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TOWARDS A MORE “NATURAL” CITY?

Jean-Marc Bichat and Philippe Chavanes

The progressive transformation of “inherited” urban planning models, based on the duality of city and “nature,” is affected by climatic and environmental issues, by the transition from an extensive development model toward an intensive one, by territorial crises, and by citizen’s current aspirations. Although we have neither the means nor the scientific skills for a precise examination of this question, we nevertheless propose a description of some of the most notable milestones:

- The razing of fortifications, boulevard walkways, and “embellishments”: from a “closed” city to an “open” city, the city opens up and is turned toward the countryside.
- French formal gardens and aristocratic territory: from the staging of spaces such as parks, using the ideal of geometric regularity, to the ordering of rural spaces, the territory is covered with aristocratic spaces for hunting, royal routes, parks, and castles.
- The bourgeois city: from the dualism of the city (*urbs*) versus nature, to the city as a park, the unity of cities through a network of openings, parks, and walkways inherited from gardening as an art form.
- The American grid: geometric abstraction as a means of controlling all the spaces in the city. Manhattan and Central Park: nature encompassed in a city with space crossing through it.
- The garden city: from the critique of the industrial town to the rural ideal of the town in the countryside.
- The “radiant city”: from the reform of the city to its dilution in an idealized nature, an Arcadia without substance, like the abstract background of a painting, an essentialist approach, with nature paradoxically becoming more present due to the space given to cars. Nothing is left between buildings and the landscape.
- Contemporary, neoliberal space: the transition from spaces to networks, where there is neither city nor countryside, where there is nothing more than flux, connections, and nodes, a space that can be consumed, crossed through, a space without territory.
- And today: from space as a place to space as an environment or “milieu” (a semi-space?).

Should we seek to change these “models” giving nature “civitas”?

“Nature”¹ would now seem to be the essential, primary matrix of any transformation, both in terms of heritage with the aim of protecting each natural reality and expression of nature, or on the contrary as a form of renewal, restoring and strengthening nature’s presence, considerably degraded over the past century.² After the modern city, a more natural city would thus emerge.

For contemporary town planning and its application, this natural city seeks to define “empty” spaces differently: no longer as a space for representation and appropriation to be used in the design – mainly a question of subtracting from “full” space – but rather as a “milieu,” or environment where life has its source. Taking on the role of a foundation for the city project and its design, the *raison d’être* and meaning of this space is therefore to be found outside humanized space.

We are therefore faced with a contradiction in thinking about the city: it is the primary manifestation of civilization, and we here consider it as what it is fundamentally not.

The old demons of anti-urban thought then reappear, the dialectic of city versus nature and its accompanying demagogic speeches, simplistic oppositions, functionalism, and ways of thinking that are limited to different sectors. Those who support sustainable methods of transport are in fact the road engineers’ best allies, as Christian Devillers observed 26 years ago.³

As the anxiety of the climate emergency seems to push us further toward amnesia, we need, on the contrary, to adopt a position of greater historical awareness.

If we are convinced that the “anti-urban” doctrines that have been at work for more than a century have not helped (far from it) the condition or the situation of natural or rural spaces.

If we are convinced that there is no future for civilization without a future for the city, that the contemporary climate situation and the associated anxiety mean that we must no longer think by positioning ourselves one against the other.

then . . . we must think of the unification of this duality.

This means we must commit to the difficult and exciting mission of bringing different aspects of our knowledge together, without neglecting any them:

- Knowledge of landscaped spaces: layout, geometry, levelling, divisions and subdivisions, construction;
- Knowledge of networks which are both tangible and intangible;
- Knowledge of plant and animal life, of earth, water, sun, and wind.

This forces us to fit together several different time scales: the sedimented time of inhabited, organized space, the accelerated time of flux, instantaneous digital time, the biological time of living organisms and the cyclical time of the seasons, and the time we still have left.

The work presented below attempts to address this question – either within the framework of projects developed by the *germe & JAM* collective or within the framework of educational work.

We consider this question in two ways – on the one hand, that of otherness, and on the other hand, that of integration – seeking to test, and sometimes build, the means of finding an answer.

