Networks, new technologies and situations

This paper addresses the question of spatial restructuring engendered by the general use of networks and new technologies[1]. The aim is to present and discuss the possibility of creating 'interstitial networks' connecting spaces not directly participating in a generalized globalization process. It is based on various observations regarding social and spatial practices as well as on tendencies in mobility and leisure-time activities[2].

Today's advanced industrial societies become increasingly complex through tendencies or practices affecting time and space. Among their shared characteristics are urbanization (urban dwellers represent more than half of the world population), and the use of advanced technologies and networks that provoke a substantial gain of time through increasing accessibility. Some authors dealing with the subject consider that new technologies and networks will bring about a general spatial and social homogeneity that will reduce the particularity of places, while others point to the uneven effects of such a process and advance the idea of an important heterogeneity between privileged and non-privileged territories or social groups (Bakis 1984, Bressand, Distler 1995, Allemand 1996)[3].

The hypothesis presented here is placed in a general context of a technologically driven world, in which 'free' time could increase considerably and might become the most important of all human (social) times. On the other hand, globalization could provoke a homogenization of geographical situations[4] and therefore no differentiation regarding location. That means the possibilities for each individual to access any product or service, independently of its location, would be the same—other things being equal. However, even in a completely networked world space, some places could be left out (omitted from the network) either by choice or by necessity.

What one could then suppose is that these not directly connected places (interstices) would represent the only remaining 'authentic' places not necessarily by their situation but because of their local specificities. This could strengthen their valorization as different and attractive in a particular 'uncommon' way. Their attractiveness could be very important to those of people who would seek (leisure) places other than those of their everyday life. Considering that "leisure is often described as the realm of the authentic" (Rojek, 1996), it necessarily follows that these 'authentic' places, in a society characterized by homogeneity and 'free' time, would logically be 'leisure places'.

This idea is developed more specifically below through explication of general facts and tendencies concerning spatial changes brought about by the use of networks and high speed, and social changes relating to a substantial reduction of work time and the consequent development of leisure. These changes could lead to a situation where 'interstices' would be of great value in a globalized world space. General facts and tendencies will be first presented with examples from France that reflect recent changes in attitudes concerning mobility and leisure before developing the idea of 'interstices' as (future) leisure places.

Before presenting possible future spatial developments (restructuring) it is useful to examine first the meaning of the terms 'restructuring' and 'leisure'.

'Restructuring'[5] in this sense comprehends change(s) in and/or between the constituent parts of a whole. Spatial restructuring is understood literally as the emergence or formation of a

new structure constituted by a certain number of (located) elements either by changes in their spatial pattern (same elements, different pattern, different linkages) or by changes in the nature of elements (different elements, same pattern, different linkages) and thus the nature of the linkages between the elements (hierarchical relations for example).

'Leisure'[6] is understood primarily as 'leisure time'. It is characterized by a special attitude of mind as well as by activities considered to be leisure activities, which are not necessarily the same for each individual. Leisure time depends (still) mainly on the work time and can present variations in its quality of residual time depending also on the resources available to individuals. Leisure has a qualitative connotation and is viewed more distinctly as being part of 'free' time, which is here considered as having a more quantitative connotation.

General facts and tendencies: networks and new technologies
From a spatial point of view one of the more common characteristics of contemporary societies is the ease with which one place can be reached from any other place (accessibility) and the ease with which one individual can reach another (telecommunications) independently of the distance. Both result not only from communications networks (efficient spatial physical infrastructures such as transport networks), but also from an increasing number of connections through information networks.

Accessibility: From journey distance to journey time
It is clear that general changes in transport and communications technology have improved accessibility and consequently have reduced spatial differences[7]. The reasons are not only the multiplicity of linkages (networks) but also the speed used to reach one 'node' from any other. Concerning individuals, the speed of travelling makes that journey distance is now replaced by journey time.

Since at least the nineteenth century, speed has been a fundamental characteristic of human practices, as nineteenth-century French writer Baudelaire fully recognized in his time.

In France, between the late seventeenth and the late eighteenth centuries the frequency of connections, between Paris (the capital) and other important French cities, has significantly increased (more than doubled). Between the early and the mid-nineteenth century, the time it took to journey between those cities was reduced at least by half (*cf.* table below).

