

1980

FORMING THE SOCIAL CONTRACT FOR THE INFORMATION SOCIETY

Richard O. Mason
University of Southern California

Follow this and additional works at: <http://aisel.aisnet.org/icis1980>

Recommended Citation

Mason, Richard O., "FORMING THE SOCIAL CONTRACT FOR THE INFORMATION SOCIETY" (1980). *ICIS 1980 Proceedings*. 17.
<http://aisel.aisnet.org/icis1980/17>

This material is brought to you by the International Conference on Information Systems (ICIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICIS 1980 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.



• N E W D O C •

FORMING THE SOCIAL CONTRACT FOR THE INFORMATION SOCIETY

RICHARD O. MASON

Management and Policy Sciences
University of Southern California

1.0 INTRODUCTION

The modern social contract is based on an emerging Faustian bargain on information. In return for the knowledge and pleasure that new information provides us there are important new human costs which must be paid. Negotiating this bargain is perhaps the most pressing public and organizational policy issue of our times. As the social contract is renegotiated information policy will become its most central feature. No member of society -- corporate executive, public leader or ordinary citizen -- can escape its impact.

The social impact of information and information producing systems is becoming more profound as we enter the "take-off" stage of the third of society's great revolutions. The agricultural revolution replaced hunting and food gathering with the systematic cultivation of fields. In the process a regular supply of food, fibers, oils and other basic commodities was secured. Spurred by the development of such innovative devices as the spinning and weaving machine, James Watt's famous steam engine, the steam locomotive and a factory based system of manufacture, the industrial revolution again radically altered our society. New basic materials were brought into common use (chiefly iron and steel). New energy sources, new machinery, new transportation and communication methods, and with them a new organization of work, namely the factory system were similarly introduced. With these developments many technological, economic, social and cultural changes ensued. And, as with Faust, these newly won pleasures soon brought with them newly felt pains. There was a greater abundance of material goods and conveniences but there was also more poverty, misery, exploitation and social unrest as societies underwent the change. In the process, new rules by which people could live and work had to be developed and old rules had to be renegotiated.

Today, this social contracting process is underway again as we phase into the information society. As with the two previous social revolutions new technology was the principle stimulant to change. As adding machines, cash registers, typewriters, punch-card processors,

electro-mechanical accounting machines, computers -- now in their fourth generation of technological development -- and finally, telecommunications are introduced man's direct contribution to society's output is being augmented and reformed. A major characteristic that distinguishes the information revolution is that what is being altered and supplanted is the contribution of man's mind to the society not that of his body. Information involves the processing of symbols whereas industry involves the processing of materials.

Three technological forces appear to be at the forefront in leading us into the information revolution. One is the silicon chip whose continual development has given rise to a semiconductor based explosion in micro-electronics. The second is new miniaturized electronic storage devices which store large amounts of data at low cost. And, third is the creation of extensive new communication capabilities. The crucial point is that all three of these technological developments are compatible, interconnectable and synergistic. The result is a potential world wide democratization of information-handling. Almost anyone in the industrialized world today can afford to use modern information technology. By linking into telecommunication networks, people can have access to information, data-bases and processing power all over the world, an advantage that heretofore only large organizations with big and expensive mainframe computers could enjoy. The now famous Nora report summed it up well when it concluded: "In the past, the stakes in the computer game were limited -- they were commercial, industrial, or military. From now on, since the field is broken down into a limitless variety of small machines and is disappearing behind a network with infinite branches, data processing is taking all of society into its net" (8).

These technological advances are stimulated by a seemingly unquenchable thirst for acquiring information. When it comes to information, demanding and supplying seem to be equally excited. Marc Porat, following the trail of Fritz Maculp and Edwin Parker, has collected some evidence on this score. Using Bureau of Labor Statistics employment data for

1860 to 1970, together with official estimates for 1980, he devised a new classification scheme. To the three traditional sectors of the economy -- agriculture, industry and services -- he added a fourth -- the information sector. It includes all the occupations in which information processing is the dominant activity. This includes not only computer programmers and operators, but also teachers, lawyers, accountants, managers and clerical workers. The results are shown in Figure 1. An important observation is that somewhere around 1980 50% or more of the work force will be employed in information based jobs. The absolute accuracy of this estimate is not what is important here. The point is that the systematic application of their classification system reveals an undeniable trend. Increasingly more people are employed producing and consuming information.