The work is based on a tradition: European urban culture, as it is inscribed in a history of ideas, cities, and projects and also on a discipline: architecture – as the knowledge and design of spaces located in particular places, built upon and inhabited.

The work proposes a combination of different approaches:

- Geography and territory in the context of a city that has become “territorialized” or rooted in a particular place, in which green spaces, infrastructure, public spaces, and urban fabrics fit together, and where urban areas and open spaces are in a reciprocal relationship of opposition, of equivalence, the continuity of which must now be considered. The way in which the territorialized city will find unity must now be established, and its public spaces, its roads, its infrastructures, its landscape, and its residential areas must be questioned. The limits of the city must also be decided upon; its integrity, and also that of non-urbanized spaces, depends on it.
- The anthropological aspect of space, considering that the recognition and articulation of public and private spaces is still the principal question concerning inhabited space. This question must be reexamined from the perspective of three different points of view: the integration of modern paradigms into the space’s urban dimension, contemporary aspirations (current “new practices”), and ecological issues.
- Public space has to be continuous, to be accessible to all, and also to act as an institution, carrying a shared history combining the past and the present. The current aspiration for these spaces is that of leisure activities and the new tendency of a move toward landscape and nature. With this tendency, one of the explicit values of contemporary public space is that of opening up to geography and landscape – therefore situating ourselves – to consider public space as a milieu – a vector of ecological continuities – and as infrastructure – an architecture of networks.
- Urban fabric,⁴ largely forgotten by French town planning, in a context where planning based on a master plan is both criticized and hegemonic, and where the “*macrolot*”⁵ or large plot grouping smaller plots together,⁶ presented as the magic answer, is anything but sustainable. Questioning the make-up of contemporary urban fabric and asserting the possibility of a project nevertheless constitute a fertile way of thinking about not only the relationship between architecture and the city but also the development of the city as a dynamic process. Today, it is also a question of integrating natural dynamics into the very substance of the city. At the heart of the long-standing relationships between roads, building plots, and buildings we must think about this dialectic: its forms, its spaces, its approach to energy, its landscape, its uses, its different types and their futures.
- Last, the typology and the typological project of the town, which is by nature generic and systematic, aims to present the distributive and constructive characteristics of building types. This in a way constitutes the “text” of the city, whose “natural surfaces” question the adequacy of the typological expressions of residential forms, public spaces, greenspaces, and landscapes (Figure 16.1).

The Territory’s Geography and Landscape

Geography and landscape create a structural and fundamental “system” of historical integration for the development of a territory. They question the nature and the framework of the “perimeters” that effectively compartmentalize urban design, particularly during the

FIGURE 16.1 “Nature” in the heart of the town. Matthäus Merian, “S. Peters Platz in Basel,” in Zeiller M. 1642. *Topographia Helvetiae, Rhaetiae et Valesiae, Franckfurt am Main: Merianischen Erben.*

operational phase of a project. The new objective in France of *Zéro Artificialisation Nette* (or “zero net artificialization” of the ground) draws attention to the limits between what is urbanized and developed, in the sense of being a built environment, and so-called natural spaces. It questions the articulation between the “inside” and the “outside” of the city.

Toward a “Natural” City: The Descartes Neighborhood in Champs-sur-Marne, 2017⁷

In Champs-sur-Marne, as part of a competition concerning the Descartes district and the area reserved by the state to be used for the motorway, now the N370 (with the new Noisy-Champs station in Grand Paris, driving a new phase of urbanization), we explored the hypothesis of completing the original project of the New Town Marne la Vallée, within the framework of its founding principles (that of being a “green town” in particular). This original vision turned out to be a failure (the “green” parts of the town are in fact isolated, and the town turns its back on its inaccessible natural spaces, which are abandoned, neglected fringes, “green” spaces without any particular status). With the aim of creating a more natural city, we proposed to open up the perimeters of the project:

- The grid of the landscape constitutes the framework for the natural city. It unites the city and its territory together.
- Integrating the so-called natural or green spaces into the project involves reexamining the notion of protecting natural spaces. This development depends on the strict maintenance of the balance between (quantities of) natural spaces and artificial spaces. It also encourages another way of thinking, planning, and managing public space.

