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ETHICS, Morality and Critique: An Essay on Enid Mumford's Socio-Technical Approach *

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Abstract:

Enid Mumford's continuing interest was in change management and the humanly acceptable development of systems. Her most prominent contribution to the IS field was the ETHICS methodology. The overall aim of her work was arguably to find a way to design and use technology that is ethically acceptable. In this paper I suggest that there are two other approaches that share this aim, namely critical research in information systems (CRIS) and computer and information ethics. I undertake a reading of Mumford's work from the point of view of these two other fields with the aim of clarifying and strengthening her argument. This leads to a discussion of what the three approaches can learn from each other and how they can cross-fertilize one another. The overall aim of the paper is to suggest a way that socio-technical design can take to further Enid Mumford's humanistic aim to improve life using information and communication technology.

Keywords: *Enid Mumford, Critical theory, ETHICS, participation*

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Introduction

Enid Mumford's work contributed considerably to the development of the academic discipline of information systems. During a research career spanning more than five decades, she helped develop a number of theoretical approaches and provided her readers with large amounts of data to support the value of her approach. Her name is probably most closely associated with the ETHICS methodology, but she has also contributed to other streams of thought, including socio-technical design, action research, and risk and change management.

In this volume aimed at commemorating Enid Mumford, I ask how to build upon her legacy. What parts of her work need to be developed, how can this be done, and how can we ensure that her intentions can be realized? In this paper I address these questions by interpreting Enid Mumford's work through a contemporary philosophical and theoretical lens. This should help readers gain new insight on her contributions to areas such as critical research, information systems theory, morality, and ethics. The purpose of this analysis of her work is to pinpoint areas where it could draw fruitfully on other bodies of work or, simultaneously, where other current discourses can learn from what she achieved.

The starting point of the paper is the observation that, throughout her working life, Mumford promoted the humanization of work and aimed to enlist technology as a tool in this endeavor. She drew mostly on socio-technical theory to achieve this, but there are other, possibly related fields that follow similar aims. I concentrate on critical research in information systems and computer and information ethics. What the majority of scholars in these three fields agree on is that technology has the potential to be conducive to a fulfilled life for workers and citizens, in general, but that this potential is not always fulfilled. The question thus arises how technology can be designed, used or employed in such a way that humans achieve their potentials and are enabled to lead lives of freedom and self-determination.

In order to develop this argument, the paper commences with a brief overview of Mumford's work and contribution. I ask how much overlap there is between Mumford and critical research in IS and how her approach relates to current debates in computer and information ethics. In order to facilitate the analysis, I will briefly introduce critical research in IS and computer and information ethics. The analysis and comparison will lead to a discussion of the respective strengths and weaknesses of these distinct strands of debate. The purpose of this comparison is to determine how a more thorough understanding of the other fields can improve the respective debates, concentrating on possible developments of Mumford's socio-technical design.

Change, Participation, and ETHICS: Enid Mumford's Position

A special issue in remembrance of Enid Mumford's contribution needs to avoid redundancies in descriptions of her work. I will thus keep the review of her work to a minimum. However, it is important to briefly lay out her position on some central issues to render the subsequent discussion and contextualization understandable.

Mumford was interested in change and the way it is reflected in society and organizations. She accepted change as a principle that pervades modern societies and their organizations. At the same time, she believed that change is not something that must be suffered passively but that should be embraced. Change must "always be accepted by the participants" (Mumford and Ward, 1968 p. 148). Successful change requires a vision of the end state but also the ability to create fluidity in current structures, a transition to desired ones, and the freezing of structures in the desired form. Change is linked to innovation and problem solving (Mumford, 1999). Problems are the reason for change and they also arise during the process of change. Management "is essentially problem solving in a complex and changing environment" (Mumford and Beekman, 1994 p. 159).

The difference between Mumford's position and that of much mainstream management literature is that she took a broader view. She believed that neither change nor management are ends in themselves. Management needs to consider ethical and social issues that are intrinsically linked to all social change. In order to be able to manage change in an acceptable manner, participation of those who are affected by it should be encouraged. Participation in decision making, in particular regarding the design and use of technology, should lead to greater employee satisfaction and higher productivity, and better use of local knowledge, thereby furthering employers' goals.

