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# Athens Journal of Architecture

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The current issue is the fourth of the ninth volume of the *Athens Journal of Architecture* (AJA), **published by the [Architecture Unit](#) of ATINER**

Gregory T. Papanikos  
President  
ATINER



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- Submission of Paper: **10 June 2024**

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## On Informality - Programmed Spontaneity in Spatial Design

By Paulo Guerreiro\*

*In the history of European-based classical architecture, the concept of formalism has often been understood as a deviation from canonical form. Until the cultural changes introduced by the Romantic movement in the nineteenth century, the repetition of established formal rules was prevalent in architectural theory and practice. However, the last two hundred years have shown an increasing fascination with the possibility of incorporating the features of “architecture without architects” in the discourse and practice of conventional design, progressively codifying them into theoretical and formal canons. On an urban and territorial scale, the formal characteristics of the so-called informal settlements are currently being systematised and subsequently replicated in design practice. This is exacerbated by market economy and by the broad subject of taste. The aesthetic of spontaneity and the induction of informality have become established architectural concepts, criteria and goals. The differences between the needs of rapidly expanding built territories (in rich or in poor contexts) and those which face mainly punctual adaptations have become clearer, as they often require conflicting approaches. Therefore, the degree of informality enabled in the design process and desired as a design purpose is a key conceptual and practical factor in contemporary spatial planning.*

### Introduction

The history of European-based architecture (that is, the architecture created in Europe or whose fundamental principles stem from European sources, either by cultural influence or by direct colonial intervention) has been strongly influenced by the notion of *correct* or *ideal* form. This has been an essential feature of architectural thought and practice, associated to the idea of behavioural and formal canon. However, a fundamental conceptual and practical shift occurred as a result of the Picturesque and Romantic movements in Europe, which questioned the classical principles of the Renaissance and the Enlightenment. The consequences of these divergences are still mirrored today.

The concepts of formal and informal are not exclusive to spatial planning. They are broad cultural concepts that precede spatial creation and their physical expression can only be inferred through interpretation.

The basic premise of this article is that contemporary architecture and urbanism pursue formal, typological and aesthetic associations with what is traditionally understood as *informal building*. The sources and implications of this apparent kinship can be read as a part of a comprehensive cultural phenomenon.

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## Literature Review

The argument will be constructed based on four main bibliographic groups.

The first provides the fundamental theoretical backbone of the text, as it presented a source field which is chronologically broad (either due to the initial publication date or to the historical period and subject matter focused on the bibliography) but also conceptually dense and contradictory enough to work as a suitable introduction. The texts by Cache (1995), Norberg-Schulz (1980) and Mallgrave/Ikonomu (1994) are references for their questioning of the relations between subject, object and context in architecture. The works by Lucan (2011) and Macarthur (2007) provide a historical outline of the fluctuations in architectural composition motivated by both classical and picturesque principles.

The second group overviews the territorial scale and the diluting borders between *rural* and *urban*. The work coordinated by Dovey (2020) questions the concept of *informal settlement* and its application, an endeavour which the present article also embarks on. The work by Schröder et al. (2017) expands on the idea that urbanity and rurality are increasingly intertwined realities to which planners need to adapt to. The interpretation of this territorial scale is further backed, in the present argument, by the work by Mehrotra/Vera/Mayoral (2017), in which the idea of permanence as an indispensable requirement for urbanism is challenged.

The third group of sources is constituted by interviews, monographs or project descriptions by currently practising planners. These are understood as conjunctural publications, that is, texts which were chosen either because they focus on specific current projects (the Paraisópolis project by Christian Kerez, for example) or they express more a sense of *Zeitgeist* than an intention of in-depth historical review (the monograph of Portuguese architecture studio FALA, for instance).

The fourth bibliographic group comprises statistical data compiled by the platform “Our World in Data” from different sources. Some references comprise text which is not written in English; in such cases, the present article proposes a translation.

## Methodology and Goals

As it is impossible to know and interpret every nuance of every theoretical view on the matters at hand, the present text focuses on the idea of formalism mentioned by Ernesto Nathan Rogers, according to which formalism is the use of “non-assimilated forms.”<sup>1</sup> These words were written in a context of re-appreciation of the principles of Modern architecture and this pivotal aspect justifies the choice of such basis for the argument.

---

1. Rogers, “L’evoluzione dell’architettura: Risposta al custode dei frigidaires,” *Casabella - Continuità*, no. 228 (1959), *cit. in* Rodrigues, *O mundo ordenado e acessível das formas da arquitectura. Tradição Clássica e Movimento Moderno na Arquitectura Portuguesa: dois exemplos*, 2013, 28.

The present article is structured in five main chapters: “formalism”, “spontaneity”, “integration”, “words” and “replica”. It is constructed by providing a historical overview of the evolution of those concepts, while simultaneously proposing a possible operative meaning for them. The argument is illustrated by purely conceptual considerations but also by mentioning physical objects (mainly built, at different scales). The theoretical and speculative aspect of the text is its main component, with the case-studies acting as complements to the argument.

The case of Luanda is considered in greater depth. This article does not claim that this city is necessarily an exceptional case in Africa, and a detailed comparison with other continental examples is not its purpose. The case-study was chosen so that a situation that is known from personal experience can be documented, adding critical insight to the existing bibliography on it. The city’s expansion through the so-called *informal settlements* is particularly focused and the questioning of this expression is a fundamental purpose of the text.

This article proposes that *informal design* is that which purposefully intends to suggest informal behaviours (regardless of epoch and the type of architecture). The text attempts to demonstrate how the concept of informality has been conceived and materialised in architecture and territorial planning, and also to reflect on how these disciplines articulate the ideas of “universal” and “particular”.<sup>2</sup>

Ultimately, the goal is to propose that the concept of informality is fundamental to understand the main dynamics in architecture in the last two hundred years and in contemporary theory and practice. The article hypothesises that the suggestion of informality is currently such a vital project criteria as formal canon was during the majority of Western-based architectural history.

## The Argument

### Formalism

The conception that something is *formal*, in general terms, refers to the idea of protocol, of behavioural rule or social etiquette. The term *informal*, on the other hand, connects one to concession, softening pre-established rules of demeanour. However, a problematic concept arises in the context of architectural theory: formalism.

In the history of European-based classical architecture, the concept of formalism has often been understood as a deviation from canonical or appropriate form.<sup>3</sup> Consider the following words by Ernesto Nathan Rogers about it:

---

2. These terms refer here to Slavoj Žižek’s conception of universality. Variations of these concepts of “universal” and “particular” will be repeated in the present argument, investigating how they relate to architectural and cultural notions of continuity, tradition and character through different epochs, and namely in contemporary planning.

3. Read, for example, Viollet-le-Duc’s definition of “clarity” as “the proper application of form to its object”, a fundamental goal to be pursued, according to this author. Viollet-le-Duc, *cit. in* Whitehead (trad.): *Eugène Viollet-le-Duc. The foundations of architecture. Selections from the Dictionnaire raisonné*, 1990, 256.



“(...) Formalism is any use of non-assimilated forms: the ancient, the contemporary, the cultured or the spontaneous.”<sup>4</sup>

Although this is not the only possible definition of formalism, it arguably expresses the general tone of classical architecture's theory on this matter. If interpreted within the context of architectural history, of the theoretical discussions on classical form and especially on that of classicism as a general approach, these words imply that formalism is a somewhat frivolous attitude of deviation from canon (methodological, practical or constructive), a sort of short-lasting superficiality, when compared to the validity of the formulae and shapes tested by time.<sup>5</sup>

One of the prevailing principles of classical European-based architecture is that of *order*. On the one hand, this concept relates literally to the classical Greek and Roman orders that defined the features of the elements of architecture, namely the columns (and, consequently, that of the other elements which derived from the columns' proportions); on the other, it also expresses the symbolical goal of inter-relating every element of a given design or building in a globally coherent, interconnected and inseparable way<sup>6</sup> (Figure 1).

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4. Rogers, In Rodrigues, *op. cit.*, 28.

5. For instance, the production of architectural treatises exemplified this underlying constituent of the classical spirit in architecture. From Vitruvius to Alberti, from Serlio to Le Corbusier, classical architects based their approach on the idea that “(...) There will always be a superior spirit (...) that will free architectural art from strange elements and that will give us back the classic and pure way of building. (...) A constant and lasting measure (...)” Loos, “La vieja tendencia y la nueva en el arte de construir (Die alte und die neue Richtung in der Baukunst)” in *Escritos*, 2004, 123-124.

6. The following passage by Heinrich Wölfflin sums up this idea clearly: “Quite early in the Renaissance the theory was formulated that the sign of perfection in a work of art was that it could not be changed, not even in the smallest detail, without destroying the beauty and meaning of the whole. That this rule was formally recognised as early as the mid-fifteenth century is perhaps the most significant factor in the development of Italian art towards the classical ideal. Its formulator was the great Leon Battista Alberti. The classic passage from his *De re aedificatoria* reads as follows: ‘(...) I shall define beauty to be a harmony of all the parts [...], fitted together with such proportion and connection, that nothing could be added, diminished or altered, but for the worse..’” Wölfflin, *Renaissance and Baroque*, 1964, 65.