Where are we now in this information revolution? What are the public policy issues we face as we forge the new social contract? Our place in the revolution can be characterized as "take-off." Information and knowledge production have been with us since the beginning of time. However, sometime during the 1940's, stimulated by the Second World War, it took a real spurt. There was an expansive development of technology and, as Figure 1 shows, information related employment began to increase more rapidly. With this technological grounding in place in the mid 1970's we began to build data-bases and create an information based infrastructure in which information processing became an integral part of many major institutions. Today we are moving into the phase of the information revolution in which its use in the form of information goods and services will predominate and give rise to many new public policy issues.

The bitter side of the sweetness of information is that it can be misused as well as used. In Maximum Feasible Understanding, Daniel Moynihan observed that "statistics are used as mountains are climbed: because they are there" (7, p.30). Despite the many protestations of data processing managers to the contrary, information is also used "because it is there." It just frequently is used in a manner much different than was originally intended. And, this phenomena of use and misuse of an increasingly vast body of information, produced and distributed by a wide spread network of information processors, gives rise to several fundamental issues which must be resolved in arriving at a social contract for the information society.

2.0 INDIVIDUAL RIGHTS

There is a growing belief in our society that "everyone has a right to know" but also "everyone has a right to remain silent." This tension finds its expression in the conflict between the right to "freedom of information" on one side and the right to "privacy" on the other.

Indicators of the increased demand for more "openness" and "full disclosure" include:

1. The Freedom of Information Act of 1966 and subsequent series of amendments that require federal agencies to make most of their records available to anyone upon request. The Presidential Records Act of 1978 modified this only slightly where the Office of the President is concerned.
2. The Buckley Amendment which requires that all institutions receiving funds from federal sources make their records open to all private parties concerned.
3. Sunshine laws which prohibit closed meetings.
4. Information Disclosure Acts which require individuals and organizations to reveal information about themselves and the processes by which they reach decisions.

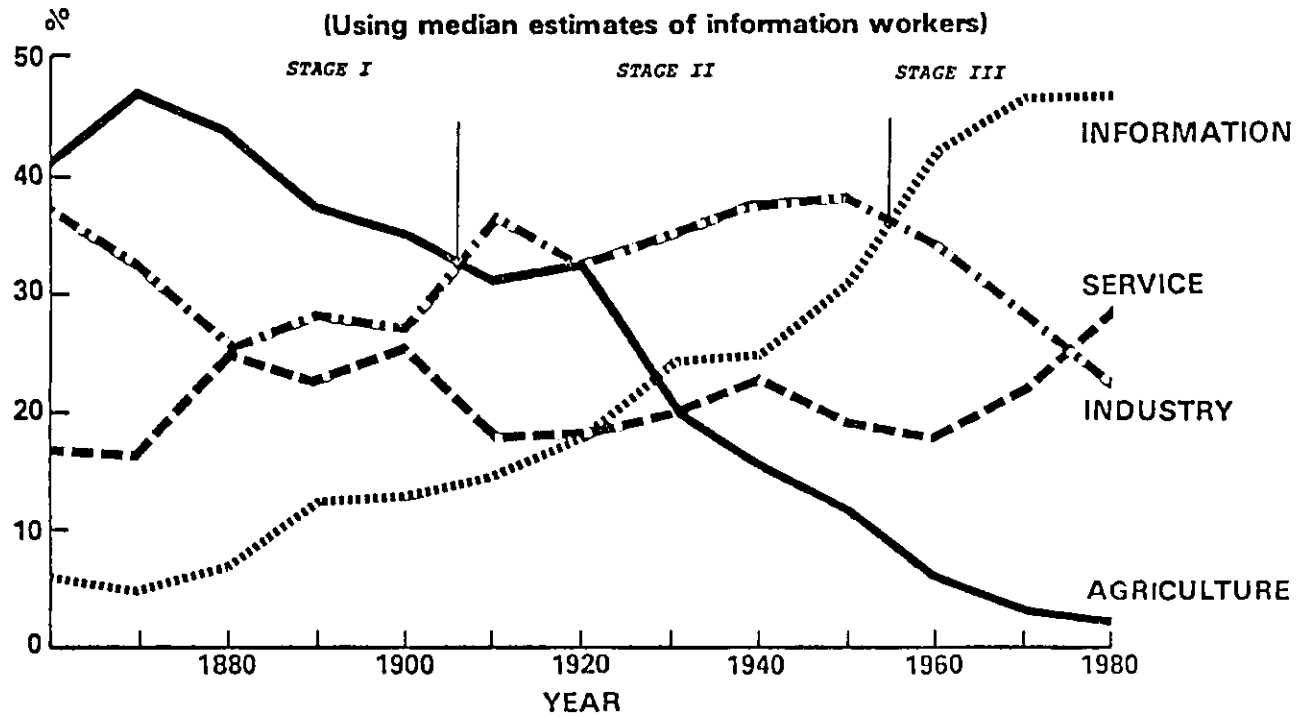
The result is a major shift in a basic presumption of the social contract. Today, individuals and organizations are presumed to have the duty of disclosing all information unless by law they are specifically exempt. However, as Warren Bennis points out in "The Cult of Candor," (2, p. 89) this "national mania for 'full disclosure' may lead only to more inventive -- and more dangerous -- forms of secrecy" not more "openness".

