

MAIN SECTION

Soil of Enterprises. A Critical-Historical Analysis

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ABSTRACT

In France, from the 1960s onwards, a tool for productive territorial planning was put into place: the *Zone d'Activité Économique* (ZAE). As sites reserved for the establishment of enterprises within a given perimeter, outside inhabited centres, ZAEs have since grown steadily and become one of the major factors responsible for the peri-urbanisation of the French territory. Their impact on soil artificialisation and the fragmentation of agricultural land forces us today to question their ability for the sustainable development of the territory. Can the soil of the activity sites be considered the 'active operator' of productive processes, a heritage to be maintained and valued within the economic process?

KEYWORDS

Productive Territory, ZAN, Enterprises, Zoning, Peri-urban

PEER REVIEWED

<https://doi.org/10.6092/issn.2612-0496/14775>

ISSN 2612-0496

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“The basis of everything is soil, without soil you have no food, it is the basis of everything. Once sealed, it’s over.”¹

With these words, a farmer concludes *La terre en morceaux*, a documentary depicting the citizens’ struggle of the *Ferme des Bouillons*, a farmstead situated near Rouen (Normandy, France) threatened in 2012 by the creation of a *Zone d’activités économiques* (ZAE) to accommodate a new shopping centre of the Auchan group.

The newspaper *Paris-Normandie* described the “great incomprehension” when the demolition permit for the ten buildings on the Farm was granted. Immochan, a real estate subsidiary of the Auchan group, had just bought this farm complex located in an area called *Bel Event*: an agricultural site on the edge of a “natural area of ecological, faunistic and floristic interest”. The project was to build a hypermarket just like the *Ferme du Sart*, a commercial activity zone located in Villeneuve-d’Ascq (59) which seeks, through the marketing of short circuits, to establish a link with local agriculture. Faced with this project, the citizens loudly demanded that the socialist mayor Patrice Colasse reviewed the *Plan local d’urbanisme* (PLU) to “restore the site’s status as a natural zone, lost in 2006”.² A citizens’ group organised itself, founded the *Association pour la protection de la Ferme des Bouillons* (APFB) and on December 6, 2012, began to occupy the farm: their objective was to preserve the agricultural character of the site and avoid the demolition of the buildings.

Based on this situation, Ariane Doublet, the director of *La terre en morceaux*, opens up on the practices of artificialisation of agricultural land in the Rouen region up to Le Havre. By giving a voice to the actors involved (from developers to farmers, via the mayors of the villages concerned), she reveals the power dynamics between companies, developers, elected officials and inhabitants, and shows the double dimension of this disconnection: environmental and social. As described by *Le Monde*, in this documentary the actors themselves highlight the mechanisms of this process. Ariane Doublet explores processes that can be observed at the local level, but which resonate very strongly on a wider scale. The documentary states that on a national scale, this type of “devastating transformation” of territories is the equivalent, size-wise, to one department every seven years, of which 25% of the artificialisation of soils is caused by activity sites. In this process, agricultural land is caught between excessive expropriations, on the one hand for the creation of zones, roads, etc., and on

1 «La base de tout c’est la terre, sans la terre on n’a pas à manger, c’est la base de tout. Une fois qu’elle est bétonnée, c’est fini» (translated by the author) in *La Terre en morceaux*, Documentary (Quark Productions, ARTE France, 2015), http://www.film-documentaire.fr/4DACTION/w_fiche_film/23224_1.

On this subject, see the article “Sols à défendre” that I wrote with Emmanuelle Raoul-Duval in *Zones en devenir – en déshérence* edited by Canal architecture, Paris, 2023

2 Caroline Heurtault, ‘Les Bouillons en danger’, *paris-normandie.fr*, 12 December 2012, sec. Planet, https://web.archive.org/web/20160323224349/https://www.paris-normandie.fr/detail_article/articles/PN-880789/hemertheque/les-bouillons-en-danger-0-880789#.VvMcOzP06h.

the other hand by constantly expanding farms, without leaving room for family-size owned farms.

Almost 10 years after the beginning of this citizens' struggle, several critical elements that directly concern the planning of the French territory remain relevant:

First of all, it underlines the complexity of the relationship between economic and productive activities and soil, a relationship that encompasses a multitude of actors with varied interests.

In face of this complexity, it is impossible to separate environmental issues (in this case that of land reclamation) from social issues:

In a context where land use has such an impact on the value of land, independently of its quality, sustainable spatial planning is intertwined with the economic and political dimension.

Secondly, it shows the inadequacy of the development tools for economic and productive activity sites (in this case the ZAE), off-ground models, disconnected from the physical and social context, which struggle to respond to contemporary issues.

Nearly 60 years after their creation, it questions whether these tools are still appropriate for a sustainable spatial planning.

