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Human and Cultural Values in a Computer Age

The message sent by Samuel Morse when he opened the United States' first telegraph line in 1844 was a question: "What hath God wrought?"

That query was answered by his contemporaries in any number of ways. Some were enthusiastic, believing the telegraph to be a gift of God for the building up of community and worldwide communication. Others were fearful or sceptical, and a prescient few were busily calculating the technology's commercial and military prospects. Today the computer provokes much the same kind of reactions and considerations. Unlike those of 1844, however, present-day commentators seldom refer to God. The emphasis now is not on God's power but on humanity's malleability and weakness.

More than any other technology, the computer provokes questions about what it means to be human. Sherry Turkle quotes the reflections of a young Catholic man who happens to be taking computer science courses at the Massachusetts Institute of Technology. He explains that for him "the brain is a computer and the soul sort of programs...But the soul is not in a simple relationship to the body. It is like a programmer and a computer. There is a harmony. A fit ... the soul is ... a spiritual thing which inhabits this computer".

As Turkle's quotation suggests the computer's insertion into modern life is affecting not only how we work but also how we think and feel about ourselves and about our world. Even people who hold values which might be thought antithetical to the computer world are using computer models to express their spiritual convictions.

Questions of identity, of meaning, and of values demand the attention of the churches. Unfortunately where computers are concerned most people in the churches are ill-equipped to respond to these issues. On the whole the churches consider the computer simply as an administrative tool and concern themselves with the practical problems of buying, installing and administering computer systems. Unless they can raise their eyes from these mundane problems to look at the issues raised by people like Turkle, the churches will find that they have become immersed in the computer age without understanding its profounder implications.

This issue of Trends attempts to bring out some of the major theological, philosophical, and ethical issues related to the computer. The first section sets out two contrasting analyses and approaches to the values at stake in a computerized society. The second section reviews some common computer uses by the churches and tries to indicate some starting points for a theology and ethics of computer use.

Disengagement Or Reform? Living In The Computer Society

Klaus Haefner. *Mensch und Computer im Jahre 2000: Okonomie und Politik fur eine human computerisierte Gesellschaft.* (Man and Computer in the Year 2000: Economics and Politics for a Human Computerized Society). Basel: Birkhauser Verlag, 1984.
Michael Shallis. *The Silicon Idol: The Micro Revolution and Its Social Implications.* Oxford: Oxford University Press, 1985.

Klaus Haefner and Michael Shallis are both acutely aware that technological change has cultural, social, and spiritual implications. Both of them also are concerned to explicate and understand these implications in order to help others come to terms with and live fuller lives in the computerized society. They differ, however, in their conclusions. Haefner is an optimist, arguing that the computer can be used in ways that will enable the human spirit to grow and flourish; Shallis is more pessemistic, concluding that "the new technology is harmful, is irrelevant, comes from the desire to control and dominate, and is best left alone, not compromised with". Haefner believes that it is possible to reform the computerized society; Shallis is convinced that people will be able to retain their essential humanity only insofar as they are able to disengage from the computerized society.

Teknosis: The Impoverishment of the Human Spirit

Michael Shallis follows thinkers like Marshall McLuhan in stressing the importance of the symbolic nature of machines and technologies. In his view all machines are communication media and their form is their message. The machines made by human beings embody human purposes, choices and values and so say something about their relationship to the world. Satellite technology, for example, is a material expression of the desire and will to overcome the communication barriers of space and time.

Because technologies are symbolic as well as functional artefacts, the uses made of them are not simply functional. As Shallis points out, electric light is often used to illuminate an already bright room. People who have grown used to having artificial light can begin to feel that natural light is inadequate even if rational calculation

demonstrates that the extra illumination is superfluous. Human beings find themselves adapting to their own technological extensions and investing their creations with a symbolic power. The most obvious example is the devotion paid to the motor car which has become associated through advertising with images of masculinity.

