Inflation in space consumption *Wout van der TOORN VRIJTHOFF*

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1. INTRODUCTION

Consumers are enjoying a rapid expansion in the range of choice of how to spend their time and money budgets. Continuing economic growth in Western Europe is reflected in an increasing average disposable income per head of population. At the same time the consumer's freedom to choose how to dispose of the available time budget is growing rapidly. It is not the absolute size of the time budget that is changing, but the freedom of choice. Time spent on paid employment is becoming increasingly performance-related, and so less and less constrained geographically or temporally (when and for how long). This creates opportunities to concentrate free time and to eliminate short periods wasted by fragmentation of the time budget. Consumers are beginning to look on the whole of Western Europe as their normal sphere of activity.

The extent to which urban users, producers and consumers are restricted to one particular location to is growing less. Respect for traditions and the family bond is giving way to individualism and a pattern of norms and values based on competitiveness. This is part of the reason for the increasing freedom of movement in Europe. The individual's place of birth is becoming less and less relevant.

ICT facilities are speeding up the rate at which space is consumed by the European consumer. Measures to optimise the time budget will soon produce a situation in which the dominant factor is time spent in recreation, not time spent in working. The amount of travel related to recreational activity already exceeds the amount of travel between home and the workplace. More and more situations no longer require face-to-face contact. Restrictions which previously kept the consumer in one place are disappearing, largely because of developments in ICT.

Unexpectedly, the ICT world, the 'space of flows', is stimulating the consumption of physical space, time and money. This has consequences for the way the quality and identity of European cities affects their competitive position.

The present paper discusses the following topics:

- Time, money and mobility
- The length of your life
- Mobility, physical and virtual
- Housing standards; the figures
- Individualisation and internationalisation
- The cities of Europe, the European city network
- European cities in competition
- Europe's future is being determined by Europeans

2. TIME, MONEY AND MOBILITY

Consumers are enjoying a rapid expansion in the range of choice of ways to spend their time and money budgets. Continuing economic growth in the Netherlands and Western Europe generally is reflected in a rising average disposable income per head of population. At the same time the consumer's freedom of choice in how to utilise the available time budget is increasing rapidly. The absolute size of the time budget remains the same, of course, but freedom of choice is increasing. Time spent in paid employment is becoming increasingly performance related, and so less and less constrained either geographically or temporally (when work is done and for how long). This creates opportunities to concentrate free time and eliminate short periods wasted by fragmentation of the time budget. As the Dutch comedian Kees van Kooten put it, 'the in-between times are vanishing.' This, combined with increased mobility, is bringing about a change in the consumer's radius of action. It is becoming more usual to think of the whole of Western Europe as the consumer's sphere of action, and locations where the time and money budget can be spent are becoming more competitive.

The search for ways to optimise the use of the time and money budget has resulted in a strong shift of emphasis towards the time budget. For a large section of the population the notion that 'money is no object' seems to have taken on a real meaning. The situation was totally different in the first few decades after the Second World War. Not until the 1990s did a period of continued prosperity start to change the balance between the time budget and the money budget. People who have sufficient money but insufficient time in which to spend it, have a problem. Suppliers of traditional consumer products are more and more starting to compete on the time their products require. The important thing is not so much offering the cheapest product, but offering the product that takes the least time to purchase, process and use. The market in consumer products which take the form of services is also increasing rapidly. All these trends contribute to increasing the individual's budget for recreational time.

Measures to optimise the utilisation of the time budget will soon produce a situation in which the dominant factor is the time spent in recreation, not the time spent working. The amount of travel involved in the use of recreational time already exceeds the amount of travel required to get from home to the workplace.





Figure 1 The consumer time budget



Travelling takes time

THE LENGTH OF YOUR LIFE 3.

The last section took a general look at the time and money budget of a consumer not further defined in terms of age, household situation, ethnic background, income class, stage of life etc. The picture given must therefore be seen as indicative. The present section goes into more detail, taking into account the consumer's life cycle.

