Computer Ethics in a Different Voice

Paper for critical theory and information technology theme, Critical Management Conference, July 1999

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Abstract

Although computer ethics is widely seen as a response to worrying new problems created by information and communications technologies (ICTs), in this paper I claim that it is more fruitfully viewed as part of the process of professionalization. Computer ethics adheres to a widespread technological determinism and liberalism. This is especially problematic for understanding issues of equality and participation. Research on gender and ICTs has been useful in analyzing inequalities between men and women both inside and outside the workplace. As that research draws heavily from feminism I argue that feminist ethics may offer a fruitful, novel direction in analyzing the problems of computer ethics. This paper explores some of the outcomes of such an approach.

Keywords
computer ethics: gender and technology: feminist ethics

1.0 Introduction

The last two decades have witnessed the birth of a new academic discipline, computer ethics. Computer ethics has been spawned, as part of a computing industry in the midst of becoming a profession, to deal with the social and ethical issues which are perceived to arise with the introduction and use of information and communication technologies. In addition to its influence on the computing industry, it also has implications for the study of ethics in general. Indeed one commentator (Gorniak-Kocikowska, 1996) claims that computer ethics is the most important recent development in the philosophy of ethics. Such a discipline could well become one of the major components in the armory of critical research on information and communications technologies. This is especially significant as it is an area which the computing and software engineering professions regard themselves as owning, to the extent that it is becoming widely taught on computing courses. This suggests that its audience is substantially different from the social science audience more typical of much critical writing on ICTs. However, I argue in this paper, that there is a widespread belief amongst commentators writing on ethical issues from a computing perspective, that a computer ethics is needed to combat the inexorable march of ICTs. Such a view not only adheres to traditional, individualist and rationalist views of ethics, but is also firmly attached to a technological determinism and liberalism which tends to level out inequalities of power. One of the major strands in computer ethics writing involves measures to achieve equality of access and participation. This paper argues that a determinist stance based on traditional ethics is problematic in relation to such aims.

Looking toward other more radical approaches to ethics throws into relief once more the question of power structures. Gender and technology studies have proved successful in exposing power relations in the development and use of technologies. At the same time, major developments in feminist ethics over the last two decades make this an area at least as important as computer ethics in terms of overall contribution to philosophical ethics. I claim that bringing feminist ethics to bear on computer ethics offers a novel and fruitful alternative to current directions in computer ethics in three major ways: firstly, in countering the determinism and liberalism which threatens to engulf computer ethics; secondly, in revealing continuing inequalities in power; and thirdly, in offering an alternative, collective approach to the individualism of the traditional ethical theories encapsulated in computer ethics.

The paper continues by locating the intellectual space which computer ethics occupies in relation to its nearest intellectual neighbors, philosophical ethics and science and technology studies (STS). I return to the latter discipline for points of comparison in several places in the paper. The following section expands on the claim I make that, in its current manifestation, much writing on computer ethics is predicated on a technological determinism which is still widely accepted. The next section argues that the rise of computer ethics is better read as the professionalization strategy of an emerging, marginal discipline rather than as a response to runaway technical problems. The following section explores the ways in which the determinist view described in the preceding section opens out into a form of liberalism in the equality and participatory rhetoric of computer ethics. I use two examples to substantiate my claim that such a liberalism is problematic in regard to the question of making ICTs more inclusive.
Searching elsewhere for theory which will better aid the processes of inclusion and participation, the next section briefly summarizes contemporary research on gender and computer technologies. I note that little has been written on feminist ethics in relation to such research. I summarize what research there is in this area including one prominent but problematic study. After describing the major trends in feminist ethics, I ask what feminist ethics has to offer computer ethics. The revelation of power inequalities and the reclaiming of lost voices is part of the answer. In thinking of how feminist ethics can offer novel insights into computer ethics’ traditional task of responding to new behaviors made possible through ICTs, I take a fresh look at behavior on the internet and contrast a classical view of harassment with a view derived from feminist ethics. As this paper can only be a beginning, I make the traditional plea for more research in the conclusion.

2.0 Locating computer ethics

Ethics is the philosophical discipline which deals with theories of morality or how we ought to behave toward one another. In recognizing that new behaviors, or at least new forms of old behaviors, are made feasible by the range of ICTs becoming available, computer ethics, then, attends to the theories of morality that can be applied to these behaviors. As a philosophical discipline, much of the business of ethics is not normative as such. It is one step removed from telling us what to do. Rather it describes the principles of ethical thinking or how we should go about thinking about morality and moral questions. We may then come up with general ethical principles such as “do no harm.” Although traditional ethics will offer such principles it says little about how to apply them.

Understandably, as it has arisen at least partly in response to the growing use of ICTs, computer ethics is an applied ethics. It does not just talk about the proper principles of ethical thinking. As I shall argue later in the paper, where such principles are discussed, they tend to follow those of standard ethical theories. Instead computer ethics considers ways of forming arguments and judgements on particular IT-related activities e.g. hacking, privacy and software theft. And certainly, through the codes of ethics of professional societies, computer ethics is highly normative i.e. it brings a direct message to computer professionals and users of ICTs that they need to consider how they ought to behave.