If this adaptation to technology becomes excessive people can suffer from what Shallis calls *teknosis*: an undue dependence upon technology. For Shallis the computer is the main agent of teknosis in contemporary society because it is the current pinnacle of technological development. Shallis considers the computer to be inherently anti-human because it is used so powerfully to reduce the dignity and staus of man. The computer has become the embodiment of a standard of pure rationality against which human beings are judged and found wanting.

The Silicon Idol

Naive and euphoric views of computer technology are reinforced by an exaggerated regard for the capabilities of machine intelligence and a corresponding attentuated view of human beings and of human intelligence. When computer scientists speak of artificial intelligence, they reduce the idea of intelligence to that of mere calculation. Shallis, on the other hand, argues that intelligence "traditionally implies a person's means of access to that which is central and essential to the human condition and which becomes manifest through acts of charity, good works and love." In a society afflicted with teknosis, the computer becomes a silicon idol to be worshipped. Shallis agrees with Jacques Ellul that technology has replaced nature as the locus of the sacred.

Shallis believes that worship of the silicon idol can only be counteracted by a rediscovery by people of their real needs and wants. The computer, like many other modern technologies, makes life easier for us, but does not contribute to our spiritual well-being. Indeed it helps make us less than human by encouraging us to seek technological solutions to complex human questions. Every argument that the computer will aid man in solving social, economic or political problems is in danger of turning problems of value and ethics into mere technical problems, and in the technical sphere human judgment is easily displaced by computer calculation. If this danger is to be avoided human beings will have to rediscover themselves as spiritual beings with spiritual responsibilities that cannot be given over to the care of the silicon idol.

The Human Computerized Society

Haefner is quite as aware as Shallis of the threat which computer technology might pose to the well-being of humanity. He observes that the computer is the first machine that actually does the thinking for human beings. Although we have long used technology to extend our senses, we have never used machines to do what our brains have had to do. Thus the challenge of the computer is one which forces us to consider our taken-for-granted assumptions about ourselves and about our relation to our technological creations.

It appears to Haefner that trying to stop the technological momentum of computers and information technology is quite futile. No industrialized nation will take the economic risk of withdrawing from the promotion of information technology-based industrial growth. Moreover, computerization and automation have brought benefits, not least in freeing people from repetitive and degrading work. If one wishes to keep the benefits of computerization and minimize its drawbacks the only realistic strategy is to develop political, social and educational proposals that, if implemented, may help build a *human computerized society*.

The Problems of the Computerized Society

Haefner identifies three major problem areas facing the computerized society. First, the problems of social equity (e.g., unemployment and automation); second, the issue of democratic control over an expanding military machine that is increasingly dependent upon large and complicated computer programs; third, the question of human self-understanding in a world where knowledge and information are increasingly packaged in the form of computer "expert systems".

All these problems are related to each other by problems of access to, control over, and uses of information. Informed and timely decisions rely upon access to relevant information. Modern democratic societies are innundated with data and information stored in data banks and poured out upon the public by press, radio and television. It is difficult, if not impossible, for the individual citizen to determine what information is relevant. Although (or perhaps because) information means power, it appears that no one is concerned to help the public find their way through this diffuse, disorganised, contradictory and ephemeral information environment.

Psychic Mobility in the Information Environment

The development of advanced computer information storage and retrieval systems, including "expert systems", suggests that this information environment could be better managed in the public interest. Haefner suggests that just as the motor car increased physical mobility, so the computer could help increase psychic mobility; and as it proved necessary to develop a road system that could cope with car traffic, so it will prove necessary to provide an "organised street system" for information flow. The goal of a human computerized society must be to construct an information infrastructure which guarantees speedy and low cost movement within the information environment.

This information infrastructure will require electronic libraries from which information can be retrieved quickly and efficiently. Teletext and public viewdata systems are a first step in this direction. The public also needs ready access to human experts via some kind of expert telephone book. In addition, people should have their own Personal Information and Telecommunication Systems. These are advanced compact personal computers with the capability to access other computers and data networks.