**Time-distance (in hours) from Paris between 1814 and 1841**

	Bordeaux	Calais	Lille	Lyon	Strasbourg
1814	86	38	34	68	70
1841	36	18	15	34	35

Lavedan, Pierre (1959) *Géographie des villes* **Paris: Gallimard**

Today, more than ever, speed is one of the main characteristics of our time though in a different way than before. It is indisputable that geographical distance no longer poses a barrier to movement or communication even if other barriers—such as the effects of income, ethnicity or social class—clearly remain. Thus, the time-compression effect appears well established through speed and the general use of networks even if it does not yet affect every place or every person. As a result of networks and transport innovation, some cities (places) approach each other in time-space, while others become more distant.

The figures below show the changes in time-distance between 51 French cities, before (1980) and after (2001) the arrival of TGV[8] (high-speed train).

Multipolar accessibility of the French railway network in 1980 and 2001
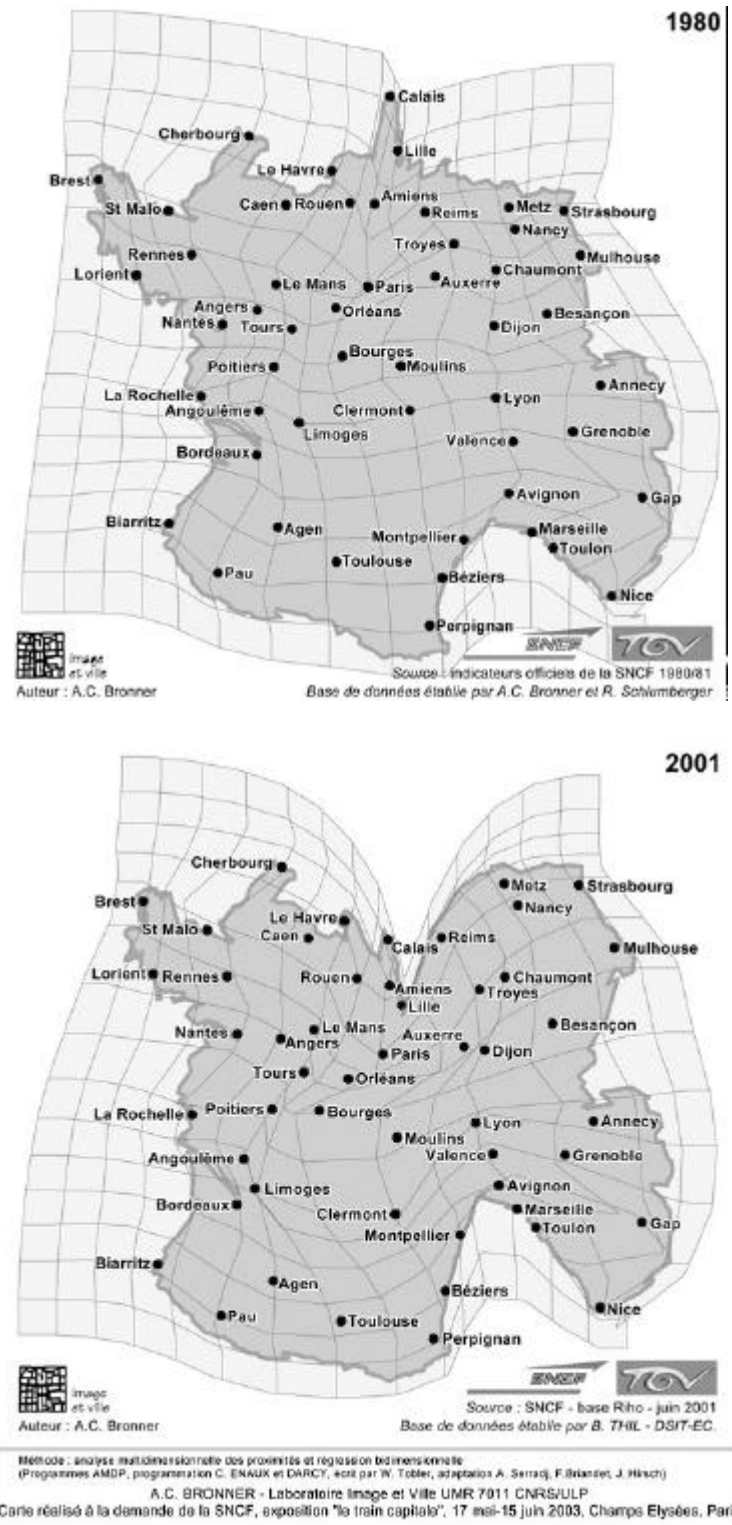
The effects of the creation, in 2001, of three high-speed lines, between Paris and the western territories, Paris-Lyon-Marseille (South), and Paris-Lille (North), are obvious. These new high-speed connections have discriminated the rest of the French territory especially in the East near the French-German border. It is clear that this situation, which can be considered as a first step in the development of a national high-speed railway network, has accentuated spatial differentiation and modified the urban hierarchy in terms of accessibility.