Assuming an average life expectancy of 75 years, each European has a time budget of 657,000 hours. About 30% of this time is spent sleeping. Of the part of our time that is consciously available more than half is spent on learning, working and recreation. That is the picture during our working lives. We still have to determine the characteristics of the way time is spent by the elderly, a section of the population which is rapidly growing in size, particularly in Europe, and therefore deserves proper attention. The number of elderly people is growing all the time, and people are living longer, so the population can be said to be ageing in two different senses.

A third of our available time is used for shopping, washing, shaving, brushing our teeth, eating, cleaning the house etc. A further 15% is required for 'lubrication', the time needed to change from one activity to another.

Eating and brushing our teeth are activities which we have to do for ourselves. But a number of other activities that need to be performed to make it possible for us to function properly can be contracted out, making these activities part of other people's work time. Another way of replacing or supplementing our own activity is by making use of computer assisted equipment. For example, at some stage in the future the intelligent refrigerator will ensure that there is always milk in the house. The refrigerator will register the amount in stock and the daily usage and will be digitally connected to the supplier so that orders can be placed whenever necessary. Currently we spend an average of five hours a day on this kind of activity. Contracting out and the use of intelligent, computer controlled apparatus could reduce that time allocation to half its present size.

Time of your life ¹⁾ In a world of dreams	hours 657.000 219.000		Time of your life ¹⁾ In a world of dreams	hours 657.000 219.000			
	year 2000		Alive and kicking	year 2000 438.000	100%	the future 438.000	100%
Alive and kicking	438.000	100%	working learning	236.520	54%	337.260	77%
working learning recreation	236.520	54%	In between	65.700	15%	32850	8%
In between	65.700	15%	Shopping, eating, washing	135.780	31%	67890	16%
Shopping, eating, washing	135.780	31%	Figure 4 reporting the, the the future (indicative)	e time budge	t of the l	European no	w and in

The society of the future will be characterised by asynchronous provision of services and work relationships within the framework of a 24-hour economy. This will be discussed in more detail below. In such a society it will be possible to radically reduce the time required between one activity and another, perhaps even to half today's levels.

In future therefore, three-quarters of our time will be available for the three main activities, learning, working and recreation.

Employment in Europe is becoming more and more concentrated in the service sector. The content of people's work is increasing in complexity. At the same time the total time an individual spends on work in his or her life cycle is becoming shorter, whereas the time required for learning and studying is becoming longer.

Technology is developing so quickly that an individual's knowledge quickly becomes out of date. In future it will be necessary to go back to the classroom at regular intervals to keep one's knowledge up to standard, to bring it up to date. The frequency of interaction between learning, working and recreation is increasing. In future lifelong learning will replace the closely defined period of learning we underwent to prepare us for our professional careers. In a policy paper³ on lifelong learning, the European Commission said 'Lifelong learning is no longer just one aspect of education and training; it must become the guiding principle for provision and participation across the full continuum of learning contexts. The coming decade must see the implementation of this vision'.

The same note distinguishes the following categories of learning:

- Formal learning, taking place in educational and training establishments and leading to recognised diplomas and qualifications
- Informal learning, taking place in parallel with mainstream systems of education and training and typically not leading to formal qualifications
- Informal learning, a natural accompaniment to everyday life. The fact that microcomputer technology has established itself in the home earlier than in schools underlines the importance of informal learning.

Currently European education is becoming standardised, increasing the interchangeability of education coming from different sources. At the same time significant developments are taking place in education in which ICT technology plays a prominent role. In future the individual will be able to compile his own personal training package and use the Internet to access suitable sources, not necessarily tied to any particular location, in combination with supply from specific locations anywhere in Europe.

4. MOBILITY, PHYSICAL AND VIRTUAL

Computer technology is taking Western society by storm, reducing our dependence on time and space. Communication and the supply of services can take place asynchronously, twenty-four hours a day, to suit the individual's needs.

