

## Culture



**Social implications of microelectronics / Jonathan GERSHUNY, *After Industrial Society? The Emerging Self-Service Economy*, London: The Macmillan Press, 1978. / Trevor JONES (ed.), *Microelectronics and Society*, London: The Open University Press, 1980. / Edward W. PLOMAN and L. Clark HAMILTON, *Copyright: Intellectual Property in the Information Age*, London: Routledge and Kegan Paul, 1980.**

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# Book Reviews/ Recensions

## SOCIAL IMPLICATIONS OF MICROELECTRONICS

Jonathan GERSHUNY, *After Industrial Society? The Emerging Self-Service Economy*, London: The Macmillan Press, 1978.

Trevor JONES (ed.), *Microelectronics and Society*, London: The Open University Press, 1980.

Edward W. PLOMAN and L. Clark HAMILTON, *Copyright: Intellectual Property in the Information Age*, London: Routledge and Kegan Paul, 1980.

By Peter Harries-Jones  
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In the daily newspapers and magazines of Europe, hardly an edition goes by without some reference to the microelectronics revolution and its effects on various aspects of social life. Since 1978 journalism and quality magazine articles have been supported by sound academic analyses, and in the process, there has been a significant shift from the technical orientation of small volumes proclaiming "all you want to know about the silicon chip" to the more profound questions of the relationship between the new technology and social order. In Canada, by contrast, the trade unions and left wing social research organizations have only just begun to respond, leaving academic analysis of the social effects of microelectronics in the hands of technicians or corporate spokesmen. Of the leading Canadian spokesmen one presents an idiosyncratic version of the industrial revolution in order to support the alleged benefits of telecommunications monopoly, the other sees the future in the phrases of Ruth Benedict: *Patterns of Culture*, we are led to believe, is the revolutionary text of our age.

The three volumes reviewed here give insight into the range and quality of the European inquiry. Of the three, the earliest publication is the most far reaching in its accomplishment. For once the publisher's summary is correct. This is a book in which "the fashionable wisdom is stood upon its head", the fashionable wisdom in this case being the thesis put forward by the influential American political scientist Daniel Bell in his book on the post-industrial society.

Against Bell's claim that the industrial world has been moving toward a service economy in which the handling of information is the major component,

Gershuny argues that in Britain the consumption of services has decreased considerably as a proportion of total consumption over the last twenty years in all areas except medicine and education. There are post-industrial demands for more recreation and other personal products, but these are met by goods rather than by services, though they are goods of a particular nature. Gershuny calls them *self-service goods*, in that they represent a trend in which services previously provided from outside the household are replaced by capital goods acquired from manufacturing industry, for example ovens, freezers, washing machines, and television sets. These are the goods of the do-it-yourself economy — almost the antithesis of Bell's service economy. And, while medicine and education have, in the past, been largely immune to this trend, this is not likely to be the case in the future.

The argument is a deceptively simple one, even for those constrained to follow histograms and tables showing correlations between employment in service sector and output per worker. Yet it has profound cultural implications and the great benefit of the book is Gershuny's ability to make his rebuttal of Bell's goods-to-services argument the kernel of a more general sociological attack. Daniel Bell proposed that in the shift to a service economy, industrial society would move an 'economising' basis for decision-making to a 'sociologizing' basis, that is from a capitalist ethic to a communal ethic, as post-industrial citizenry turns away from consumer-oriented, free-enterprise goods to non-material social values.

In short, Bell predicts that economic growth will be replaced as the goal for social development by social improvement. In more circumspect terms he has been supported by Dahrendorf, and Schumacher. Gershuny's argument to the contrary is that the citizenry are by no means sated with material goods; indeed they will continue to demand more. Thus any theorizing which fails to take material goods into account in the prospects for the post-industrial society is seriously misleading.

To argue against Daniel Bell's modern-day Walt Rostowism is not to deny that there *seems to be* fairly massive increases in service sector employment in industrial countries during the last decades, and Gershuny accomplishes a great deal in rendering explanations of this phenomenon. Technically, traditional sectoral accounts of the economy have ignored the fact that industrial and occupational groups identified as 'tertiary', 'service', or 'white collar' are often

integral parts of the system of material production; thus, Gershuny argues, a considerable part of the growth of "service employment" is to be explained as a result of increased production of material goods. Excluding medicine and education, so-called service industries (distribution, banking and finance) have to do essentially with the system of material goods and their relationship, while 'service occupation' (managers, technologists, and other professionals) improve the efficiency of the system of material production.