The theoretical basis of Mumford's work was the socio-technical approach,¹ Bjorn-Anderson rightly called her the "founder of the 'socio-technical systems design school', and its most prolific contributor" (in Avison et al., 2006 p. 353). Socio-technical design allowed her to simultaneously cater to different requirements:

"Socio-technical systems design provides a new worldview of what constitutes quality of working life and humanism at work. It facilitates organizational innovation by recommending the removal of many elite groups and substituting flatter hierarchies, multiskilling and group decision-taking. It wants to replace tight controls, bureaucracy and stress with an organization and technology that enhances human freedom, democracy and creativity" (Mumford, 2003 p. 262).

One important aspect of the socio-technical approach is that it is not algorithmic but affords its practitioner the freedom to reinvent central concepts as needed. Socio-technical theory provides guiding questions that practitioners can use to orient themselves, but it cannot provide a blueprint for action (Cherns, 1976). The resulting freedom can be problematic when applied in organizations, which led Mumford to give it a more formal structure in the methodologies she called ETHICS and QUICKethics (Mumford, 1996).

The choice of the acronym shows that Mumford was aware that the participative approach is not just a management tool but has normative implications. The reason why ETHICS is ethical include the inclusion of all stakeholders in the design process, the ability of users to exert influence over their future roles, and the sense of ownership and control it offers to system users (1996, p. 108; cf. Mumford and Beekman, 1994).

A Critical Reading of Mumford's Work

Mumford's work should be understood in its historical context. It has its roots in the massive restructuring of European work processes after World War II, when centralized war economies were starting to embrace market principles. Then there was the economic upswing in large parts of Europe in the 1960s and 70s, which led to labor shortages, which, in turn, forced companies to be innovative in the attraction and retention of employees. This was the time when the socio-technical approach was most successful in attracting employers' attention. As socio-technical work requires collaboration between different organizational stakeholders, the climate of employment relationships is important for its success. This may explain why it was easier to implement in Scandinavian countries where the relationship between employers and employees is traditionally more cooperative than, for example, in the UK (Mumford, 2003). Additional historical influences to take into consideration are the growing use of computers in organizations, and from the 1990s, a rising awareness of globalization with its implications for mobility of capital, outsourcing, and decreasing job security. Many aspects of the historical context and how it reflected on Mumford's personal situations can be found in Avison et al. (2006).

The contribution of this paper is to contrast Mumford's work with parallel discourses. The first such discourse is the one that is now frequently referred to as critical research in information systems (CRIS) (see Howcroft and Trauth, 2005). CRIS is of interest in this context because it shares Mumford's intuition that there can be better uses of technology than there currently are, but emphasizes different angles and offers alternative explanations. I will briefly outline CRIS in order to then concentrate on its relationship with Mumford's work.

Critical Research (in Information Systems)

The term "critical research" has a relatively stable meaning in philosophy and sociology, where it refers to research that aims to overcome the status quo and follows the intention to change social reality. Historically, most such research is derived from Marxist work, even though there are other and earlier philosophical roots (Harvey, 1990). Critical research is closely linked to the Frankfurt School of sociology, which had and continues to have a strong impact on critical work (Brooke, 2002). The desire to change reality is motivated by a recognition that current social structures are problematic and need to be overcome. Much of critical research was and is aimed at the pathologies created by capitalism and its theoretical underpinnings (Hirschheim and Klein, 1989). This central idea of critical work is reflected in its adoption by business studies and IS (Alvesson and Deetz, 2000). In the field of information systems, critical research is often viewed as a paradigm (see Burrell and Morgan, 1979; Chua, 1986; Orlikowski and Baroudi, 1991) that represents a set of assumptions about the world that include ontological, epistemological, and methodological beliefs as well as beliefs about the nature of humankind and of social interaction.

¹ For a description of the socio-technical approach and its success in different countries see Mumford (2000; 2006a).