FIGURE 16.2 *In Champs sur Marne, the grid of the landscape forms a framework for the natural city, conveying density. © germe&JAM and © Bruel Delmar.*

- Natural spaces at the heart of the city constitute the substance of the urban fabric, giving structure to a renewed public space, a landscaped urban center. These spaces give an outline to “landscaped interiors.” Natural spaces can become urban centers, on the scale of the city and the neighborhood.
- The density of construction is at least equivalent or even greater compared to an urban planning approach that isolates natural spaces from urbanized spaces but offers new forms of density, which are quite considerable.
- The natural city is also the art of building differently: constructions based on the organic and the living, positive energy buildings, durability of mineral or organic materials, city of stone, city of wood – this is the art of building a sustainable city (Figure 16.2).

Inheritance and Palimpsest

Transforming a territory calls for the creation of representations and for knowledge, an important part of which is (or should be) concerned with archeology. The objective is an understanding of the consistency and “natural functioning” of the site, studied during its evolution. The 20th century was a period of often radical transformation (installation of culverts to channel water, evolution of the layout and plots of land, etc.). Retracing the thread of history, restoring the natural and landscaped systems erased by modern urban planning can contribute both to the “genius of the place” and to ecological ambition, designing a new form of integration into the city and its territory (“geographic resettlement”).⁸

Urban Restructuring of the Southern Districts of Les Mureaux – 2003/in Progress

The project in the southern districts of Mureaux⁹ relates to the development of a vast housing project of around 4,000 housing units which were built in a fragmented way from 1955 to 1970, and where urban and social problems emerged in the 1990s.¹⁰ Selected as a “priority neighborhood” as part of the first session of public policies steered by the ANRU (*Agence nationale pour la rénovation urbaine*, a public organization for urban renovation),¹¹ this “town within a town” stretches for almost 2 km and has been redesigned around a large linear park, developed in the thalweg along the watercourse of Orgeval, formerly a culvert, which is being restored out in the open.

Even if the urban design of the housing estate ignored the thalweg and the watercourse, it did not change the qualities of the landscape of the hillside and the valley, which were preserved as part of the “park city” during its construction. The application of modern town planning, based on a master plan, in Les Mureaux is relatively consistent with the ambitions of the theoretical principles on which this type of planning is based. The systematic, sometimes sophisticated repetition¹² of its “isolated” buildings, has “sedimented” and “incorporated” the “nature” of the hillside and paradoxically leads to a homogeneous “urban” landscape that is not connected to a specific place.

Apart from significantly improving the water management in the valley, the creation of the linear park and the watercourse in the heart of the large housing complex provides the “park city” with a new horizon in terms of geography. This scheme of the GPRU (the *grand projet de renouvellement urbain* or urban renovation project begun in Paris in 2001)¹³ combines both remembrance (reopening of the watercourse and restoration of the thalweg to the natural state it had before the construction of the housing estate), with landscape and ecology, and also with the typology of the associated urban fabric as well as providing public facilities for the neighborhoods where the park is present.

This attention paid to the site’s geographical history has also given rise to a new image for the town, previously widely stigmatized. The natural, linear park creates a line for the municipality on a territorial scale, cancelling the perimeter of the large housing complex and connecting it to the town (Figure 16.3).

Place, Milieu, Living Things, and Biodiversity

Widely neglected in contemporary urban planning, the natural aspect of the city is now an urgent matter in the face of the collapse of biodiversity in the Anthropocene.¹⁴ Today, every

FIGURE 16.3 *Les Mureaux.* Image on the left. To the south of the village of Les Mureaux, the watercourse of Orgeval (highlighted in blue) which used to meander in the “open air” at the foot of the slopes of the Bois de Bécheville was made into a culvert during the construction of the large housing complex, “erasing” the geography of the site – extract from the map of the Etat Major, 1866 (<https://remonterletemps.ign.fr>). At the foot of the hill, extending out from the parc du Sautour, the watercourse was opened up again, creating a linear park that connects the districts and their facilities. On the slope of the hillside, the “garden avenues” connect the Bois de Bécheville to the linear park, supporting gardening and leisure activities in the neighborhood. Image on the right. The linear park and the Bécheville garden avenue. © germe&JAM.

