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Is the French view of greenways avant-garde or déjà-vu?

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Introduction

“Greenway” has become trendy in the French planners’ vocabulary. Indeed, this term has many meanings, related to both the environmental and social characteristics of a territory. It carries many positive cultural values. There are not one but several types of greenways in according to specific area (urban, peri-urban, and rural) with different objectives (recreation, nature conservation, human well being). Nowadays, the French term for greenways is “trame verte”. This expression is a planning concept dealing mostly with private land.

The objective of the paper is threefold. First, we shall look at the changes in the content of “greenways” in this international literature; second we shall examine what brought about the interest of “trame verte” in landscape planning and environmental management in France. Third, we shall propose a coarse assessment of the new French law on “trame verte”.

1/ international scientific literature on the operational recommendation propositions for greenway planning

Researchers from many regions of the world have mobilized the concept of greenway essentially with landscape planning approach: in United States (Fabos, 1995; Ahern, 1995); in Europe (Jongman *et al.*, 2004); Britain (Turner, 2006), Italy (Toccolini *et al.*, 2006), Portugal (Andresen *et al.*, 2004). In the international scientific literature, as highlighted (Ahern, 1995) and (Hellmund and Smith, 2006) many words are related to the concept of greenway without real coordination: ecological network, green infrastructure. Many planners agree about the physical linear continuity of vegetation, but disagree about components, planning methods, and objectives for each greenway. Goals of implementation may be environmental, socio-economic, recreational or a combination of all these factors.

1/ Ecological aspects of greenways:

The environmental crisis fosters research on the ecological benefits of greenways. This vision has been developed particularly in Europe (Jongman *et al.*, 2004) where there is a strong tradition of ecology and landscape ecology (Forman and Godron, 1986). Therefore, greenway implementation, may be called ecological corridor or

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environmental corridor, appears as a powerful strategy to maintain biodiversity (Ahern, 1995). Indeed, Linehan *et al.* (1995) reported that the fragmentation of habitats, largely resulting from human activity, is one of the greatest threats to biological diversity. They may cover a large range of habitats: riparian corridor, wetland, water land... Their effectiveness varies depending on geographic location, component of landscape, form or the human pressure...

There is a dichotomy between the planning vision of Western and Eastern Europe. In the Eastern countries, development is conceived through the principle of “a functional zoning of the landscape elements into natural zones that antagonise the poles of intensive land use. So with the ecostabilisation concept some territories (linking together) assume an ecological compensation to those heavily exploited. In Western countries, researchers focus their efforts on ecological principles like “dispersal and migration, connectivity and connectedness” (Jongman *et al.*, 2004).

2/ Socio economic aspects of greenways

Many landscapes are being transformed, today, especially in suburban areas, on account of the human expansion. Urban sprawl has caused a decrease in access to nature for people. For many urban dwellers to go to wilderness or rural areas is a problem of time and finances (Chon, 2004). The alternative is the possibility to access open spaces in town or suburban areas. In this context, greenways appear as breathing spaces with recreational purposes for the population. The philosophy developed by Olmsted, with the parkway, is still relevant 100 years later. Moore and Shafer (2001) emphasize the benefits from trail and greenway resources. It's not only for the individual experience with personal recreation and health, it's also to the wider community “through reduced automobile traffic, enhanced visual quality, conservation of natural values, economic development and others”.

In Italy, Toccolini *et al.* (2006) use the greenway concept as a: “system of routes, good from the environmental point of view and dedicated to a no motorized traffic, connecting people with landscape resources (natural, historical, cultural, etc.) and the ‘centers of life’ (e.g. public offices, sport and recreational facilities, etc.), both in the urban areas and in the countryside (Associazione Italiana Greenways, 1999)”.

Some researchers are interested in the impact of these benefits on property values (Geoghegan *et al.*, 1997; Lindsey G. *et al.*, 2004). They demonstrate a positive correlation between greenways proximity and property values.

3/ Multipurpose aspects of greenways

However, it is difficult to distinguish unequivocally a greenway depending of a benefit category: environmental or socio-economics. Often, even if unintentionally, the objectives detailed above are closely intertwined: the desire to create a trail for recreational purposes also provides conditions for nature conservation or water quality protection for instance.

Greenways, with a conservation areas policy, help to maintain the landscape's integrity with the preservation of "some landscape connections and functioning" (Hellmund and Smith, 2006). By landscape integrity, Hellmund and Smith mean to suit the goal of ecological and social quality for greenway.