If computing can be thought of as a relatively new discipline then computer ethics is even newer. The first attempts to establish computer ethics date from the mid-1970s when Walter Maner (1996, p.138) recalls that he “found it hard convince anyone that ‘computer ethics’ was anything other than an oxymoron.” The need for a distinct computer ethics began to crystallize in the 1980s with increasing awareness and usage of computers in the workplace. More than a decade later, Maner (1996, p.137) points to the still lingering suspicion that computer professionals may be unprepared to deal effectively with ethical issues arising in their working environments. James Moor’s (1985) much quoted paper “What is computer ethics?” argued for the elaboration of a new computer ethics faced with new choices about the use of computers and a vacuum of policies surrounding those choices. From these hesitant beginnings a fairly substantial literature has sprung up on computer ethics ranging from text books, scholarly articles through to an ever burgeoning collection of popular and semi-popular literature (e.g. see Tavani, 1998). But by far the most significant texts of computer ethics, however, are the professional bodies’ codes of ethics. Amongst others, these include the codes of the British Computer Society (BCS), Association for Computing Machinery (ACM) and the International Federation for Information Processing (IFIP). I want to return to discuss the significance of these codes shortly.

These thoughts on the intellectual topography of computer ethics are not, perhaps, surprising. But in highlighting them I want to draw some contrasts with another discipline which deals with the same subject matter, but which does so in different ways. This serves to offer a better understanding of what computer ethics sets its task to be and to underline its relationship to other areas which study the social relations of computing. The other discipline to which I refer is science and technology studies (STS), particularly, in this case, as applied to ICTs. STS sets great store by its epistemological and moral neutrality. Indeed in several versions of STS neutrality, implicitly moral neutrality, is enshrined in its doctrine. The strong program in the sociology of scientific knowledge argued for symmetrical treatment of true and false beliefs (Bloor, 1976). The still dominant “rational reconstructionist” school of philosophy of science read this as a
radical position when it was initially introduced in the 1970s (Lakatos, 1971). Rising to prominence a
decade or so later than the strong program, Actor-Network Theory (ANT) takes the principle of symmetry
one step further to argue that human and non-human actants should be treated in the same way for the
purposes of sociological description (Latour, 1992). Despite its appearing rather radical two decades ago,
the strong program’s weaker version of symmetry is now fairly widely accepted in STS. ANT’s pleas for a
stronger symmetry which threaten to unseat the human from the center of the network are somewhat more
controversial (Collins & Yearley, 1992).

So STS could talk about hackers and software theft in interesting ways but it does not generally see its job
as passing judgement upon them. This implies that the job of STS is to criticize our ways of looking at
ICTs but not to judge the content, not to take a stance, moral or otherwise. ¹ Computer ethics, by contrast,
although making no direct challenge to ethical theory, does encourage analysis and judgements of content.
But writers on computer ethics (Maner, 1996) do not regard moral indoctrination on standards of
professional conduct as the right way to achieve this, no matter how reasonable the stated norms and goals
might appear. Computer ethics education must attend to process rather than merely content. With its
increasing analytical sophistication, STS spearheaded the drive against a widespread, almost “common
sense” technological determinism which has hitherto tended to prevail in studies of technology (Mackenzie
& Wajcman, 1985). This translates into political choice. We need not see ourselves as being swept along by
a relentless tide of technology; we may, instead, see ourselves as having choices in the way we use different
technologies.

3.0 Technological determinism

Despite STS’s abandonment of technological determinism, I argue that there is a widespread belief inherent
in computer ethics texts that new types of problems emerge with and are caused by the use of ICTs
(Forrest & Morrison, 1994). However in making this claim I do not wish to argue that computer ethics is
somehow more determinist than other disciplines. Rather, the point is that, STS apart, technological
determinism and liberalism are widespread views on the relationship between technology and society. In
recognizing this, I believe that it is still necessary to unravel the implications of such views. Holding to the
line that new problems arise in response to the inexorable advance of ICTs, like a runaway steam train
careering out of control down the track, threatens to let in technological determinism by the back door. But
it is not hard to see how this has arisen. The move away from technological determinism derives from STS
and surrounding areas in the social sciences without necessarily impinging upon other domains especially
not ones which see themselves as spawned from a “technical” parentage. The perceived pace of innovation
in computing makes it hard to escape the feeling that technology is pushing society. Anyone returning to
work from vacation, only to be faced with hundreds of urgent emails, would be forgiven for believing that
they were being driven by technology rather than the other way around.

Writing on computer ethics reflects this. It manifests itself as more reactive than analytical, reacting to the
perception of pressing technology problems rather than adopting a more reflective analytical approach.
Much computer ethics writing is programmatic, a call to arms, a call for the establishment of computer
ethics as a discipline (Bynum & Rogerson, 1996). The felt need to devise policy and legislation, with codes
of conduct devised under the auspices of professional societies, can be seen to put computer ethics in a
different bracket to most analytical approaches to ICTs. Yet leaving codes to one side, in the rush to
establish the discipline, writers on computer ethics lump together “social and ethical” issues in computing
(Forster & Morrison, 1994), giving the impression that these are worrying new problems rapidly caused
by the introduction of the technology and which may need a swift response. It may seem pedantic to carp
at the concatenation of ethical and social in an unanalyzed way as surely we cannot get one without the
other. But this refers back to the point I have just made about the job of the two disciplines currently under
comparison. To talk of the social, and bearing in mind that definitions of “the social” are a matter of hot
dispute in STS, demands analysis but not necessarily intervention. By contrast, to talk of ethical issues,
implies normative measures and, at least potentially, action.

The perceived need to respond to apparently new and pressing problems does not necessarily permit of a
discipline which has time for mature reflection. I do not wish to hold up STS as a paradigm of intellectual
virtue; feminist criticisms would make such a position hard to sustain (Harding, 1991). Nevertheless
compare the momentum of computer ethics with developments in science and technology studies (STS), where the major developments of social shaping and actor network approaches were, in significant part, developed against case studies in the history of science and technology, where, it could be argued the pressure for policy is hardly as urgent. Working in the history of science in the 1980s, I recall joking with (live) colleagues that, aside from librarians who police one's access to the collections, the great attraction of the discipline is that everybody one has to deal with is dead.