And finally, it also warns us of the difficulty of developing strategies that address this complexity of factors.

The “devastating transformation” of soils

“We have to do away with business zones, industrial zones, commercial zones, residential zones, leisure zones. The old functionalism is dead. It has done enough damage. Let's go back to mixing”.³ On April 29, 2009 Nicolas Sarkozy presented the Grand Paris project and enacted the end of zoning. A few months later, the article *Comment la France est devenue moche* in the magazine *Télérama* analysed a territory invaded by industries of all types and sizes, in a seemingly chaotic and uncontrolled process of peri-urbanisation of the territory, and asked the question: should we speak of a “transformation”, or indeed “destruction” of the French territory?⁴

The *Télérama* article and the Grand Paris project have provided an opportunity to open a debate on the role that business sites and the tools of the ZAE play in the process of territorial fragmentation: these planning models are the spatial concretisation of an urbanism that has internalised the

3 Nicolas Sarkozy, 'Déclaration de M. Nicolas Sarkozy, Président de la République, sur le projet du Grand Paris, à Paris le 29 avril 2009', vie-publique.fr, 29 May 2009, <https://www.vie-publique.fr/discours/175124-declaration-de-m-nicolas-sarkozy-president-de-la-republique-sur-le-pr> (translated by the author).

4 Xavier de Jarcy and Vincent Remy, 'Comment la France est devenue moche', *Télérama*, 12 February 2010, <https://www.telerama.fr/monde/comment-la-france-est-devenue-moche,52457.php>.

productive system and considers itself entirely at the service of production. The urbanism that determines these planning tools is the project of an industrialised society that seeks the means of optimisation and rationalisation through its spatial component.⁵

This “devastating transformation”, which mainly concerns agricultural land, is reflected in the change of land use and its possible sealing. In this process, business sites play a major role, which has been widely taken into account in recent years in the more general debate about the fight against soil artificialisation. The theme of soil artificialisation is central to research, reports and public policies in the field of urban and territorial planning, and it has also now become topical in the field of architecture.⁶ The report on soil artificialisation is unambiguous⁷ and there is a general consensus on the need to curb it, as it is considered “one of the main causes of the erosion of biodiversity”.⁸ On a European scale, great importance is given to the effects of soil sealing, a process responsible for dissociating the relationship that soils maintain between the biosphere and the lithosphere, disrupting its potential functions.⁹

Ghislain Géniaux, coordinator of the chapter on the impact of artificialisation on the quality of agricultural soils in the 2017 Inra-Ifsttar report, raises specific concerns about the future of agricultural soils, areas that present particular frailties in the face of the phenomenon of urban sprawl. These are the soils whose quality is most threatened by artificialisation, as they are often located close to cities and therefore subjected to the process of urban sprawl, and, at the same time, the least preserved by public policies, which have historically been more attentive to other natural areas. The notion of “quality” applied to a soil “is evaluated according to the services expected from it”¹⁰ and the analyses that propose an estimate of the productive capacity of a soil indicate the decrease, or even the loss, of the agricultural production capacity due to artificialisation. In particular, the research cited in the report

5 André Lortie, ‘De quoi l’urbanisme est-il le projet ?’ (Dossier d’habilitation à diriger des recherches, Panthéon-Sorbonne, 2021).

6 As a demonstration of this awareness, several events have taken place in recent years: On 4 May 2019, the first *Biennale d’architecture et de paysage d’Ile-de-France* (BAP!) opened and for the section dedicated to landscape, Alexandre Chemetoff, curator of the exhibition, chose the title *Le goût du paysage*, putting the production of agricultural soils in the spotlight of the event. “A return to the earth” in search of a renewed balance between town and country. *Le goût du paysage* follows another important event, *Capital agricole* at the Pavillon de l’Arsenal, which, in a work that is both analytical and forward-looking, highlights the agricultural potential of the Ile-de-France region.

7 Lauriane Thomas, *Le foncier d’activités économiques, variable d’ajustement des modèles de développement local ? : an application to the Provence Alpes, Côte d’Azur region*, University of Avignon, Avignon, 2021, p. 15 (translated by the author).

8 Béatrice Béchet, Yves Le Bissonnais, and Anne Ruas, ‘Sols artificialisés et processus d’artificialisation des sols : déterminants, impacts et leviers d’action. Rapport’ (INRA, December 2017), <https://doi.org/10.15454/731a-nn30>.

9 European Environment Agency, *Soil resource efficiency in urbanised areas*, Luxembourg, Publications Office of the European Union, 2016

10 This is a debated definition, see *Ibid*, 278.

stresses that this process regards mainly soils of very high quality.¹¹ Artificialisation is therefore mainly “seen as a process of urbanisation of agricultural and natural areas” which has a major impact on the loss of soil quality. However, the INRA-lfsttar report, following analytical work carried out on the international Web of Science (WOS) database, stresses that the definition remains little discussed in the literature: it remains a “scientifically ambiguous” object that lacks precision, as the notions of “artificial soils” and “soil artificialisation” refer respectively to specific modes of occupation and changes in land use,¹² the differences between which and the process of sealing remain controversial.