In the USA, the multifunctional approach is clearly displayed in greenway planning. Greenways assume environmental and social functions. As underline also (Little, 1990), (Moore and Shafer, 2001): "Planners propose multi-use urban greenways to enhance urban form, promote conservation of habitat and biodiversity, provide opportunities for fitness, recreation, and transportation, promote economic development, and increase the sustainability of communities" (Lindsey *et al.*, 2004).

4/ Willingness to provide responses for greenway planning

Research has aimed to provide answers regarding the planning of these greenways. "Many authors have focused on the physical characteristics and multiple criteria that must be applied in greenway planning and management" (Chon, 2004). Indeed, many papers are related to the implementation of greenways including the strategies to be developed and process to mobilize various players.

II/ the evolution of the greenway concept in the French context¹⁵

1/ "Trame Verte" and greenways: birth (end XIXth century – 1950's)

The concept of green network can be likened to the vision developed by the landscape architect Frederick Law Olmsted (1822-1903) avenues, walks, parkway, considered by the researcher Julios Fabos (2004) as the father of greenways in the United States. Author of many landscapes, including the establishment of the park system of Boston, Olmsted advocated free access to nature, without any discrimination for the welfare of the individual.

This concept was developed shortly after by landscape architect Jean-Claude Nicolas Forestier (1861-1930) in France. He affirmed the necessity of thinking the urban development from a "park system" which covers various areas ranging from "large reserves and protected landscapes" to "pleasure grounds" through the "void-walks, the "suburban parks," the "great urban parks", "small parks, the" garden district "(" Big cities and parks system "1908). In other words, Jean-Claude Nicolas Forestier emphasizes the necessity to ensure "green" continuity in cities by establishing a network of different green space. He asserts that these continuities are "access roads and pleasant way". They should never interrupt his walk. They can help to highlight the points of view, the banks of a river landscape and interesting pittoresques". The park system builds from spaces already present in the site, thus distinguishing the vision of the garden city where vegetated areas were totally created.

¹⁵ (Toublanc *et al.* 2008)

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The concept outlined at the beginning of the twentieth century echoed aware of the second half of the nineteenth century hygienists thought when politicians (Napoleon III) and developers (Haussmann and Alphand, for example) wanted the healthy city development. The parks, squares and avenues, walks become the engine for a better movement of people and goods while promoting the health, comfort and aesthetics of the city (Donadieu, 2005). Nature is thus seen as generating welfare for human to forget (Lüginbuhl, 1992) the disorder of the city.

2/ Decline of the concept after World War II

After the Second World War, the main concern, in terms of planning, was the reconstruction of the country. The preoccupations were in rebuilding housing for the population and transport infrastructures. A policy of huge collective housing projects (the Radiant City of Le Corbusier) was carried out in France, wanting to meet the new needs of the society. Functionalist thinking had partitioned these needs fairly simplicity: "work, live, move, amuse themselves". The green areas took place in these development projects under the concept of green space. It could be risky to lose all senses attributed by Jean-Claude Nicolas Forestier. In order to organize urban development, the early 1960s saw the first planning documents. The city no longer thought of in relation to its physical limits, but as functions that are attributed for each space.

The development of mobility, transport infrastructure (car, TGV ...) changes the structure of urban space (Beaucire and Saint-Gérand, 2001). The city is built on new spaces at the expense of farmland and natural spaces. Up until then, urban space was conceived of as a schematic model with concentric opposition between town and country (Joliet, 1991). Urban development destroys the boundaries of the traditional city and built new landscape marked by urban sprawl.

Concerns rising against the rampant urban sprawl gave birth to the concept of green belt, already prefigured with the Green Belt in London after 1945. It aimed at developing and / or maintaining a ring plant (consisting of agricultural lands, woodlands and natural) that surrounds the city (Joliet, 1991). The Paris region (1976) was one of first French example taking into account the concept of green belt in the land planning.

