Information and Urban Development in Japan and Germany

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日独における情報と都市開発

本論文は、日本と西ドイツの都市計画及び政策形成における情報の役割を比較検討するものである。両者の違いは、両国の計画システムの違い、プランナー教育の差、そしてプランナーのテクノロジーに対する態度の差に見いだすことができる。日本においてより熱狂的に情報化社会が推進されたのは、日本のプランナーが工学的伝統の影響を強く受け継いでいるためであり、ドイツが情報技術により慎重なのは、ドイツのプランナーが社会科学的伝統の中で教育を受けてきたことと関連があると考えられる。

Introduction

We all share the experience that information technology has changed our lives. Within less than two decades, we have been involved in a technological revolution of amazing dimensions. As citizens or customers, travelling or at work we have been exposed to and become part of a multitude of computerised information systems in which more and more of our daily activities have been transformed into electronic transactions. As consumers we have realised that we are the final targets of logistic chains of ever increasing complexity and diversity. Television and telephone, electronic mail, videotext and the fax machine have become indispensable parts of our lives.

However, the information revolution is not only changing production systems and lifestyles, but also transforming settlement systems and the organization of cities. On a global scale, new kinds of world cities are emerging as international corporate and financial centres linked through voice, image and data transmission by satellite. On the national scale, a few major cities are concentrating information-intensive control, service and cultural functions at the expense of the majority of medium-sized cities. Within metropolitan areas, inner cities are defending their traditional role as employment, service and retail centres against new industrial parks, office centres and shopping malls at the urban periphery.

One major force behind all this is the proliferation of computers in all fields of organization and decision-making. Large companies control their vast networks of suppliers, subsidiaries, production sites and distribution outlets with efficient computerised information and decision support systems. Large metropolitan governments are not unlike large corporations in that they employ great numbers of staff and are responsible for the administration and allocation of substantial long-term investments, so it can be expected that computerization will also have a profound effect on the process and mode of urban policy making and planning.

Urban Planning in Japan and West Germany

There are strong historical links between urban planning in Japan and Germany. Japan's first Urban Planning Law of 1919 adopted the German system of Umlegung (land readjustment). Also the New Urban Planning Law of 1968 owed much to the Bundesbaugesetz of 1960, although it settled for a much lesser degree of development control. It took until 1980 to introduce an equivalent to the Bebauungsplan into the Japanese planning legislation, however only relatively few major development projects have since been subject to its detailed specifications. The vast majority of all buildings in Japanese cities are erected without public review. In general urban planning in Japan is more concerned with the allocation of growth and less with development control than urban planning in Germany (cf. Wegener and Shibasaki, 1989).

Accordingly, there are distinct dissimilarities between the problems perceived by Japanese urban planners and their West German colleagues:

- For Japanese planners, the main problems of Japanese cities are their lack of infrastructure and amenities. They are very conscious of the speed and intensity of urban growth in postwar Japan and of the enormous achievement to create today's cities in so short a time, and they are rightly proud of the contribution of their profession to it. However, they feel that more needs to be done to make Japanese cities live up to their own high standards and those of a great industrial nation.

- German planners, on the other hand, are not proud of the way German cities have been rebuilt after the war. They are critical of the growth orientation of the 1960s which resulted in monofunctional city centres, faceless suburbs and ubiquitous traffic congestion and pollution. They feel that the social and environmental balance in cities has been lost for the sake of material growth and that it is necessary to return to a more equitable and ecologically sustainable urban development.

One of the clues for these differences in problem perception lies in the education of planners in the two countries. In Japan the majority of urban planners are educated at engineering departments. With few exceptions planning courses have a strong orientation towards physical planning and infrastructure provision (cf. Masser and Yorisaki, 1988). West Germany, however, has followed the American and British example of establishing interdisciplinary planning schools. Therefore the typical West German urban planner has been acquainted in his studies with a broad range of social-science and economics subjects.