The starting assumption of CRIS is that the social world is unjust (Walsham, 2005) and prevents individuals from living up to their potential. This leads to the critical intention to change reality and promote emancipation (Ngwenyama and Lee, 1997; Klecun and Cornford, 2005). Emancipation, briefly defined, may mean that "more people can achieve their potential to a greater degree" (Klein and Huynh, 2004 p. 163).

Stemming from the critical intention to change reality in order to facilitate emancipation, critical research is typically associated with topics that relate to issues where emancipation is possible and currently lacking. These include topics that critical researchers are usually interested in. Such topics relate to issues where emancipation is possible and currently lacking. Harvey (1990) identifies class, gender, and race as the most important topics. One can add issues related to the predominant view of rationality as well as questions of power. In addition, critical researchers in IS investigate areas where information technology has given rise to alienation and disempowerment. These include, for example, different views on IS failure (Wilson, 2003), IS and gender (Kvasny, Greenhill and Trauth, 2005) or digital divides (Trauth et al., 2006), to name just a few. The critical intention often leads researchers to prefer certain theories, among them theories arising from the Frankfurt school but also from French philosophers such as Foucault or Bourdieu, as well as other schools of thought such as postmodernism, postcolonial studies and others.

A final and important consequence of the critical intention worth mentioning here is that it has ethical implications. Philosophers largely agree on Hume's thesis that normative conclusions cannot follow from descriptive premises. The critical intention is normative in that it aims to change the way we act. This normative intention cannot result from mere observation of the world. Critical research, therefore, must implicitly contain a normative premise that is based on some sort of ethical foundation. This last aspect is relevant to Mumford's work since both share the normative premise.²

Enid Mumford's Relationship with Critical Research

The above discussion of critical research cannot claim to be complete, but it will suffice for the purpose of showing that there is considerable overlap between Mumford's positions and those of CRIS. A primary indication of this association between Mumford and critical research in IS is that she served as chair of the 1984 IFIP WG 8.2 conference in Manchester (Mumford et al., 1985). This conference was a starting point for critical research in IS because many of the ideas that still dominate critical work in IS were first articulated there.

Mumford shared the critical intention to change reality by supporting change management. Unlike strictly functional change management, however, her approach aimed to improve social reality. This is clearly reflected in her view of research as having a "humanistic mission," not merely, as the inspiration of other researchers but to "make things better for the community as a whole" (Mumford, 1991 p. 23). Her view was that the field of information systems can take a role in fulfilling this humanistic mission (Mumford, 2001a; 2006b). This is one reason for her preference of action research, which, by definition, aims to "change situations in ways that are seen as better" (Mumford, 2001a p. 47).

Mumford agreed with the critical view that the change of social reality should lead to emancipation. While she did not use the term explicitly, preferring related terms such as "liberation" (Mumford, 2003), Hirschheim and Klein have convincingly argued that her participative approach can count as being emancipatory when "it helps overcome constraints to human well-being" (1994, p. 25). Her participative and democratic approach laid the foundation for individual emancipation and collective overcoming of structural obstacles: "The world of socio-technical design is democratic, humanistic and provides both freedom and knowledge to those who are part of it" (Mumford, 2006a p. 339), linking it closely to Feenberg's (1991, 1999) critical theory of technology. Participation can lead to emancipation and autonomy by providing "guidelines for increasing our personal control of the future" (Mumford, 2003 p. vii).

Mumford shared an interest in certain topics with CRIS. Change and change management have direct links to issues of power and coercion. She used the concept of alienation to describe the current state of affairs that is to be overcome. In some instances she used wordings that are directly derived from the Marxist tradition of critical research, for example, when she talked of the "ideology of capitalism" (Mumford, 2003, p. 8). But even when she used a different vocabulary, the issues she debated are often identifiable as critical, for example the commodification of computing and working time (Mumford and Ward, 1968).

A Critical View of Mumford's Approach

The previous section has shown that there are considerable similarities between Mumford's work and CRIS. However, there is no evidence that she ever considered herself a critical researcher in the sense of the word suggested here. Therefore, it is not surprising that she did not take on board all of the arguments exchanged in critical research. This section thus describes

² For a more detailed discussion of the relationship between Critical research in IS and ethics, see Stahl (2008).

some of Mumford's weaknesses from the point of view of CRIS, which will pave the way for the discussion of how both approaches can be improved.