Changes in geographical situations depend not only on transport networks and technologies but also on information networks. Today, the diffusion of information throughout the world can be not only instantaneous but also far more accurate than before. New technologies in general seem to participate in the transformation of geographical situations in a way that results in 'everywhere becoming the same'. The new communications technologies in particular provoke an increasing dispersion and integration of activities across national boundaries and transform not only the structure and scale of human relationships but relationships between humans and their space. Changes originating in one part of the world are rapidly diffused to and can affect others.

Even if localization remains a significant phenomenon, cultures and tastes are—or tend to be—homogenized and can be satisfied through standardized global products and services with no relation to place.

According to M. Castells (1996)[9], globalization leads to the replacement of a 'space of places' with a 'space of flows' through de-territorialization of human activities. However, a network comprised of located nodes connected either by physical links or by flows constitutes a grid incapable of entirely covering a limited physical area. Non-connected places in-between the links and nodes (interstices) can then be left out of the network-belonging parts but could play an important role in future situations.

Leisure: From work time to leisure time
Another important phenomenon that can be attributed (also but not only) to networks, new technologies and speed is the general increase in the quantity of 'free' time in advanced industrial societies. This phenomenon affects most of the working population who would profit either by a shortening of the working week or through an increasing flexibility of work time—or even through (the already) improved mechanization of household or other chores.

What this essentially means is that most people living in advanced industrial societies now have or will have an important amount of time for leisure activities either in the real or in a virtual space. The most daunting barrier in their choices and satisfactions is cost as well as different living and lifestyle practices corresponding to different social identities such as class, gender or age[10]. All these are changes that can presage the establishment of new and radically different uses of space and time.

Theoretically, work time could be reduced to a minimum. 'Free'- especially leisure-time could thereby be maximized. In the late 1970s, the French group ADRET[11] claimed a working week of eight hours (two hours per day, four days a week), made possible by an almost-complete mechanization of production and consequently a substantial reduction of work time. If such a situation occurred (other things being equal), the residual time would be spent as leisure time, occupied by leisure activities in a special attitude of mind.

Since the late nineteenth century in France, work time has been constricted. That trend continues to this day, largely due to a general mechanization of human activities. The figure below shows the important reduction in the number of working hours in France (thick line) and in the United States (fine line) from 1860 to 2000.

Leisure activities today are affected by networks, information and automation and can be either 'real' or virtual. Assuming that, for a considerable time, leisure has been coupled with movement, leisure time activities will take place in 'real' space. The question this raises is what the destination (place) will be and why movement (change of place) will still be important?

Number of working hours per week in French and American industry
For the United States the discontinuity is due to the accounting of season- and part-time workers
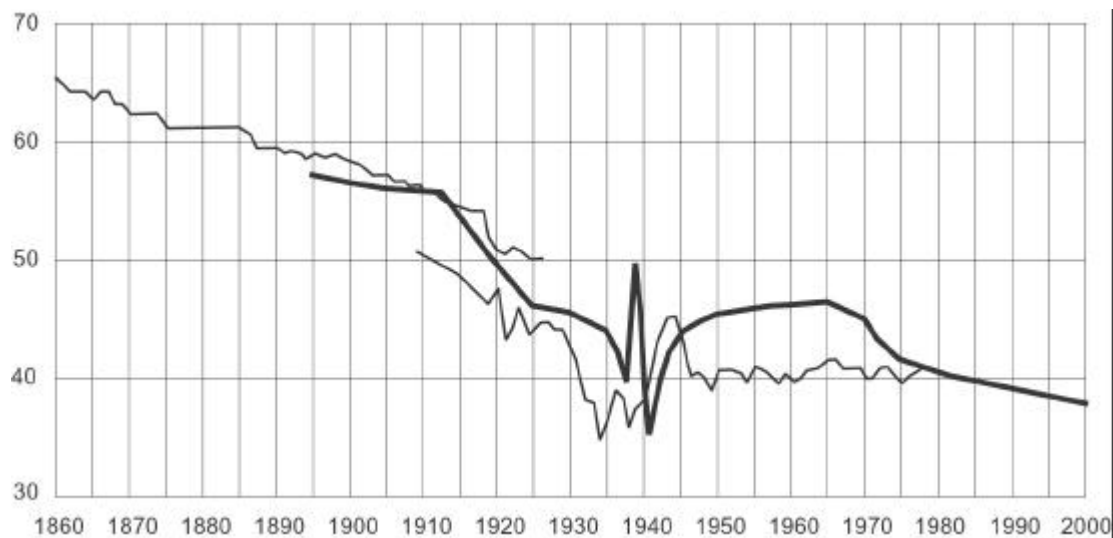
Leontief, W. (1982) "La répartition du travail et du revenu", *Pour la science,* **N° 61 (novembre)**