Concomitant with this emphasis on more disclosure is a counter emphasis on individual privacy. The U.S. Federal Privacy Act of 1974 is one result. Europe's concern with "data protection" is another. Several European countries have passed data protection laws in the last few years. Recently the U.K. has set-up a Data Protection Committee with the intent of eventually establishing a Data Protection Authority. The intent of these laws is to protect the interests of individuals and organizations when data about them is collected, processed and used by public and private organizations. The laws develop procedural safeguards that attempt to ensure that "virtuous" information flows and "vicious"

FIGURE 1

**FOUR SECTOR AGGREGATION
OF THE U.S. WORK FORCE BY PERCENT
1860 - 1980**

(Using median estimates of information workers)



information does not so that the "right" people, and only the "right" people, are able to use the "right" information, and only the "right" information, for the "right" purposes, and only the "right" purposes.

The impact of this trend to privacy as the information society proceeds is reflected in the changing concerns of research in the field. In 1972, Westin and Baker focused on the kinds of data collected by organizations and the administrative procedures used to ensure fairness and equity for all involved. They were concerned with whether the system violated the rights of an individual about whom data had been collected. Their conclusion was that since post-computer organizations don't maintain substantially more complex individual records than pre-computer organizations and that, moreover, since most of the data was "objective data" the social contract need only provide for fair and equitable administrative procedures.

In more recent studies Rule demures. He is concerned with the establishment of a "big brother" type total surveillance capacity. The legal procedures recommended by Westin and Baker or the technological precautions suggested by Lickleder are not enough. These deal with the individual parts and it is the "whole system" which potentially violates individual rights. Rule seems to be arguing that an individual's rights are in jeopardy when a large amount of meaningful personal information concerning disparate and often seemingly innocuous activities is available in a centralized system which collects and distributes the data through-out a broad network at high speed on demand. The increased amount of "fine-grained decision making" about individuals in which organizations can engage using large scale surveillance systems brings subtle values to bear. In the process an individual's freedom to conduct his own life in the way he sees fit, that is his right to autonomy, may be compromised.

3.0 INFORMATION AND SOVEREIGNTY

One way to avoid privacy legislation or the duty to disclose is to keep data in another country, one with more favorable laws. In response to these avoidance tactics some countries have already passed legislation which insists that data about their residents can only be processed and stored within their own boundaries or in a country with which there is an agreement. Agreements of this type are currently being made in Europe and this seems to be

leading to a kind of "common market" for personal data. Despite the fact that the U.S.'s Privacy Act of 1974 was the second national data protection law enacted in the world, the U.S. tends to view the European data protection movement with some concern. It is viewed as collective protectionism which will restrict the free trade of information across the Atlantic.

The international trade of information! This is one of the major economic issues to be reformulated in the new social contract. Among the questions to be answered are:

1. What kind of data should be permitted to flow across national boundaries?
2. Are "data havens" and other national comparative advantages to be permitted to exist?
3. Should there be tariffs on data exchanges?
4. How are information and data-handling activities to be taxed?
5. How is security to be protected with international data flows?