Mumford critically reflected on her own work, discussing some of its problems quite openly in many of her publications. She realized, for example, that much of her work depended on the personal characteristics of the people involved as well as organizational power structures. Worse, the participative approach would be seen as threatening existing power structures and then stopped by those authorities (Mumford, 2003 p. 28). Furthermore, she was quite aware of the fact that participative work could be manipulated by particular interests, especially by management for the purpose of suppressing opposition to unpopular measures (Mumford, 2003 p. 35). She also recognized that some fundamental problems could be hidden in the details of the implementation of her approach. The choice of representatives in the ETHICS or QUICKethics methodologies, for example, could mask struggles for influence and pose a threat to the legitimacy of the outcomes (Mumford, 1995 p. 155). Extending these critical reflections can help expose weaknesses, which will be a necessary step to further develop the socio-technical approach.

A central problem of Mumford's socio-technical approach from a critical perspective is its acceptance of the current status quo. I have argued that Mumford shared the critical intention of changing social reality. At the same time, however, there are indications that she viewed certain aspects of the environment as stable and desirable in a way that many critical theorists would question. Most importantly, while she was clearly critical of the reality of capitalism, she tried to persuade us that an emancipatory approach can be successful within the capitalist system. This requires her to reconcile interests, which classical critical theory believed to be irreconcilable, namely, those of workers and employers. Critical theorists have pointed out that such neutral interpretations and the resulting socio-technical work are themselves expressions of complex power structures (Silva, 2005 p. 60).

This underlying assumption of the compatibility of employer and employee interests can lead to problems of consistency. Even though Mumford acknowledged differences of interest, she consistently argued that participative action can fulfill the needs of managers and employees at the same time. By taking worker needs seriously, morale is boosted and productivity increases. While the road may be rough, the result will be greater efficiency (Mumford, 2003 p. viii). Mumford believed the ethical approach will "bring a company economic as well as morale benefits" (Mumford, 1996 p. 99). The problem with such statements is that, if they were true, then profit-maximizing corporations should wish to implement such an approach. Those organizations that do so should gain a competitive advantage, and the approach should spread throughout the market. Given that socio-technical design has been around for more than half a century, one should be able to observe such effects. That is not the case. There are certainly some organizations using democratic and participative approaches, but they are far from dominant. In fact, some of the earlier successes that Mumford (2000) describes are arguably disappearing. This may be a sweeping statement, which is difficult to support empirically, but it is a perception that Mumford herself shared in her later publications (2006a).

One of the reasons why Mumford could suggest such a congruence of interests of employers and employees was her concentration on individual persons and organizations. By concentrating on the individual organization, she overlooked the problem that many organizational processes are shaped and influenced by outside powers, including government and competitors. Hirschheim and Klein (1994) clearly point out the weakness of this focus on the individual organization. Mumford recognized the resulting weaknesses of the approach, including a possible perception that the socio-technical approach was management-oriented, superficial and palliative (1996) as well as its overall lack of success (2003). However, she sought the explanation for the lack of success of the participative method in inertia and the academic provenance of researchers or political struggles.

To simplify the critique, one could say that Mumford relied on capitalist structures to overcome the problems of capitalism, something many critical researchers would find problematic. Land (in Avison 2006a, p. 349) paraphrases this critique, saying that "all she had achieved was to permit the prisoner to determine the direction of the stripes on his prison uniform." A further illustration of this is that she consistently echoed the mainstream business literature by emphasizing the importance of top level management support for the success of participation. This may be pragmatically correct, but from a participative viewpoint, it is hard to see why participation should be dependent on managers and leaders who lack democratic legitimacy.

Mumford's concept of technology is another example of a lack of sensitivity to alternative conceptualizations. While she tried to form technology to fulfill the needs of the workers, she did not make the leap to completely new forms of technology, which might require different forms of social organization. She did not draw on the rich alternative views of technology offered by discourses in Science and Technology Studies, Social Shaping of Technology, Critical Theory of Technology, Actor-Network Theory, and others. Instead, she black-boxed technology and assumed that existing and available technology was neutral to her aims.