Source: gallica.bnf.fr / Bibliothèque nationale de France

**Figure 1.** *Planned Formality. André Le Nôtre. Garden of the Palace of Versailles. Cartography by Jean Delagrave, 1746*  
Source: BnF, Bibliothèque nationale de France.

In the more orthodox architectural classicism, formalism is not interpreted as an attitude of approximation to the common idea of *formal* (understood as canon or behavioural rule) but, on the contrary, it represents the distance from convention. In this context, despite the familiarity between the two terms, formalism is not a way of following formal etiquette, but rather an alternative to traditional or canonical formality.

For example, if one takes Le Corbusier's work as a basis for analysis, due to the almost undisputable fact that he was the most broadly influential architect of the twentieth century, one can identify some of the features that characterise this co-habitation of formal and informal design features. In small-scale buildings such as his villas, Le Corbusier combined the more or less subtle suggestions of new lifestyles for a *new Man* (implying a break with the past) with the recurrence of formal models of classical architecture such as the *piano nobile* or the general proportions of the building.<sup>7</sup> If the sublimation of the internal walls suggested a decreasing rigidity (physical as well as social), the somewhat pompous concept of architectural promenade relates to a sense of formality. In his large-scale projects such as the *Ville Radieuse*, the Swiss architect also advocated the liberation from the spatial, moral and behavioural constraints of the traditional city, but did it

7. For a systematised interpretation of Le Corbusier's villas see Samuel, *Le Corbusier and the architectural promenade*, 2010. According to the Samuel's description, stairs and ramps play a key role in the compositional system of the promenade, introducing a choreographed ascension through the buildings and acting as devices to communicate a classical sense of ceremonial formality. To quote José Baltanás about Villa Savoye's ramp, this device "transforms walking into ritual, dignifying the space (...)", establishing a modernist kinetic canon of formality in this type of building. Baltanás, *cit. in* Samuel, *op. cit.*, 119.

according to clear formal guidelines, something which represents a fundamentally formal attitude. Corbusian buildings (his villas, in particular) were, then, profoundly classical buildings, both in their moral and in their compositional principles.<sup>8</sup> The suggestion of informal behaviour was implied and did not require a neglect of classical forms, principles and methods. By comparison, what the current argument will try to demonstrate is that contemporary spatial planning pursues a more direct expression of behavioural informality which, contrary to classical architecture, is attempted by associating it to spatial and material features that distance themselves from the ideas of formal, classical or canonical. In other words, contemporary spatial planning pursues an immediate visual correspondence between *informal space*, *informal shape* and *informal behaviour*. It is important, then, to clarify what one understands as *informal space* and to what degree this correspondence between formal canon and behavioural canon is visible.

Nowadays, the idea of formal canon in architecture is diluted and an underlying debate between the ideas of norm and exceptionality has been established. Arguably, this dilution also applies to the idea of behavioural canon in human societies. This is particularly evident when subjects such as identity politics, political correctness or individual liberties are discussed. The main conflicts that arise from this weakening of the sense of norm stem, perhaps, from the circumstance that the borders between norm and exception are unclear and ever-changing. In other words, informal behaviour (which in principle corresponds to an expression of particular or individual motivations) does not occur isolated from formal settings and it is not impenetrable to the universal conditions in and around it. Accordingly, *informal spaces* are not immutable entities that are separate from the rules of formal backgrounds, and vice-versa.

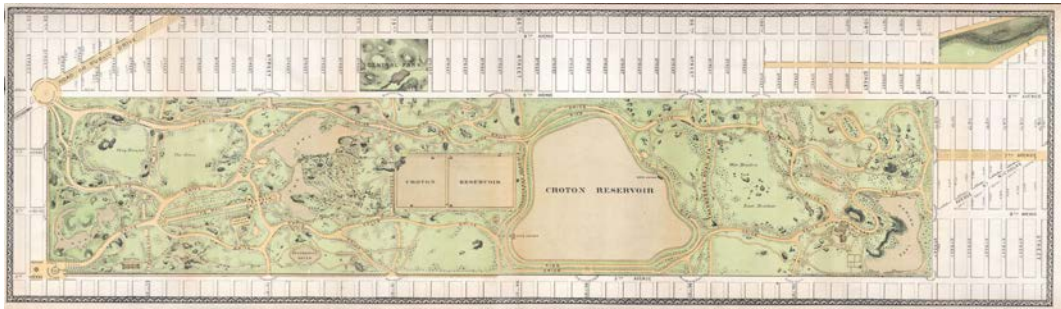
In architecture and landscape planning, the main conceptual shifts in the interpretation of the idea of formal rule occurred by the end of the eighteenth century, with the advent of the Picturesque Movement in Europe<sup>9</sup> and, later, with the development of the Romantic Movement.

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8. On Le Corbusier's conceptual classicity, read the footnote 5 concerning Alberti's definition of "beauty" and the "harmony of all the parts", which also applies in this case. Regarding Le Corbusier's compositional principles, Jacques Lucan's comments on the predominance of the floorplan in Beaux-Arts architecture in the end of the nineteenth century are eloquent: "It is the plan that reconciles all the program's demands; it is the plan that contains the creative thought of the architect; it is the plan that is the criterion by which specific individuals first judge the real value of the composition. (...)" (*Dictionnaire de l'Academie de beaux-arts* (1884), cit. in Lucan, *Composition, Non-Composition. Architecture and Theory in the Nineteenth and Twentieth Centuries*, 2011, 185). According to Lucan, the predominance of the plan is a fundamental principle in French architectural tradition over a period of three centuries. One could argue that this traditional predominance is at the core of the well-known expression by Le Corbusier, according to which the "plan is the generator" of architecture. Le Corbusier, *Toward an architecture*, 1923.

9. "The term picturesque was first used to describe the aesthetic view of nature (...). The word as borrowed from the Italian *pittresco* or the French *pittoresque*, meaning 'in the manner of painters'. (...) The word is inextricable from the rise of the genre of painting called 'landscape'. Our current use of the word landscape to mean an appreciation of the world as if it were a visual artefact is the result of the meeting of the picturesque concept with gardening." Macarthur, *Picturesque: Architecture, disgust and other irregularities*, 2007, 24.

Regarding the visual characteristics of the projects, the fundamental change related to what Nikolaus Pevsner described as the focus on “visual planning”, opposed to the pre-Picturesque focus on the canonical geometries of two-dimensional elements.<sup>10</sup> On a conceptual level, these shifts can be summarised by the growing importance attributed to personal emotion, rather than to reason and to universal ideals, in the appreciation of the characteristics of a given project, building or space<sup>11</sup> (Figure 2).



**Figure 2.** *Planned Informality. Frederik Olmsted and Calvert Vaux. Central Park, Manhattan, New York. Plan, 1868*

Source: “Geographicus Rare Antique Maps” via Wikimedia Commons.

This focus on personal emotion inherited by the cultural revolutions of the nineteenth century is behind the current discussion on the comparative weights of individual aspirations and collective models in spatial design.

10. According to Pevsner, the consequences of this model based on picturesque principles can be summed up by the idea that visual planning is a means of conceiving a relationship of sequential views for an observer in motion. “(...) [Visual] Planning should serve the views it creates, and planners and architects should think in terms of human engagement in sequences of views rather than with orthographic plans that represent abstractions.” Aitchison, Macarthur, In Pevsner, *Visual Planning and the Picturesque*, 2010, 20.

11. Regarding this matter, refer to August Schmarsow’s work and the theory of *Einfühlung* or “empathy”, which introduced changes in the appreciation of forms and their value, as well as an aesthetic reconsideration of the concept of beauty. See Schmarsow, “The essence of architectural creation,” in Mallgrave, Ikonomidou, *Empathy, Form and Space. Problems in German aesthetics 1873 – 1893*, 1994.

## Spontaneity



**Figure 3.** *Informal Event on a Formal Background. Milan, 2011*

*Photography:* Paulo Guerreiro.

Going back to Ernesto Nathan Rogers' definition of formalism, one can identify strong oppositions implicit in his choice of the adjectives.

The first duality proposed by Rogers lives in the words "ancient" and "contemporary", chosen in order to imply that formalism can occur regardless of epoch. Arguably, this choice has a double meaning. On the one hand, it suggests that formalism is timeless, meaning that it can happen in different historical epochs. On the other, it means that both ancient and contemporary forms can be used or appropriated in one's present time. These suggestions reinforce Rogers' implied criticism of formalism as a somewhat perverse attitude.

The second opposition, between "cultured" and "spontaneous", is especially interesting. Why is the word "spontaneous" chosen as an opposite of "cultured"? Arguably, this antagonism is related to the assumption that "cultured" is equivalent to *educated*. By the same token, a cultured behaviour is an educated and, ultimately, formal type of demeanour. According to this line of thought, if a cultured entity corresponds to formal adequacy, a spontaneous entity would correspond, by contrast, to informality. This is particularly relevant because spatial planning is not immune to the immense variety of life aspirations, aesthetic affinities and financial means of individuals and groups. Consequently, it is also not impermeable to their receptivity to the idea of norm or, alternatively, to their expectation for offers of novelty. In this sense, if one interprets the application of the theory of empathy to spatial planning, than the notion of spatial appropriation and personalisation becomes more clearly understandable<sup>12</sup> (Figures 3, 4 and 5).