3/ Rising environmental concerns and return of the idea of "trame verte" (1980-1995)

In Europe, the development of agriculture with mechanisation and input of fertilizer and pesticides since 1960's with the Common Agriculture Policy led to drastic changes in landscape such as hedgerow removal and grass land conversion to plow land. The consequences on landscape aesthetics and biodiversity were largely perceived negative. In the early 1980s, both the general public and the researchers in environmental sciences, especially in a new discipline, Landscape Ecology, put forward an agenda to change incorporate an environmental dimension in agricultural policies. The concepts of landscape ecology, integrated vision of the ecology of an

ecosystem approach and biogeographic history, designed to study the impacts of human activities on ecological systems around the geographical landscape known. The researchers Françoise Burel and Jacques Baudry (1999) developed in France, the concepts of matrix, patch, and ecological corridor.

The conclusion is simple: the fragmentation of floral and faunal habitats due to intensive agriculture and human development has resulted in a severe erosion of biodiversity. The preservation of ecological corridors increases the movement of animal and plant species among patches, and becomes a major issue of environmental protection. In 1995, in a dynamic development of political ecology, the European Ministers of Environment decided to develop a strategy the “Sofia Pan-European Biological and Landscape Diversity” for the restoration of an ecological network for Europe and Eurasia.

There, in parallel, notably following the example of Paris, an interest in the idea of linking together the non-urbanized areas as open and in urban planning as a means to curb urbanization. The term “trame verte” now makes its appearance as such in planning documents (SDAU vert of Rennes in 1983, for example). The concentric boundaries of the green belt is most suited to the growth of the city is in “finger glove” with the urban development along the lines of communication. The “trame verte” can then be regarded as a deviant green belt. It performs similar functions as the Green Belt (including limiting urban sprawl), but is not designed as a circular ring, but rather a network of open spaces where the urban is integrated.

4/” trame verte”, concept related to sustainable development (since 1995)

After the World Summit in Rio de Janeiro in 1992, and in response to growth deemed unreasonable (Pumain *et al.*, 2006) that jeopardize access for future generations to non-renewable resources, the concept of sustainable development appeared in the political discourse in the early 2000s. “The underlying idea is the realization of development both sustainable for ecosystems, saving natural resources, favourable to a good quality of life, self-sustaining long term and allowing economic growth high in employment, and promoting social cohesion” (Mancebo, 2007). The “trame verte” appears for developers as a concrete illustration of the sustainable development concept in urban planning. According to them, it responds to the natural need of the people, reserving spaces for recreation next to housing, taking into account the ecological aspects of territory, linking areas of biodiversity potential (forests, hedgerows, watercourses and bodies of water ...). The concept of “trame verte” is integrated into current planning at various scales: regional (the “trame verte” of the Alsace region), departmental (the “trame verte” of Isère), metropolitan area (the “trame verte” Rennes, Lyon, Flanders Dunkirk ...).

The discourse on sustainable city is often confused with “green” discourse when promoting the landscaping of the city is made by the phrases like “coulee verte” “trame verte”, “préverdissement in planning documents”(Calenge, 1997). “Becoming a political value, the urban greenway is more than just parks and public gardens, but also that of agricultural, forestry and natural” (Donadieu, 2003). The

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concept of “trame verte” appears as a way to take into account the planning of urban heterogeneity of urban space by giving a landscape and ecological city sense. In the vision of the late nineteenth century hygienist thought, “the green ideology offers cure for the sick city” where nature “establishes a distance vis-à-vis the artificial, concrete, cars, stigmata of evil” (Calenge, 2003). It involves building a “sustainable city” where the urban question is no longer separated from the environment (They and Emilianoff, 1999). The installation of “trame verte” in the urban fabric is therefore a possible translation of sustainable land planning. A recent proof, “trame verte” has been a priority of the Grenelle Environment (2007) which aims to take account of biodiversity in planning today.

III/ originality and effectiveness of the implementation of the greenway concept in France