However, for computer ethics, in the rush to respond and in the lumping together of social and ethical issues, the need to continue to develop theory often becomes lost. In making this argument I do not want to claim that ethical theory is always lost. It is, rather, that the possibilities for developing theory further are not always taken up where they could be and where they could be made to do much useful analysis. Instead the task is couched in terms of bringing appropriate existing theory to bear on a range of problems rather than developing or challenging that theory in the process. For instance, one of the best known text books on computer ethics (Johnson, 1994), devotes much time on working through relativism, utilitarianism and deontological theory before deciding on a broadly Kantian position. But this level of interest in ethical theory is not always found in writing on computer ethics and in any case Johnson (1994) does not challenge the rationalistic individualism of the position she finally adopts in her book. For computer ethics as a discipline, the pressure to legislate in the form of ethics codes and the need to develop policy in response to problems e.g. with the internet, is achieved at the expense of conscious reflection on theoretical positions and further serves to disguise the theoretical position tacitly assumed. Writing on computer ethics abounds with the justification that, as new problems arise with the use of ICTs, new solutions are demanded and a computer ethics separate from business ethics is required. Yet it offers little critique of computing as a discipline. Furthermore, with few exceptions (Sojka, 1996) computer ethicists make no judgement of the individualist, rationalist ethical theories on which computer ethics is based. So although, in holding to a rhetoric of novelty, where it might be expected that computer ethics to be actively seeking new approaches to ethics, this does not seem to be an approach actively developed in this discipline.

4.0 Professionalization.

Going beyond the textbook approach which sees the development of computer ethics as a response to new computer based behaviors, I argue that the rise of computer ethics as a discipline can be more fruitfully seen, not just as a moral response to the new behaviors made possible by ICTs, but more importantly as a professionalization strategy of a nascent, and in many ways marginal, profession. If we look at attempts not just to regulate behavior, but, more importantly, to define and delimit who belongs to the profession and to say who is outside, to define what qualifications practitioners must have and what activities they may carry out, then the professionalization of the computer industry begins to look much more like the professionalization of the emerging medical profession in the 18th and 19th centuries.

A number of authors (Grundy, 1998; Hales, 1994) have noted the way in which computing has modeled itself as an engineering discipline. This is problematic, in itself. First of all, engineering does not enjoy a uniform degree of professional status throughout the world. For example, it is a more prestigious discipline in Western Europe than in the UK. In addition, the subject matter of computing and software engineering does not neatly fit into one subject category. At one and the same time it can be seen as science, engineering and a management discipline which suggests that marginality is likely to continue to dog computing as a profession. An example of this is the lengthy attempt of the BCS to have its members recognized for chartered engineer status by the UK Engineering Council. A further examples lies in the papers which computing practitioners write, from time to time, chewing over the question of whether their discipline is a science or an engineering subject (Naraynan, 1986).

Nomenclature is always a problem. As I write, the British Computer Society is searching the membership's soul for a name change, possibly to something along the lines of "Institute of something engineers" which would reflect its new ability to grant chartered engineer status and make its name look more like the older, more established, engineering bodies. But it is not clear what the something in the name should be and members of the computing profession do not necessarily regard a name change as an important indicator of
professional recognition. One member points out that in so doing the BCS follows the USA's Association for Computing Machinery (ACM) who "...indulged in a massive, tedious debate on the same issue a few years ago - and it remains the Association for Computing Machinery" (Sykes, 1998). In a mature discipline such as physics or chemistry, such discussion on intellectual roots would be very unusual, yet these considerations are not intended to imply that computing is somehow a defective profession. They should be seen, rather, as an integral part of the processes of professionalization.

4.1 codes of ethics

With the difficulties surrounding computing’s professionalization process (Shapiro, 1993), there is potential relief to be had by the seemingly concrete form of codes of ethics and a new computer ethics wrapped comfortably around them. However it would be wrong to suppose that such codes of ethics are readily achieved. Witness, for instance, the lengthy struggles of IFIP to arrive at a code of ethics (Sackman, 1991). However, lack of agreement and the debate which this generates are an important part of the process of making policy and if the issues were simple and everyone agreed then there would barely be a need for a computer ethics at all.

Donald Gotterbarn (1997) has noted the role that such codes have taken in software engineering's professionalization. This can be read from the way that professional codes from the 1970s (e.g. the 1972 ACM code) were often regulatory, spelling out what computer professionals could or could not do. Later versions, from the 1990s are much more normative. Gotterbarn (1997 p. 25) sees this as a move away from the need to carve out the autonomy of the discipline where regulatory codes are justified as part of the social contract the profession has with society. "In return for enforceable moral promises, society granted the profession the right to self-regulation." However such rules are inflexible and difficult to apply to new situations. Normative codes Gotterbarn sees as reflecting some sort of consensus of the traditions of a particular profession. As the norms are written into the codes of conduct this reflects the way that computer professionals have begun to develop a sense of themselves as a profession. A further example of this is shown by the way that codes of ethics have moved away from protecting the profession e.g. as in the 1972 ACM Code of Ethics which only required members to report adverse consequences of projects in which that person was involved, towards codes which enshrine the principle of disclosing promptly any projects members know about which may adversely affect society. This too demonstrates a more confident profession which seemingly can now worry less about protecting itself and more about its relation to its public.