Unlimited virtual mobility is within reach. If he so wishes, every individual can be located and contacted at any time, regardless of where he is.

In a 24-hour economy with computer-supported asynchronous services the requirement for physical movement on the part of the individual will be much decreased. The home will become the centre for all activities. This view of the future assumes homes full of technical devices, allowing shopping, working and recreation all to take place from the home.

The application of computer technology allows much 'low level' human labour to be replaced by technical services. Activities still required to provide services will be replaced by digital models. The number of people employed on administrative tasks will decrease, while at the same time there will be an increase in demand for people able to devise and develop the range of tools required to achieve a computer-supported 24-hour society.

The apparently unlimited growth in virtual mobility should lead to a proportional decrease in physical mobility. The need to move from one place to another is vanishing. It might be thought possible for everything to be arranged, controlled and experienced from the intelligent, 'full-service' home, but this turns out not to be the case. The quality of experience 'within the home', physically remote from the thing experienced, turns out to be completely inadequate. The increase in the amount of free time and the increase in facilities for spending that free time resulting from the computer-supported asynchronous 24-hour society will lead to a significant growth in physical mobility.

The need to travel may have disappeared, but the desire to travel is still very much present.

Historical data suggests that throughout the world personal income and traffic volume grow in tandem. The annual distance travelled per capita by car, bus, train or aircraft ('motorised mobility', or 'traffic volume') increases in roughly the same proportion as average income. In 1960 the average North American earned \$9,600 and travelled 12,000 kilometres (7,460 miles); by 1990 both per capita income and traffic volume had approximately doubled⁴. Research by, for example, Andreas Schafer (Massachusetts Insitute of Technology) has shown that the time people spend on travel is more or less constant. A very low-income inhabitant of an African village spends roughly the same amount of time travelling as a high-income European or American. In recent years this seems in all cases to have been something more than one hour a day, though the difference in income levels means that the African does by far the greatest part of his travelling on foot, the European generally uses a car and the American makes frequent use of air transport. Schafer distinguishes the following three culture-related constants in people's travel behaviour:

- People spend rather more than one hour a day travelling
- People spend around 10% of their income on transport
- The average speed of travel increases in proportion to income

Schafer has calculated that by 1990 23 trillion passenger km were travelled worldwide per year and that by 2050 this figure will have more than quadrupled. He foresees a significant increase in today's developing countries brought about by a changeover to motorised transport. The growth in the number of passenger/km in developed countries will mainly be due to a changeover to faster and more efficient transport systems such as the high-speed trains currently being introduced in Europe. Schafer believes that people will not spend more time on travel but will cover much greater distances within the same time budget.

The big question however is whether the trend observed over recent decades can properly be projected over decades to come. It could be argued that the impact of ICT development has been great enough to break the trend.

Paul Peters⁹ has compared human and animal relocation behaviour. He argues that to explain human relocation behaviour a model should be constructed based on the positive and negative utility of relocation, where utility is measured in terms of satisfaction and dissatisfaction. In what follows a number of aspects of mobility will be considered taking the same approach.

Until recently people who were travelling were difficult or impossible to reach for the purposes of communication. This element of dissatisfaction or inconvenience probably had a significant influence on relocation behaviour. The introduction of the mobile telephone and the phenomenal success of e-mail have virtually eliminated this inconvenience. These developments led to radical changes in the 1990s, sufficient to indicate a break in the trend.

In recent decades, and even before, economic activity was firmly tied to a specific location. The blue-collar worker had to work in a factory or workshop. Even in the service sector, in office work, until recently presence at the workplace was the main criterion for work done. Of course in the agricultural sector production is by definition tied to a specific location.

In Europe the service sector continues its rapid growth in parallel with a decrease in the industrial and agricultural sector. Social developments have led to work effort being measured less by presence and more by performance. This fact, combined with developments in ICT, has reduced the extent to which labour is tied to a particular geographical location or indeed to a particular time. We find ourselves at the beginning of a period of rapid development which can itself be seen as a break in the trend.