project includes an ecological diagnosis taking into account biodiversity just as socioeconomic, urban, landscape, and architectural diagnoses are carried out.¹⁵ Ecological corridors form an essential framework that is often consistent with that of geography; biodiversity coefficients are used in the design of the urban fabric. The protection of planted spaces and in particular of trees and the tree canopy is a sensitive subject that can block a new design, even when other considerations would nonetheless push for change.¹⁶

Between "Garden City" and "Park City," the Peripheral City Finds Its "Milieu." The Clause Bois Badeau District in Brétigny-sur-Orge (91)

The Clause Bois Badeau project¹⁷ is a project for the urban redevelopment of a town center that was emptied of its substance by peri-urban extensions, due to the road infrastructure of the *Francilienne* (a partial ring road around Paris); an industrial wasteland of 42 hectares close to the town center, the railway line, and the *vallée de l'Orge* were all transformed, providing the opportunity for a mixed, large-scale development (with 2,800 housing units, shops, facilities, activities, and services), refocusing on the train station of the first-rate Paris region public transport network (the RER). The station is the new heart of the town (a train town).

A large park makes up the territorial and landscape project framework, restoring the strong relationship between the town, its station, and the *vallée de l'Orge*. With the added extensions of the "transversal gardens," the planted public spaces represent more than 10 hectares on which an ambitious project to extend the wooded landscape of the valley and to reclaim biodiversity will create density in the town center (and vice versa). On-site land management gives structure to the project, levelling the land and allowing for open-air rainwater management and diversification of the environment (dry and cool). The wasteland "exhausted" by 70 years of intensive soil cultivation (seed production) once again becomes a living, complex environment that can be inhabited.

The design of planted areas experiments with different "ways of doing things": pre-greening, differentiated land management, making the landscape productive, imagining a forest within an urban environment. The woodlands that were planted young and densely so they could be adapted over time will gradually establish themselves, their presence balancing the density of the constructed elements. This time scale was sometimes misunderstood by the inhabitants who were impatient to enjoy a wooded environment. The urban fabric creates "landscaped areas" that echo the urban spaces and the diversity of existing built forms. The approach is that of a synthesis between "park city" (freestanding buildings in an "open" space) and "garden city," a designed space divided up with houses and ordered by alleyways. Thus, the *Faubourg du Bois* district is based on an interweaving of the wooded valley and habitats. Each plot has a large garden with trees around which the buildings are organized. The landscape as objective means organizing the built forms according to two different types:

- Small buildings with panoramic views of the valley designed to have a minimum impact on the ground;
- Rows of "houses" of different forms (terraced or superimposed houses, or arranged horizontally) that define the limits of the large gardens and give the orientation of the residential spaces of the large plots.

Clause bois badeau à Brétigny. Opposite. Planted areas in the Clause Bois Badeau district in Brétigny sur Orge. Image on the right. Composed of a large public park in the heart of the district between the vallée de l'Orge and the station in the centre of town, and long transversal gardens

FIGURE 16.4 *Clause bois badeau à Brétigny. Opposite. Planted areas in the Clause Bois Badeau district in Brétigny sur Orge. Image on the right. Composed of a large public park in the heart of the district between the vallée de l'Orge and the station in the center of town, and long transversal gardens that spread out into the residential complexes, the large public framework (in sepia) extends into the urban fabric, structured by large garden courtyards with trees and private gardens. Image on the left. View from the park toward the open landscape of the valley and the hills of Montlhéry Trees on the more inorganic and “mineral” square of the station. A “porous” street into the urban fabric. Study model for the design of the urban fabric as a combination of “park city” and “garden city.” © germe&JAM.*

that spread out into the residential complexes, the large public framework (in sepia) extends into the urban fabric, structured by large garden courtyards with trees and private gardens. Image on the left. View from the park towards the open landscape of the valley and the hills of Monilhéry Trees on the more inorganic and ‘mineral’ square of the station. A ‘porous’ street into the urban fabric. Study model for the design of the urban fabric as a combination of “park city” and “garden city”. © germe&JAM (Figure 16.4).