5.0 The problems of liberalism

I have analyzed computer ethics’ relationship to determinism and argued that the rise of this discipline is more fruitfully read as a response to the need for professionalization rather than as a reaction to runaway technical problems. I now wish to turn to one of the implications of determinism, namely liberalism. Liberalism is a much used, and perhaps abused term. In this context, a liberal stance is taken to mean a position where inequality and fairness are recognized and there is a will to change that situation. However the measures adopted for change in a liberal position can be weak and may be little more than a rallying call for equal participation. This can be seen at work in what is often termed, “liberal feminism”, a classic feminist position which sees equality between men and women as achievable by giving women the same educational opportunities as men have rather than regarding the structure of society as the root cause of inequality (Tong, 1993 p. 7).

Technological determinism and liberalism go hand in hand. Technological determinism assumes the objectivity and inevitability of developments in technology and science which drive societal change. This means that where there is a recognition of inequality, the measures to improve it will not include a challenge to the objectivity of the world. The liberal stance takes for granted the objectivity of the world with which it deals, neither acting nor recognizing the structures of that world which are at the root of the inequalities in the first place. This is a position much criticized by contemporary feminists (e.g. Henwood, 1993). Trying to improve inequalities points to the need for a corresponding change in the structures in which that inequality is inscribed, otherwise feminists see the job as fruitless. This is part of a wider critique of liberalism which finds a particularly clear expression in feminist theory. I argue that it is a point
which can be applied more widely to all liberal positions on equality, participation and access. Importantly this analysis implies that liberal measures to improve equality are not likely to be successful. This suggests that statements of equality, fairness and inclusiveness, which are a significant element in codes of ethics, are more problematic than might at first be clear. The problem is that statements about including needs or ensuring that needs are clearly articulated, although, on the surface, appearing to be a good thing may, less explicitly, involve a form of the political liberalism which I have described above. This may not achieve all it apparently desires. Indeed by ignoring the structures which are causally implicated in producing inequality, liberal arguments may bolster these structures making it harder to mount further challenges.

This liberalism is manifest in computing in a view which involves trying to include the voice and the view of those not at the top of the hierarchy, usually the computer system users. So, in a sense, within computer ethics, there is certainly an acknowledgement that all are not equally included in the decisions affecting the production and use of computer systems. But this view tries to achieve fairness and equality whilst doing nothing to challenge the organizational and knowledge structures which reinforce the superior position, at least with regard to the technological knowledge of the professional. I argue that this is unlikely to have the desired effect of including and leveling, firstly because it makes no challenge to the wider context in which computer systems are designed and used and secondly, because there is no theoretical understanding of why those not equally represented are in that position in the first place.

To reinforce this point, I cite two examples in the design and use of ICTs where a liberal approach has been taken. In both examples the will is to be inclusive but no challenge is made to the original organizational structures. The result is that, in both cases, the desired inclusion is not achieved. The first example relates to the participation of end users while the second relates to the under-representation of women in computing.

5.1 requirements capture

Steve Woolgar (1994) has described a pertinent example of the liberal phenomenon in the development of methods of requirements capture. As the subject has developed, a rhetoric of user involvement has grown up through the various requirements capture techniques through to participatory design which is the most inclusive of these techniques. Despite the will to include users, to have their voices heard, the various methods do not challenge, and indeed are predicated on, the notion of an objective world where the requirements are somehow always “out there” waiting to be captured. Woolgar argues that it is unlikely that user participation will increase while users are invited to be included into a seemingly objective worldview which they have had little say in constructing and which is not available for challenge. Although this is not a specific computer ethics example, the moral of the tale for computer ethics is that there are dangers in continuing to assume that some things about the world are fixed and objective e.g. the role of the expert and expert knowledge, whilst trying to find ways of increasing user participation. Equal participation is not achievable unless users are able to participate on an equal footing in the construction of the objective world which is a substantially different activity from merely participating in the construction of the system based on the expert's objective world.

5.2 women in computing

Turning to the second example, the way that women, and indeed other social groups such as ethnic minorities and the differently abled, may be disadvantaged or even disenfranchised with regard to information and communications technologies is a well recognized phenomenon. Recognizing it is one thing; suggesting what to do about it is quite another. But I argue again that the sort of liberal inclusive, consultative measures, already becoming enshrined in codes of ethics, partly for the reasons outlined above may not have the effect of properly involving women users in decision making about computer systems and women in computing in general, despite the will to do so. I have already made the analogy with the way that liberal measures in requirements capture do little to challenge the objectivist view of systems requirements. More pertinently, thinking about including women, we can see a very clear example of where a liberal view has not had the effect it desired. I am referring to the various campaigns to attract more women into science and engineering (WISE) or information technology (WIT) which were popular in the UK in the late 1980s and later (Henwood, 1993). The idea behind these is well known. Women are seriously under-represented in science, technology and engineering. If they can be shown that these areas
can offer suitable careers that women are perfectly capable of doing e.g. through measures such as workshops for schoolgirls, then surely women will begin to enter technical areas in greater numbers. Not surprisingly such measures have had little effect. In the UK, women’s representation in higher education computing courses continues to run at around 10%, a significant decrease from the figures of the late 1970s and early 1980s and which shows little likelihood of improving.

Flis Henwood (1993) argues that the reasons for this point squarely to the way that the WISE type of view offers no analysis nor challenge to the ways in which science and technology are perceived as “gendered”. It is assumed that science and technology are inherently neutral and that it is enough to get more women to enter for equality to prevail. This view asks women to do all the changing; it asks no change of science and technology, nor of men nor even schoolboys. Under these circumstances, it is difficult to see why measures based largely on propaganda exercises should make a difference to women’s participation. Indeed there could even be a negative effect from such activities. Women may be made to feel that they are somehow inadequate for not taking up the wonderful opportunities on offer on science and engineering when they still feel deep rooted uneasiness despite protestations about the neutrality of these disciplines.