Connected with the differences in training are different perceptions of the role of the planner in society:

- Japanese planners view themselves primarily as engineers, i.e. as technical experts whose task it is to propose technical solutions. They would not feel called upon to propose economic or social policies. They entertain excellent relations to the business community, as many industrial leaders, in particular in the influential construction industry, have the same engineering background. The public private partnership, the informal cooperation between business and government, is not an American innovation of the Reagan era, but a Japanese tradition since the early Meiji period when samurai became administrators or entrepreneurs.

- The typical German planner, at least until very recently, has no affinity to business interests but sees himself as an advocate of his constituency if necessary against economic interests. He does not feel as a technical expert but as an actor in a political process in which the interests of various groups compete for attention. So the range of his options is much wider than technical solutions; they include regulatory and fiscal policies as well as all sorts of procedural stratagems or even non-decision. Only in recent years, planners working in municipal economic promotion departments have developed a market-oriented attitude to attract investors.

Perhaps the most striking difference between Japanese and German planners is the one in attitude towards technology.Japanese planners, in the best of engineering tradition, tend to view technology primarily as beneficial and as an instrument to improve and enrich human life. In contrast, planners in West German cities are more concerned about the negative side effects of technology. This is also true for their attitude towards information technology.

Information Technology and Urban Development

Information technologies have been adopted in West German cities like in other industrialised countries though not as rapidly and enthusiastically as in Japan or the United States or some other European countries.

Telephone penetration in West Germany is slightly higher than in Japan but much less than in the US, Norway or Sweden. Cellular telephones have only recently been legalized. Fax machines are still much less used than in Japan though the market is rapidly expanding. Videotext, unlike the French minitel, has so far turned out to be a flop, so have video conferences. There are much less cash machines in Germany than in Japan or the UK and, probably because of the well organized Eurocheque system, credit cards are much less in use than in the US. Narrowband ISDN services commercially started in 1988, just as in Japan, however, ISDN has not yet replaced conventional packet-switching networks and value-added circuits. There are only one tenth as many industrial robots at work in West German factories as in Japan.

Nevertheless information technology will in the long run also in Germany revolutionize goods and passenger transport, production and distribution and all kinds of services. The emerging consensus is that telecommunication technology in the early

phase of its introduction tends to reinforce the existing hierarchy of cities, but that it equalizes communication opportunities once becoming universally available.

The impacts of information technology on the internal organization of cities are only slowly becoming visible. Surprisingly, the introduction of computer networks has not yet led to a spatial dispersal of high-level service activities such as banking from the city centres. Also the expected substitution of travel by telecommunications has not yet materialised, it seems that telecommunications instead tends to increase the demand for face-to-face contacts. Similarly, the expected substitution of work trips by teleworking and of shopping trips by teleshopping has only minimally become reality.

However, the 'logistic revolution' taking place in manufacturing and distribution has already led to a substantial increase in intraregional goods transport and will continue to do so in the future. Certainly it will also have a strong impact on the location of manufacturing industries. Most experts agree that in the long run it will favour suburban locations at the expense of the core and thus reinforce the decentralisation tendencies in metropolitan areas and its negative effects such as increasing transport and mobility and land consumption (Henckel et al., 1984; Deutscher Städtetag, 1989).

It is generally felt that, beyond these foreseeable and partly already observable tendencies, the impact of the information revolution' on urban form and lifestyles will be less than revolutionary. In particular the acceptance of new information technologies and services by private households will be much slower than in the business world.

Moreover, the public debate among telecommunications experts, planners and social scientists about the introduction of new information technologies is characterised not so much by hopes for social and economic progress than by concerns about their social acceptability. In particular it is feared that the massive introduction of new information technologies might make jobs redundant, enforce involuntary work at home, dequalify formerly skilled workers, entail serious health hazards through radiation from CRT monitors, reduce personal communication and services and facilitate the misuse of personal data and diminish the rights of workers in firms (Deutscher Städtetag, 1989).

Other critics point to the social selectiveness of the new technologies which mainly address the purchasing power of the middle class (e.g. Häußermann and Siebel, 1985): With growing market penetration of the new services, traditional services are reduced or even disappear or become unaffordable for the 'communication-illiterate' who do not have the terminals to participate in the system or the skills to operate them. There are even cases where monopolist suppliers have deliberately neglected traditional services in order to push more profitable ones; the deterioration of conventional mail services in West Germany is a pertinent example.