Artificialisation is defined “by the negative”, an artificialised soil is therefore described by what it is no longer : “surfaces removed from their natural state (fallow land, natural grassland, wetlands, etc.), or from their forest or agricultural uses”.¹³ By encompassing multiple ways of using and occupying land, this process combines land “strongly shaped by human activity (housing, industrial buildings, but also building sites, quarries, mines, landfills, etc.)” with others on which there is less human interference, for example “green spaces associated with these uses (parks and gardens, sports and leisure facilities, etc.)”.¹⁴ The enduring ambiguity in the definition of the term “artificialisation” remains because of the complexity of assessing the various degrees of human action that impact artificialised land, depending on its use. In a territory that is almost entirely anthropised, artificialisation is one factor amongst others,¹⁵ however, as Jean Cavailhès ironically points out, “concrete or garden, don’t confuse them: tomatoes don’t grow on concrete”.¹⁶

The *Centre d’études et d’expertise sur les risques, l’environnement, la mobilité et l’aménagement* (Cerema), in its 2019 report on the rate of soil artificialisation, uses the definition proposed by Inra-lfsttar and considers artificialised any space that is neither natural, agricultural nor forested.¹⁷ The same report, based on a comparison of Teruti-Lucas sources and

11 Gergely Tóth, ‘Impact of Land-Take on the Land Resource Base for Crop Production in the European Union’, *Science of The Total Environment* 435-436 (October 2012): 202-14, <https://doi.org/10.1016/j.scitotenv.2012.06.103>; Ece Aksoy et al, ‘Assessing and Analysing the Impact of Land Take Pressures on Arable Land’, *Solid Earth* 8, no. 3 (20 June 2017): 683-95, <https://doi.org/10.5194/se-8-683-2017>.

12 Béchet, Bissonnais, and Ruas, ‘Sols artificialisés et processus d’artificialisation des sols’.

13 Arnaud Bouteille, ‘Vers une redéfinition de l’artificialisation ? (ou, devrait-on dire, une première définition ?)’, *Fonciers en débat* (blog), 15 April 2021, <https://fonciers-en-debat.com/vers-une-redefinition-de-lartificialisation/> (translated by the author).

14 Béchet, Bissonnais, and Ruas, ‘Sols artificialisés et processus d’artificialisation des sols’, 13 (translated by the author).

15 Philippe Bihoux, Sophie Jeantet, and Clémence De Selva, *La ville stationnaire : Comment mettre fin à l’étalement urbain* (Arles : Actes Sud, 2022).

16 Jean Cavailhès, ‘Artificialisation des sols : de quoi parle-t-on ?’, *Constructif* 57, no. 3 (2020): 23, <https://doi.org/10.3917/const.057.0021> (translated by the author).

17 Cerema, ‘L’artificialisation et ses déterminants d’après les Fichiers fonciers. Période 2009-2017 - Chiffres au 1er janvier 2017’ (Lille : Cerema, 2019), 9 (translated by the author).

fichiers fonciers,¹⁸ estimates that at the national level the overall proportion of soil artificialized is in France 9.58%. This surface is distributed according to use: 68% is used for housing, 26% for activities, 4% for unknown uses and 2% for mixed uses. The analyses show an overall increase in land consumption between 2016 and 2019, despite with a decrease between 2009 and 2016. Business sites are not the main factor in the artificialisation of land: the main destination of the artificialised surface is housing, but their impact is far from negligible and represents around a quarter of the artificialised surface, with a +6.8% of artificialised land per year extension rate (much higher than that for households, around +1.6% per year).

Business sites are therefore “one of the driving forces behind the consumption of space in the peri-urbanisation of cities”,¹⁹ which results in the expansion of artificialised land on ever larger and more distant areas. Despite its major role, it is of little interest to specialists in the humanities and urban planning, who are more interested in the impact of suburban housing and the consequent relationship between the city and the countryside. According to the researcher Patricia Lejoux, the wealth of this work has often made us forget that “institutional actors and companies have also played an important role in the development of peri-urban spaces”.²⁰

The earth in pieces

Eric Glon’s pioneering work on the Seuil de l’Artois, already in the early 1990s, described the ZAE as an essential aspect of peri-urbanisation, and its role in the standardisation of peri-urban landscapes, characterising the entrances to the cities and offering “an anarchic juxtaposition of parking spaces and more or less well-kept buildings, without the slightest aesthetic research”.²¹ A territory free of all constraints that escapes the classic regulatory framework, subjected to the hegemony of the economy, described by David Mangin’s research on the franchised city. Mangin analyses the characteristics of these “large, private, secure and less and less free areas” and notes the “progressive scarcity of public spaces within this new urban organisation, which appears to be antinomic with the foundations of the city”.²² Through their establishment, the groups of corporate capitalism are creating a form of territorial organisation centred on

18 *Fichiers fonciers* are land records providing a detailed description of the land and the property rights associated.