My argument, therefore, is that here are two examples where a liberal view has neither advantaged the disadvantaged nor achieved equality in the computing field. We must beware that computer ethics, in embracing a tacit liberalism does not follow the same route in failing to achieve equality without somehow knowing why. More pertinently here, it may fail to give a fair and proper hearing to certain groups of computer users simply because it feels it has done enough for equality and does not have to try harder.

6.0 Gender and information technology

In the second example above, I have alluded to one of the major power imbalances that exists in the use of ICTs, the difference in access and usage of ICTs between men and women, which continues to be one of the major inequalities in computing. There now exists a fairly substantial literature on gender and ICTs which spells out that relationship in the context of home, work and virtual communities. Much of this literature looks to feminist theory for its inspiration. This, then, provides a further element of the rationale for taking a critical look at the rise of computer ethics and looking for alternative ethical approaches which are neither liberal nor deterministic. I offer feminist ethics as a major tool in that critique. But at the same time I want to disassociate a feminist ethics approach from the moral neutrality of many science and technology studies (STS) of information and communications technologies (ICTs). Gender and technology research, I juxtapose against more mainstream research in STS in that it neither pretends to nor seeks moral neutrality. Much of its appeal, by contrast, lies in its take up of the anger and energy of feminist studies as a whole. Despite the considerable growth in gender studies of technology, no one yet, it seems, has taken on board the task of seeing how feminist ethics could be used to formulate both a critique of contemporary computer ethics and, at the same time, to offer fresh insights into the case studies of computer ethics, particularly to illuminate the ways in which different groups may be differently affected and to illuminate the other hidden power structures. I elaborate what is involved in that process in the remainder of the paper.

Running in parallel to STS studies of ICTs, research on gender and ICTs has emerged as one of the major critical forces for the social study of information technologies. Although I do not want to belabor this point here, it is worth noting that “mainstream” ICTs studies have tended to view the idea of gender as an analytical dimension as, at best, something to be added on after the main business. Witness the way that edited collections of ICTs studies often have just one paper on gender (e.g. Dutton, 1996). Optimistically we may hope for positive change as more studies of gender and information technology begin to gel.

Within contemporary gender and ICTs studies, there has been something of a shift from the traditional concerns about women in the workplace, with women’s supposed technophobia which several studies now challenge (Adam et al., 1994; Grundy et al., 1997), towards an interest in how women fare on the internet, how communication and communities are organized, how sexuality and identity is played out in that medium. Many studies point to the inequalities that remain between men’s and women’s access to ICTs and their interactions when women do have apparently equal access. The challenge is to retain a balance between the utopia/dystopia seesaw, a rhetoric which has tended to attach to studies of ICTs, and especially to the internet (Howcroft 1998). This imbalance seen through the lens of feminist concerns translates into,
on the one hand, a view which argues that women have taken over the internet and are subverting it to their own ends (Squires, 1996; Adam, 1998) and, on the other hand a dystopian view of women’s continued oppression magnified further through the lens of the internet and other ICTs (Herring, 1996). I return to this balance in a later section.

6.1 gender and computer ethics

Despite the increasing theoretical sophistication of research on gender and ICTs, few authors have yet chosen to take on the domain of computer ethics. Unfortunately one of the most prominent recent studies is problematic on a number of counts. Jennifer Kreie and Timothy Paul Cronan (1998) have looked at men’s and women’s moral decision making in relation to a set of computer ethics cases. Astonishingly, these authors make no reference whatsoever to the large body of writing in feminist ethics which might have helped them explain their results. This is all the more surprising given that the work of Carol Gilligan (1982) is very widely known over a number of domains. This is a great pity and it makes it difficult for Kreie and Cronan to provide any convincing explanation of their results. The statistical validity of relatively small percentages on not very large numbers (e.g. variations of about 15-10% over 120 women making around 6-12 women) can certainly be questioned. Indeed they do not even try to offer an explanation as to why the men and women in their study might have made different decisions. The main research method in the study involved asking respondents to rate their responses against a set of factors such as societal, individual, professional and legal belief systems. In this they appear to be falling prey to the common assumption prevalent in computing which I have criticized elsewhere (Adam, 1998), namely that objective, “non technical” factors are available and that these can somehow be factored out and used, like the factors in a mathematical expression.

Importantly, had these authors understood the debate surrounding Gilligan’s work, which also centered round an empirical study, they would have been able to apply not only her arguments but also the criticism of her arguments to good effect on their own study. On the latter point, Mary Jean Larrabee (1993) notes that one of the criticisms of Gilligan’s research was that she asked her respondents to work through a number of artificial case studies rather than observing them making real, live ethical decisions (admittedly somewhat difficult research to undertake). A similar criticism of Kreie and Cronan (1998) applies. Asking respondents to approve or disapprove of a scenario where software is copied illegally is likely to invoke disapproval in subjects. We all like to be seen as good software citizens. However, like driving slightly above the speed limit, small scale software copying is rife and this study just does not get at subjects’ moral decision making in real scenarios where they may be faced with the decision of whether or not to copy some desirable and readily available piece of software.