It might be objected that Haefner's proposal for Personal Information and Telecommunication Systems is simply another attempt to justify the extension of the home computer market. That would be to miss his point, which is that information equity in the computerized society requires that as many people as possible have access to information technology. As the pocket calculator allows the mathematical novice a measure of equality with the mathematically proficient, so the personal information system can help give everyone access to information hitherto available only to a few.

Education for a Human Computerized Society

Of course, technological access is useless if people do not know how to find their way around complex information systems. People will need to be helped to understand and express their information needs and information systems will have to be designed in an easy to understand manner. The educational system will have to adapt to provide an education which is capable of preparing citizens to understand and use their information environment. Education in the human computerized society must be seen as a permanent attempt to unfold human capabilities vis-a-vis information technology. Only if education is seen this way, will we avoid displacing and discarding people who find their skills have been superseded by computer technology.

Haefner argues that if people are properly educated to use the information systems of the computerized society then there is more chance that people will be able to become truly informed. A better informed citizenry will be better able to participate in democratic life and many of the inequities which are based on unequal access to information will be overcome. This dream, of course, depends both upon a political commitment to a new form of lifelong

education, and upon the development of a decentralized and human scale information technology. Computerization which dehumanizes (e.g., isolating and routine home-based computer work) or reinforces authoritarian power (e.g., large scale computerized military command and control systems) can have no place in the human computerized society.

Church Use of Computers: Practical and Ethical Considerations

Douglas W. Johnson. *Computer Ethics: A Guide for the New Age*. Elgin,IL: Brethren Press,1984.
William R. Johnson. *Selecting the Church Computer*. Nashville, TN: Abingdon Press,1984.

Church organizations across the industrialized world are already investing in computer systems, large and small, to help them manage their affairs. Parish priests, ministers and lay workers have discovered how cheap home computers can help with mailing lists and parish records, and some pastors have discovered the joys of writing sermons using the word processor. In the offices of dioceses, bishops' conferences, national councils of churches and charitable organizations the computer and the word processor have become commonplace tools of financial, personnel and task management.

Computers in Church Administration

In Australia, for example, the Catholic Church has set up the National Advisory Council on Computers and the Church (NACCC). The NACCC is designed to offer major financial savings by making centralized arrangements for the purchase of computer hardware, software and the negotiation of maintenance contracts. The NACCC is now able to offer a standard computer system package for parishes, including a microcomputer, printer, 10 million characters of storage and a group of administrative programs (census information, planned giving, sacramental registers, word processing, spread sheet, data base management, graphics, electronic diary and communications). By October 1985 seventeen Sydney parishes had invested in the system.[1]

In the United States a conference on the church computer (CAMCON) was organized in March 1986 by Computer Applications for Ministry Network (CAMNET), an interdenominational group of members from twelve North American churches. There were 350 people from 26 denominations at CAMCON, and it was so successful that it looks as if it will become an annual event. At CAMCON decisions were made to coordinate several separate denominational computer communication networks through a common communication utility, UNISON, in Denver.[2] In Belgium the Centre Informatique et Bible at the Benedictine Abbey of Maredsous has begun to survey the use of computers for administration in Catholic parishes across Europe.[3]

A Pragmatic Approach to Computers

Like other institutions, the church has accepted the computer as an essential and effective tool for the management of information systems. In so doing the church has, for the most part, assumed that the important questions to ask were those concerning the practicalities of introducing computers into existing administrative environments. Very few people in church circles have questioned the "why" of computerization in ethical or theological terms.

There are two major reasons for this lack of questioning. First, most church administrators, like most people, assume that technologies are neutral tools which may be used in good or bad ways. They do not tend to think of technologies as value-laden culturally influenced designs. Secondly, even when church people do reflect upon the process of technological change, they are hampered by the lack of a coherent ethical and theological language in which to articulate and clarify their concerns.[4]

The numerous books which have appeared in recent years advising church administrators on the introduction and running of computer systems are usually practical manuals. If they contain any theological reflections at all these are generally brief and marginal to the main line of discussion. These books start with practical questions and bring in theological questions at a later stage.