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12. According to Schmarsow "(...) the origin and innermost essence of architecture" relates to an "aesthetic 'from within'", in which the "(...) aesthetic contemplation of our simplest forms – the psychological explanation of their immediate impression or play of associative factors – already takes as its starting point the creative and appreciative subject." (Schmarsow, *op. cit.*, 282-283). The





**Figure 4.** *Informal Appropriation of a Classical Formal Boulevard. Lisboa, 1992*

Source: António Barreto: fotografias.



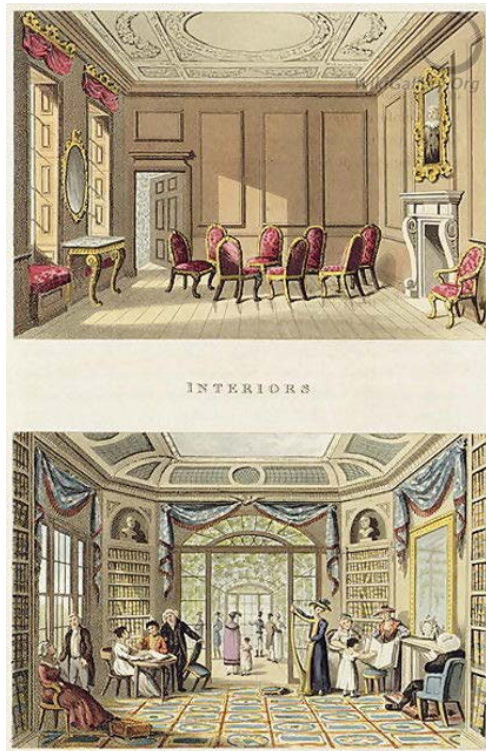
**Figure 5.** *Space Originally Planned as a Trigger for Informality. Bath, 1992*

Source: António Barreto: fotografias.

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introduction of the word “impression” should be underlined, as it reveals the difference between cause and effect in the theory of empathy. In Schmarsow’s view, “expression” comes from the object and “impression” is the effect that it causes in the subject. In such terms, this would explain the expectation to see the subject’s individual affinities reflected in the object (or “space”, in other words). Arguably, the progressive valorisation of this sort of relationship is at the base of the increasing value attributed to individual experience in spatial planning.

With regard to programmatic and functional aspects of spatial planning, namely in buildings, a good archetype to mention is that of the “living room”. The evolution of this concept demonstrates how the notion of individuality slowly permeated architecture in the last two and half centuries as a counterpoint to the idea of universal principles, traditionally dominant in classical architecture (including every major cultural movement conceptually affiliated with the classical model, prior or subsequent to the advent of the Picturesque movement, such as the dominant variants in twentieth century’s modernist movement<sup>13</sup>).



**Figure 6.** “Living Room”. Humphry Repton. “*Interiors: The Old Cedar Parlour and The Modern Living Room*”, In *Fragments on the Theory and Practice of Landscape Gardening*, 1816

Source: Wikigallery (Note: Cropped Image).

According to John Macarthur, the concept of “living room” was developed in the context of the English Picturesque movement, particularly through the work of Humphry Repton (Figure 6), as a reaction to the classical logic of creating sequences of thematic rooms, as the following passage details:

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13. António Santos Leite’s comments on Le Corbusier’s references to an “abstract Man” eloquently explore how the “differentiation between the conception of a ‘generically abstract’ Man of the modern movement and the ‘individual Man’ of the Romantic can be one of the key points to understand the possible affinities between this cultural matrix [related to the Romantic movement] and ‘postmodernism’ because the latter, like the former, implicitly legitimises the subjectivity of ‘individual and cultural differentiation’ as core values (...)” Leite, *A casa romântica; Uma matriz para a contemporaneidade*, 2015, 349



“(...) [Humphry] Repton uses the word ‘living-room’ self-consciously [in his 1816 book *Fragments on the Theory and Practice of Landscape Gardening*] as the neologism it was at the time. The proposal of a room not for a specific function but for ‘living’ implies a place for the whole of the self and a liberal interaction between persons in the room, free from social hierarchy. (...)”<sup>14</sup>

Repton’s interiors can be understood as a rejection of earlier planning strategies and techniques, namely those influenced by the Renaissance or specifically by Palladian models.<sup>15</sup>

The development of this species of space can also be explained by the social differences motivated by the transition from feudal structures to mainly bourgeois and industrial societies in Europe.<sup>16</sup> While medieval feudal social organisations resulted in the circumstance that dwellings were mostly communal spaces which did not allow for a great deal of individuality (whether by cultural reasons or simply due the sheer size of the dwellings in proportion to the family units which lived in them), the French Revolution and the Romantic period reinforced the notion that domestic space should allow for individual expression. These changes translated the way in which the ideas of *spontaneity* and *individualisation* progressively integrated planners’ concerns in their formal, systematised practice (Figures 7 and 8).

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14. Macarthur, *op. cit.*, 141-142.

15. With regard to Repton’s compositional principles read the following words by Robin Evans: “By emphasizing formed visual experience, the relation of internal and external spaces, and multiple activities and territories within a room, Repton’s plan required no recognizable geometric figure (...)” (Evans, “Figures, doors, passages,” in *Translations from drawing to building and other essays*, 1997 *cit. in* Macarthur, *op. cit.*, 141-142). This dilution of the classical pre-requisite of “recognizable geometric figures” would be further developed and is common in contemporary architecture, to a great extent.

16. In this regard read “Privacy and the idea of family in the determination of domestic space” in Leite, *op.cit.*, 38-48.



**Figures 7 and 8.** *Domestic, Unspoken Informality: Process or Goal? FALA, Houses in Rua Faria Guimarães (left) and Rua do Paraíso (right)*

Source: FALA. © FALA (left) and © Ricardo Loureiro (right).

A common understanding of the term *spontaneous* is that it translates a pure expression of individual and cultural emotions, one without the filtering of erudition. In spatial design specifically, spontaneous elements are often understood as those which are unpredicted in the process of designing, one that presupposes a project meant to go in a certain pre-determined direction. Bernard Rudofsky's "Architecture without architects"<sup>17</sup> solidified the growing cultural fascination with the idea of spontaneity and spontaneously grown objects. This is an idea often associated, on the one hand, to the general concept of *genius loci*<sup>18</sup> and, on the other, to a vernacular aesthetic with many formal traces that are esteemed by the advocates of the Picturesque.

17. Rudofsky, *Architecture without architects. An Introduction to Non-Pedigreed Architecture*. 1964.

18. Norberg-Schulz, *Genius Loci. Towards a phenomenology of architecture*, 1980. An eloquent counterpoint to Norberg-Schulz's theory can be found in Bernard Cache's work, where the latter summarises architects' traditional attitude towards the concept of "site" and "pre-existing character" (largely inherited by the idea of *genius loci* summed up by Norberg-Schulz in his seminal work), and proposes an alternative to it. See Cache, *Earth moves. The furnishing of territories*, 1995.

## Integration

How does planning (and specifically contemporary spatial planning and building, at different scales) cope with the interaction between the sense of individual emotion and the sheer scale of human population and its settlements? How are these two aspects articulated in the framework of contemporary design thinking?

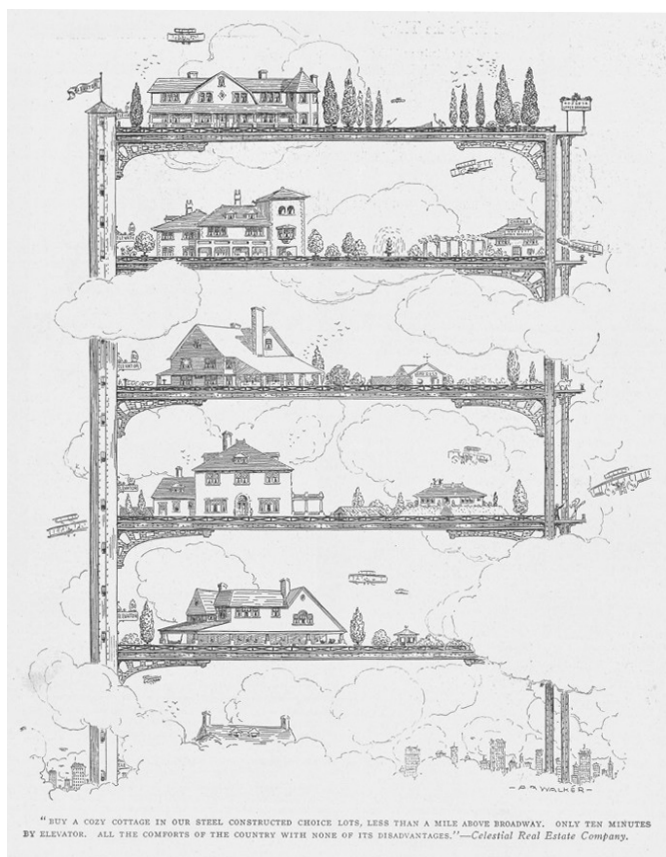
The attempt to suggest connotations with informality has been increasingly exacerbated by the subject of *taste* and also by the development of consumerist market economy (that is, by the competition for notoriety). These two aspects are deeply intertwined, as the development of the former supported and boosted the expansion of the latter, and vice-versa.