Gershuny blames traditional sectoral analysis and monetary accounting of flows of goods and services for the failure of economists and others to foresee the self-service economy. Moreover, economist adherence to input-output tables based on monetary accounting continue to misrepresent the nature of this economy. Gershuny argues that if there is to be any shift from 'economising' to 'sociologizing', then this should occur within the discipline of economics itself. Clearly the premises of the self-service economy are very far removed from those of the conventional notions of "the market place". Final phases of production within the household, the locus of the self-service economy, are private and independent of any co-operation; while initial production processes themselves appear to be undergoing increasing automation so that employment in this phase is becoming the privilege of a working elite.

The emergence of the self-service economy at a time of massive technological change in the field of automated data processing brings unhappy prospects for the future. One outcome may well be "an aristocracy of professional workers supporting a totally alienated proletariat whose productive activities are completely confined within the household".

There is one section in *After Industrial Society?* in which Gershuny points out that the most likely educational institution to join the self-service economy is Britain's Open University. And with such prospects, it is evident the Open University Press has a special interest in the impact of microelectronics.

Yet apart from his own contribution, Trevor Jones' volume of collected essays shies away from making the Gershuny-Bell debate a focus for sociological examination. Jones has attempted to produce a "balanced picture of some of the implications that developments in microelectronics may hold in store for society as a whole". This is what technologists and policy planners have already given us. Jones merely duplicates their efforts while reducing the sociological aspects of the debate, a strange choice for a lecturer on the subject. Yet even the most cursory look at the categories "service/self-service economy" suggests these are as promising as those which imbued the nineteenth century in the form of 'organicism' and 'mechanism', and 'community' and 'association'.

The lack of a central sociological focus, and its replacement by an 'overview' detracts from the weight of the book. It is reasonable to assume that the interested reader will have read sufficiently to dispense with a layman's guide to the technology. And it is also reasonable to assume that the reader interested in computers and education will want to go beyond listing of kits, tapes and systems available for schools.

The most significant chapters come from the best known of the contributors. Ray Curnow gives a historical review of the debate about the pros and cons of the new technology. He shows that the substance of this debate was well defined as early as the 1960's. Curnow argues that the most significant weakness in the debate was large scale ignorance of previous contributions to thinking about the impact of technical change and, as a result an overwhelming tendency to regard microelectronics as a problem having been 'suddenly thrust upon society'. He notes that much of the analysis put forward was shallowly based by normal academic criteria, and that in future a reconsideration of the role of academics in public policy debates needs to be made.

In another chapter Donald Michie puts forward his consistently provocative views as to the future direction of artificial intelligence. Unfortunately they go unanswered. Michie is one of the few writers who can pose the question 'Will machines have religions?' and proceed to a suitable premise on which that argument can be put for logical discussion. A rebuttal ought to be made to the premise — and here there are battles to be fought. For example, no matter how much those in Artificial Intelligence may be able to take the more elusive and intuitive of human skills and make them subject to machine implementation, this does not exhaust the man-machine issue. Other questions still lie in the *relationship* assumed by humans and machines in 'enhanced' problem-solving activities. In the relationship between man and machine no justification can be made on the grounds of problem-solving ability alone, for social and political dimensions of man-machine relationships will always dominate the more narrow questions of "problem-solving ability". Yet Artificial Intelligence is reluctant to concede this argument.

Ploman and Hamilton's *Copyright* addresses a central feature of the information age which most collected readings on the microelectronics revolution ignore. Yet it is hardly possible to speak of information without its dissemination, and the commercial copying of information this entails. Copyright is as instrumental to the ordered flow of information as contract, has been to the ordered flow of material goods from producer to consumer.

As Ploman and Hamilton point out, copyright has become one of the most complex, technically difficult branches of law hiding behind an almost impenetrable jargon which makes it difficult for any

practitioner of communications to understand its wider implications. In recent years this complexity has increased as a result of the new electronic methods of production, storage and dissemination of materials.