The Human Costs of Computerization

A good example of this kind of book is William Johnson's *Selecting the Church Computer*. Johnson's approach is down-to-earth and practical, and his book is filled with useful advice. It has undoubtably saved many a pastor from making expensive mistakes in buying and installing a church computer. Unfortunately those same pastors have probably spent relatively little time reflecting upon the issues raised in Johnson's last chapter, which is entitled "Technology and Theology". In that chapter Johnson tells a story which crystallizes one of the major theological and ethical issues which computerization provokes. It is the issue of the human cost of computerization, the same issue raised so forcefully by Shallis and Haefner.

A local church conducted a needs analysis prior to computerization and concluded that the records identifying regular, casual and new attenders at church services should be put into the computer. In this church these worship attendance records were maintained by a widower and retired businessman who enjoyed the task and saw it as a form of service to the church. The church computer committee assumed that he would be happy to have this work computerized, so they failed to ask his opinion of their computer proposal. When the proposal was finally put to him he astonished the computer committee by the depth of his outrage. In his eyes the proposal meant that the church was ready to sacrifice his ministry on the altar of the god of efficiency.

This story is important because it illuminates the widespread and unspoken assumption that technical, financial and administrative efficiency is the major criterion for determining church computer use. This efficiency criterion is, however, too narrow a base on which to decide questions which affect not only the jobs but also the dignity and self image of human beings. Efficiency is a necessary but not the most important criterion.

For the church efficiency questions must be subordinated to questions of human need and human dignity, and sometimes it will not be easy to resolve conflicting perceptions of a particular computer use. Take, for example, the question of storing names and addresses of church members on the computer and the sending of "personalized" letters composed on a word processor. Many people will applaud these applications as more effective ways of reaching church members on a regular basis, but others may feel that the church has become yet one more organization in which they are known simply as personal details in a computer file.

Models of Church and the Use of Computers

In cases like this the church needs to consider what kind of ecclesial model it is acting out in its daily ministry. Is it an institutional model which is concerned with maintaining and improving the existing organization or is it a community model oriented to the service of the world at large? Perhaps there are two, or more conflicting models, being followed at the same time. The introduction of a computer system may bring implicit assumptions about church mission and church structure to the fore and challenge the church to rethink its existing practice. Will the computer, for example, simply reinforce an organizational frame of mind that is already too distant from the needs and concerns of ordinary church members? Perhaps too much personal information is being stored more out of administrative habit than because it serves the church's ministry?

Reflection upon the theology of church in relation to computer

use can be a salutary experience. Ministers and laity alike may find themselves forced to ask fundamental questions about how God's will can be expressed through administrative structures and technological systems. Churches may have to dare to break with conventional wisdom by running computer systems in an "inefficient" and administratively "untidy" manner in order that people, inside and outside the church, may continue to experience the church as a community of service and love.

Ethical Ground Rules for a Computer Society

The churches can contribute to the emergence of a human computerized society by using computer technology in creative and non-exploitative ways, but they also have a responsibility to contribute to the general public debate about the computer society. How best particular churches can participate in public debate depends upon specific social and cultural contexts, but there are a number of fundamental issues which any debate needs to consider. In his book *Computer Ethics* Douglas Johnson suggests a number of ground rules for ethics in a computer society. These ground rules could well be taken as the starting point for the church's reflection.

The first ground rule is *to realize that computers are tools*. This rule is meant to counteract the emotional dependence upon the computer which some people may develop. Computers are not people and to treat machines in an anthropomorphic way is to undervalue the human person. Remembering that computers are tools will help us remember that they are the instruments of human purposes and values and should be subject to the same critical scrutiny as any other human invention.

Understanding the capabilities of the computer is the second ground rule. This understanding means a certain technical computer literacy especially for personal computer owners, but it also means a broader understanding of what the computer can and cannot do. Like the first ground rule it should lead us to consider carefully the social and cultural context within which computers are used. The computer is limited by the capacities and abilities of its designers and programmers; the data that is entered into the computer limits the kinds of questions that it can solve and answers it can give. If people have a better understanding of the computer's capabilities they will not be tempted to regard it as the automatic solution to all human problems.