The first aspect, *taste*, has developed in Western architectural theory in contrast with the notion of ideal or canonical forms. Concepts such as *taste* or *style* have mainly been seen as meaningful when the affinity with the classical principle of canonical form shows signs of erosion.<sup>19</sup> In other words, a purposeful expression of the idea of personal taste is especially visible when it superimposes any given formal rule.

In human cultures, the subject of integration arises insofar as it defines the degree in which the *variable* is accommodated, or not, within the general structure of a society. Political and social systems live from this intermediate space, this threshold between personal empiricism and social agreement. In this context, the degree of integration of personal identities and characters (in which *taste* also plays a role) is an important aspect in the depiction of a given society and its political features. This is also the reason why the construction of a sense of variable taste is such a fundamental aspect of consumerist economies, in which a pursuit to grasp individuality is at the base of the system (Figure 9).

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19. Recall Adolf Loos' notion of "constant measure" which is, in other words, "(...) the consequence of a principle pursued methodically; (...) Style that is sought after is really nothing but *manner*. Manner becomes dated; style never does." Viollet-le-Duc, *op. cit.*, 256. These architects expressed in their own epochs the line of thought according to which forms are an inescapable material result of a given culture and that "manner" (or "formalism" in other words) corrupts this logic.



**Figure 9.** “1909 Theorem: The Skyscraper as Utopian Device for the Production of Unlimited Numbers of Virgin Sites on a Single Metropolitan Location”

Source: Koolhaas, R. *Delirious New York*, A Retroactive Manifesto for Manhattan.

In design, this articulation between exception and rule is a question whose answers can be grouped in two main types. The first design option can be synthesised by the establishment of a common *neutral* terrain seen as sufficiently broad as to allow for the flourishing of individual expression.<sup>20</sup> On the one hand, this approach is coherent with a sort of cartesian process of thinking which sets a correspondence between *abstract neutral form* and *abstract neutral Man*. On the other, this process may also foresee and enable a linear sequence between the neutral general form and eventual specific appropriations that may happen in that general structure. These two characteristics contribute to the sense that such an approach is open and adaptable and, therefore, they also contribute to its widespread conceptual and physical applicability.<sup>21</sup>

20. In general terms, the first stage of this approach (the idea of neutrality) derives from the European Enlightenment Period, when the pursuit of “(...) an impersonal, generalised and abstract form (...) devoid of individualistic feeling and which overtakes personal emotion (...)” was systematised. Rossi, “Para una arquitectura de tendencia” In *Escritos: 1956 – 1972*, 1977, 124.

21. Read Žižek’s words on the concept of universality, as interpreted by Sead Zimeri: “(...) universality is the terrain which generates its own problems and then presents itself as the appropriate solution.” (Zimeri, “Slavoj Žižek on the dialectic of universal and particular”, 2010). The notion of a neutral form provides, then, an understandably practical foundation for large-scale repetitive production of objects.

The second approach meets, by contrast, a certain aesthetic of spontaneity. This approach is particularly visible in most contemporary urban and landscape planning, in which the rigidity of the repetitive, monochord, bureaucratic city is increasingly combated.<sup>22</sup> Typological differentiation, variability of volume, and the proposal of diverse relationships with the landscape attempt to integrate different types of people and to reject monothematic, monocultural and monoformal spaces. Alternatively, current landscape planning tends to follow the model of an aesthetic of informality inherited from the Picturesque movement, arguably as a means of conveying a sense of leisure and diversity. In short, such a design approach contests the idea of anodyne *neutral* space and, alternatively, it proposes the notions of specificity or particularity as soothing solutions for the fear of uniformity and unrecognizability.

In the architecture of buildings, the suggestion of informality derived from this second, non-neutral approach is achieved, for example, by organising spaces and furniture in an *organic* way, by reducing linear paths to a minimum, by optimising the distances between accesses and maximising the spaces of *free circulation*. This helps to reduce the compartmentalisation of the fruition spaces and to limit the idea of “direct line from A to B” to a minimum. Furthermore, the suggestion of an *organic* image for the buildings (either by avoiding regular geometric shapes or by the selection of the building materials) reinforces this sense of particularity and, correspondingly, of informality.<sup>23</sup>

Colin Rowe reflected on this cyclical fluctuation between the establishment of general laws and the fascination with exceptionality, stating that:

“(…) the requirement of a manifest character as a requisite of any good architecture was the main agent of dissolving the hierarchy of values to which the academic system had been restricted. The academic tradition [at the beginning of the 19<sup>th</sup> century] was concerned with the ideal and with its physical translation as a visual norm (...); ‘All the beauty and grandeur of art consists in being able to rise above all singular forms, local customs, particularities and details of any type’, says Sir Joshua Reynolds (...); but now [in the Romantic and Picturesque movement] precisely these ‘singular forms’ (...) these exceptions and accidents (...) are the ones that become full of interest and «character»; and perhaps this discovery is the most complete way of representing the Romantic revolution. ‘Only the perfectly characteristic deserves to

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22. This statement applies mainly to “consolidated” settlements in the European context, for example, and perhaps not quite to the gigantic urban expansions in Asia or Africa. Some differences between these cases will be further interpreted in this article.

23. The influence of Picturesque theory is reflected on our contemporary visual culture, as summarised by John Macarthur: “(...) It is not, in fact, difficult to make a caricature of picturesque buildings. (...) They should avoid continuous wall areas, and the edges of space should be layered, framed and often open at the corners (...). Some parts being dominant and others subsidiary, there should be a sense of directionality of the building facing the landscape. (...) Picturesque buildings should (...) extend in one main direction, preferably across the topography, to emphasize the rise and fall of the land. (...) Visible roofs are good in picturesque because their intersection and overlap with walls makes for variety. (...) In fact, I think that much of picturesque architecture from 1800 to the present is simply the caricatured application of such a formula (...).” Macarthur, op.cit., 155-156.

be called beautiful', Goethe had written. 'Without character there is no beauty', and character becomes one of the most familiar and repeated motifs of the new era."<sup>24</sup>

Another important aspect in this discussion about the degree of exceptionality of the design proposals relates to typology. Assuming that spatial planning translates a correspondence with the environmental, cultural and social conditions of a given setting, then one of its fundamental elements is the *cell*, that is, its basic unit. The term *cell*, here, does not have a material connotation (in other words, it is not a physical element such as a shape or a building material), but it is meant as a social component of planning on which every subsequent design decision is founded. For example, in the design of housing units (a basic and common type of building, which consumes a large proportion of land and other resources), many design options derive from an interpretation of who the inhabitant is. Questions like "How many people is a given unit likely to house?", "How old are the inhabitants?", "Which daily activities are relevant for this group?" are a fundamental part of the project and they influence the large typological schemes and their small subtleties. The answer to such questions provides quantitative data but also qualitative details that can be decisive for the planners' proposal.



**Figure 10.** *Lacol. La Borda Cooperative Housing, Barcelona*

Source: Institut Municipal de l'Habitatge i Rehabilitació de Barcelona.

In Europe one can identify significant changes through the ages with regard to the definition of social cell (and that of typological cell, correspondingly). The

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24. Rowe, Slutsky, "Carácter y composición, o algunas vicisitudes del vocabulario arquitectónico del siglo XIX" In *Manierismo y arquitectura moderna y otros ensayos*, 1999, 70 (the passages that the author quotes originate from Reynolds, *Literary Works*, Vol. II, 1770, and Goethe., *Von Deutscher Baukunst*, 1773).

main shifts occurred, arguably, with the development of bourgeois societies and with the progressive reinforcement of modern individuality from the Renaissance and particularly from the Enlightenment onwards (albeit with irregular fluctuations), in contrast with the community-based Medieval feudal mentality.<sup>25</sup> For instance, the aforementioned concept of “living room” derives from these developments, as well as other typological variations which developed accordingly.

Many contemporary proposals also try to reflect the balance between individual and communal aspirations, pondering on which elements are *neutral*, *particular* or *collective*, and also on the meaning of terms like *family* or *living community* (Figure 10). The interpretation of such concepts is, thereafter, reflected on the sense of informality suggested by the environments, in coherence with the tendential informality of many contemporary societies.<sup>26</sup>

For example, one can identify a tendency to re-interpret the possible advantages of communal spaces over isolated individual units. This tendency has practical motivations, on the one hand, but it also expresses the social and identity issues concerning many contemporary societies, especially in the European context. The practical motivations are essentially economy-related. In fact, it is spatially and economically more efficient to build a centralised or shared space that houses certain communal activities (such as laundries or, in some cases, kitchens<sup>27</sup>) than to build several smaller spaces for each individual housing unit. At a social level, these options also reveal a desire to combine a sense of individuality with the idea of returning to a sort of shared or public living experience.

## Words

In general terms, the border between isolated individual actions and integrated collective endeavours is hard to clarify. In spatial planning in particular, one perceives that the bigger the size of the object, the hazier this border becomes, as the factors which influence the results are more numerous and more complex.

Going back to the idea of *spontaneous*, one can add that, besides being somewhat synonymous to “unpredicted”, this term has a second connotation. *Spontaneous building* is usually also understood as an utilitarian response, a direct expression of constructive pragmatism used to solve everyday problems. In the case of human settlements, namely in large or dense territories, the consequence of this spontaneous building is often defined as *informal*. At this point, it is important to pursue clarity and precision in the words, in order to test this correspondence.