For the last two and a half centuries leisure has been evolving influenced by transport and communications development. Leisure time especially since the mid-twentieth century has chiefly been devoted to such activities as travelling, tourism, and holidays. It has mostly been characterized by movement and change of place. While time has been contracting, leisure space has been expanding, and travel distances have become longer for longer durations of leisure[12].

In France, between 1948 and 2000, time devoted to work was substantially reduced (20% in 1948, 10% in 2000). Today, work time occupies one tenth of an individual's entire lifetime (Viard, 2002). Recently, the working week in France was reduced from 39 to 35 hours. The consequences, confirmed by the results of a recent questionnaire survey[13], are particularly evident in an increase of regional movements over short distances, especially for the younger population. The potential for interaction among people separated by substantial distances has increased even if the reduction in the number of working hours is not the only, or even the salient, reason.

Changes in the nature of leisure are connected to transformations (especially of the urban environment) and to a desire to escape the congestion, pollution and other inconveniences of everyday life that encourage people to move as often and as far as possible. The behavior of leisure consumers in France seems to be the same, though slightly different, these last years, than before. The general leisure pattern best defined by duration—long (summer holidays), medium (winter holidays) and short (throughout the year)—has not changed, the number of 'short leisure' (short duration) at particular times in the week or the year has significantly increased though (Viard, 2002).

According to J. Viard, the situation in France is particular since the majority of inhabitants in the main French cities can reach a 'leisure place' (seaside or mountain) in one hour by car. This time-distance proximity becomes an important factor in the increase of leisure departures (short duration). Every weekend, 20% of Parisians, and more than 50% of the inhabitants of other French cities leave their city to enjoy a short holiday. Leisure departures become more frequent for shorter lengths of time, with at least 60% of French citizens taking a long (summer) holiday once a year. At present, leisure space for French citizens seems to expand. Their destinations cover the whole world, albeit still concentrated in Europe and the Mediterranean. As the number of departures and the distance between leisure places increase, leisure mobility becomes centrifugal. The quantity and frequency of 'free' time are also increasing for the majority of French who seem to prefer quality and not proximity, as was the case some years ago[14].

Even if leisure became 'privatized' (spent at home) during the 1980s and 1990s, French leisure consumers adopted an attitude that could be described as 'tourism zapping' (Viard, 2002), through frequent leisure departures to always different destinations.

French sociologist J. Dumazedier (1974)[15] thus was prescient when, in the 1970s, claimed that:

- A reduction in work time should not affect production since it is totally mechanized;
- Salaries should not be reduced even if a substantial reduction of work time occurs;
- Free time should be occupied by educational (knowledge-improvement) activities;
- Retirement should concern younger people, the end of a career occurring earlier;
- Vacations should be possible throughout the year and not depending on seasons.

Dumazedier's only unrealized hypotheses concern 'free' time activities ('free' time would be occupied by educational activities) and the age of retirement (retirement and the end of a professional career would occur earlier).

Networks, interstices and leisure places

Networks (accessibility), new technologies (speed, time saving), and homogeneity of geographical situations ('everywhere is becoming the same') could on the one hand provoke a general spatial restructuring through a completely (or almost) networked world space and give the possibility to any person to physically access (reach) any place. On the other hand, a substantial time saving through an important reduction of the work time could increase leisure movements towards places attractive by their particularity of a non-direct connection to the networks. These are what we call 'interstices' or 'interstitial places'.

The easiest way to define these terms is to do so through their characteristics. We will give hereafter the characteristics of an 'interstice', considering space according to the meaning given by A. Moles (1976)[16]. For A. Moles, a space can only exist by what fills it, *i.e.* its content. In that case a space should be called interstitial because of its interstitial content or function because it is constituted by interstitial places. Interstitiality can also be spatial, temporal or both.