Although some of these concerns have turned out to be unfounded or much exaggerated, they have nevertheless left their mark on public opinion in West Germany. To be sure, there are proponents of the information society, some of which are powerful: the electronics and telecommunications industry and their allies in the Federal Ministry of Research and Technology (BMFT) and the Telekom division of the Bundespost as suppliers and the economic promotion departments of local governments and the regional chambers of commerce representing business demand. However, the general public sees the advent of the information society with disinterest or even scepticism.

In Japan, however, the information society has been greeted with unanimous enthusiasm. Its promotion has been made a national target in the Fourth Comprehensive National Development Plan (National Land Agency, 1987). This commitment is in line with earlier national policies to promote information technologies dating back as far as the foundation of Tsukuba Science City more than 20 years ago and including such major initiatives as the Teletopia project (1982), the Technopolis programme (1983), the New Media Community Concept (1984), the Advanced Information Metropolis Project (1986) and most recently the Intelligent Cities Project, of which the 'hardwiring' of Kawasaki (Batty, 1987) is only the most ambitious.

One particularly eloquent and persuasive expression of these ideas is the suggestion that just as advanced information technologies enable high-tech production systems to respond to the personal needs of a multitude of individual customers, the 'informatised' city might serve as an adaptive 'lifestyle production system' enabling people to select their own lifestyles for self-realization. The analogy is intriguing, but is it valid? The assumption that lack of information is the major barrier to the adoption of individual lifestyles remains open to question. There are other more powerful barriers such

as income or time constraints or the less tangible constraints related to class, education, language, ethnic origin or religion. High land prices and tight housing markets resulting in small flats and long commuting times may severely restrict the freedom to choose among and participate in many potential activities. Finally it seems that without an education system promoting individual self-determination and self-expression the prospects for a diversity of urban lifestyles to develop are not overwhelming.

Of the information-rich and communication-literate, to whom the above constraints do not apply, some will enjoy to be linked to the world even in their leisure. Indeed it has become a status symbol of the active and mobile to be informed, monitored, served and entertained wherever they go by a host of 'intelligent' devices such as cellular phones, pagers or lap-top computers. However, as these gadgets become available to everybody, their value as status symbols is likely to fade away. In the ultimately 'informatized' city, the real privilege will be to be able to go away without them: to one's second home or yacht, a mountain resort or a monastery where there is no television, no fax and no phone except for one's friends.

Information Technology and Urban Planning

The differences in education and attitude towards technology between Japanese and West German planners have also determined the adoption of information technology for urban planning:

- Quantitative methods and computer applications play a considerable role in the university education of Japanese planners. Many Japanese planners are proficient in statistics, forecasting and computer mapping. In recent years, geographical information systems (GIS) have been installed in many local governments. There are large consulting companies specialising in GIS work for local governments. Many universities have established laboratories for GIS research (cf. Nakamura and Shimizu, 1989).

- The adoption of information technology for urban planning in West Germany has been much slower than expected. Several attempts to introduce GIS technology into the local planning practice have been abandoned; today only few cities operate GIS. Recent initiatives to establish standards for GIS in local governments originate from surveying departments, planning departments will not benefit from these efforts in the near future.

The main reason for this difference in the adoption of information technology is that the informal and policy-oriented planning style in West Germany does not require so much quantitative information (cf. Wegener, 1988). Today's planning information systems are of little value for this style of planning: They miss out on the more important, informal part of information needed for building ties of loyalty and trust. Therefore most planners and decision makers are simply not interested in planning information systems.

Conclusions

The paradigm of the Information City is a powerful metaphor illustrating the future-orientation and optimism of Japanese planners. However, there is a danger that the hope for a better and more humane urban environment they associate with this paradigm may not materialise. The more cautious attitude of German planners towards new technologies may be more realistic and make it easier to avoid their undesirable consequences, but there is also the danger that because of these concerns the challenges of these innovations remain unexplored. It is attractive to think of a planning culture combining the two attitudes, the engineer and the advocate, the daring and the cautious, in order to arrive at a richer set of options for urban development.

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