1/ Legal implementation of “trame verte” concept

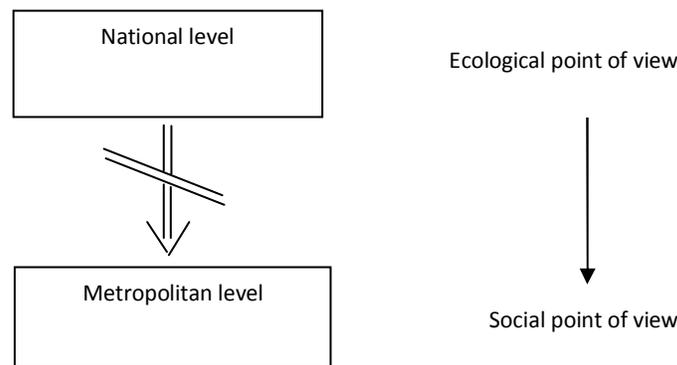
As explained above, the statement of environmental concerns in civil society, the planners’ enthusiasm for the “trame verte” concept, the position of Europe for biodiversity with Natura 2000 and the pan-European network, led the French government to be codified the term of “trame verte”. The Grenelle law results from the “Grenelle de l’environnement” in 2007. The working group on “ecological continuities” initiated an environmental reflexion involving all members of French society with a political commitment to endorse the outcomes. The first resolution of this working group was the creation of a green and blue infrastructure named “trame verte et bleue”. “The green infrastructure is a land management tool, based on large semi-natural units (e.g. nature reserves, Regional Natural Parks), buffer zones around and corridors linking these units [...] in order to diminish the fragmentation and vulnerability of natural habitats and species habitats” (Barthod, 2009).

Through this definition, the authors of the three articles of the Grenelle 1 focus on the ecological function of “trame verte et bleue” in the spirit of landscape ecology principles. It refers to “area of high ecological quality linking nature or other hot spots of biodiversity”, as “ecological corridors”. The law defines the obligation to design regional scheme of Ecological Coherence (SRCE) of each French administrative Region (before 2012). Thereafter, these schemes should be taken into account by the planning documents at the local scale; but there is no obligation. Local planners are only advised to try following the guidelines of the regional document (SRCE). Environmentalists Associations complain that this provision is not mandatory for planning documents.

2/ No shared vision of greenways goals between the regional and local points of view

At the European and national levels, the “trame verte” concept is marketed with an ecological perspective. It is the same for regions that were pioneered on the issue

(Alsace, Rhone Alpes, Nord Pas de Calais) for 15 years, and the new law (Grenelle 1) asserts it at the regional scale. But on the metropolitan level, even if at first politicians' speeches focus on environmental issues, their concerns relate primarily to the living environment of residents. Bonin (2007) noted for blue infrastructures: "actions implemented in the city do not show an integration of ecology [...]". Projects link first and always around the construction equipment, and revegetation of natural spaces. [...] At the local scale, logics of regulatory actions on the urban landscape, are concerned primarily for protection, heritage conservation, or even "patrimonial". We can extrapolate for "trame verte". So at municipality level the importance is given to visual landscape character of components of the "trame verte" (hedgerow, forest, green spaces etc ...) (Cormier and Carcaud, 2009) with social and recreation aims. Ecological concerns of the regional councils may not be implemented by local councils. This is witnessed by the fact that in most documents for local planning there is no assessment of the state of biodiversity. In the French system these documents are the ones that actually enforce the various requirements of French law (Law Planning and Environmental Law). Local elected officials are cautious partly due to lack of knowledge, the fear of being dispossessed of their land management. Another reason may be raised: as they are the last step to implement the policy, they are directly confronted with population's concern.



Conclusion

This brings us to the great concern of planners regarding the definition of the landscape objects that are part of "trame verte". Which maps should be used in order to identify and plan different "trames vertes"? Regarding the mapping of trame verte, the question of scale is crucial. The aim of regional ecological strategies is halting biodiversity loss, focusing mainly on already protected areas as Natura 2000, RAMSAR, ZNIEFF (area of ecological, faunal and floral). Through this vision, these strategies take into account the main elements of outstanding biodiversity value, excluding the most common species and the social expectations issues of their primary concerns. Therefore, in spite of the dominant discourse on the protection of ordinary biodiversity, the priority is still on the conservation of rare or emblematic species. It is simpler as the areas of concern are smaller and can be delineated on

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maps, it is easier for public communication and laws and regulations are mainly tailored for these aspects of biodiversity.

Another problem is that most planners and decision-makers have a sectoral view of the ecological aspects, not a view integrated in with the economic and social components of sustainable development. The integration of biodiversity management in urban and rural development is a requisite to maintain ecological functions; otherwise species conservation is segregated and confined to too small areas; emblematic species may be protected while the greater number of species may be threatened.

In conclusion, the French law on “trames vertes” appears as being *avant garde* in the sense that it is a law. Therefore it should be enforced and have a real effect on biodiversity conservation as well as on the other functions of greenways. At the same time, it is only compulsory at the regional level, not at the level of the implementation of planning documents. Thus, its efficiency may not be better than with the previous, *déjà vu*, situation.

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