Computer Controls and Human Needs

The third ground rule is *to devise appropriate controls over computer use*. This guideline requires the development of public controls over the use of sensitive personal data by large organizations including big business and government agencies. We cannot afford, argues Johnson, to leave control over computer systems in the hands of technicians alone. Technical standards and priorities are not necessarily compatible with more general social norms and expectations. Acceptance of the need for controls implies that we *work out ways to recognize and protect people's needs*. This is the fourth guideline. The three most important human needs, from the perspective of the development of a strong social group, are interaction, stimulation and relaxation. These needs can be threatened by a computer society in which standardization, speed and impersonality are the dominating features. Thus office workers using computers should not be expected to adapt their work rhythms so that they become mere appendages of the machine. The human interactions that take place in any organization are also valuable and should not be downgraded in favour of some impersonal and standardized work routine.

Computers in Families

Just as organizations need to have guidelines for the human use of computers so too do families. The fifth ground rule is, therefore, *to help families establish rules for personal computer use*. One problem which Johnson highlights is that of the intense personal involvement which some children, and adults, can have with the computer. This involvement can be used by individuals as a means of avoiding or restricting interaction with other family members. Johnson recalls the similar problems faced by families in dealing with television. Today programmes like Television Awareness Training offer parents and children help in developing a discriminating and discerning approach to television viewing. As yet there are no similar programmes designed to aid families to integrate the computer in a non-disruptive way.

Law and Public Policy

The sixth and final ground rule is *to create a legal framework for regulating computer use, sales and manufacture*. Such a framework would encompass consumer protection legislation, and privacy and copyright regulations. This legal framework, however, is inadequate unless there is also a concerted effort to develop ethical codes of practice which cover all areas of computer use.

A Religious Ethic for the Computer Society

Johnson concludes his book with some proposals for building and maintaining a specifically religious ethic in the computer society. He identifies four major principles which should inform church attitudes and actions. The first is a concern and care for people. The churches should constantly defend and promote human individuality, creativity and dignity in the face of pressures to centralize, standardize and regiment modern society. Secondly, the churches "have the unique privilege — and obligation — to create environments in which people can cultivate and share feelings and emotions". Creation of such environments is necessary if the dangers of dehumanization are to be avoided. The third principle is that churches should educate people to be caring, compassionate and critical citizens. Church people have an important role to play in ensuring that issues of justice, poverty, and discrimination are at ther forefront of public debate. The final principle is that churches should put ethical 'principles into practice in their own use of computers. In the end they will influence the computerized society more by how they act than by what they say!

NOTES

1. *Communication*. (Catholic Communications Centre Sydney). Vol.16, No.10 (October) 1985. Further information may be obtained from Fr John Doran, Archdiocesan Computer Consultant, 276 Pitt Street, Sydney, NSW, Australia.
2. *Grapevine*. (Joint Strategy and Action Committee), Vol.17, No.9 (April) 1986. CAMNET/JSAC, Rev John C.DeBoer, Administrator, 475 Riverside Drive, Suite 450, New York, NY 10115, USA. Dr David Lochhead (Professor of Systematic Theology, Vancouver School of Theology, University of British Columbia) gave an address to CAMCON entitled "Does God Love Computers?" which was an attempt to open up a theological debate.
3. *Interface*. (Centre Informatique et Bible). (December) 1985. Further information from CIB, Maredsous, B-5198 Denee (Anhee), Belgium.
4. A recent and welcome attempt to improve the quality of church reflection on computer questions was made in a seminar organized by the Italian Catholic Communication Office in September 1985. The seminar on "The Computerized Society and the Pastoral Mission of the Church" was attended by 80 to 100 people.

Call for Information

A forthcoming issue of *Research Trends in Religious Communication* will report on computer use in Christian education. The editors would like to hear about current or planned projects and research in this area. Please send information to Dr Jim McDonnell at the CSCC.