A more convincing approach toward gender and computer ethics is to be found in the research of Marja Vehvilainen (1994) who argues that codes of professional ethics serve to enshrine male expertise at the expense of women making their voices heard. In addition to the studies outlined above, the relatively few papers which have tackled ethical questions from a feminist point of view tend not to take a consistently philosophical approach to the ethics they question. In other words the question posed is rather whether it is ethical, in a broad sense, to treat women in the computer industry in one way or another (Stack et al., 1998; Turner, 1998)) This is certainly a start and, importantly, it recognizes that feminist concerns have some part to play in the continued development of computer ethics. It also brings these issues to a mainstream computing audience. However I argue that calls for ethical conduct in relation to women’s issues will not carry the debate as far as it could fruitfully be taken. A potentially more far reaching approach would be to ask how far the development of feminist ethics could be applied to computer ethics, to use feminist ethics to criticize the traditional ethical view implicit in computer ethics, and to see what alternatives may be offered.

7.0 Feminist ethics

In looking at feminist ethics I want to understand its two major roles. One of the jobs of feminist ethics is to challenge the traditional ethical canon in ways I will describe below. At the same time it uses new theoretical ideas derived, in part, from the challenge to mainstream ethics to develop a new ethics with which to make normative judgements on ethical problems from a wide range of domains. But we might
question whether we are asking too much of feminist ethics to offer critiques on both these two fronts. Yet this sort of critical edge is characteristic of feminist philosophy - the challenge to tradition plus the development of new theory to apply to concrete situations. Doing the first job demands that the second be tackled as well.

Importantly, feminist ethics can offer help in exposing the power inequalities which exist in our case studies where STS shies away from comment and which traditional computer ethics renders invisible in its pursuit of mainstream ethical views and its lack of critique of professional roles and structures. It is this critical bite which has proved appealing to many feminist authors and feminist theory is still angry and looking to take sides. The challenge is then to harness this energy into a constructive critique of computer ethics.

Theoretical feminism has witnessed a growing interest to the extent that it almost threatens to become a mainstream social science. In its modern, or, more correctly, post world war two, form it has developed two fairly distinctive branches. Contemporary Anglo-American feminism has grown, at least in part, from the civil rights movement of the 1960s and 1970s which sought to achieve women's liberation through the search for equality.

Simone de Beauvoir's (1949) identification of the way that woman is defined as “other” in relation to the masculine norm is the precursor of postmodern or Continental feminism which rejects rationalism as the sole arbiter of truth and rationalist discourse's abstraction away from the social context (Hekman, 1990). Continental feminism does not always sit easily with its Anglo-American sister. Indeed one of the most prominent of the Continental feminists, Luce Irigaray, rather than creating new theoretical space declares her aim rather in "jamming the theoretical machinery" (Irigaray, 1985 p. 78 quoted in Hekman, 1990 p. 42).

Within Anglo-American feminism there are distinct styles. The British variant tends to emphasize the pragmatic; politics, education, social science perspectives. Within North American feminism there has existed much more intellectual space for the development of distinctive feminist philosophy. Within this, possibly the two largest areas are feminist epistemology, which sets a challenge to the traditional view of knowers and knowledge (Alcoff & Potter, 1993) and feminist ethics (Card, 1991)

Clearly, along side other parts of feminist philosophy, much of the job of feminist ethics is to challenge traditional forms of ethics. But we would be wrong to suppose that it only sets itself the task of analysis and criticism of existing mainstream scholarship. If there is one thing that the many voices of feminist theory have in common, it is the assumption that the oppression of women is almost universal, even if that oppression may take subtle and latent forms, and this also involves the assumption that feminism needs to offer a politics for action, a way of showing that things could be different. Hence criticism is not enough; recipes for action must follow.

Alison Jaggar (1991) charts the rise of feminist ethics in North American academic feminism and the search for possible models. Feminist ethical discussion in the 1960s and 1970s focused on grass roots issues such as sexualities and domestic labor. This came together with a more theoretical critique of traditional ethical theory to put the subject on a sounder footing in the 1970s. Further feminist analysis involves the question of whether there is a distinctively feminine moral experience. Carol Gilligan's (1982) much quoted book, "In a Different Voice" offered an empirical demonstration against Lawrence Kohlberg's views that women's moral development is somehow inferior to men's. She argued instead that women often construct moral dilemmas as conflicts of responsibilities rather than rights and that in resolving such conflicts they seek to repair and strengthen networks of relationships. This signals feminist ethics' commitment to responsibility rather than rights, the collective social group rather than the individual and an ethic based on caring rather than a supposedly impartial reason. Indeed the notion of an “ethic of care” has emerged as a strong theme in feminist ethics. Jaggar (1991) dubs it "a minor academic industry." Other writers who have taken up the concept of an ethic of care include Sara Ruddick (1989) in her book, "Maternal Thinking" and more recently the extended analyses of Joan Tronto (1993), Peta Bowden (1997) and Margaret Urban Walker (1998).
Considerable debate surrounded and continues to surround Gilligan's work. Although she was criticized and subsequently revised her position, her work has made an enormous impact in the academy beyond the disciplines of ethics and psychology. Larrabee (1993 p. 4) argues: "Almost anyone today who raises some question about moral development, moral reasoning, ethical systems and applications, the nature of care, and related topics, will at least mention Gilligan's work if not deal directly with her claims." It is the radical nature of Gilligan's claims that proves so appealing to feminist writers. On the one hand she does claim that women's moral development is different to men's, but on the other she argues that traditional scholarship on ethical development is not neutral but is designed to favor a masculine, individualistic, rationalistic justice and rights based approach to ethics over a feminine, communitarian care based approach. Whether or not one agrees with her, and there has been much writing on feminist ethics since her ground breaking book, she has put firmly on the agenda the possibility that, in moral terms, women speak in a different voice.