Another theoretical problem that Mumford faced was the question of how to address problems of participation. One such issue is that technology, even if designed participatively, can become a reification of social structures, including those of domination and oppression (Kvasny and Truex, 2000). In a homogenous working environment this means existing prejudices and disadvantages can be sedimented in new technology, thus perpetuating alienation and disempowerment.

ETHICS and Morality – the Relationship between Mumford and Current Ethical Debates

One problem that Mumford's work and CRIS share is their implicit ethical nature combined with a lack of explicit ethical debate (Adam, 2005). As indicated above, any interventionist approach that aims to change the status quo must be based on an ethical position because desirable states of the world cannot be deduced from pure observation. Mumford's socio-technical work, just like much CRIS scholarship, is predicated on the idea that technology can be used for the ethical purpose of improving social reality but takes little account of debates that explicitly focus on ethics and technology, in particular ethics and ICT. In order to demonstrate that such debates exist and that they are of relevance for socio-technical work, I will briefly introduce the field of computer and information ethics. This will lead to a discussion of open questions about ethics in Mumford's work.

Computer and Information Ethics

Ethics, as the philosophical discipline that is interested in issues of good and bad or right and wrong, has a long history. Whenever specific problems or questions arise that require specific attention or raise particular problems, ethics has developed specialist discourses that aim to address these. In modern times these discourses have become sub-disciplines of ethics, and we can now find applied ethics debates in fields such as medicine, biotechnology, genomics, environment, and also technology. Since computers and information and communication technology raise some unique problems, there has been the rise of a new debate, originally called "computer ethics," now often called more inclusively "information ethics" (Floridi, 1999; Floridi and Sanders, 2002; Adam, 2005b; Bynum and Rogerson, 2004).

The history of information ethics can be traced back to the early development of computers and cybernetics, in particular, to Norbert Wiener (Bynum, 2006). With the advent of computers on a larger scale, ethical problems arising from them became more pressing. From the 1970s and 1980s onward, computer and information ethics has turned into a small and interdisciplinary branch of academia, which also receives some attention from computer practitioners, in particular in relation to professions and professional regulations. There are now numerous textbooks (see Johnson, 2001; Spinello, 2000; Bynum and Rogerson, 2004), several conference series, and a handful of journals that address such issues. Ethical issues are increasingly recognized and established as legitimate concerns of mainstream IS research that is evidenced by a track on "Researching Ethics in IS" at the 2008 European Conference on Information Systems and by the overall theme of the 2008 International Conference on Information Systems, which will be "Ethics, design and consequences of information technologies."

The history of information ethics thus mirrors to some degree that of socio-technical work; however, in terms of content, the two diverge. Where Mumford's socio-technical approach was interested in designing artifacts, information ethics is usually more concerned with conceptual issues and questions of their consistent application. The theoretical roots of information ethics tend to be in classical philosophy, and much writing in the field aims to render traditional ethical theories useful for ICT. This means that there are views that suggest virtue, duty, or overall utility (to name just the most important ones) as the main ethical criteria for judging actions or norms. Lately there has been much interest in developing unique conceptual and ethical foundations for information ethics (Mathiesen, 2004; Floridi, 2006).

In addition, there are continuous debates about the salient ethical issues raised by ICT. These include questions of privacy, intellectual property, access, digital divides, and data quality. However, there are also debates surrounding issues of high importance in work, such as replacement of human employment by computers, changing interpersonal relationships due to computer-mediated communication, gender issues in the ICT industry, and new power structures in organizations.

This brief introduction cannot do justice to the field. Its purpose is to show that there are individuals and institutions who apply ethical debates to ICT and thus cover issues that are raised by Mumford's socio-technical work. This knowledge serves as an opening for a further critical analysis of Mumford's work.