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25. Regarding the transition from the feudal to the modern notion of individual space read Leite, *op.cit.* 217-221.

26. The statement that there is a tendency of increasing informality in contemporary societies is admittedly disputable. Its validity and limits will be further approached in the chapter “Discussion”.

27. In this regard, see for example Anna Puigjaner’s work on the topic of “kitchenless house” and “kitchenless city”. Puigjaner, *Kitchenless City*, 2018.



What do we mean when we label a building or space as *informal*? What do we mean by *formal* and *informal city*, or by “urban” and “rural”?<sup>28</sup>

The definition of *urban settlement*, for instance, is not universal. The criteria that lead up to this definition are sometimes unclearly established and can change depending on context. For example, one sees that a *city* cannot simply be defined by the number of inhabitants (either in absolute amount or in proportion with other local factors), as shown below (Table 1 and Figure 11).

**Table 1.** “National Definitions of ‘Urban Area’ as Used for a Custom Selection of Countries”

National definitions of ‘urban area’ as used for a custom selection of countries <sup>5</sup>	
Country	National definition of ‘urban’
Argentina	Localities with 2,000 inhabitants or more.
Sweden	Built-up areas with 200 inhabitants or more and where houses are at most 200 metres apart.
Japan	Cities defined as shi. In general, shi refers to a municipality that satisfies the following conditions: (1) 50,000 inhabitants or more; (2) 60 per cent or more of the houses located in the main built-up areas; (3) 60 per cent or more of the population (including their dependents) engaged in manufacturing, trade or other urban type of business.
India	Statutory places with a municipality, corporation, cantonment board or notified town area committee and places satisfying all of the following three criteria: (1) 5,000 inhabitants or more; (2) at least 75 per cent of male working population engaged in non-agricultural pursuits; and (3) at least 400 inhabitants per square kilometre.
Zimbabwe	Places officially designated as urban, as well as places with 2,500 inhabitants or more whose population resides in a compact settlement pattern and where more than 50 per cent of the employed persons are engaged in non-agricultural occupations.
Singapore	Entire population.
Uruguay	Cities officially designated as such.

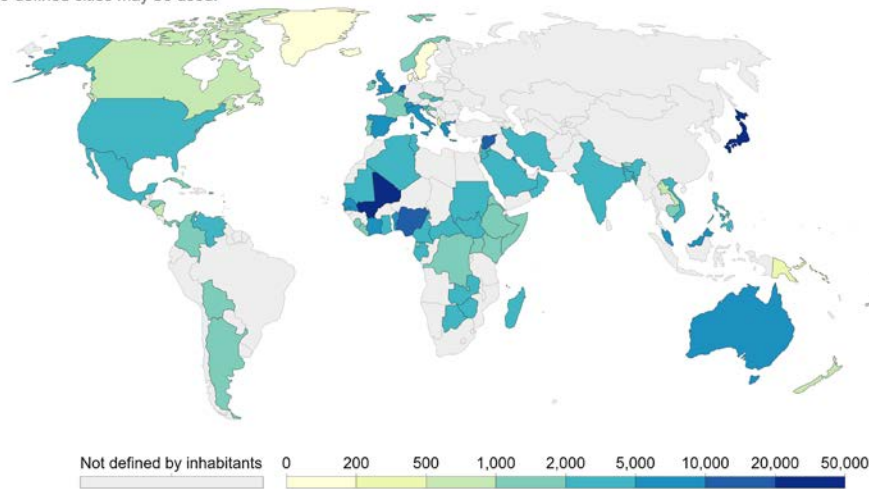
Source: Our World in Data.

28. On this topic, read the following argument by Jörg Schröder, where the author argues for a layered paradigm of urban-rural polarities: “(...). Many people in Europe are defining ‘rural’ as their living places, with cultural, social, and economic links to different poles, and modified ‘urban’ parts of their life-styles; the diversification of notions of ‘urban’ is to be seen as parallel to shifts in ‘rural’. Even abstract indicator-models hint at these ongoing shifts: according to the new urban-rural typologisation of EU (Dijkstra and Poelman 2014), 40% of the population is living in densely populated areas (cities), 29% in thinly populated areas (rural areas) and 31% in intermediate density areas. (...) ‘Urban’ and ‘rural’ as important categories of policies (...) need renewed operability especially for areas outside of dense cities; geographic definitions of demographics (population density) or of functional criteria (mobility, or services) are not operative. (...)” Schröder et al., “An actualised urban-rural paradigm of cooperation.” in *Territories: Rural-Urban Strategies*, 2017, 24-25.

### Minimum number of inhabitants for a settlement to classify as an urban area



Minimum population threshold of a settlement for it to be defined as an 'urban area' based on national definitions. There is no universal definition of what constitutes an 'urban area'; definitions vary significantly between countries. For many countries, there is no defined threshold based on inhabitants; other metrics such as population density, infrastructure, or even pre-defined cities may be used.



Source: UN Urbanization Prospects (2018)

CC BY

**Figure 11.** “Minimum Number of Inhabitants for a Settlement to Classify as Urban Area”

Source: Our World in Data.

Words like *spontaneous* or *informal* are also relevant in this context. In the definition of *urban* settlement, how much do those terms weigh and what do they mean?

If one expects that informal buildings or spaces display a certain type of look or materiality, then the classification is mostly aesthetic, rather than symbolic. If one equates spontaneous and informal to *vernacular*, then this correspondence is social and, at times, geographical (if the traditional separation between urban and rural is assumed). If one defines informal as something which was not designed by an *official* planner (architect, designer, urbanist), then most of the buildings built by Humanity throughout History are not formal and, if so, most of our settlements (even those which are already “assimilated” by our cultures through the passage of time and experience, to paraphrase Rogers) are fundamentally informal.

This last hypothesis is particularly comprehensive. In the case of traditional or permanent settlements such as cities (let us ignore for now this term’s aforementioned disputability and accept it as a concise contrast to “ephemeral urbanism”<sup>29</sup> and temporary constructions such as those for seasonal happenings), the borders of what is commonly understood as the settled city are often being redefined, as well as the idea of centrality.

In practice, the so-called informal settlements are not necessarily *informal*, but rather *illegal* or at least not fully integrated within the traditionally accepted idea of consolidated city. In other words, these territories do not necessarily

29. This expression is taken from the homonymous book by Mehrotra, Vera and Mayoral on this matter. Mehrotra, Vera, and Mayoral, *Ephemeral Urbanism: Does Permanence Matter?*, 2017.

correspond to the concept of informality as a relaxation of behavioural rule, as they often represent or define behavioural rule themselves. Likewise, they do not correspond to the notion of informality as the creation of unassimilated random shapes, as these territories often possess repeated features which result in a sort of unspoken formal canon (sometimes as a long-term inescapable consequence of initially *spontaneous* construction, and sometimes as a result of coordinated planning). So the term *informal* shows mostly a political connotation, as it is used to swiftly communicate differences in social status between areas of a territory. This is, in fact, a way to reinforce the demarcation between those territories, rather than a contribution to understand them as dialogical elements, as integrated parts of each other.

However, contemporary architecture and territorial planning does attempt to comprehend these connections between the conventionally named *formal* and *informal* cities. For instance, the commonly accepted idea of “Masterplan” is currently being replaced by alternative bottom-up planning ideals such as community-driven design (Figures 12 and 13) or the concept of “Cityforming” (Table 2).



**Figures 12 and 13.** *Munich: The City as Living Room. Interventions in the Streets by the Collective “Die Städtischen”*

*Photography: Paulo Guerreiro.*

**Table 2.** “Cityforming © vs. Masterplan. Source M. Carta”. Transcription by the Author from the Original Text (Figure 5, page. 52)

CITYFORMING	MASTERPLAN
is incremental	is instantaneous
is open	is closed
plans by steps	acts by steps
is strategic	is regulat ive
is dialogic	is assert ive
is adapt ive	is conformat ive
enables urban tactics	defines land uses
act ivates scenarios	ant icipates scenarios
produces new metabolism	acts by separate layers
generates resources	consumes resources
acts by programs	acts by projects

Source: Schröder et al. *Territories – Rural-Urban strategies*, 2017.

These are planning tools which, in principle, are usable in different contexts and scales, as they stem from the basic idea that formal and informal spaces are increasingly indissociable.<sup>30</sup> The language that is used to define “Cityforming” is also revealing of its underlying mentality. For example, the contrast established between a plan which “*enables* urban tactics” and one that “*defines* land uses” quite clearly expresses an attitude through which the mantra of collaborative, dialogical communities is disciplined within the analytical framework of planning.<sup>31</sup>

Depending on the scale and scope of the desired interventions, these theoretical principles are more or less applicable, insofar as they are more or less altered by the factors of their political and economic context.

30. The so-called slums “(...) include both formal settlements in a process of becoming informalized and informal settlements becoming formalized.” (Dovey et al., “Towards a morphogenesis of informal settlements” in *Habitat International.*, no. 104, 2020). The present text argues that the same can also be said about other contexts and that this idea, in general, defines contemporary human-built territories.

31. “There is the argument that “the essence of the 21st-century urban utopia is the building of diverse urban communities, not through large global offices by architects and financial companies that are pro-green-growth, but by means of citizens”. (Petrella, “Why recitizenise the city?” In *Domus Green*, Sep. 2016, 10). Although the second part of the passage (the “means”) is perhaps questionable, the idea of acknowledgement or creation of diverse urban communities as an increasingly present goal in urban planning seems to be quite accurate.