The answers to these questions will give rise to a new international economic alignment and new battles between countries. Right now the U.S. has a near monopoly on computers, data transmission networks, and data bases. For example, at one time DRI estimated that of 362 identifiable data-bases in the world 208 were housed in the U.S. But, this monopoly position is waning. The Japanese are making major strides in the production and sale of micro-electronics. Europe is beginning to build major data transmission networks. And, to add fuel to the economic fire, many countries are taking actions to maintain their economic independence. Canada has restricted the employment of knowledge workers from outside its national boundaries. France and Brazil have gone further and have tried to protect their mini-computer industry by restricting imports.

The threats to sovereignty are more than economic, they are also cultural. Countries fear "cultural pollution" as information flows across their boundaries. Television is especially worrisome in this regard. For example, Canadian authorities have expressed great concern that Canadians watch U.S. T.V. and are exposed to U.S. advertising, news, values, and views. The clash between East and West Germany on this is even more intense on this score.

But these cultural conflicts are just a beginning. As computers and computer communications, telephone and telecommunications, communication satellites and remote sensing expand in international usage to T.V., radio, newspapers, magazines, books, films, and advertising; and, as the technology is micro-miniaturized, they will form new threats to natural unity, cultural identity and sovereignty. Cultures historically have diffused very slowly. Micro-electronics changes this. Today one culture can have an almost instantaneous impact on another. The inherent tendency of a culture to be, as Donald Schon put it, "dynamically conservative" and to repel outside intrusions is accentuated. Censorship, jamming, and artificial barriers to information trade will ensue. International policies must be developed to deal with these issues. But, this work has hardly begun.

4.0 OTHER ISSUES

There are a variety of other issues which must be addressed by the social contract of the information society. These include:

1. Knowledge workers employment and entitlements.

a. Will there be an international export of jobs?

b. Will there be a domestic re-alignment of jobs brought about by changes in the technology, location and nature of jobs?

c. Will there be new kinds of labor unrest brought about by job changes, fragmentation and possible deprofessionalization?

d. Will a class of "information Luddites" evolve?

2. Information and Terrorism

a. How does the new information infrastructure aid the terrorist?

b. In what ways is the new information infrastructure vulnerable to terrorism?

3. Public Resources

a. How will limited resources such as communication band-widths and channels be allocated among competing parties?

b. Will there be new kinds of "right of ways" needed for information?

c. How can the new technology be effectively managed to create an informed, but not disenfranchised, public in the information age?

5.0 CONCLUSION

All of these issues are weighty and deserve extensive public debate. But they are also very personal and moral. Each of us, who have chosen careers in information systems, will have to cope with some of these issues during our lifetime. Our responses will help to shape the information society.

REFERENCES

1. Bell, D. Communications technology -- for better or for worse. Harvard Business Review, 57, 3, (May/June 1979).
2. Bennis, Warren. The cult of candor. The Atlantic Monthly, (September 1980).
3. Kling, Rob. Social analysis of computing: theoretical perspectives in recent empirical research. Computer Surveys, 12, 1, (March 1980).
4. Licklider, J. C. and Veza, A. Applications of information networks. Proceedings IEEE, 66, 11, (Nov. 1978).
5. Marchand, D. Privacy, confidentiality and computers: national and international implications of U.S. information policy, Telecommunications Policy, (Sept. 1979).
6. Michael, D. Cybernation: the silent conquest. Center for the Study of Democratic Institution, Santa Barbara, CA, (1962).
7. Moynihan, D. Maximum Feasible Understanding, New York: Free Press, (1969).
8. Nora, S. and Minc, A. Report on the computerization of society. Board of Financial Examiners, Paris, France, (January 1978).
9. Parker, D. Crime by Computer, New York: Scribners, (1976).
10. Parker, E. B. Social implications of computer/telecoms systems. Telecommunications Policy, 1, 1, (December 1976).
11. Porat, M. U. The Information Economy, U.S. Department of Commerce (U.S. Government Printing Office), (1977), 9 Volumes.

12. Rousseau, J. J. The Social Contract, (1762).

13. Rule, J., McAdam, D., Stearns, L., and Uglow, D. The Politics of Privacy: Planning for Personal Data Systems as Powerful Technologies, New York; New American Library, (1980).

14. U.S. Congress, Committee on House Administration, Information Policy: Public Laws from the 95th Congress, (U.S. Government Printing Office) (1979).

15. Westen, A. Privacy and Freedom, New York: Atheneum Books, (1967).

16. Westen, A. and Baker, M. Data Banks in a Free Society: Computers, Record-keeping and Privacy, New York: Quadrangle Books, (1972).