Morality and ETHICS

Throughout her career, Mumford made it clear that she wanted to do her work in an ethically acceptable manner, as evidenced by her choice of the ETHICS acronym. There are numerous examples of statements in which she linked her work with ethics, such as: "The world of socio-technical design is democratic, humanistic and provides both freedom and

knowledge to those who are part of it" (Mumford, 2006 p. 339) or "The most important thing that socio-technical design can contribute is its value system" (Mumford, 2006 p. 338).

Mumford emphasized the ethical aspect repeatedly but never spelled out in depth what ethical theory or theories she relied on or which role ethics played in her overall approach. Her relationship to ethical theory resembled the one she had to critical theory. She referenced it in several places, but did not truly incorporate it in her work. In chapter 2 of Mumford (1996), for example she discussed ethical theories but then went on to use an implicit evolutionary theory of ethics, which raised serious problems from a philosophical point of view. Overall, her ethical viewpoint can best be characterized as intuitive and eclectic. She identified two moral principles as most important for her own approach, namely "quality of working life and freedom in work" (Mumford, 1996 p. vii). At the same time, she recognized that moral preferences can be highly idiosyncratic: "Each of us is likely to have our own definition of what is right and wrong and what we should strive to achieve in our relationship with others" (Mumford, 1996 p. 24).

There are several ethical traditions to which she implicitly referred. One of them is contractualism, the idea that ethics derives from the agreement of all affected parties in an original position. In Mumford (1996, p. 28f), she used the idea of a mutually beneficial contract based on users' needs, which can be read as being based on contractualism. The moral theory of contractualism goes back to Hobbes's *Leviathan* (1914) and has been notably revived by Rawls's theory of justice as fairness (2001). Such contractualist thoughts have been used in business ethics (Donaldson and Dunfee, 1999), but they are also recognized as possible foundations of computer and information ethics (Mason et al., 1995).

Elsewhere, Mumford seemed to support the idea of morality as a natural right: "Moral responsibility is the most personal and inalienable of human possessions, and the most precious of human rights. It cannot be taken away, shared, ceded, pawned or deposited for safe keeping" (Mumford, 1996 p. 107). Human rights have gained a strong position in the current world, where the Universal Declaration of Human Rights has been recognized (at least in theory) by most countries, and human rights form the backbone of many constitutions. However, the idea of natural rights as a basis of ethics is problematic. In the field of information ethics, this debate is most frequently played out with regard to intellectual property. A central problem that natural rights ethics faces is how natural rights can be justified and made universally binding in a secular and post-metaphysical age.

At another place, Mumford seemed to rely on consequentialism, the idea that the consequences of an action are the main determinant of its ethical evaluation, when she said: "Morality itself can be ambivalent. Results always have both good and bad consequences" (Mumford, 1996 p. 101). Consequentialism's most widely accepted ethical theory is that of utilitarianism. This theory, going back to Bentham and Mill, holds that a good action can be determined by looking at the overall utility (that is, the sum of all pleasure minus the sum of all pain) of all alternatives. Utilitarianism is the ethical theory that probably shapes ethical thinking in much of the Anglo-American world, as evidenced by the high acceptance of cost-benefit analyses in moral, political, and legal discourses.

At the same time, the above quote seems to suggest a hint of moral relativism. If all moral actions can have good or bad outcomes, then it may not be possible to make strong statements concerning the moral desirability of any one choice. Again, this is a position sometimes found in information ethics, in particular, in debates on international and intercultural issues, where there are clear divergences in opinions and practices (see Stahl, 2006b).

Some further problems of moral philosophy are hidden in Mumford's view of ethics. In Mumford (1996, p. 19), she argued that biology can provide the ethical systems designer with inspiration. There are established ethicists who defend a link between ethics and evolution (cf. Wilson, 1978), but one should also see that it is a contentious idea that moral norms can be deduced from the observation of nature. Another problem of Mumford's implied ethics is its individualism. While her participative ETHICS methodology is fundamentally collective, there is still much stress on the ethical challenges for the individual, whether a manager, a designer, or the facilitator of discourses. Again, this is eminently compatible with a range of ethical theories, but it can raise problems in organizational settings where the individual may only have very limited choice and freedom, thus limiting the ethical options.

