THE LOW-TECH CITY: A FIRST ATTEMPT

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This article shortly presents the results of work conducted during the research project *Urbalotek*: *for sober and resilient cities* (2020-2022), jointly led by AREP agency and Institut Paris Region, with the support of ADEME Île-de-France.[5] This work examines the possibility and relevance of translating low-tech approaches, hitherto applied to technical devices, to the urban and territorial scale. The work begins with a broad review of contemporary urban thinking. It highlights, through critical analysis, a set of convergences, divergences, and interrelations of the different urban concepts. It, then, proceeds to compare the *conceptual make-up* of these urban concepts with the low-tech approach. This comparison not only points out certain theoretical and practical aspects that various urban concepts have in common with the low-tech approach, but also identifies those that may be unique to the low-tech approach. Lastly, this reflection results in a possible definition of the low-tech city, not as a fixed concept but as the product of a new *urbanism of discernment*.

URBAN THINKING IN RENEWAL

In recent years, the elements of language in the fields of architecture and urban design, but also in much of the political discourse on planning and the city, have been changing. The city, a place that expresses power and urban social structure (Sennett, 2020), is facing a new set of challenges marked by instability and unpredictability combined with accelerating social and ecological change. It has entered what could be described as a phase of permanent intellectual work in progress yet still seeks unifying new models (Peyroux et al. 2016). From the myriad of current doctrines, we have studied some relatively recent concepts for the city (*the adaptable, human-scale, circular, creative, frugal, sober, inclusive, productive, proximity-based, resilient, smart* or *natural* city as well as the *urban bioregion*) and revealed their similarities or incompatibilities with the low-tech definition, thereby seeking to identify how a possible *low-tech city* might look.

Based on a selection of recent works representative of the current debate on city concepts, the research uses a descriptive analysis breaking the different concepts down into generic *conceptual markers* that make comparison easier. Since each concept is rooted in its own specific socio-economic, geographical and historical context, this definition in terms of *markers* is necessary for identifying similarities and differences between the concepts.

This analysis results in the identification of a number of markers. Some markers are shared among most city concepts: *innovation, circular economy, maximized well-being* and *calm* (versus *intensification* and *effervescence*). Other markers are less common and therefore more differentiating: *technological discernment, predictivity, equality* or *inclusivity*, certain aspects of *sobriety/sufficiency* (*asceticism, frugality* and *austerity*), and the allowance made for biodiversity (*coexistence, symbiosis*, etc.) and environmental issues (climate change and *capitalocene*).

Regarding its conceptual foundations, the low-tech approach reflects many of the markers found in the urban concepts studied. It does not provide a substitute but offers alternative mechanisms for understanding urban challenges. Low-tech stands in clear opposition to the smart city and appears to a degree complementary with the bioregion concept, which is also systemic in its approach. But the vocabulary used is different. Its guiding principle, *discernment,* and its resolutely systemic questionings distinguish it from the other concepts, taking multi-scale challenges into account more fully.

This examination of the state of the art was a vital pre-requisite for producing an assessment of a new, low-tech-based urban concept. In the light of the elements it may share with other conceptual approaches (see Figure 1), we can now distinguish what makes it unique: the use of what we have chosen to term *methodological discernment*.

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5 Lopez C., Le Bot N., Soulard O., Detavernier P., Heil Selimanovski A., Tedeschi F., Bihouix Ph., Papay A. 2021. *La ville Low Tech : Vers un urbanisme du discernement*. ADEME - Institut Paris Region - AREP. 011641. Paris.