19 Cerema, ‘Les déterminants de la consommation d’espaces. Période 2009-2019 - Chiffres au 1er janvier 2019’ (Lille : Cerema, 2020), 57 (translated by the author).

20 Patricia Lejoux, ‘Les entreprises, actrices de la périurbanisation en France’, in *Aux marges de la ville. Paysages, sociétés, représentations*, ed. Denis Menjot, Sophie Collin-Bouffier, and Claude-Isabelle Brelot (Paris : L’Harmattan, 2015), 195-204, <https://halshs.archives-ouvertes.fr/halshs-01283968>.

21 Éric Glon, ‘L’impact croissant des zones d’activités dans la périurbanisation et la rurbanisation : l’exemple du seuil de l’Artois’, *Hommes et Terres du Nord* 3, no. 1 (1993) : 199-210, <https://doi.org/10.3406/htn.1993.2441>.

22 David Mangin, *La Ville Franchisée* (Paris: Edition de la Villette, 2004).

privatisation²³ and favouring the constitution of new polarities determined by fragmentation and spatial discontinuity. Since the 1960s, this process has been accompanied by the distance between homes and jobs, which intensified in the 1980s and 1990s. A growth of employments that relies on several mechanisms mainly linked to:

1) the relocation of companies setting up outside the cities, 2) the creation of new economic activities seeking to be closer to the inhabitants of the peri-urban territory, 3) and finally, the new jobs created in the companies already established on the outskirts.²⁴

Over the last sixty years, “new peri-urban centralities” have been established in the territory, around companies whose activity diversifies according to the needs of the municipalities, “business parks and areas, logistics platforms, technology parks, leisure parks...”,²⁵ the first hypermarkets and the first shopping centres: secondary centres where it is possible to find some of the services of the urban centres²⁶ and “living centres” which attract urban and peri-urban consumers. As Martin Vanier points out, it is characterised by “situations of interweaving and hybridisation between town and country, of segmentation, fragmentation and re-differentiation of two worlds, the urban and the rural, which are used to living through each other, but also to proclaiming their respective unity, which has however been shattered”²⁷. The process of urban sprawl has given rise to a large body of research that, looking at both the environmental and social impact, demonstrates the difficulty of associating this process with sustainable territorial development.

The productive system, through its planning tools, produces a continuous exploitation of natural resources and makes social ties increasingly fragile and precarious.²⁸ Soil is an element of nature inextricably linked to the actions of humankind. Productive activities have compromised this “complex whole”, in which labour is part of life, and land remains part of nature.²⁹ As Karl Polanyi points out, the productive function is only one of the functions of soil, and the reduction of its functions to that of a simple support for production shows its complete subordination to the needs of the productive system. In this regard, Paul Guilibert, analysing the relationship between land and capital, introduces the concept of “extractivism”

23 Patricia Lejoux, ‘Quelle place pour la zone d’activités économiques dans la fabrique de la ville contemporaine ?’, in *Les nouvelles fabriques de la ville. Objets, référentiels et méthodes*, by Guy Baudelle and Gilbert Gaultier (Rennes : Presses Universitaires de Rennes, 2018), 25-32, <https://halshs.archives-ouvertes.fr/halshs-01844571>.

24 Lejoux, ‘Les entreprises, actrices de la périurbanisation en France’.

25 Ibid.

26 Béchet, Bissonnais, and Ruas, ‘Sols artificialisés et processus d’artificialisation des sols’, 190 (translated by the author).

27 Martin Vanier, ‘La relation «ville / campagne» excédée par la périurbanisation’, *Les Cahiers français : documents d’actualité*, no. 328 (October 2005) : 16 (translated by the author).

28 Rosario Pavia, *Tra suolo e clima: la terra come infrastruttura ambientale* (Roma: Donzelli editore, 2019).

29 Karl Polanyi, *The Great Transformation* (New York: Farrar & Rinehart, 1944).

precisely to indicate “a model of accumulation based on the overexploitation of largely non-renewable natural resources and on the displacement of the boundaries of territories hitherto considered as ‘unproductive’”.³⁰ The “extractivist” model is not exclusive to “strictly extractive” practices, but it also includes other productive activities that perform an “irresponsible appropriation” of resources, which, because of this very exploitation, become non-renewable. The objective of this exploitation of resources is the accumulation of capital, which does not only lead to “environmental destruction”: the deterioration of the soil is accompanied by the loss of links with and between the community, “communal social relations are destroyed in the same way as the relations to the land on which they were based are destroyed”.³¹

Some research, considering the peri-urbanisation of the territory as a ‘step’ towards new relations between town and country, proposes to develop strategies allowing to inscribe peri-urban territories in more sustainable trajectories and to establish new forms of territoriality.³²

What is the role of productive activities in this process?