All of these are well established positions in moral philosophy as well as computer and information ethics, but it seems unlikely that the eclectic approach Mumford followed can be satisfactory. Contractual, consequential, relativist, evolutionary, and natural rights views of ethics are based on different assumptions and lead to different consequences. Whether and how they can be combined would have to be explored in more depth than is possible here. Several millennia of ethical debate strongly suggest, however, that there are substantive differences between them and that differences in ethical theories should not be ignored if one wants to avoid inconsistency and self-contradiction.

A central ethical problem is that Mumford did not commit herself to the status of ethics in ETHICS. It remains open whether her use of ethics is instrumental or intrinsic. That means that the reader is left wondering whether ethics in her work has the purpose of facilitating the success of the systems design or whether the ethical qualities are primary, and functional success a welcome but secondary concern. This question is of central importance in cases where ethical requirements clash with functional ones. The reader is left with no guidance in such difficult situations.

A final problem worth mentioning introduces yet another ethical theory. Much of Mumford's work is driven by that which, in the Aristotelian tradition, one could describe as the "good life." This demonstrates the fact that we need a vision of how we would want to live in order to make the right decisions that will allow us to achieve such a good life. Mumford's ideas of participation, democracy, and sensitivity to needs and desires imply that she had a clear idea of the good life. It represents the idea of a liberal democracy in which the individual can fulfill her own goals and ambitions. However, nowhere did she spell out this vision of the good life in detail. This renders it closed to critique. Furthermore, she did not consider other versions of the good life, that might not always have been compatible with hers. This leads us back to critical theory, which is also based on an implicit (and rarely discussed) view of the good life, which arguably looks quite different from the one Mumford had in mind.

The Cross-Fertilization of Mumford's Work, Critical Research in IS and Information Ethics

Much of what I have said about Enid Mumford's work so far concerned a critique of her positions and could be misconstrued as negative. In fact, the opposite is true. I strongly support her contention that technology holds the potential to make our lives better but that this potential is often not realized or, worse, turned around to make our lives worse than they would be without technology. By confronting Mumford's work with two other streams of debate that similarly are predicated on this view, namely CRIS and information ethics, I hope to be able to suggest future development for all three that will help them achieve their shared aim, which is the creation of better technology for a better society. As this is a paper on Mumford's work, I will concentrate on the potential contribution of CRIS and information ethics to the socio-technical approach, but it is clear that this is not a one-way street and that socio-technical thoughts have much to contribute to CRIS and information ethics.

An important first question here is why there are these three streams of debate, which, as I have tried to argue, share some similar aims, but generally seem to ignore each other. A possible answer may be that the disciplinary backgrounds of the three are different; the socio-technical approach being influenced by the medical and psychological tradition of the Tavistock Institute and then applied in practical IS settings. CRIS comes from a strong sociological tradition and has its roots in critical theory, whereas information ethics is generally dominated by moral philosophers. The reason for the lack of overlap and cross-fertilization of these fields may thus be disciplinary boundaries and resulting incentive structures that render it difficult for individuals involved in them to engage with the other fields.

The above discussion has provided some pointers, however, that indicate how the three streams of debate could cross-fertilize each other and how they could draw on one another to promote their shared goals. Interpreting Mumford's work from the critical perspective has shown that there are several open questions for socio-technical design to address in order to promote its emancipatory values. Probably the most important one of these is the *emphasis on the larger framework of society and economics*. ETHICS can only be successful in a framework that is conducive to organizational democracy and participation. Indeed, Mumford came to see this in her later work and suggested that it may require the collapse of capitalism or growing disparities between rich and poor to revive an interest in humanism and participation (Mumford, 2006a).

Another lesson that socio-technical design might learn from the engagement with CRIS is that the *concept of technology* may provide more flexibility than is usually taken for granted. While the ETHICS methodology is synonymous with the idea of letting users shape technology, it still uses organizational definitions as starting points. Users give input according to their preferences, but they may lack conceptual awareness of possible technologies. This leads to a fundamental problem of all critical theory, which is often discussed under the heading of "false consciousness." What if users do not want to emancipate themselves, what if they voluntarily choose a technological design that alienates them and limits their freedom? There are no easy answers to this. However, this possibility should arguably be made a topic of socio-technical design. It may be the task of the facilitator to introduce new visions and concepts of technology, which allow users to develop better opinions. Such an approach is not alien to Mumford's preferred method of action research, but thinking it through may require a stronger endorsement of partial views than Mumford was willing to concede.