### Replica

If formal and informal spaces are increasingly indissociable, does that also mean that they are indistinguishable?

Our embedded way of thinking as contemporary planners is, arguably, based on the following sequence: if spontaneous building is a practical attitude, this means that it leads to a visible formal manifestation. This formal result, if interpreted isolatedly (that is, if one were to analyse only one individual building, for example) could communicate a sense of individual expression.<sup>32</sup> But, if one adds up various examples of spontaneous manifestations, then a sort of shared expression becomes, in theory, intelligible. And, if it is intelligible, it is replicable.

Such a process of thinking, based on sampling and subsequent replication, is characteristic of post-modern architectural theory, summarised by the seminal words of Robert Venturi.<sup>33</sup> In accordance with this line of thought, contemporary spatial planning attempts to reproduce the associations with informality, imitating the formal characteristics which lead to those associations (the notion of relaxed individual expression and the sense of lifestyle diversity, for example, are common expectations in many societies).

For example, take the experimental project for an urban ensemble in Paraisópolis, Brazil, by Christian Kerez's architecture office (Figures 14 and 15). Read the following passage about it:

“This project offers the people living in this new settlement the same life as in a favela. Each house has a direct access to the alleys and small squares. In front of each living room there is a veranda where people can dry their clothes and stay outside. On top of most houses there is a roof terrace. Five different housing units, each with a surface of 50 square meters are built ninety times. The arrangement of these vertical, standardised single family houses is totally irregular to define a labyrinthic, continuously changing space. This project acknowledges the favelas as a very specific form of architecture with totally different qualities, architectural and urbanistic, than any modernistic or contemporary western residential area.”<sup>34</sup>

This project attempts to replicate some of the spatial features of the favela, in some way glamourising their picturesque exoticism, and tries to integrate them in the legitimisation of the design. A sort of programmed irregularity is proposed, emulating the signs of diversity from spontaneous building by using the traditional methods of disciplined urbanism and architecture: a structured analysis organised

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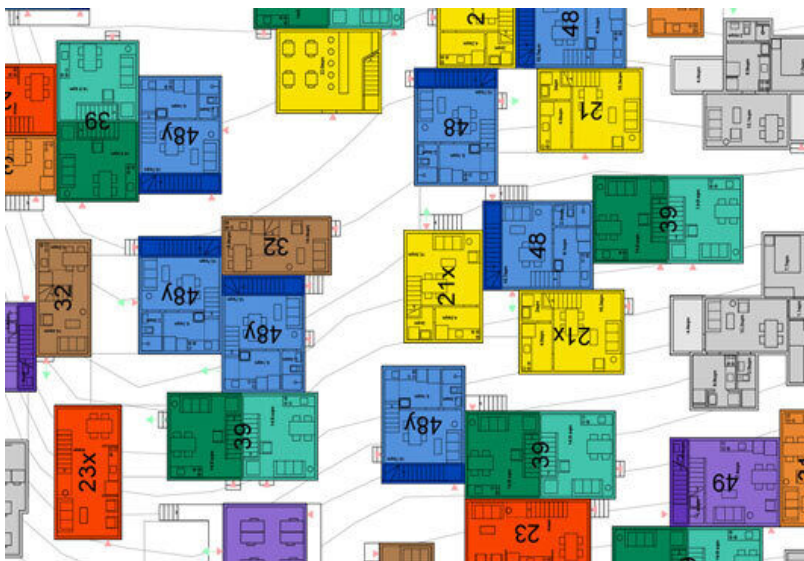
32. In order to simplify the argument, let us validate this basic premise that a merely “individual expression” is possible. The anthropological and sociological boundaries between innate, individual, acquired and cultural knowledge are indeed too complex and its nuances far exceed what this article and its author can grasp in the context of this article.

33. See Venturi, *Complexity and Contradiction in Architecture*, 1966.

34. “Christian Kerez - Social Housing in Paraisópolis”, published on [divisare.com](http://divisare.com). The authorship of the text is not clear. If the words come from the architectural office itself, than that corroborates the argument that the project intends to systematise or domesticate the variability which exists in the original favelas. If, on the other hand, these words translate an editorial interpretation by the publisher, than that reveals how this replica of spontaneity is accepted as a possible canon in architectural practice.



in parameters, the establishment of patterns and typological repetitions, the identification of functional, formal and expressive models and of their causes and effects.



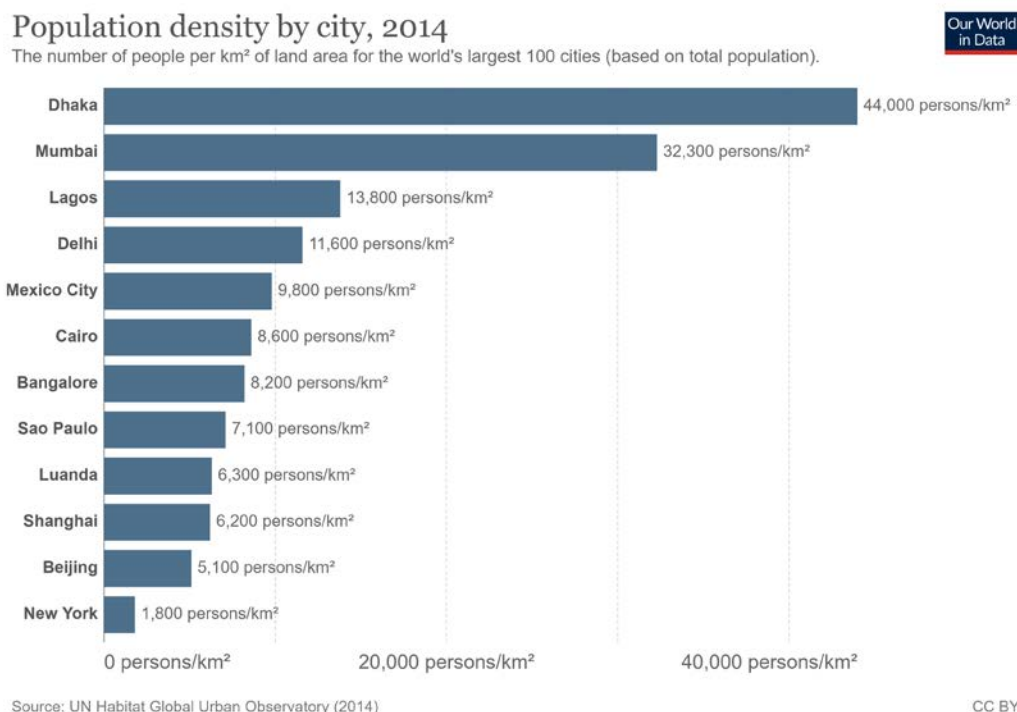
**Figures 14 and 15.** Christian Kerez, *Project for Social Housing in Paraisópolis*

Source: divisare.com (© Christian Kerez).

The subject of replica is ever-present in architecture and in territorial planning, but it is particularly visible in big settlements, where a sense of large-scale repetition is more blatant or at least more likely to occur. In this case, two types of urban extension are particularly noteworthy.

Take the example of Luanda. This capital city concentrates a large proportion of Angola's population and was subject to an exponential and often poorly regulated expansion. The 1950's and 1960's plans for the city which defined its

main infra-structures considered a population of circa 400,000 people,<sup>35</sup> a number which is far from the currently estimated 3.5 Million inhabitants,<sup>36</sup> and they did not conceive its current population density (Figure 16).



**Figure 16.** “Population Density by City, 2014” (Luanda with ca. 6,300 Persons/km<sup>2</sup>)

Source: Our World in Data.

In this regard, Luanda is not a particularly exceptional example of urban exponential growth in recent decades, as it shares many issues with other cities in poor countries. Nevertheless, this city provides good examples to interpret the ideas of *informal settlement* and of *informality as a design goal*.

Luanda’s expansion areas can be sorted in two main types. The first is the city’s *musseques*, that is, its slums and derivatives (Figure 17). This type of construction can be divided into several sub-categories, which display different degrees of integration with the organisation of the *established* city, be it by the link to the general infrastructures, by their urban morphology, the epoch in which they were initially built, the existence or absence of a formal urban plan for those areas and the degree in which those plans and initial constructions were altered through time. This means that these territories are not uniform and that a general definition

35. For an overview of the several urban plans devised for Luanda in those decades read Figueiredo, *Oito 48. 13 Treze. A Habitação Colectiva Como Substrato de Urbanização 1950 – 1970*, 2008.

36. Population considering Luanda’s “metropolitan area”, according to the data provided by UCCLA (União das Cidades Capitais de Língua Portuguesa, “Union of the Capital Cities of Portuguese Language”) [www.uccla.pt/membro/luanda](http://www.uccla.pt/membro/luanda).



that encompasses all of their nuances is hard to achieve. Nonetheless, they do constitute a general type of territorial category, which is commonly seen as alien to the image and the perimeter of the idealised core traditional city.



**Figure 17.** *Luanda (Samba Municipality), 2020*

Source: Angola Image Bank.

