

The imposition of Western Values on other nations is problematic. Lessig asks, “Who are we to insist on free speech as a worldwide value? Or on free markets as the organizing structure for economies the world over?”²⁸³ The global flexibility required on the Internet to accommodate citizens of the world provides an additional challenge, as flexible guidelines prove impossible to enforce. The Internet ethical positions must in some way be encouraged even if only by incentive, or enforced in some rigorous way, or they are far less valuable to appeal to when violated.

The challenge of balancing the policing of the Internet while keeping the values of privacy intact poses particular tensions, particularly when many users are operating under the protection of their homes.

And finally, one of the most significant challenges is that the Internet is changing. We know that the Internet of the future will not be the Internet of the past, but we don’t know exactly what that Internet of tomorrow will be. We can anticipate some likely changes or progressions, such as the continued advance of video streaming over the

²⁸² These are (1) accessing and obtaining information without authorization (financial records, government records) (2) altering, damaging, destroying or preventing authorized use of information and (3) obtaining unauthorized access to information important to national defense, security or foreign relations.

²⁸³ Lessig, Code and other Laws of Cyberspace, 204.

Internet, but our anticipations could be wrong. Technology may advance in a direction not yet revealed and further alter ethical challenges and needs. Societal values may change abruptly, and declare new or novel requirements of the Internet such as forfeiting certain privacy rights in exchange for greater national security.

It seems as though achieving 'Internet Ethics' is like hitting a multifaceted, multi-dimensional moving target. The best we can do is begin where we are now, in trying to address the issues in a way that provides improvement, but not waiting for a perfect solution. We can strive to live with an IE that is constantly evolving, and use the wisdom from managing knowledge in case studies, previous and current policies, successes and failures along the way to effectively create and maintain revised policies, processes, principles, rules, guidelines and norms during the change. Managing through constant change necessitates a group or department to focus efforts for this change, and a legal component to investigate, update, implement and enforce laws as a result of this change.

The contributions in this thesis are threefold. I have provided a concise view of ethical Internet concerns in three categories. Secondly, I examined and critiqued a proposed new theory, namely Information Ethics. And thirdly, I show that InfoE fails to address the three categories of issues I identified. I have provided reason to unite the two camps of applied ethics and ethical theory. This is the intersection between theoretical and practical ethics as a method to obtain IE through incremental stages. This concept is borne out of the examination of the work of Floridi and the bias for practical and timely methods to deal with IE.

Those of us interested in IE need both foresight to anticipate the direction of future technology with the prospect of additional ethical challenges, and the wisdom based on

the history of ICT to learn from the lessons we have learned thus far. We require both the ability to see the entire field of IE, within ICT, and the ability to pare down to particular issues of concern to users (user groups) and computer professionals. We require both the ability to reflect and understand how decisions affect (or potentially affect) society through value reconstruction, and the ability to act quickly to address immediate unethical behavior on the Internet through various control or regulation methods. Finally, we require the ability to shift and compare 'interpretations' for IE issues, while respecting contradictory values, needs, beliefs and attitudes collected globally.

The quest for Internet Ethics is young. It is essential that a full view of the ethical concerns about and on the Internet be examined. Temporary fixes to prevent the wild, wild web from destroying itself need to be implemented while the work on theory continues to get developed. There is room for another innovative approach to address IE concerns. Binding the work of theory and practice and continuing to explore innovative approaches for IE concerns will mature this quest.

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