Resource

From the perspective of a project that focuses on using shorter distances, the territory constitutes a resource that is inherently ‘local’, with the associated environmental, economic, social, and health implications. An architectural renewal emerges that is more artisanal, framed by local know-how and resources and based on materials and constructive concerns. For contemporary urban planning, there is in particular the question of the ground that is increasingly impervious and polluted, overburdened by successive phases of urban development.

From the “Green” Space of the “Park City” to the Productive and Fertile Soils of the “Natural” City: The Southern Districts of Les Mureaux

In Les Mureaux, already described above,¹⁸ the vast “free” spaces of the housing development are used as a lever for rebuilding a stigmatized territory, residentially and socially. The urban renewal project uses the heritage of the “park city.”

- The built elements are brought together to make the empty areas bigger. They make up an urban fabric where the buildings of the housing estate are associated with new buildings and are assembled around relatively compact garden courtyards,
- Often targeted as being a vector of insecurity, car parks and large planted spaces without any clear status or use now form a large framework of public spaces. They are given a location and ordered by the large linear park. Allotment gardens have been developed and create a unique fertile “texture,” incorporated into the past urban fabric of the housing estate. The poorly defined, insubstantial “green” areas thus become useful and respected, belonging to the inhabitants, and part of society.

La Crau: Resource for the Territory, Backbone of the Project, and Prerequisite for Inhabiting the New “Oasis” District in Miramas (2015–ongoing)¹⁹

An irrigated framework, connected to the waterways and canals of the plain of the Crau region, is at the basis of the urban plan and landscape strategy, involving the renewal of a large disused railway activity wasteland, located close to the town center and the station. Climatic comfort is an objective, making the area attractive from a residential point of view, but the project also reactivates an old tradition of water management and, in terms of typology, constitutes the backdrop of the future “Oasis” district, a strategic site of the large urban project in the heart of Miramas (Figure 16.5).

FIGURE 16.5 Miramas: analogy of the town and countryside. The urban project of Miramas, a Mediterranean town located between the agricultural plain of the Crau region and the hills of the Alpilles, questions integrating into the town the legacies of a secular landscape – irrigation canals, cypress groves, the division of fields versus the urban grid, Mediterranean woodlands – which become the support for a new urban ecology. The town is like the countryside; they share the same substance and the same form. © germe&JAM.

Climatic Phenomenon

Global warming requires a more general consideration of the orientation and make-up of the ground (albedo, heat islands, etc.) – the shapes and relationships between the territories affected by modifications (e.g., the evolution of the coastline) and also the orientation and composition of building envelopes, whose morphology and architecture can be transformed (insulation, low carbon, etc.).

This long-term development is punctuated by exceptional events that can lead to high-risk situations for the urban areas and/or the activities concerned. Dramatic examples are multiplying, particularly with regard to the risk of flooding. The development of science and techniques, and the belief in their capacity to regulate or even “domesticate” nature, has often led to the neglect of natural phenomena. Reconciling this element of risk and the

project design²⁰ means reviewing the software used to plan urban development in flood-prone areas, thus allowing a serene presentation of the issue to the inhabitants, without opposing, as is too often the case, on the one hand, the need for development and, on the other, the need to take risks into account. It is also a question of being able to speak freely about the vulnerability of a place and the potentially positive impact of resilient projects that contribute to reducing the territory’s vulnerability (networks, accessibility, reduction of the number of people to be evacuated, maintaining economic activities, etc.).²¹

The Risk of Flooding at the Heart of the Construction of a Metropolitan Project: The Development of the Ardoines Industrial Zone in Vitry-sur-Seine

The Ardoines project,²² located in the heart of the flood-prone area of the Seine, upstream of Paris, is an example of the inevitable change to industrial land. The project is located close to inner Paris and is served by an efficient public transport infrastructure. This particularly favorable urban situation coupled with the development needs of Greater Paris led the French state to permit the development of the site, despite the known natural risk of flooding. This was on the condition, however, of not increasing the vulnerability of either properties or people.