In the past, research into physical relocation was mainly concerned with relocation between home and the workplace. Since then the amount of relocation involved in free-time activities has become greater than the amount of relocation between home and the workplace. In coming years this tendency will become even more marked, particularly in Europe. This too indicates a break in the trend assumed in the research referred to above.

Computer technology is taking over Western society and in due course will raise the European's physical mobility to a level much higher than today.

Increasing physical mobility will shrink the Europe of the near future to the size of metropolises like Paris and London in the 19th century. Around 1850, living and working in these cities were closely interwoven. People worked six or seven days a week and the working day was long. Housing, workshops and shops were packed tightly together, access being provided by narrow twisting streets. Population densities of 1,000 per hectare were no exception. The action radius of the city dweller was largely limited to the immediate home/work environment. In excursions outside their daily territory, when the time and money budget allowed, the majority of the population very rarely went outside the boundaries of the city.

The European growing up today behaves like a city dweller even if he does not actually live in a city. He thinks of Europe as the environment within which he spends his daily life, and spends a relatively large part of his time travelling, though he often combines travel with work and his travel experience has a function in the context of lifelong learning.

5. HOUSING STANDARDS; THE FIGURES

In future the home will function as the hub for a great number of activities. It will be possible to bank, shop, study and work from home. People will be able to communicate with the health services to find out what remedy is available to treat an illness detected by the apparatus which scans their state of health every time they visit the bathroom. A large number of services will be conveniently available to the consumer without any need to leave home. It will not even be necessary to live in the city. Digitally accessible asynchronous services will increase people's freedom to determine their place of residence. Thus people will be as well able to choose to live in a present or former agricultural area or nature reserve as in the city.

It will be possible to make everything more spatially compact. The contents of a bookcase can be stored away on a CD. Despite this, we all want larger homes, with a separate room for study, a guest room, two bathrooms, a larger living room etc.

The world has over six thousand million inhabitants now and in decades to come will become even more crowded. The main growth factor is the high number of births, particularly in the Third World. In Europe currently more people die each year than are born, largely because of the low average number of births per woman and increased life expectancy. However international migration means that not every European country has a declining population. In the Netherlands the birth rate is currently slightly greater than the mortality rate. The size and composition of the population are rooted in the past and determine the future. The inevitable result will be a 'greying' society with an increasing average age almost everywhere on earth, with Europe as the trendsetter.

In Europe the average size of household has decreased significantly. In 1960 the average size of a European household still ranged between 3.0 and 3.5. By 1990 these figures had fallen to 2.5 - 3.0. Today in most European inner cities the average household size is less than two. Suppose that in the coming decades, i.e. within the time horizon of those planning Europe's future, the average number of residents per European home falls from 2.5 to 2.0. If the size of the population remains unchanged this will mean a requirement for more than 30 million new homes. Moreover if we assume that this decrease in the average number of residents per dwelling will take place within a period of 15 years then Europe will need two million extra dwellings to be built each year. This is a huge task and one that will probably not be achieved.

The task of urban reorganisation will be at least as large. A great deal of building was done in the post-war period to make good the damage done by the war. This was followed by a period of building to provide space for the rapid increase in the size of Europe's population. The post-war baby boom is responsible for today's rapidly ageing population. Moreover, during the next 15 years the homes that were built in the 1950s, 1960s and 1970s will need to be altered, improved or demolished and rebuilt, to meet the basic requirements of today's standards. Reorganisation of the existing housing stock will itself mean a reduction in the number of homes, which in turn will mean that Europe will need to expand its production by something in the order of one million homes per year.

Of course this expansion and reorganisation of European real estate will not be limited to housing. All sorts of other urban facilities, shops, hospitals, schools, offices etc. will require extension and renewal as, finally, will the urban infrastructure which establishes the conditions for interaction between all the various urban elements.

During Europe's post-war development the main basic assumption was continuing urbanisation, with the result that the level of urbanisation currently stands at 80%.