8.0 What can feminist ethics offer computer ethics?

In terms of the voices which can be heard in the development of computer ethics, an understanding of feminist ethics can, at least offer a plea for women's potentially lost voices to be heard, those voices which Vehvilainen (1994) argues professional codes of ethics often serve to silence.

In drawing up ethical codes of conduct, it is important that some voices are not lost to the discussion. Many, many computer users are women, and information and communications technologies are bound up with women's labor processes and the shaping of their employment (Webster, 1996). Professional codes of ethics are texts. They may include statements to the effect that professionals should avoid harm to others and should ensure that users and others affected by a system have their needs clearly articulated (e.g. as in the ACM Code of Ethics. See (Johnson, 1994 pp. 165-173). Yet, at the same time, codes have as part of their rationale, the desire to strengthen and delineate the role of the professional expert. Gotterbarn (1997) argues that the changes in codes of ethics over a twenty year period has served to make the profession less self-consciously driven towards autonomy at all costs. Instead it has become more reflective towards its role in society. Yet codes of ethical practice are problematic as much for what they do not say as for what they do say. Just as the formal representations of computer scientists leave out much of the messiness of the worlds they represent (Star, 1995), codes of ethics also leave out the messiness of real ethical decision making.

Vehvilainen (1994) points to the dilemma involved here. On the one hand women need to work to achieve change in their own lives and to have their voices heard. It can be seen as paternalistic to assume that others may speak on behalf of women in different cultures and organizational settings whose needs and interests cannot be presumed to be the same. A white middle-class professional woman working for a multi-national company in the west may understandably feel she has more in common with a man in a similar role than with a poor Asian woman working in an electronic sweatshop in the Far East. To disguise these differences, harks back to the worst form of globalizing thinking in computer ethics, a view which has been rejected in most contemporary forms of feminist theory (Lugones & Spelman, 1990).

However, we should understand these differences against the finding that women, in whatever cultural context, are usually found in the lower reaches of the hierarchy and are always measured up against a tacit masculine norm. The idea of the male expert is, of course, not peculiar, to computing, but there are certain ways in which computing, as a discipline, has served to reinforce this concept. Feminist authors such as Genevieve Lloyd (1984) and Lorraine Code (1991) point to the ways in which traditional epistemology follows a masculine, rationalistic, individualistic norm. I have argued elsewhere (Adam, 1998) that this masculine norm has been carried over wholesale in the design of artificial intelligence systems. In many ways ethics follows epistemology, a point which has been made by Margaret Urban Walker (1998). Ethics is seen as individualistic, concerned with rights and justice and, importantly, representable in the form of propositional codes of behavior. Codes of ethics disguise power relations in ratifying the status and knowledge of the 'expert' which is most often a white middle-class male professional.

8.1 New behaviors and what to do with them – a reading from feminist ethics

In this section I wish to consider whether concepts from feminist ethics may offer alternative readings of computer ethics problems. Although I have argued that the development of computer ethics is as much to
do with professionalization as it is to do with new responses to new computer-based behaviors, Johnson (1994) regards the latter as the fundamental job of computer ethics. A view from feminist ethics may offer an alternative to the responses of computer ethics. What insights can feminist ethics bring to bear on the new behaviors which are evolving in relation to information and communications technologies?

One such set of new behaviors involves the question of how far the rapidly expanding use of the internet neutralizes or reinforces stereotypical gender interactions, although we must bear in mind the caveat given by Debra Howcroft (1998) that commentaries on the internet often fall into a dystopia/utopia see-saw pattern. Could a response from feminist ethics produce something more useful here?

If we wished to view the problem of gender relations on the internet from a traditional computer ethics point of view, we could undertake the kind of analysis offered by Johnson (1994) in her computer ethics textbook. A utilitarian response would argue that sexual harassment on the internet causes a great deal of unhappiness (i.e. to women) so can hardly be seen to be bringing about the greatest amount of happiness to the greatest number of people and therefore should not be accepted. A deontologist would argue that men harassing women on the internet involves treating them as a means to an end (i.e. their own gratification) and therefore cannot be condoned under Kant's categorical imperative which exhorts us to treat people as valuable in themselves and not means to an end. Women have a right, albeit a negative right, not to be harassed on the internet and this outweighs the freedom of speech argument which might be made to counter it. But if harassment on the internet is deemed to be undesirable what has a traditional computer ethics view to say about how it might be stopped? There is always the question of legislation, although some cases will, quite literally, slip through the net. Computer ethicists are likely to argue that male internet users should be taught that this sort of behavior is damaging, that it is treating other users as a means toward their own gratification and it is not respecting the rights of other users.

Put this way, the question of harassment looks uncontrovertibly a bad thing. But I have stated the case and the conclusions very simplistically. Realistically, gender relations on the internet consist of much more than the sexual harassment question. We are back to the messy problems which codes of ethics leave out. There will not always be agreement as to whether an activity constitutes harassment or not. Some activities, although they may magnify existing gender relations may not be perceived as a problem to the parties concerned. For instance, some women freely indulge in "cybersex" activities; indeed it might be reasonable to view this as a social good if it is seen as a recreational activity for women whose lives may be isolated or who may fear the dangers of the non-cyber version. Even when a situated is cast as a problem there will not be agreement as to what can be done about it. Furthermore, as I have already argued above, we could be wrong in making the assumption that women want to be protected from such behaviors. At least one solution outlined below sees women making their own responses and decisions, rather than having legislation or the paternalism of the masculine establishment decide for them. My traditional computer ethics solution, outlined above, to harassment on the internet would look weak to a feminist ethicist. Why should someone guilty of harassment change? Surely a change in the way we bring up boys to be thrustingly individualistic and lacking respect for women is what is required? This would certainly be the view implied by a feminist ethics, particularly one which takes to heart the argument against liberalism. But the problem here is that the implied solution is so large as to be unattainable. Feminist ethics would be of little use if its solutions were always so grand in scale as to be sadly unachievable.