Water and the “management” of risk are the structuring elements for making a resilient metropolitan project, with the creation of a public framework that during times of flood allows the inhabitants to be kept on site, out of the water, in acceptable conditions. Flood-prone areas are at the least linked to non-flooded sectors with operational networks, or, at best, are part of a functional urban complex. Accessibility and habitability, combined in parallel, are the condition for the site’s densification. “Secondary” levees, oriented in the direction of the river, offer a pedestrian and recreational connection outside of the flooded areas and can be precisely levelled to give access to the floors of the buildings used as dwellings, creating a large “out-of-water” territorial structure. These levees have footbridges that cross over the public spaces liable to flooding, creating support networks. They have an average width of 9 meters and are accessible both to people with reduced mobility and also to medium-sized maintenance and emergency vehicles.

The obligation to provide services during flooding is a fundamental element in the design of buildings and residential projects.

- It is therefore recommended to define an “out-of-water” path from each building to the resilience levee. The service is either direct in the case where the plots are directly connected to the levees, or indirect, via private terraces, in the case of a second-row location.
- This arrangement encourages residential spaces with several entrances: a main entrance on a flood-prone street, a secondary entrance via the garden, and an entrance on the resilience levee.
- The two ground levels of reference are represented architecturally by a double entry, a low entry that is liable to flooding, and a higher entry, not liable to flooding, connected to the levee.

The obligation not to exceed a building footprint of more than 50% of the surface of the plot (according to the PPRI, the *Plan de prévention du risque inondation*, or flood management

FIGURE 16.6 Vitry. *Image on the left.* Modeling of the centennial flood (1910) on the ZAC Seine Gare Vitry project: public lanes, the “levees” (highlighted in orange), connect to the housing blocks and are at a level out of reach of flooding, as an extension of non-floodable urban ground. The blocks of flats have private “out-of-water” passageways and/or residential “paths” (highlighted in red) arranged as private terraces that cannot be linked together. *Image on the right.* The “gardens of the Seine”: a series of floodable gardens perpendicular to the Seine bring the river landscape and its ecosystem deep into the urban fabric. The flooding of the site, and how it is used in times of flood, gives structure to the town on two levels, qualifying the entry at the lower ground floor that is susceptible to flooding, and the higher ground floor, connected to the “levees.” © germe&JAM.

plan) leads to developing the urban fabric with courtyards for circulation and other uses as much as possible using plain earth.

The major challenges of reclaiming nature in the city – taking risks, the presence of water, and the reintroduction of nature to replace a monofunctional zone of activity – highlight the need to change the current situation, with totally sealed urban surfaces and no open soil. Towns with a risk of flooding embrace the “invention” of architectural types specific to these exceptional situations. Their exemplarity is only made possible in the context of a well-equipped metropolitan center and can therefore only be developed under economic conditions that allow the creation of resilient infrastructure (Figure 16.6).