By 1992, 5.8% of the EU's economy was based on agriculture, 32.8% on industry and 60.9% on services; the corresponding figures in the USA were 2.9%, 26.2% and 70.9%. These figures change with time almost universally, the most noticeable increase being in the part played by services in overall economic activity. The world is becoming a service economy. (Prof. Jacob de Smit, Leiden University School of Management)

In the service economy of the future, workers involved in knowledge-based activities will be very well represented. Labour and capital, the traditional factors affecting production, will be increasingly dependent on specialised knowledge. The part played by specialised knowledge in product design and production processes will continue to grow. Computer assistance will mean that work related to knowledge-intensive professions will be less and less dependent on time and location.⁸

Rural areas are increasingly losing their original function. Cities are becoming more and more 'clogged up'. The amount of space required by the European population continues to grow rapidly. The problem of space, combined with developments in the field of virtual and physical mobility, is forcing Europe towards a break in the trend to urbanisation. Continuing urbanisation has always been a feature of European history, however far back one looks. The reasons for this are to be found in the nature and structure of the organisation of employment and in the logistic conditions required for the distribution of goods and services. In the present and future social and economic context, spatial considerations mean that more extensive urbanisation is not an option. Other ways must be found to satisfy the population's everincreasing demand for space instead of simply extending the size of the urban area. The question, discussed further below, is whether social structures will be developed to support a radical revision of Europe's urban landscape.



Population of Europe¹⁾ now and in the future Base line scenario



¹⁾ 15 countries of the European Union, source Eurostat

Figure 6 The population of Europe in 2000 and 2030

6. INDIVIDUALISATION AND INTERNATIONALISATION

Both producers and consumers are becoming less and less restricted to a single location. Respect for tradition and the family bond is giving way to individualism and a pattern of norms and values based on competitiveness, which partly explains the growth of freedom of movement in Europe. An individual's place of birth is becoming less and less relevant.

For a rapidly growing category of Europeans, the category of immigrants from other continents, place of birth is irrelevant to the choice of domicile within Europe. For migrants from former colonies language is a primary factor in the choice of country of domicile. For other migrants 'Europe' is seen as one country, and the choice is between one region, city or urban area and another. For this reason it makes sense to speak of latent competition between cities. Cities do not deliberately adjust their market profiles to attract economically disadvantaged migrants from outside Europe. In decades to come however, the flow of immigrants will lead to a situation in which more than 50% of the population of those larger European cities which engage in this kind of competition will be



¹⁾ space inflation 2% per year

Figure 5 Housing standards in Europe past, present and in the future (indicative)

alien in origin. Increasing internationalisation has a number of different aspects, so the task of positioning a city to meet increasing competition will need to be approached with some care.

Man is a social creature. There is an evident trend towards individualization but this does not detract from the fact that there is a continuing, perhaps growing, need for identity, leading to the formation of social groups.

'Even in the most metropolitan environment, all sorts of social groups continue to be formed or to exert their influence. What may be said, however, is that the number of these groups appears to have multiplied as a function of the overall emancipation and diversification of the metropolitan population. Especially youths, women, and sexual minorities have played a major role in boosting this diversification. What is more, many of today's social groups have become more mobile and flexible in adapting to changing environmental conditions or consumerist fashions. The resulting sociological pattern is one of increasing fragmentation – a fragmentation that in turn either reflects or actively affects the material permutations of today's urbanized environment.' (The Urban Condition, 1999, 010 Rotterdam)

The need for an identity, and the defence of group interests associated with that identity, can also be observed among immigrants. The Harvard Encyclopaedia of American Ethnic Groups (1980) distinguishes 106 different ethnic groups living in the USA.

The increasing mobility of individuals and the growth in the number of social groups, increasingly based on cultural and ethnic background, is linked with a fragmentation of urban space into strongly homogeneous areas (neighbourhoods, districts). This social polarisation and fragmentation is very much apparent in American cities and can now be detected in European cities. It appears that there is a correlation between social fragmentation and the fragmentation of urban space.