The second type of expansion space is that of the so-called “new centralities” (Figure 18). This official designation defines large areas built mainly around the spaces occupied by the perimetral *musseques*. These further enlargements of the city are commissioned by the central political power and are almost exclusively built by large foreign companies and/or Nations (mostly China). The “new centralities” are meant to provide accommodation to the city’s middle class and also to the population that previously lived in the slums, as well as the traditional neighbourhood equipments (infra-structure, green areas, schools, etc.), although many still remain as “Ghost Towns”.



**Figure 18.** *Formal or Formalist? Luanda (Kilamba Kiaxi “New Centrality”)*

Source: Moreira, P., 2012/Researchgate.net.

Both of these types of construction express a sense of replica and rapid multiplication, mostly due to the fact that they stem from the same root: urgency. They are, however, profoundly different, both in their morphological characteristics and, more importantly, in their organic integration in the cultural landscape of the city.

The commonly named *informal* additions to the city represent a bottom-up extension which replicates itself organically. This applies to different scales of intervention, from small additions to pre-existing plots or buildings (often initially illegal or unauthorised), to large territories such as the *musseques*, which are the long-term result of those spontaneous and pragmatic interventions. Such interventions do not arise from formal (that is, *official*) or erudite considerations, but primarily from basic need or sheer cultural habit.

For this reason, the border between formal and informal city is impossible to define. Materially, *informal* structures are often built as appendixes to officially planned buildings and they often share the same urban spaces, especially in threshold or peri-urban areas (Figures 19 and 20). Informal structures also frequently provide a way to directly express needs that the formal city does not satisfy, and unauthorised spontaneous building habitually displays subtleties that the formal limitations of the established city do not allow (the term “formal”, here, is purposefully meant both in its behavioural and material senses). In other words, the possibility for personal customisation intrinsic to spontaneous building makes it an organic complement to the constraints of the *neutral city*, often conceived in order to respond primarily to the concerns of the funders, rather than to those of its specific inhabitants (the relationship between typology and the source of funding is quite explicit, in this regard).



**Figure 19.** *Luanda (Catambor and Prenda Municipalities), 2020*  
Source: Angola Image Bank.





**Figure 20.** Luanda, 2019

Photography: Wilfred Figueiredo.

The design attitude exemplified by projects like the “new centralities”, conversely, is based on a more literal notion of repetition in which a given building is simply multiplied on the allocated plot. The priority given to rapid construction influences every aspect of the proposal and contextual considerations are excluded from the process, with the exception of the purely technical ones. In this sense, these endeavours can be seen as quintessentially formal, as they take the idea of canon to the limit.

In principle, if one accepts the idea of *copy-paste* building and of tendentially neutral repetition as an unobstructed starting point for subsequent appropriations, then these projects can be seen as more flexible, in the long term, than the spontaneous bottom-up alternative, which is often hindered by the constraints of its specificity. Even if *neutrality* only becomes assimilated over time (in contrast with *spontaneity*, which is automatically and therefore inescapably assimilated), it can indeed provide a potentially lasting foundation for cultural incorporation.

If, on the contrary, one is fond of the idea that “assimilated” (and therefore non-formalist) entities are only those which were tested and accepted by a given culture over a long period of time, then these *copy-paste* contextless projects represent the ultimate formalist threat.

## Discussion

The current text has presented three main areas of discussion, exploring possible meanings of the term *informal* applied to spatial planning.

The first element of debate is the idea that contemporary (democratic) societies show a tendency for increasing informality. Admittedly, one can argue that certain signs may point in the opposite direction, particularly at a macro-scale. If one considers matters such as discourse intolerance (which can be seen as an obedience to discursive canon, and therefore as a sign of rigid formality) or social and economic inequality (and the sense of stratification that it entails), then the argument that formality still dominates social relations is indeed reasonable. Additionally, socio-economic class may still determine to which degree certain aspects of informal building are deemed acceptable and how permanently integrated in daily life they are. The concept of *co-living* and the notion of shared communal space as in Lacol's La Borda project, for example, are perhaps still connoted and delimited to certain social groups, which in turn influences how the building market reacts to such design approaches.

Oppositely, certain arguments may lead to the conclusion that a sense of informality is increasing. The idea of *leisure time* is disseminated as a right for large parts of the population, particularly in prosperous contexts where the relationship between working hours and free time is being redefined. The apparent dilution of vertical hierarchies and their replacement with horizontal structures in the workplace and also in other environments is a sign of an increasing sense of relaxation of social rigidity. The possibility of personal customisation in various aspects of life has established itself as a given (something which is closely, but not exclusively, related to consumer culture).

The present argument implies that this second type of factors currently weighs more in the definition of architectural and urban form than those which bend towards obedience to rigid behavioural rules. Furthermore, it is suggested that this link between social informality and spatial planning induces visible changes in aspects like typology and aesthetic affiliations.

The second area of discussion is the questioning of expressions such as *informal building* or *informal settlements*, especially when applied to large urban expansions. The argument here is that, if the original motivations for such type of building are practical and urgent to the point where they constitute the organic rule of a given context, then they are no longer informal, but rather the *de facto* norm. These territories can be reconsidered by not focusing strictly on their physical characteristics, but rather by understanding that they reflect behavioural rules which can be useful to comprehend spatial planning in a broader sense. The proposition of the argument is that interpreting the general concept of informality is a more valuable starting tool for design thinking than the attempts to understand the individual physical elements that compose those *informal spaces*.

The third aspect is connected to the previous one: the idea that *formal* architecture attempts to replicate the physical features of irregular, unplanned building. However, planning may scientifically produce an environment that tries to trigger spontaneous behaviours (in the lack of a better term), but the structure

and the tools of planning mean that systematised architectural planning is fundamentally the antonym of spontaneity. The essential critique on strictly analytical interpretations of the so-called spontaneous or informal buildings is, here, that such line of action focuses on the results, rather than on the original conditions which led to those results. Spontaneity is not replicable and a simulation of spontaneity is a frivolous exercise if the motivation, process and results of spontaneous building are mistaken as being the same as those of simulated spontaneity.<sup>37</sup> This is especially so if the results are judged mostly by aesthetic similarity.

## Conclusions

The argument explores two main dimensions of the concept of informality. The first is that it broadly represents a deviation from canon and that this applies to behaviours as well as to architecture. The second aspect is the idea that contemporary spatial planners often imply connotations of informality in their projects for place-making. This is an inheritance of the permanent fluctuations between the pursuit of classical, *universal* designs, on the one hand, and custom-made, *specific* proposals, on the other.<sup>38</sup> The quest for specificity is coherent with a social and economic system where the discourse is heavily marked by the repetition of terms like “community”, “cooperation”, “interaction” or “dialogue”.<sup>39</sup>

Contemporary spatial planning attempts, then, to reproduce the physical characteristics which lead to associations with *informality* and to distance itself from indicators of rigidity, of repetition or sameness. The goal of such a process is, arguably, that of systematising spontaneity and, ultimately, of integrating the several meanings of informality within the formal canons of design. However, although the results can aesthetically be seen as analogous, these are met by means which are diametrically opposed to the attitude which is supposedly being replicated. By establishing new sets of rules that can potentially be replicated, planners demonstrate a fundamentally formal attitude.

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37. The term “spontaneous building” is mentioned in this sentence in its traditional meaning, which can be summarised by the ideas of “architecture without architects” and the common usage of the expression “informal settlement” (which is disputed by this article). The expression “simulated spontaneity” is proposed here in the sense of “replica through scientific methods” explored in the beginning of the previous chapter.

38. The contemporary political and economical take on the traditional concept of *genius loci* (in most European contexts, at least) can perhaps be synthesised by the following words: “Globalisation has made localities and their interaction more important for economic growth and prosperity. Space is becoming increasingly ‘slippery’, in the sense that capital, goods, people, and ideas travel more easily, but, at the same time, increasingly ‘sticky’ and ‘thick’ because capital, goods, people, and ideas, despite being constantly on the move, tend to remain stuck in agglomerations. Consequently, development strategies should not be space-neutral, but, placed-based and highly contingent on context.” Schröder et al., *op. cit.*, 2017, 20-22.

39. Refer back to the concept of “Cityforming”, for example, for a clear translation of this idea.

This happens for two main reasons. The first one is a sort of embedded professional habit, an irresistible tendency to categorise and systematise elements in order to re-apply them. The second is the fact that such an approach is the only viable solution for applying the interest in informality in the context of professional planning offices. As a planless or projectless architecture is, for the most part, inconceivable in structured relations between planner and client, the only justifiable way is to discipline informality until it becomes formalised. This requires a structure that contradicts, as mentioned, what informality originally implies.

The subject of formality is essentially cultural and it is applicable regardless of epoch and topic. The present article reinforces the argument of formality, more so than formalism, as an operative criterion and as a fundamental architectural feature.