Synoptic diagram of city concepts: Links, intersections and overlaps

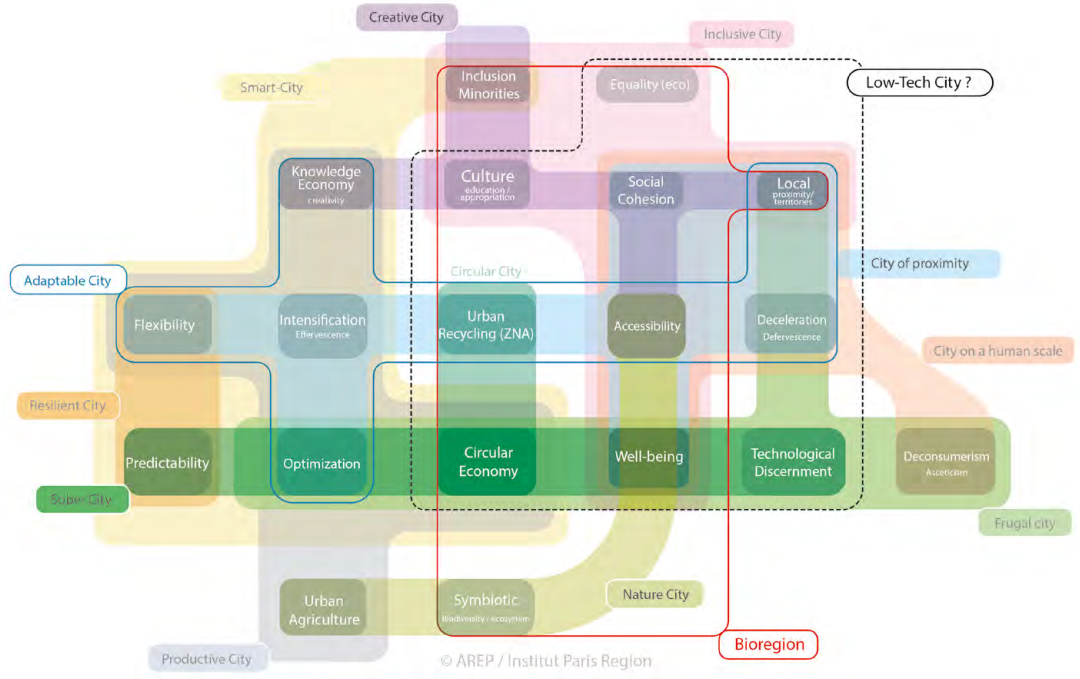

Figure n°1

TOWARD AN *URBANISM OF DISCERNMENT*

With *discernment*, low-tech holds a powerful marker. *Discernment* in this approach must be understood not only as *technical* but also as *spatial, ethical,* and *scalar discernment*. Low-tech provides methods and criteria for arbitrations to make cities more sober, accessible, and convivial. Although these goals feature in many of the city concepts examined, they do not always cover the same dimensions and sometimes create a rebound effect as well as contradictory or incomplete solutions. We consider that the originality of the concept lies in the degree of additional discernment and would, therefore, define low-tech urbanism as follows:

- The low-tech city is a territorial or urban system where social practices, governance, attitudes to the living and the functioning of the economy demonstrate the implementation of an *urbanism of discernment*.
- This systemic, critical, and ethical approach builds on four principles: praise of sufficiency, sustainable management of resources, conviviality (appropriation, accessibility of tools and knowledge, etc.; see. Ivan Illich)[1] and the search for an appropriate scale in terms of political structures and the socio-technical responses provided.

6 We are referring to the concept of conviviality defined by philosopher Ivan Illich. As underlined by Philippe Bihouix in his publication on low-tech, Illich believes that a convivial society is one where "modern tools are at the service of people who are integrated into the collective." Similarly, in its desire to turn to people wherever machines are not absolutely necessary, the low-tech approach restores the inclusive character of certain occupations that require few qualifications.

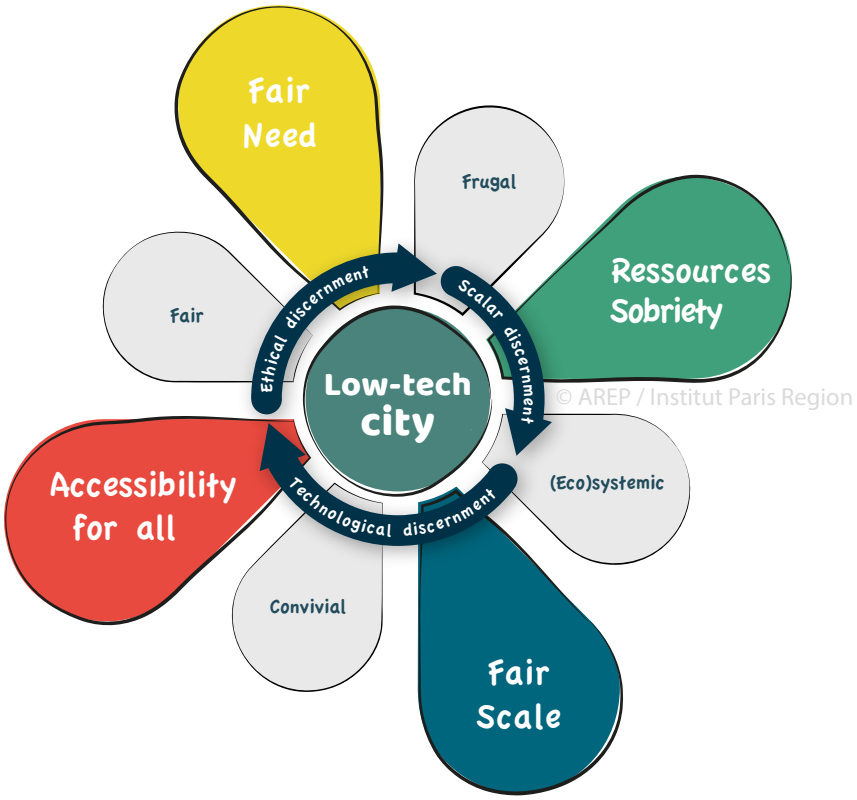

Figure 2: Basic scheme of the low-tech city

Implementation of the low-tech city could be structured around four areas (see Figure 2).