Overall, I think that the debate with CRIS could benefit Mumford's socio-technical design most by rendering clearer the *importance of conceptual work*. As many of the contributions to Avison et al. (2006) made clear, Mumford prided herself in the practical relevance of her work and her in-depth understanding of relevant situations. While these are without doubt

important, the concentration on practice may have contributed to the fact that some conceptual foundations—including the role of societal politics, the socio-economic system, and the concept of technology—were left more open than desirable.

One of the most important conceptual issues to be clarified is that of *ethics as moral philosophy*. This is where computer and information ethics may contribute to the development of Mumford's legacy. It is uncontroversial that Mumford had strong ethical motivations throughout her working life and beyond. What is less clear is just how ethical conflicts can be considered in practical situations. What if the wishes and preferences of the users diverge? What if employers and employees have good (moral) reasons for disagreeing on design decisions? Should the facilitator accept moral preferences at face value? What are the underlying issues in ethical problems likely to arise in socio-technical design (e.g. privacy, intellectual property)? All these are difficult questions. They have been debated in some depth, however, and it would be conducive to socio-technical design to consider such debates and build on them, rather than ignore or reinvent them.

These and other conceptual issues could be addressed by taking ethical theory and its application to ICT into account. I have suggested earlier that the different implied ethical foundations of Mumford's socio-technical work may be inconsistent. There is much work to be done to clarify whether and why this is the case. Maybe I have misread some of Mumford's statements and the issue is one of expression of ideas rather than fundamental inconsistency. Either way, one of the challenges in the future development of socio-technical design will be to spell out its ethical foundations in detail. Only once this has been achieved do we stand a chance of appreciating them in full and evaluating their philosophical reliability.

Conclusion

In this paper I have argued that Mumford's socio-technical work as epitomized by the ETHICS methodology, critical research in information systems, and computer and information ethics represent three attempts to use information and communication technologies to improve our individual and collective lives. By reading Mumford's work from the point of view of the latter two, I have identified ways of improving it and thereby ensuring that her legacy will be kept alive.

I realize, however, that this will not be easy and that there are good reasons to doubt the viability of such an endeavor. There are practical arguments that militate against the possibility, among them the division of academia (and large parts of organizational practice) into different disciplines whose boundaries are often difficult to negotiate. Then there is the pure volume of work that has accumulated in all three debates that makes it very difficult to give the task the attention required. There are more fundamental problems than this. Critical theory with its traditional affinity to Marxism has always toyed with the idea that a revolution will be required to bring forward its goals. Mumford was not a radical. She accepted the socio-economic framework she worked in and tried to improve it from the inside. Most CRIS scholars mirror this approach, and CRIS, unlike other critical debates, does not tend to call for a revolution. The question is still open, however, whether true emancipation and participation are possible in the current socio-economic system. Mumford herself, in her last and posthumous publication (2006a), toyed with the idea of revolution and conceded that it may be required for the socio-technical approach to succeed.

Another fundamental problem will most likely be found in the application of ethics to socio-technical design. The argument above that the conceptualization of ethics in Mumford's work should be strengthened is hard to deny. The implicit assumption that a better conceptual foundation in ethical theory will overcome the problem is itself problematic. Even assuming that it is possible to give ETHICS a consistent ethical foundation, this does not guarantee that ethical problems will be solved. Indeed, moral philosophy and its long history of debate seem to suggest that the opposite is the case.

Following the suggestions put forward in this paper will, thus, not provide a panacea for the socio-technical approach. There is no guarantee that it will be successful. I am happy to argue, however, that it is something that should be done in order to further the theoretical consistency and practical success of all three of the areas or debates discussed here. Technology is here to stay, and there are good reasons to hope that we can shape and use it to further our goals. The fact that success is not guaranteed is no good argument for not trying.

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