The two authors accomplish the remarkable task of cutting through the jargon and presenting wider implications of copyright by means of a historical and institutional analysis. They address the origins of copyright, the principles governing relationships between authors and society in the modern day market-place of ideas and follow this with a comparative study of representative national copyright systems. Copyright becomes amenable to the reader through the juxtaposition of alternative assumptions of differing copyright models.

Of special interest are their concluding chapters on the challenge of new technology to copyright, a challenge which has brought to the forefront the question of whether copyright is an appropriate way of controlling intellectual property. Quite surprisingly their arguments at this point lead towards issues of international political economy in a way in which any anthropologist or development sociologist would feel at ease. In time past copyright used to pertain to the sovereignty of state. Now it is embedded in international recognition of interdependency and dependency. Moreover copyright has become just one element of information flow, and various national blocs conceptualize information flow in somewhat different terms. For example, in Western market economies, an information flow is a commodity and the protection of intellectual property derives from its commodity aspect; in comparison there is the Third World view of information as a resource. This raises the question of how information should respond to social requirements and to individual needs.

In short the study of copyright has become an interesting case study in the ramifications of technology upon a global economy. Since it is impossible to divorce the issue of control over copying from the entire communications/information complex, copyright is becoming just one element of a new international information order. The regulations of the new information world order are, if anything, more complex than that of the global economy, mainly because the major concepts are unresolved. For example, there are about one hundred adequate definitions of the word "communication" according to Ploman and Hamilton, and nobody has yet managed to categorize information flows in society. Yet it is on the basis of a generally accepted categorization of "information flow" that revamped legislation with regard to copyright has to be based.

The range and insightful approach of Ploman and Hamilton makes *Copyright* an outstanding volume for anyone interested in the social and legal complexity arising from the advent of electronic technology. It is to be hoped that the publisher will produce a paper-

back edition in the near future to make it more available. At its current price it is but a plaything of the few.

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Mona ETIENNE & Eleanor LEACOCK,  
*Women and Colonization: Anthropological Perspectives*, J.F. Bergin, 1980.

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Deux grand courants se dégagent des études anthropologiques sur les femmes publiées aux États-Unis au cours des dernières années. Le premier veut que les hiérarchies sexuelles soient universelles indépendamment des cultures et des époques. La position supérieure des hommes dans ces hiérarchies est expliquée comme le résultat social et culturel des particularités biologiques de chaque sexe, en particulier des fonctions de reproduction des femmes. Ce courant de pensée rallie non seulement des socio-biologistes comme Fox, Tiger entre autres mais aussi des anthropologues féministes comme Lamphere et Rosaldo (1974). Ces dernières n'échappent au pessimisme le plus complet dans leur recherche d'une solution aux contraintes biologiques qu'en faisant appel à des facteurs technologiques : contraceptifs et autres innovations modernes.

L'autre position, de type matérialiste et évolutionniste soutient au contraire que les hiérarchies sexuelles se sont développées à travers l'histoire sous l'action de processus divers. L'un des auteurs de *Women and Colonization*, Eleanor Leacock, fut d'ailleurs une pionnière dans le développement de cette ligne de pensée. Schématiquement d'abord dans son introduction à *L'Origine de la Famille* (Engels, 1972) et par la suite dans un article, elle esquisse les facteurs qui auraient été déterminants dans l'évolution des inégalités entre les sexes : institution de la propriété privée, production de biens pour fins d'échange, séparation entre le domaine public et la sphère domestique. Le développement de cette argumentation est basé sur l'affirmation qu'il existe des sociétés vraiment égalitaires et donc qu'il existe dans certaines sociétés, entre autres chez les !Kung et les Mbutu, une égalité réelle entre les sexes.<sup>1</sup> S'appuyant sur une documentation ethnographique fort abondante, Leacock soutient que l'existence d'une division du travail entre les sexes dans les sociétés pré-capitalistes ne constitue pas en soi ni l'indication ni la cause du développement d'une hiérarchie sociale basée sur des particularités sexuelle. (Toutefois, rien dans son argument n'exclut la possibilité qu'une atténuation de

1. Voir aussi Begler (1978).