Material (or spatial) interstitiality needs at least two 'bodies' to be defined. Immaterial (or temporal) interstitiality needs at least two situations to be defined. An interstice cannot exist by itself. Sea for example can be considered as an interstice (or interstitial space) through its characteristic of filling the space between different parts of land. On the other hand, land could be considered as an interstice (or interstitial space) since it is filling the space between different bodies of water. Thus, the role of an interstice is dual: uniting or separating parts of a whole. Depending on the relationships between parts, interstitial space can be a space of

transition, mediation or union. An interstitial space is, by its nature, a fractal space, since it can be found or can exist at different geographical scales.

If a space is viewed as 'a set of places' then an interstitial place would be an enclave (*cf.* figure below); a small piece of territory lying within a networked space yet not really belonging to it.
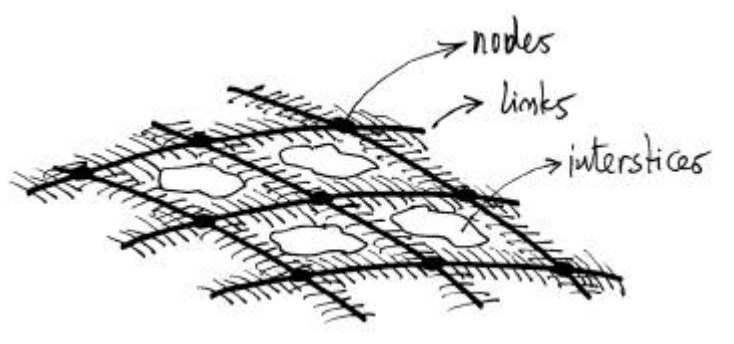
Even if 'place' is (or could be) a contested concept in the contemporary context of globalization—'placelessness' being considered as one of the main effects of the globalization process—some places not directly implied could form an interstitial network mainly used and attractive for its 'authenticity' in a globalized world space.

Interstitial spaces will not necessarily be homogeneous. Their common characteristic will be their non-direct participation in the globalization processes or rather their counter-participation. Even through indirect linkages to global networks, these spaces will be able—because of the existence of these linkages—to remain voluntarily 'authentic' in order to counterpoise the homogeneity brought about by a general globalization.

It has often been said that the 'global' determines the 'local'. What we would like to believe is that the 'global' does not determine the 'local', but instead conditions through which the 'local' can be valorized and independently or 'authentically' developed, while spatially existing within the 'global' and functionally completing it. Spaces characterized by their local specificities considered as 'authentic', as compared with globalized spaces, should become localized 'clusters' resulting of globalizing processes and cultures. Their non-direct connection to networks could be either a source of continued strength or a source of weakness. The situation described above can be viewed as a situation with a high potential to develop as a source of strength if handled this way.

If, as mentioned above globalization brings about indifferentiation of geographical situations, then the same products and services will be available everywhere. This, logically, should reduce the need to move to another location. Though, the requirement of physical contact, as well as the need to move physically to other places remains (so far) a priority for the majority of 'people in leisure'. Particular forms and identities of leisure have recently make their appearance through a desire for a particular kind of—what might be called a '3a' (**a**ccessible, **a**esthetic, **a**uthentic)—space also characterized by an attractive landscape or attractive activities. However, people (especially 'people in leisure') still require a change of place, a different location. In a context of similar situations the difference would then be found not in geographical situations but in the particular site aspects in the local (natural and cultural) features that establish the 'authenticity' of these places.

It follows that 'authentic' places would then be places not participating in the general globalization processes: That is, places not directly connected to communications and

information networks or somehow affected by them. Their main characteristic would be interstitiality—these places being interstitial by their situation or especially through their site aspects.

The same assumption could be made about cities as urban settlements. If their geographical situations were the same, then their greatest attractiveness would be their particular features (geographical by their site or cultural). It is clear that these hypotheses could only be accepted in a perfect world where cities—or places in general—belonging to the same system-network would be 'synagonists' rather than antagonists (working together rather than opposing each other).

Spatial changes and restructuring also concern changes in the urban space even if in most cases they are ephemeral. In Paris—as well as in certain other French cities[17]—the municipality offers a 'seaside' environment (called *Paris Plage*) to its inhabitants by creating a beach scenery with sand and palm trees on the riverbanks of Seine.