It should already be pointed out that the ZAE, while remaining the most widespread tool for the planning of economic activity sites, is “an old concept, but constantly renewed”³³ which coexists with variants. Since the 1980s, with the development of environmental awareness in the general public, it has become increasingly difficult for companies to establish a business without considering the environmental consequences and the effects on public opinion. Environmental certifications are becoming widespread practices to improve performance, as well as a means of promotion and corporate communication. The various reports on sustainable development open the possibility of reconciling ecology with economic development, give “ecological legitimacy to the system”³⁴ and the consideration of soil and its landscaping becomes central to develop a brand image that distinguishes the product and gives it its own identity. The purpose of soil is to socially mark the space.³⁵

In France, the development tool of *Parc d’activités économiques* (PAE) was set up in the 1980s to address these challenges and meet the communication needs of companies, and, with the use of the word “park”,

30 Paul Guillibert, *Terre et capital: pour un communisme du vivant* (Paris: Éditions Amsterdam, 2021), 152 (translated by the author).

31 Ibid.

32 Vanier, ‘La relation “ville / campagne” excédée par la périurbanisation’.

33 Glon, ‘L’impact croissant des zones d’activités dans la périurbanisation et la rurbanisation’, 1 (translated by the author).

34 Matthias Petel, ‘La nature : d’un objet d’appropriation à un sujet de droit. Réflexions pour un nouveau modèle de société’, *Revue interdisciplinaire d’études juridiques* 80, no. 1 (2018): 207–39, <https://doi.org/10.3917/riej.080.0207>.

35 Bernadette Mérenne-Schoumaker, ‘Des zones industrielles aux parcs scientifiques, technologiques et d’affaires. Trente ans de mutation des sites d’entreprises’, *Hommes et Terres du Nord* 2, no. 1 (1991) : 155, <https://doi.org/10.3406/htn.1991.2334> (translated by the author).

underlining the will to integrate economic spaces into their geographical environment.³⁶ Three categories of parks can be identified:

Science and research parks, technology parks and business parks.³⁷ The first site developed to accommodate productive activities, Trafford Park, is a business park, which served in the 1950s as a model for industrial and commercial zones.

Indeed, it is the same zoning logic that determines the choice of location for business sites, whether they are called zones or parks. In both cases, these sites have been modulated to meet the requirements of companies, particularly high-tech ones.³⁸ The location of these companies generally favours strategic land, characterised by its proximity to the motorway network and a “green setting” which is preserved by low land use coefficients (0.25 to 0.10).³⁹

A more recent evolution of PAE is the eco-park, a model defined by ecological and environmental characteristics that also provide economic benefits. The eco-park integrates new technologies, and, inspired by the principles of industrial ecology, “challenges the usual mode of production by paying particular attention to the management of natural resources”.⁴⁰ It refers to the Eco-Industrial Park (EIP), a model theorised in the mid-1990s by Brendan Doyle, Ernest Lowe and Stephen Moran, and defined as “a Community of Companies [...] seeking enhanced environmental and economic performance through collaboration in managing environmental and resource issues”.⁴¹ The objective of an EIP is, through the use of sustainable design strategies, the integration of industrial ecology principles⁴² and the cooperation between companies, to improve environmental (pollution reduction, optimisation of energy expenditure, etc.) and economic performances that are far greater as a collective than the sum of their isolated parts.

36 Jean-François Saigault, 'Zones et parcs d'activités économiques en Île-de-France' (Paris : IAU IdF- Institut d'Aménagement et d'Urbanisme de la région Île de France, 8 November 2018), https://www.institutparisregion.fr/fileadmin/DataStorage/user_upload/OK_Etude_zones_et_parc_d_27activite_s_en_IDF_octobre_20188_V9_Definitif.pdf.

37 Mérenne-Schoumaker, 'Des zones industrielles aux parcs scientifiques, technologiques et d'affaires. Thirty years of change in business sites'.

38 Ibid, 153.

39 Ibid, 168.

40 Elisa Conticelli and Simona Tondelli, *La pianificazione delle aree produttive per lo sviluppo sostenibile del territorio* (Firenze: Alinea, 2009).

41 Brendan Doyle, Ernest A. Lowe, and Stephen R. Moran, *Fieldbook for the Development of Eco-Industrial Parks: Final Report* (Indigo Development, 1996), 12 (translated by the author).