Questioning need, or the celebration of just sufficiency

A low-tech approach applied to a city would make it possible to understand urban needs and desires with greater discernment. It would offer arbitration processes going far beyond criteria based on profitability or efficiency alone. It would pay attention to the sustainability of chosen solutions, their replicability, potential rebound effects, and so on. It would typically encourage renunciation of the purposeless use of natural resources. Rather than disruptive innovations, it would generally seek to work with what already exists or to try out new organizational forms. Tactical cycle routes, which have seen accelerated rollout since the COVID pandemic, are a typical example. Creating "just sufficient" infrastructure for bicycle use is a good illustration of "a just need" that combines a highly flexible rollout with maximum sobriety in terms of time, effort, and materials.

Seek sobriety in resource use (here and elsewhere)

The scientific literature on the circular economy agrees that the decisive element in operationalising the concept is the deployment of action hierarchies, known as R-Hierarchies (Hultman and Corvellec, 2012). These orders of priorities classify actions to take in terms of the resource retention they enable over a product's lifecycle. In terms of urban planning

and construction, low-tech could adopt an approach of this type, focusing primarily on *renouncing* new builds in favour of urban recycling (Grisot, 2020), optimizing or modularizing how facilities are used. This entails a preference for rehabilitation over reuse, material reuse over recycling, and material recycling over using new materials. If all other solutions are exhausted, all new builds must actively question how the resources required are sourced (biosourced, geosourced, etc.).

Ensure universal accessibility

Low-tech products, services and initiatives generally seek to be inexpensive and *convivial*, in the sense defined by Ivan Illich. This means helping people to act, systematically favouring autonomy, simplicity, ease of repair and accessibility to as many people as possible. At the urban scale, this goes beyond collaboration, entailing an effort at all scales to rekindle the collaborative spirit. In a low-tech city, people gain greater autonomy of thought and action, rediscovering the pleasure to be had from taking part in the collective construction of their territory. It could be rooted in a wide diversity of spaces for cooperation and appropriation of know-how: fab labs, upcycling stores, repair cafés, collective projects, etc. Implementing an *urbanism of discernment* would require residents who are involved, a society open to learning, and faith in collective intelligence.

Find the appropriate scale

The low-tech city, irrespective of its size, be it a village or a metropolis, would embrace the idea of a just proportion between means and ends (Lynch, 1981; Batty, 2008). Such a city would seek solutions for acting on a *human scale* (Gehl, 2010) on all levels, from the local to the territorial, depending on needs and possible arbitrations in terms of social and political organization (governance), daily or occasional travel needs, supply, public spaces, and their surrounding buildings, etc. For instance, when it comes to production chains, the low-tech city would seek to boost its own productive capacities by relocating certain production units and making as much use as possible of the resources and know-how of the bioregion to which it belongs.

CONCLUSION

Given all these factors, is it really a good idea to add yet another new concept: the low-tech city? As pointed out by Philippe Bihouix, cities have far more to think about than becoming low-tech. To name but a few, cities must face various fast-approaching changes (relocation of certain logistics and production functions, new consumer practices and habits, adapting to the climate emergency, etc.) while suffering from certain tragic missteps of the past. They are confronted with issues surrounding densification, metropolization, global competition and regional attractiveness but must simultaneously halt the unsustainable levels of soil-sealing. Then there are the new post-COVID realities and shifts, marked by the population's desire for nature and working from home but also by collapsing tourism. It is not the moment to overload them.

Against this background, the idea is not to make low tech a new *deus ex machina* for urban planning, designed to replace (or include) all other concepts of sustainability. However, we believe that a low-tech approach could, at the territorial level, be fertile ground for new thinking and initiatives that could accelerate the transition and develop resilience in ways that improve the experience of sharing the same space. And that the ideas and evocations engendered by an *urbanism of discernment* would bring immediate, concrete advantages in terms of employment, pace of life, inter-resident collaboration, autonomy, resilience, and repairing the world.

The challenge now is to make sure that cities take up the low-tech approach and succeed in winning over as many people as possible. At the territorial level, there are also the beneficial prospects of creating local employment and social ties, easing tensions and eliciting desires.

The next stage in the joint study by the Institut Paris Région and AREP will be to create inspirational, concrete and visible examples so that low-tech is no longer hampered by the misconception that it is a backward-looking, makeshift approach. The aim is to show that low-tech approach can turn things around and make overnight trains and re-use more desirable than space tourism and colonizing Mars.