Thus, cities try to offer rapid responses to changes in demand patterns relating to 'urban leisure' by creating (spatially and/or temporally) urban interstitial places, by differentiating them for a short length of time, creating them in particular places, separated from their general context.

It seems—at least theoretically—that the possibility of an important reduction in work time exists, but our societies are not yet able to give themselves the 'tools' which would allow them to evolve in that direction through a new organization and a spatial restructuring. Thus, even if at least some tendencies can be clearly identified, there is no certainty about their future development.

Clearly, there is not yet a definitive answer to questions raised by this subject. It nevertheless appears, at this stage of development, that local and global depend on each other. That being so, studying places or places specificities in the face of an increasing globalization process is of great importance to future developments. Naturally, there remain important concerns that need to be explored relating to the inequalities of access if the levels of personal income are uneven.

Leisure time has become very important and occupies a uniquely significant place in human life. Leisure places—if we let aside virtual space—could be everywhere; leisure time could be spent at home or away from it. That which would characterize future leisure places might be their specificities, *i.e.* uncommon special characteristics that could be given by their location (site) or by their situation through their integration or lack of integration into networks (interstitiality). It follows that leisure mobility will increase, with the same possibilities for everyone.

This paper is not intended to provide easy answers as much as it is designed to provoke thoughtful consideration about the possibilities of a future development of leisure and leisure places. How precisely leisure places will be restructured and given meaning in the future clearly remains to be seen.

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[1] The topic was first presented in a doctoral thesis in Geography at the Louis Pasteur University of Strasbourg in 1996, and is part of a current research project at the laboratory 'Image et Ville' UMR 7011 CNRS.
     Haniotou, Hélène (1998) *Loisirs généralisés et recomposition urbaine interstitielle.* Villeneuve d'Ascq: Presses universitaires du Septentrion.
[2] Concerning France, *cf.* Viard, Jean (2002) *La France des temps libres et des vacances.* Editions de l'Aube/DATAR.

3 Bakis, Henri *et al.* (1984) *Information et organisation spatiale.* Caen: Paradigme.
Allemand, Sylvain (1996) "Nouvelles technologies : mythes et réalités", *Sciences Humaines,* N° 59 (mars).
Bressand, Albert, Distler, Catherine (1995) *La planète relationnelle.* Flammarion.

4 Situation is: "The location of a place or activity with reference to the broad spatial system of which it is part. Situation is 'horizontal' and functional, referring to regional interdependencies and accessibility". Goodall, Brian (1987) *Dictionary of human geography.* Penguin.

5 Johnston, R.J., Gregory, Derek, Pratt, Geraldine, Watts, Michael (2000) *The Dictionary of Human Geography.* Oxford: Blackwell.

6 We use here the 'functionalist' definition of the term attributed to the French sociologist J. Dumazedier (1974). A different approach and definition of leisure is also given in: Rojek, Chris (1995) *Decentring leisure. Rethinking leisure theory.* SAGE Publications.

7 Studeny, Charles (1995) *L'invention de la vitesse. France XVIIIe-XXe siècle.* Editions Gallimard.

8 Train à Grande Vitesse.

9 Castells, Manuel (1996) *The rise of the network society.* Oxford: Blackwell.

10 Solvability seems to be an important factor concerning the leisure time activities. Until now, leisure time has been dependent on work time; leisure considered as a reward for work and treated as secondary to work.

11 ADRET (1977) *Travailler deux heures par jour.* Paris: Seuil.

12 Corbin, Alain (1995) *L'avènement des loisirs. 1850-1960.* Paris: Aubier.

13 "Habitat et vie urbaine" a current (under way) research carried out by the Universities of Rennes, Lyon, Strasbourg (France) and Lausanne (Switzerland) on people's attitudes, actions, aspirations and motivations concerning their movements and the quality of their living space.

14 Viard, Jean (2002) *La France des temps libres et des vacances.* Editions de l'Aube/DATAR.
Clary, Daniel (1993) *Le tourisme dans l'espace français.* Paris: Masson.

15 Dumazedier, Joffre (1974) *Sociologie empirique du loisir. Critique et contre-critique de la civilisation du loisir.* Paris: Seuil.

16 Moles, Abraham and Rohmer, Elisabeth (1976) *Micropsychologie et vie quotidienne. La société au microscope.* Paris: Denoël/Gonthier.

17 Strasbourg or Bordeaux for example.