However, if not in the position to change the world in the desired way then a view inspired by feminist ethics can, at least, indicate why legislation is likely to be ineffective and can explain and analyze the root causes of the behavior in the first place. Even if the claim at the heart of this paper is true, namely that feminist ethics has not yet spread into computing, there is much evidence that it has made a significant impact on psychology and education through the debate surrounding Gilligean's work, demonstrating that it reaches a wider public than a feminist audience (Larrabee, 1993).

The complexity of a feminist ethics view on this topic is reflected in the debates which surround women's use of the new networked information technologies. Kira Hall (1996) describes two extremes. The radical view looks to the development of the numerous women-only, on-line bulletin boards and newsgroups in response to male harassment. Hall identifies an alternative liberal view involving a gender-free utopia influenced by feminist science fiction where women's sexual liberation is seen as all that is necessary for
equality and where freedom of self-expression is emphasized. However it is far from clear why the latter should produce a better world for women in the absence of any direct political action.

Looking at empirical studies suggests that the picture is extremely complex and ambivalent. On the one side there is evidence of women feeling empowered by their use of information technology and actively resisting the paternalistic protection outlined above. For instance witness the responses to the formation of a direct-action feminist group against internet censorship at Carnegie Mellon University: “We’re big girls who don’t need to be protected from horny geek fantasies.” (Riley, 1996 p. 159) Yet we must recognize that it is only a relatively few women who are in the privileged position of taking part in this empowerment. Nevertheless it is can act as an inspiration, and one which would be lost if women always felt the protection of a paternalistic establishment wrapped around them. Like the “reclaim the night” marches of the 1970s, where women demonstrated that they did not need male protection to go about their business at night, perhaps women now need “reclaim the net” virtual marches.

On the other hand, there are some negative experiences and some authors take the view that, for example, the internet reinforces and magnifies stereotypical gendered behaviors rather than smoothing them out, and acting as the great leveler that some desire. Susan Herring’s (1996) well-researched study of interactions on the internet shows that computer-mediated communication does not neutralize gender. As a group she found women more likely to use supportive behavior whilst men were more likely to favor adversarial interactions. These she linked to men favoring individual freedom while women prefer harmonious interpersonal interaction. Such behaviors and values can be seen as important in reinforcing male dominance and female submission. For instance, Carol Adams’ (1996) study of cyberpornography supports Herring’s research as she found that interactions on the internet magnified and reinforced inequalities found in real life.

The problem here involves asking what feminist ethics can offer the complexity and variety of experience which women are apparently finding in their interactions on the internet. At one level, the liberal view seems to support the traditional Enlightenment view of which feminist ethics is so critical. This is the position which emphasizes the rights of the individual to freedom of speech and freedom from censorship. It is a view at the heart of traditional versions of computer ethics. Yet this freedom is bought at the price of a level of harassment or worse for others. What is most disturbing about such a view is the claim that it offers a better world for women through an absence of politics and an absence of change but is hard to see the reason why this might be the case. The more radical view which emphasizes separation, is a recent variant of the separatism found in radical feminism, and this might be a solution for some women. It is, of course, a less radical variation of radical feminism, where separation takes place only in virtual life as opposed to real life. Even so it might not be practical, or desirable for women to separate themselves as they may deny themselves access to valuable resources and interactions.

9.0 Conclusion

In this paper I have taken a step backwards to get a view of a wider picture in understanding the development of computer ethics. I have argued that computer ethics not only follows traditional ethics in taking an individualist, rationalist stance towards ethical issues. In addition it is also predicated on a technological determinism with a concomitant liberalism. The problem with such a position is that it offers neither explanations for inequalities nor convincing recipes for action. I have taken up one of the major inequalities in the use of ICTs, namely the position of women. In the last two decades gender and technology, particularly information technology has been a major growth area in STS. Similarly feminist ethics has proved to be one of the major growth areas of feminist theory. I argue that bringing feminist ethics to bear on computer ethics not only offers a way out of the impasse of the technological determinism and liberalism threatening to engulf computer ethics, but also may offer fresh insights into recognized computer ethics problems. Feminist ethics can offer an alternative, to the individualist ethics embodied in computer ethics. In beginning to explore these alternatives, my key example is sexual harassment on the internet. I contrast a view from feminist ethics with deontological and utilitarian arguments.

The analyses offered in this paper are but a beginning and I am aware that I have barely scratched the surface. There are a number of important ethics topics such as responsibility (Addelson, 1994; Star, 1995).
which I have not touched upon at all. The whole issue of how a more collective ethics might apply and what the " ethic of care" would look like in the computing world requires exploration. Nevertheless, I hope I have shown that there is considerable synergy to be had in bringing feminist ethics to bear on computer ethics, not only in offering fresh ways of thinking about computer ethics critically but also in offering better ways to look at the problems of inequality, access, power structures and responsibility.

Notes

1. But this is by no means true of all STS approaches. There is a substantial movement, still gathering force in STS, which looks at ethical issues and which sees them as inextricably linked to politics. Langdon Winner (1980) is well known for his theory that politics is inscribed in technological artifacts. Similarly Susan Leigh Star’s (1995) research on formal representations discusses the delegation of morality to technology.

2. A fairly comprehensive bibliography of gender and ICTs can be found at the following WWW site (as of 27th October, 1998). http://www.library.wisc.edu/libraries/WomensStudies/

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