In the last 300 years international migration has mainly been towards urban areas. In the post-colonial period it is expected that the flow of migrants to Western Europe will increase in size, so bringing about the 'rejuvenation' of metropolitan populations. The average age of city-centre populations is falling, both in America and in Europe. London attracts young migrants from all over Great Britain, though most of them will have moved on by the time they reach age 45.

In years to come the social map and the closely related spatial fragmentation of urban centres in Western Europe is expected to change considerably. The level of understanding and policy-driven integration of these developments will determine the market positioning of urban centres on the map of Western Europe.

7. THE EUROPEAN CITY, THE EUROPEAN CITY NETWORK

Planners are paying a great deal of attention to the city. How will Europe develop in future and what requirements must be laid down for Europe's spatial and more particularly urban organisation? The average European is hardly concerned with such planning issues but simply makes use of whatever space is made available to him.

If we ask a spatial planner what the European city of the future will look like, we will be given an overall picture in which each individual urban area (district) has its own location and districts are linked together by the urban infrastructure, in such a way that the typology of the different areas is determined by the function of the whole.

If we put the same question to a random user of European urban facilities the answer we get will be completely different. The European city dweller has no overall picture. He remembers the street where he played as a toddler, the primary school just along the way, the playground and the park, the shop on the corner and the baker who still came to the door. As his action radius becomes larger his image of the city is enlarged to include memories of visits made to special places in cities remote from the one in which he originally lived. Thus each European builds up a picture of the city that has its own individual character, being built up of fragments from a whole series of cities. The picture of the city in the mind of the average European is something like a network in which the nodes consist of places with which he has some emotional tie in different cities located all over Europe and even the world.

The user's 'European city network' differs from one individual to another and is quite different from the network city envisaged by the planner.

The network city of London in 1850^7

In the middle of the 19th century central London was particularly plagued by noxious smells, a totally inadequate supply of drinking water and traffic congestion. The search for a remedy for these ills occupied countless engineers, doctors and enlightened citizens, each putting forward their proposals in a brochure or pamphlet. However different their proposals might be, they all shared a common characteristic: they all had a 'network character', extending the possibilities of estate management. Whether the issue was one of laying a water mains, a system of main and secondary traffic routes or an urban drainage system, in every case the preparation required a high degree of coordination. And this was precisely the problem. A strong urban administration, able where necessary to force reluctant landowners to allow part of the work to be laid on their land, was simply not available. As Donald Olsen tellingly summarises: 'London is a collection of autonomous villages, many of which have been carefully planned within themselves but with little reference to the adjoining villages'.

The lack of an overall administration was felt even more keenly when it came to the removal of sewage. London did in fact have a rudimentary drainage system, but one which was not even capable of handling heavy rainfall. ... These problems reached their climax in the 'Great Stink' of 1858, when the stench was so serious that it became impossible to work in the Houses of Parliament or the law courts. At this point the government stepped in.

If the city is there for the benefit of the users, we as planners would do better to concern ourselves with the environment as perceived by the user. This will mean a different way of looking at the city, in which the city is not primarily seen as an economic, administrative and spatial unit but rather as a specific collection of interesting locations. The more locations there are in a city (an administrative and spatial unit) which are interesting to Europeans generally, the stronger the economic position of that city. Compared with the situation 150 years ago, the network city has reached a different spatial level. The network city of the user, whether an individual or a company, has dimensions which extend over at least a substantial part of Europe. This means that Europe's cities are competing with one another, which can be stimulating but also inefficient, and that the planners who are called on to provide the solutions required for a coordinated development of the European urban landscape are facing a new task. Around 1850 the task, for example the situation in London, was still at the level of the individual city. Today the same task has European dimensions.