42 Concerning the notion of industrial ecology, refer to the seminal work of Robert A. Frosch, 'Industrial Ecology: A Philosophical Introduction', *Proceedings of the National Academy of Sciences of the United States of America* 89, no. 3 (1992): 800-803, <https://doi.org/10.1073/pnas.89.3.800>.

Beyond a sustainable development of productive territories

Even if these models show that taking environmental issues into account is a priority, combining them with sustainable planning is not obvious. Firstly, the progression of business parks and eco-parks, which are still reserved for a medium to high-end market, has not prevented local authorities from creating and developing ZAEs for local SMEs. Secondly, most of the efforts made by public authorities and companies have focused on the link between the economy and the environment, but with “much less attention being paid to the social or community dimension of sustainability”.⁴³ Seemingly placing the land as the main protagonist in the development of business sites, these models highlight the lack of questioning of the very system that produced them. In this regard, the geographer Fabienne Joliet, using Augustin Berque’s notion of the “*paysagement* era”,⁴⁴ analyses the development of business parks in which “every space becomes a landscape”:

By considering business sites as a landscape motif in their own right, the park model would generate a “pernicious and dangerous banalisation that would alter the landscape diversity⁴⁵ “. David Mangin emphasises that the quality of these vegetated spaces is directly subjected to the image of the brand, which offers, through the park, “a perfect model for thinking about spacing and enclosing a privileged piece of nature”.⁴⁶

On the other hand, in these parks, the logic of monofunctional, CCTVed zones remains, which constitute reserved and privatised “enclaves without overly visible enclosures”.⁴⁷

Whether they are zones, parks or eco-parks, the soil of business sites is considered as a surface solely dedicated to economic and productive activities, and not as a support for living spaces inserted in a territory on which they do not only have an impact, but with which they establish a relationship. By seeking to define valid models without taking into account the diversities of the context and questioning the logic of the productive system, these models propose partial solutions that risk tending dangerously towards a privatisation (franchising, to use Mangin’s term) of the territory. The design of these business parks is still anchored in a logic of short-term profitability, disconnected from the territory, whose soil is not taken into account as a heritage to be maintained and developed.

43 Raymond P. Côté and Edward Cohen-Rosenthal, ‘Designing Eco-Industrial Parks: A Synthesis of Some Experiences’, *Journal of Cleaner Production* 6, no. 3 (1 September 1998): 181-88, [https://doi.org/10.1016/S0959-6526\(98\)00029-8](https://doi.org/10.1016/S0959-6526(98)00029-8).

44 Augustin Berque, *Médiance: de milieux en paysages* (Montpellier: GIP Reclus, 1990).

45 Fabienne Joliet, ‘Paysages d’entreprises’, *Espace géographique* 25, no. 3 (1996) : 257-59, <https://doi.org/10.3406/spgeo.1996.994>.

46 Mangin, *La Ville Franchisée*, 145 (translated by the author).

47 Ibid.

Beyond the park and eco-park models, the need to find planning strategies capable of reducing land artificialisation has prompted public authorities, following the European Union directives,⁴⁸ to impose a target designed to challenge the very tools and planning of business sites: it is the Zéro artificialisation nette (ZAN) target, which proposes to “eliminate any net increase in the area of occupied land by 2050”.⁴⁹

This target, initially included in the 2018 biodiversity plan, has been integrated into the *Loi climat et résilience* with two objectives: reduce the artificialisation of land and combat the degradation of biodiversity.⁵⁰ Objectives that directly concern the development of business sites: Article 220 of the *Loi climat et résilience* provides rules that directly regard the relationship between land and business parks, by stipulating that the *Établissement public de coopération intercommunale* (EPCI) that manages them must carry out an inventory identifying the surface area of the land, its division into plots, its occupants and its vacancy rate.

ZAN is defined as “the balance of soil artificialisation and renaturation recorded within a given area and over a given period of time”, in which artificialisation is “the most lasting alteration of all or part of the ecological functions of a soil” and renaturation the opposite process.⁵¹ In line with an ecosystem-based conception of land, ZAN proposes an openly quantitative objective, centred on a “surface” balance, which, in order to guarantee a “net” balance, introduces a biodiversity compensation logic based on the sequence - avoid, reduce, compensate.⁵² This compensation, which in the spirit of the law will be applied through measures to renaturalise artificialised land, presents critical points outlined by several specialists, who stress the difficulty of renaturalising a living ecosystem, which is the product of complex interrelations. As Jean Gadrey points out, soil is not simply a heritage to be preserved, but a living heritage “that must be cared for by preserving or maintaining the dynamics and functionalities linked to it, which goes beyond the injunction to use sparingly the ‘resources’ that support it. To compensate for its biodiversity, it is necessary to re-establish its ‘vital interrelations’ and its ‘functionalities’ within the living world”.⁵³

48 ‘Roadmap to a Resource Efficient Europe’ (Brussels: European Commission, 20 September 2011), <https://eur-lex.europa.eu/legal-content/FR/TXT/PDF/?uri=CELEX:52011DC0571&from=EN>.