Notes

- 1 Concerning the word “nature”: It is considered here as the white areas in Colin Rowe’s drawings, space which is not built on. Rowe, C., and F. Koetter. 1984. *Collage City*. Cambridge, MA/London: The MIT Press.
- 2 See Gemenne, F., A. Rankovic, T. Ansart, B. Martin, P. Mitrano, and A. Rio. 2019. *Atlas de l’Antropocène*. Paris: Presses de Sciences Po.
- 3 Devillers, C. 1994. *Le Projet Urbain. Conférences Paris d’Architectes au Pavillon de l’Arsenal*. Paris: Ed. du Pavillon de l’Arsenal.
- 4 The urban fabric is here considered as a ‘category’ of the historical and morphological analysis developed in France by the Ecole d’Architecture de Versailles and university professors such as Philippe Panerai and Jean Castex, who popularized the Italian research. This ‘category’ was never really accepted in France as an operative question for urban design (overall plan, projects for public).
- 5 See Lucan, J. 2012. *Où va la ville aujourd’hui, formes urbaines et mixité*. Paris: Editions de la Villette.
- 6 Ibid.
- 7 Urban planning consultation for the ZACs Haute Maison and Hauts de Nesle for EPAMARNE and the town of Champs-sur-Marne in 2017, germe&JAM project leader with Bruel Delmar landscape designer, Alphaville urban development, Mageo, infrastructure and environment, Oasiis, sustainable development.
- 8 See Marot, S. 1996. *L’Alternative du paysage*. Le Visiteur 1.
- 9 Designed for the town of les Mureaux, the urban redevelopment project for the districts to the south of the town grouped together germe&JAM, Alphaville (urban design) and InfraserVICES (infrastructure and environment). Winner of the CAUE 78 award “Politique urbaine et architecturale” in 2014 – certification Eco-quartier 2014 – the redevelopment project for les Mureaux was presented at the research seminar PUCA: programme de recherche Biodiversité Aménagement Urbain et Morphologie (BAUM). It has been published in Tallant C., and L. Bertrand 2010. Mettre en œuvre la qualité urbaine: l’exemple des Mureaux. In *Quand les quartiers réinventent la ville*, Paris: Autrement. JAM Architectures et Territoires, Bichat, J. M., M. Hervier, and V. Perez. 2010. L’évolution des formes urbaines dans les grands ensembles HLM. In *Qualité urbaine des quartiers HLM en renouvellement*, ed. J. Werlen. Paris: USH. Bichat, J. M., F. Garay, J. L. Bossavit, S. Hénot, and J. Palisson. 2012. *Du grand ensemble à la ville en commun. Les cahiers des conférences des acteurs de la rénovation urbaine*. Les Mureaux: IFMO.
- 10 The districts to the south of the town les Mureaux was considered by the French state at the beginning of the 2000s as one of the most complicated areas in the département of the Yvelines along with le Val Fourré in Mantes and Les Merisiers in Trappes.
- 11 ANRU – Agence Nationale de Rénovation Urbaine – state organization for urban redevelopment/GPRU Grand Projet de Rénovation Urbaine – large urban redevelopment project.
- 12 Fortin, J. P. (2001). *Grands ensembles. L’espace et ses raisons*. Pantin: Service du patrimoine culturel de la Seine-Saint-Denis.
- 13 GPRU: Grand Projet de Renouvellement Urbain – a large urban redevelopment project.
- 14 Gemenne, F., A. Rankovic, T. Ansart, B. Martin, P. Mitrano, and A. Rio. 2019. *Atlas de l’Antropocène*. Paris: Presses de Sciences Po.

- 15 Directed by Clergeau, S. L. 2020. *Urbanisme et biodiversité, vers un paysage structurant le projet urbain*. Rennes: Edition Apogée, coll. Espace Des Sciences.
- 16 In many French metropolitan cities, ecological anxiety means that public policies are now tending to sanctify any natural elements. The “park city” of large housing estates, where renewed attractiveness must be correlated with social diversification and transformation of the urban fabric, remains static and ghettoization is doubled.
- 17 Designed for the SORGEM (SEM de l'agglomération du Val d'Orge désormais Coeur d'Essonne agglomération) and the town of Brétigny-sur-l'Orge, the urban project Clause Bois Badeau grouped together germe&JAM, Mageo, BET VRD et environnement, Lattitude Nord (landscape design), and 818 (light design). The project Clause Bois Badeau is awarded in 2016 the label “Eco-quartier” from the French Ministère du Logement et de l'Habitat durable, winner in 2009 of the award “Nouveaux Quartiers Urbain” from the Région Ile-de-France.
- 18 See note 9.
- 19 Developed in 2015 for the Aix Marseille metropolitan area and the town of Miramas, the Miramas train station project grouped together germe&JAM, ILEX (landscape design), Verdi, BET (infrastructure), Alphaville (urban design), and Oasiis (sustainable development).
- 20 Bonnet, F. 2016. *Atout risques. Des territoires exposés se réinventent*. Marseille: Ed. Parenthèses.
- 21 Bichat, J. M., and J. F. Morel. 2020. Seine en ville et villes en Seine. In *Aménager la ville avec l'eau, pour une meilleure résilience face aux changements globaux*, ed. M. Siedl. Paris: Ed. Presse des Ponts.
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