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Why this theme?

- 1 The theme of the first issue of this review is innovation, which must perhaps be interpreted as an existential, or ontological assertion. The *Cahiers de la recherche architecturale, urbaine et paysagère* is a continuation of the *Cahiers de la recherche architecturale et urbaine* (CRAU), where almost everything has changed. It has expanded its horizons to include landscape architecture, renewed its editorial committee, changed its format and evaluation methods, become international and introduced new topics. The theme of innovation seemed to be an appropriate challenge to mark this renewal. While the review is characterized by its research topics, it also claims an epistemological openness echoed by the theme of innovation. Its studies do not belong to one single discipline, and its interdisciplinary approach forms part of its overall process. Nevertheless, the *Cahiers* does not explicitly claim this innovative character, at least in their call for papers, rather presenting itself based more upon its traditional academic values, which are naturally compatible with innovation. As with any novelty, it will be up to readers to approve the innovation that constitutes, or not, the *Cahiers*.
- 2 The title's interrogative style highlights academic doubt, while its verbal form evokes research that focuses on and is geared towards action. This theme was also accordingly chosen for its potential to question the evolution of architecture, urban planning and landscape architecture, as well as their associated professions. Largely carried out by teachers at vocational professionalizing schools, the research within these disciplines thus interacts with the profession. Furthermore, we ask that it enhance ideas, critiques, stances and practices of architectural professions. It seems that a new metanarrative has now ripened, which every day consolidates and enriches a shared environmental conscience, renewing challenges that the post-war decades brought forth in the service of an ideal of progress, and without which innovation loses its meaning. Institutional injunctions, the evolution of skills and professional boundaries are reoriented,

questioning again actors on their own legitimacy, and the nature of their social contributions.

- 3 The goal of this issue is thus to evaluate the possibility for innovation in architecture, urban planning and landscape architecture, to put forth its conditions, to slightly modify the concept until possibly redefining it. It seeks to summarize the diversity of the innovations that exist within these disciplines, through the study of their nature, their motivations or their contexts. Outside of its introspective aim, the primary goal is to extract the constitutive elements of working models from the case studies presented here, which are likely to be taught.
- 4 The six articles that comprise this issue ultimately address the different entries of the call for papers, with the exception of its pedagogical dimension, which remains unaddressed or, if so, very indirectly. The only proposal that specifically focused upon this question, and which could not be achieved on time, lays bare the presence of numerous initiatives within schools of architecture, identifying new forms of professional practices that are highlighted in the articles presented here.
- 5 We must also note that, among all the proposals received, none brought together “landscape” and “innovation” (or any synonym with the same connotation), while architecture and urban planning are both equally represented.

Selected Articles

- 6 In the opening article of this issue, “The Role of Imitation in Architectural Innovation”, Rémi Laporte analyzes a series of windows recently designed, selected to evaluate the potential of the concept of “imitation”, as defined by Quatremère de Quincy and Philippe Boudon, and its application to the term “innovation” in architecture. Imitation could allow us to avoid the escalation of novelties by focusing on appropriate required changes, which in this case involves new thermal standards. In the cases studied, innovation is not technical, rather tectonic: new forms are generated which are not the pure product of new constraints and technical solutions. Delving into this dossier through this article allows us to ask, from the outset, questions about the nature of appropriation as a condition for the passage between new and innovative, necessary skills for innovation and its motivations.
- 7 In a similar vein, also based upon an analysis of construction devices within building projects, Stéphane Berthier insists more upon the trajectory of “The Experimental Development of Wood Construction Systems in the Architecture of Lipsky + Rollet” (the title of his article) as a practice that generates knowledge and innovation. Here, architectural innovation is situated in relation to technical innovation, more as a place of appropriation and interplay between new products designed within specialized universes, to which architecture gives meaning and future. Similarly to the previous article, and alongside ecological motivations, here we identify the designer’s desire to maintain the position of architect, and to build a signature via the innovative character of the design. The specificity of innovation in architecture is also highlighted through the difficulties that are specific to it.
- 8 As for Marika Rupeka, she studies a process of innovation that engages other temporal, spatial and institutional scales. Her article, “What Drives Innovation and How Its Relevance is Established. A Perspective on Electric Vehicle Promotion in La Rochelle

and Gothenburg: 1989-2000”, outlines political determinants of a business which makes the city an outlet for industrial production, an element of a national strategy. Nevertheless, and similar to the architectural scale of the previous articles, local actors innovate by absorbing and reinterpreting the introduction of new technologies, giving them meaning and legitimacy which contribute to the city’s quality with respect to the national narrative. The author shows how innovation management processes are partly transferable from industry to urban planning, but also how the political sphere slightly changes or refutes the experience of the city as an act of consumption.