49 Cerema, ‘L’artificialisation et ses déterminants d’après les Fichiers fonciers. Période 2009-2017 - Chiffres au 1er janvier 2017’, 9 (translated by the author).

50 Ibid.

51 JURIDIQUE - La loi “Climat et résilience” du 22 août 2021 inscrit la lutte contre l’artificialisation des sols dans les grands objectifs de l’urbanisme’, [cerema.fr](http://outil2amenagement.cerema.fr/juridique-la-loi-climat-et-resilience-du-22-aout-a3069.html), 2 September 2021, <http://outil2amenagement.cerema.fr/juridique-la-loi-climat-et-resilience-du-22-aout-a3069.html> (translated by the author).

52 Bihouix, Jeantet, and De Selva, *La ville stationnaire*.

53 Jean Gadrey, ‘La biodiversité n’est pas une ressource naturelle’, *Reporterre*, 9 September 2014, <https://reporterre.net/La-biodiversite-n-est-pas-une-ressource-naturelle>.

Maintaining the dynamics of this living heritage encourages us to move away from a simply quantitative approach to artificialisation, an approach that denies the social, economic and environmental complexities of the territories, and towards a qualitative approach which, on the contrary, could contribute to a revision of planning thinking.⁵⁴ Éric Charmes, who raised this issue back in 2013, considers that the impacts on agricultural land “are due less to the quantity of artificial land than to the methods of artificialisation [...]. In other words, the challenges of artificialisation are not so much quantitative as qualitative: what land is artificialised and how?”⁵⁵ The discontinuity of peri-urbanisation (which Charmes considers to be a process of *émiettement*)⁵⁶ has an impact on biodiversity and agricultural land that is greater than the amount of artificial land, causing the disruption of ecological corridors and increasing the fragmentation of the territory, because “it is not enough to declare that artificialisation is an evil that should be reduced to nothing to solve the problem”.⁵⁷ Recognising the problems with this measure and the inadequacy of environmental compensation schemes, the authors of *La ville stationnaire* propose to move from ZAN to *Zéro artificialisation brute* (ZAB): or to stop artificialisation altogether. Cities would develop according to “a new ‘contract’: the protection of all soils, agricultural and non-agricultural - including those already open to urbanisation - which would be considered a rare and non-renewable resource, a ‘common good’, preserved for future generations, for their nourishing potential, but also their capacity to provide ‘ecosystem services’, to contribute to climate regulation, to host biodiversity...”.⁵⁸ They therefore propose the notion of a “*ville stationnaire*”, a city that focuses on itself, its renewal, its densification and its repair. In this reflection, the land of business sites is directly concerned: by considering it as “density reserves”, a “land deposit” that is artificial and “largely under-exploited”,⁵⁹ through the optimisation of spaces, their mutualisation and their reasoned densification, business sites could play a central role in the development of cities.

This notion leads us to rethink the role of business sites in a “balanced” urban development. Several research-action projects have already been supported recently towards this goal by the PUCA,⁶⁰ by the *Conseil*

54 Stéphane Cordobes et al, eds, *Repenser l'aménagement Du Territoire : Colloque de Cerisy, Au Fil Du Débat. Études* (Colloque de Cerisy, Boulogne-Billancourt : Berger-LevraultLevrault, 2020).

55 Éric Charmes, ‘L’artificialisation est-elle vraiment un problème quantitatif ?’, *Études foncières*, no. 162 (15 March 2013): 23 (translated by the author).

56 Éric Charmes, *La ville émietlée* (Paris: Presses Universitaires de France - PUF, 2011).

57 Éric Charmes, ‘De quoi le ZAN (zéro artificialisation nette) est-il le nom ?’, *Fonciers en débat* (blog), 25 September 2021, <https://fonciers-en-debat.com/de-quoi-le-zan-zero-artificialisation-nette-est-il-le-nom/> (translated by the author).

58 Bihouix, Jeantet, and De Selva, *La ville stationnaire*, 209 (translated by the author).

59 *Ibid*, 253 (translated by the author).