8. EUROPEAN CITIES IN COMPETITION

The increasing importance of competition between cities is directly related to the growth of the number of possible locations for company premises. In the post-industrial city, 80 to 90% of jobs are to be found in the service sector (Vegt, C.v.d., W.J.J. Manshanden, 1996, *Steden en stadsgewesten; economische ontwikkelingen 1970-2015*, Sdu, The Hague). The extent to which companies in this sector are restricted in their choice of location is constantly decreasing, partly because of developments in telematics. The criteria which companies apply when choosing a location for their headquarters or other premises are changing, a fact which determines how in future the concept of the competitive position of the enterprising city will be interpreted in Western Europe.

Internationalisation is often cited as the dominant factor in initiating and driving competition between cities, but the precise meaning of internationalisation in this context has never been considered in detail. In the present study internationalisation is approached from the viewpoint of the user. The diversity of users, brought about by a combination of the diversification of household types and growing individualisation, is growing rapidly and will probably continue to do so in decades to come.

9. EUROPE'S FUTURE IS BEING DETERMINED BY EUROPEANS

The central question addressed by this conference is 'Who plans Europe's future?'. Special attention is drawn to information technology in urban and spatial planning and the impact of ICT on physical space. One's immediate reaction might be to suggest politicians, town planners, project developers, investors etc.

All these different people do indeed make plans based on a particular pattern of expectations relating to the behaviour of individual Europeans and European companies. If these plans are supportive of future behaviour patterns they will have a positive effect, otherwise they will produce frustration.

In many cases the pattern of expectations assumes decreasing mobility and reduced use of space. After all, the need for relocation has disappeared and many kinds of work can be done from home.

But in fact the very opposite seems to be the case. The European is more mobile than ever in his daily life, less tied to a particular historical location, less inclined to stay at home, constantly seeking to enrich the world of his experience. His search is linked to an increase in the use of space, involving larger homes, an increasing number of second homes, the use of accommodation in different places at different times of year and a sharp increase in distances travelled within Europe.

Europeans take up space, supported by the computerisation of our society making possible an asynchronous 24-hour society.

Europeans take up space. The European's radius of action is growing rapidly; the map of Europe is becoming smaller and smaller.

Europeans take up space, because such behaviour is in line with today's technological and economic developments.

Europeans take up space, even if space is not made available by the planners.

My recommendation to Europe's planners is therefore 'Give people space'. Someone who is sailing in rough water will do well to go with the current, and the same applies to urban renewal.

In practice this means making use of agricultural land that has fallen into disuse, which in turn will lead to a reduction in the density of urbanisation. Cities will become nodes in a network, each with its own specific profile. Europeans will move round this network as if it were one enormous city containing a variety of interesting and exciting locations.

People who are planning the Europe of the future will need to accept the main outlines of this view of the future for which they are attempting to create spatial conditions.

BIBLIOGRAPHY

Bullinga, M., 1999, **Een ministerie van tijd&ruimte, Naar een duurzame netwerksamenleving**, Den Haag, Department of Housing, Regional Development and the Environment

Eilander, G. and v. Kralingen, R.M., 1995, Naar 2020, een tijdreis door trends en ontwikkelingen tussen nu en het jaar 2020, Kluwer, Deventer Commission of the European Communities, Commission Staff Working Paper, A Memorandum on Lifelong Learning, Brussels, 30.10.2000, SEC(2000)1832

Schafer, Andreas and David Victor, The Past and Future of Global Mobility, Scientific American, October 1997

Schafer, Andreas, Modelling Global Mobility: World Passenger Transport through 2050, Transportation Vision 2050 Futurist Workshop, Seattle, WA 98188, September 2000

Spaans, M., Realisatie van stedelijke revitaliseringsprojecten, Delft University Press, 2000

Wagenaar, M., 1998, Stedebouw en burgerlijke vrijheid, Bussum (THOTH), pp 118,120

Klaase, D., Peek, G.J., Intelligente knooppunten voor de netwerkeconomie, Real Estate Magazine, 2000, no 12

Peeters, P., Een ethologie van het verplaatsingsgedrag, Colloquium Vervoersplanalogisch Speurwerk, volume 1, 2001