- 9 While the previous articles set out to define what can be considered innovative in architecture or urban planning and described the attitudes of the actors concerned and the corresponding implementation methods, the article “Biomimicry in architecture: State, Methods and Tools” shows how some general theories of design and the associated tools can adapt to architecture. Natasha Chayaamor-Heil, François Guéna and Nazila Hannachi-Belkadi present examples of bio-inspired architecture that support a categorization of imitated models, from organism to system, according to five dimensions: shape, material, construction, process and function. The effort of abstraction in imitation – here in terms of nature – emerges as a key step in the manufacture of design support tools, and grants multidisciplinary an essential role in the connection of knowledge in both the disciplines of architecture and biology. This connection specifies the proposed tools for architecture, which stem from the industrial sector and constitutes their input data.
- 10 The association of certain approaches of bio-mimicry and of digital tools falls into one of the categories critiqued in the article, “Possibility of Critical Practice in Computational Design: Applications on boundaries between public and private space”. Although Laurence Kimmel focuses on digital design, the proximity of the two articles is organized here to create a cross-perspective with biomimetic design, to also question the latter in terms of critical appropriation. Like the previous one, this article equally plays a transitional role between innovations that deal with result and those which operate on the process. It is ultimately a question of envisioning the architect or the urban planner as the designer of the algorithm that controls forms, more than of the form itself, if not through the primitives from which its variations will be derived. The critique indeed claims that the political dimension of architecture be assumed, which gives power to the inhabitant via digital tools. Here, innovation is considered with as much severity as it deserves, and is seen as a determinant of the desirable future as stated by society in all its diversity.
- 11 The motivations that trigger the innovative processes presented by Nadia Arab and Elsa Vivant in the last article of this dossier also shift the focus to people, and not ecological performance. Innovation targets urban planning processes, in which “method entrepreneurs” invest according to artistic stances. The article, entitled “Updating Urban Planning Methods Using Artistic Intervention: Benefits and drawbacks in an uncertain enterprise”, analyzes a corpus of interventions representative of this trend which have innovative potential in that they encourage rethinking the urban planning professional as a co-designer and a sensibility expert. In addition, a new profession is emerging, combining artistic positions and management methods that are potentially captured by artists, but also by architects and urban planners. Here again, the design project becomes that of its process and its governance; the design touching upon the constitution of a team, its mode of operation, its systems of representation, but no

longer directly upon the object or its form. Therefore, the context is the equivalent of the prototype, that is *in situ* and *in vivo* experimentation, which is generally the subject of a formalized feedback in the cases studied.

A Specific Innovation Model

- 12 By bringing together these six articles, this current issue certainly does not claim to cover all the trends that characterize innovation in architecture, urban planning and landscape architecture. Nevertheless, the comparison of these perspectives makes it possible to disentangle certain similarities and specificities between innovation in these disciplines with respect to the general acceptance of the term. In terms of commonalities, these articles cite creativity, multidisciplinary, testing (prototyping, experimentation, acceptance), the creation of knowledge within an iterative approach, and the fact that innovation can focus on the process as well as its outcome.
- 13 As for other sectors, innovation in the transformation of the living environment is based on the search for benefits and for better results. The two (expressed) drivers of innovation which emerge from these articles are environmental preoccupation and a better regard for human beings: adopting thermal regulations, using renewable materials, reducing greenhouse gas emissions, imitating nature to better integrate and coexist alongside it, granting control of forms to inhabitants, reaffirming the critical dimension of architecture, allowing more compliance and introducing sensitive dimensions. Considering the living environment as essentially different from a consumer product within a market logic fundamentally determines the nature of the benefit, and therefore the nature of innovation and its process. On the one hand, the living environment is imposed on everyone (to a large extent), and its direct impact is visible and far-reaching, which grants more importance to ethical and political dimensions. At the same time, the amount of choice that belongs to the inhabitant and to other users, as well as the resulting adoption of a certain “client” logic seem essential in order to trigger innovation. On the other hand, the designers of the living environment claim an artistic dimension to their interventions which, although susceptible to merchandizing, arise from diverse and complex motivations, which can not be reduced to a simple desire for profit. With the contextual specificity of each project, this motivation contributes to render each production unique.
- 14 This last specificity leads most of the works presented here to offer insights into the question of differences between uniqueness, novelty, invention and innovation. To characterize innovation, one would need to identify groups within this production of unique objects, based on similarities that distinguish them from a previous production, and whose scope is considered significant. However, this is not as easily quantifiable as a sales volume and thus requires a certain degree of historical perspective. The alternative is to consider that the difference between novelty and innovation lies in the work of appropriation of new materials, products, tools and regulations, on the condition that the potentialities of these innovations – sufficiently general to be able to be adapted to a variety of situations – be disentangled. The particular project then becomes an experiment within a series, which concretizes this work of appropriation, the whole of which gives it the status of innovation. Another inseparable facet of the answer, however, is found in the idea that, in architecture or in urban planning, a novelty becomes innovation only on the condition that it carries meaning and conveys