60 PUCA supports a research program on the theme of the productive city, see PUCA, ‘Ville productive’, Plan Urbanisme Construction Architecture, 30 November 2022, <http://www.urbanisme-puca.gouv.fr/ville-productive-r140.html>. See in particular the research project directed by Gilles Novarina.

d'architecture, d'urbanisme et de l'environnement (CAUE)⁶¹ of various departments, in this sense. However, this notion and these experiences should not make us forget that “refraining from sealing new soils, favouring short cycles and building with biosourced, recycled or recyclable materials”⁶² is not enough to compensate the damage of the last two centuries. We should rather consider the “very act of building” as an act of repairing our soils and our territories. A conception of architecture that opens up the possibility of considering architecture as a means of maintaining and enhancing the territory, in which the restoration of the soil embodies both the condition of harmony and the modality of its resistance through time.⁶³ The aim? To ensure that architecture can participate in the development of strategies “truly equal to the Anthropocene challenge and the need to build a new way in which we can live with dignity tomorrow”.⁶⁴

Conclusion

The difficulty of combining the planning models for business sites with the possibility of maintaining and enhancing the physical and social complexities of the territorial contexts in which they are inserted, means that the strategies adopted are not only an inadequate response to the socio-environmental issues raised, but are part of a long tradition of urban planning determined by the imposition of industrial logics on the territory. These logics contribute to the development of the productive system by providing it with the means of spatial implantation, the main purpose of which is the production of economic value, and the resulting planning tools remain locked into logics of economic profitability, hence the exploitation and domination of natural resources.

Faced with a planning of productive activities that is inadequate for the development of the territory, and which does not manage to escape a logic of exploitation of resources, it is necessary to ask a question: what is the project of urban planning?⁶⁵

The question is central today, because, if the very purpose of urban planning is to guarantee the development of a durable territory, in the sense

61 See in particular the *MIX CITE 3* competition launched on 20/05/2022 by the CAUE of Haute-Savoie, *MIX CITE 3*; *mixcite.caue74*, 3, accessed 10 December 2022, <http://mixcite.caue74.fr/mixcite-3/>. See the seminar *Reconnaître les sols urbains* proposed by the architect Patrick Henry with the CAUE92.

62 Paul Landauer, *Making the Case for Restorative Architecture*, Podcast, 12 May 2021, <https://www.rue89lyon.fr/2021/05/10/plaidoyer-architecture-reparation/>.

63 In this regard Paul Landauer points to a particularly stimulating parallelism between the act of repairing the soil and Alberti's theories in *De re aedificatoria*: “Alberti integrated the act of building into a terrestrial and aquatic cycle that had to be constantly perfected, completed and maintained. From then on, the architect had to explore both the thickness and the surface of the soil”. See Paul Landauer, ‘Repairing the Soil: The Lesson of Alberti’, in *The Project of the Soil*, ed. David Peleman et al, Oase 110 (Rotterdam: nai010 publishers, 2021), 17.

64 Stéphane Cordobes, ‘Repenser l'aménagement des territoires’, *Constructif* 60, no. 3 (2021): 61–65, <https://doi.org/10.3917/const.060.0061>.

65 Lortie, ‘De quoi l'urbanisme est-il le projet ?’

that it is capable of matching the needs of the productive system with those of a territorial development inscribed in the long term, it is necessary to re-examine its very foundations concerning the technique and the notion of sustainability. Without questioning the productive system itself, planning strategies that aim at sustainable development risk being reduced to their technical component “to the detriment of a real transformation of the productive system”.⁶⁶ As Daniel Tanuro states, “what is called an ‘ecological crisis’ is rather a historical crisis of the relationship between humanity and its environment”, and, given that the problem is structural, a change that is itself structural is required.⁶⁷

This article is dedicated to the analysis of the relationship that the productive system establishes with the soil, but, from my point of view, in order to develop a “radical approach”, it is necessary to consider the act of planning in relationship to the notion of *durée* by understanding the territory as a “living organism”: “organism” because characterised by the synergetic interaction of its components (natural and social), “living” because constantly evolving in a creative evolution that “changes without ceasing”.⁶⁸ By taking into account this co-evolutionary and cooperative link between community, productive activities and natural resources, it will participate to reclaim natural resources, respect their ecological cycles and rhythms on the one hand, and to identify elements of response to the social crisis on the other. An approach in which the community has an active role, and gives the territory its meaning and participates in its maintenance and enhancement in the long term⁶⁹.

66 Pierre Caye, Durer: *Éléments pour la transformation du système productif* (Paris: Belles Lettres, 2020).

67 Daniel Tanuro, *L'impossible capitalisme vert* (Paris: La Découverte, 2012) (translated by the author).

68 This conception of the territory has been expressed already at the begging of the 19th century by the biologist Patrick Geddes. For the concept of creative evolution Patrick Geddes openly refers to Henri Bergson, in Patrick Geddes and J. Arthur Thomson, *Evolution* (London: Williams & Norgate, 1911), 204.

69 An important approach is the one developed by *Società dei territorialisti/e*. Regarding the synergetic relationship between the production system and the territory see in particular Giacomo Becattini, *La coscienza dei luoghi. Il territorio come soggetto corale*, Saggine (Roma: Donzelli Editore, 2015), 10; Alberto Magnaghi, *Il principio territoriale* (Torino: Bollati Boringhieri, 2020).

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