it. Any innovation would be critical and would communicate its value in light of the major transitions of our time. This can apply to both processes and outcomes.

- 15 These articles show that the political dimension and the uniqueness of each project are specific potentials and difficulties for innovation in architecture and urban planning, which slightly modify classic models. The potential lies in the incentives for change provided within different levels of governance, amongst operational actors tasked with implementing these policies, in the collective means allocated, as well as in the dissemination vectors that are brought together. In all economic sectors, the consequences for innovation in living environments are regulated. The legal constraint, however, seems stronger and of a different nature when it comes to the production processes of buildings and of the city, emerging as a barrier to innovation. As for uniqueness, a first difficulty arises from the importance of the investment that is sometimes necessary in every project likely to translate new ideas into innovation, without being able to count on a series to cushion it. With as many developers as prototypes, and in the absence of market research, the risk appears higher and less quantifiable than for industry. The second difficulty that this dossier highlights concerns the return of experimentation, which is complex to organize. Each case being particular, we must be able to transpose the results, and to pinpoint what can indeed be correlated with innovation itself. Measurement tools that are themselves adapted to the complexity of the interactions of the phenomena involved are lacking. Finally, the cooperation of developers and residents or users is necessary and difficult to obtain.

Evolving Professions

- 16 It is therefore possible to speak of innovation in architecture and urban planning, to hope for it, to promote it, provided that standard innovation models are adapted according to the specificities of these activities, some of which are explained in this dossier. It is the idea we have of these disciplines that is at stake. To close this introduction, we can finally attempt to extract possible development trends from this reading for the professions in question.
- 17 The motivations explicitly targeted in the design project situations studied here encourage designers to develop more skills in ecology, programming, and management. As ecologists in their own right, an architect or an urban planner is more attentive to the impact on the environment of the building and the activities that take place there. The choices made at all scales are especially determined by an overall vision of the system within which they operate. Knowledge of life cycles, of complex interactions between phenomena of different natures, of potential synergies between different forms of life and of human production, contributes to building upon the skills of these designers.
- 18 Moreover – or perhaps coherently – their design object extends from the built environment to processes, or to morphodynamic structures, whether digital, collective or participatory. In this perspective, the term “design project” clearly finds its dimension of anticipation, unlike the very empirical practices that computing tools encourage, by translating in real time, with the movement of a mouse, complex geometric (projections) or physical (light, sound, thermal, mechanical, etc.) phenomena. This reinforces the idea that the architect, urban planner or landscape

designer must better understand the phenomena at stake and master their representations, whether these phenomena are human or natural.

- 19 Finally, if we agree to describe the current transitions or mutations as occasionally more intense, even constituting a crisis situation, this is enough to argue that designers undoubtedly further develop the skills of experimenters. They must know how to place their creativity in a controlled process of experimentation, which explains its expectations and gives itself the means for evaluation, whether this consists of expressing hope for a new relationship to the world, of responding to a new use, of better integrating heterogeneous desires, of combining new technologies, etc. It is no more and no less about keeping architecture, urban planning and landscape in tune with society, in order to tackle the problems of today and offer a desirable future.
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AUTHORS

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