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## The Role of Architecture in Overcoming Barriers: From Ronald Rael's Teeter Totter over the US-Mexico Border to Lawrence Halprin's Freeway Park Designed over the Seattle Freeway

By Vittoria Umani\*

*In the last few years, more border walls have appeared in Europe than those present during the Cold War. What is fundamentally wrong about these walls is how a simple line drawn on a map, able to change the perception of a territory and of its identity, does not follow any design principle. In places characterized by security infrastructure, such as borderwalls, the role of architecture is minimal and struggles to go beyond a surface level. The only possible contributions remain in terms of provocations as seen by the designs of architect Ronald Rael. The border walls are not the only contemporary built "walls" that form barriers with negative social implications. Expanding on the theme of infrastructure, differently from the previously mentioned type, connecting infrastructure, such as highways, freeways, parkways, is designed to unite two sides, two places. If this is true in one direction, in the other direction it is quite the opposite: two sides that used to be neighboring are now separated by a physical barrier, not just a line in the sand. Lawrence Halprin's Freeway Park designed as a bridge over the Seattle Interstate, wishes to reconnect the neighborhood that had been divided by the construction of the motorway. This paper wishes to analyze the role that architecture projects by the two architects, Rael and Halprin played in stitching back together parts of cities, communities, even countries through stratified complexity and also a new definition of interaction.*

### Introduction

"Something there is that does not love a wall",<sup>1</sup> the starting verse of Robert Frost's *Mending Wall* seems to express a negative perception of a "wall", an infrastructure designed to keep two sides separated.

In 1989, the fall of the Berlin wall, marked the end of the Cold War for the general public. What followed, was a feeling of relief and a belief that the Soviet Union would no longer use force to preserve its Empire.<sup>2</sup> This moment underlined the public belief that "walling off" (or "walling in") the enemy, was not going to be used as a war (or peace) strategy anymore.

Nevertheless, the poem ends with a very different quote, "good fences make good neighbors",<sup>3</sup> clashing with this optimistic view. In reality, in the last few

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1. Robert Frost, Margery S. Hellmann, and Holburne Press, *Mending Wall* (Seattle, Wash.: Holburne Press, 2000).

2. Eric Rubin, *A Time of Hope and Optimism* (2019).

3. Frost, Hellmann, and Holburne Press, *Mending Wall*, 2000.

years, more border walls have appeared than those present during the Cold War. Some of the most famous walls include the so called “Trump Wall” that is being constructed along the U.S.-Mexico border.

In order to be able to talk about the shifts in power of the World after the Cold War, it is necessary to move away from the old Continent and look at the new one.

Hegemony can be defined as predominance of material resources such as raw materials, markets, and capital. Moreover, these material resources provide the means for the hegemon to make and enforce the rules for the world political economy. “It was the European governments that sought to elicit and influence the projection of U.S. power into Europe – and they did so primarily for security and resource reasons. In short, U.S. hegemony in Europe was largely an empire by invitation.”<sup>4</sup>

In the words of Francis Fukuyama, this period after the Cold War was characterized by the hegemony of the United States. He goes further into detail explaining whether or not this title is still valid today, “The long-term sources of American weakness and decline are more domestic than international. The country will remain a great power for many years”.<sup>5</sup> For this reason, the American model of the border will remain influential for the rest of the world for just as many years. Studying the border model of the hegemony is useful for both, the countries directly influenced by it and also all the other ones that experience it because of their bordering condition.

Many people, writers, artists and architects have openly opposed the building of this security infrastructure. Among them, the architect Ronald Rael that in his book *Borderwall as Architecture. A Manifesto for the U.S.-Mexico Boundary*<sup>6</sup> points out many negative aspects of the Borderwall. Without ever negating the actual separation of the two countries or the security aspects that define the U.S.-Mexico borderlands, nor envisioning a world with no separations, the book proposes a new vision for the “wall”. The Architect emphasizes the positive aspects of the borderlands as places of connection between two realities that when in contact should be allowed to rub off on each other. Since the border is the place of the encounter and clash between differences it can be both, the unsafe home of disputes and violent conflicts, as well as the place where resourcefulness is designed and tested in the name of amicable confrontations.

Rael also imagines a different type of wall, not one made of 30 ft tall metal bars and six ft of below ground bollards. The idea behind the architect’s book is to create spaces where people can meet and share experiences, the Swing Wall, the Yoga Wall, the Confessional Wall, the Tortilla Wall. At the same time, Rael designs useful linear infrastructure to be placed along the border instead of the actual wall, like the Dam Wall, the Hydro Wall, the Wastewater Treatment Wall, the Solar Wall, whose first priority is to solve problems linked to the territory (of both sides) and the barrier aspects, simply become a consequence of its geometry.

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4. John G. Ikenberry, “Rethinking the Origins of American Hegemony,” *Political Science Quarterly* 104, no. 3 (1989): 375-400.

5. The Economist, *Francis Fukuyama on the End of American Hegemony*.

6. Ronald Rael and Teddy Cruz, *Borderwall as Architecture: A Manifesto for the U.S.-Mexico Boundary* (Oakland, California: University of California Press, 2017).

This form of irony and sarcasm can also be seen in the concepts of de-architecture by SITE (Sculpture in the environment), led by James Wines where de-architecture is not a problem-solving, functionalist endeavor. In this case, architecture is used as the raw material for art, and visual commentary for issues of mobility, infrastructure and American commercial strips.

In the case of connecting infrastructure, on the other hand, the consequence of the physical barrier cannot be considered something positive. Connecting infrastructure is designed to efficiently connect two places together, like highways and freeways. This is true in one direction, but on the opposite direction, connecting infrastructure becomes a visual and physical impediment. Many of the highways that pass through cities tear through its urban fabric, displacing people from their homes and their communities, causing the separated portions of the city to experience segregation, abandonment and decay.

Also in this case, the role of architecture becomes important in overcoming the barriers created by the highways. A great example has been provided by the architect Lawrence Halprin that designed an urban park over the Highway Lid of Seattle' interstate 5. Through its design, the park is able to create a connection between the two separated sides of the city.

### Literature Review

The concepts of divided space, of the borders and its limits need to be determined and defined in order to better understand the approach of architecture in attempting to overcome them. The following definitions will help to better understand the complexity of the border issue and its numerous interpretations. Every definition determines the next and each concept explained does not perfectly correspond to a defined, closed box. Each definition more closely resembles a natural landscape, where each part is distinguished from the other, but it is not necessarily clear where one ends and the other begins.

### The Border

In this case, the wall is the physical representation of a line, the definition of a territory or property but at the same time, to establish a border means to establish a place, to define a fixed point as a start and to which to refer to. The definition of a place might give the appearance of fixed and stable border lines, but this is true only until the conditions that formed it come to change. The border imposes on the territory, with its markers and signs, it describes a closed, circumscribed condition and, unlike the frontier, offers security.

As thoroughly explained by Zanini in his book *Significati del confine. I limiti naturali, storici, mentali* (Meanings of the Border. Natural, historical, mental limits),<sup>7</sup> the act of occupying a land is the first step to tracing any kind of border and claim any rights to it. Unlike planting the flag on the moon, the occupation

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7. Piero Zanini, *Significati del confine. I limiti naturali, storici, mentali* (Testi e pretesti, 2002).

and the subsequent claim to a territory can only happen when it is durable and constant over time.

But even in more common territorial claim situations, the recognition of one's belonging to a specific place or community, can come from many, different, even volatile things; from the odors and perfumes that spread from the streets, spices and flavors, colors and materials, all evanescent examples of the precariousness of many place-bound identities and how the issues surrounding the borders are also very much social issues.<sup>8</sup>

Once the space has been occupied, it is necessary to measure it. To measure means to remove the pre-occupation reality from disorder and organize it in a personal manner, provisionally establishing its limits, making it become apparent, visible. Once measured, it comes to existence. Sometimes, the measurement of space is taken by the time needed to cover its entirety. Whatever the means to understand the dimension, it is only at the end of the process that the border can be traced and begins to identify and transform the space within it.

Occupation and measurement do not make the presence of a limit really tangible; they are preliminary operations. Marking a territory through particular elements becomes a founding act.

The border can only become completely visible and un-ambiguous when it is defined by signs, border stones, boundary markers, pillars, obelisks, lookout towers, walls, but also trees, elements of the landscape, architectures; even if it can exist, as it does, independently from the presence of the symbols themselves.

The border symbol then, whatever it is, declares that someone has occupied a space and exercises a right over it, it signals the beginning or the end of something.

The claim and stabilization of extremely large spaces need boundary marks of an appropriate scale; this is how the large border architectures such as the great walls, old and new are conceived, indicating, however, the great intrinsic vulnerability and fragility of these spaces and the great efforts needed to defend and contain them.

Through measurement, it is possible to compare and search for balance between the different sides, between their different interests and find an agreement (understanding).

Precisely because the border is the place of the encounter and clash between differences it can be both, a place for disagreements and violent conflicts that seem unsafe, as well as the place where imagination is invented and tested in the name of amicable confrontations.

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8. Francesco Del Sole, "Building on the Border: Architecture as a Meeting Place," *Athens Journal of Architecture* 7, no. 4 (2021): 415-440.

## The Frontier

The frontier on the other hand, represents the end of the earth, the ultimate limit beyond which to venture means to go against the will of the gods, beyond the permitted and the right, towards the unknowable. A great example of the Mediterranean frontier is the strait of Gibraltar, considered in pre-Colombus times, the end of the earth.

In English, Italian, Spanish and French the word frontier is made up of the noun “front” (fronte), the frontier is contiguous, it is facing toward (or against) something.<sup>9</sup> On it, conflict seems like an unescapable consequence. In this case the *front* is mobile and can constantly change; the frontier is an artificial construction; it is born from social reasons and not geographical ones.

At the same time, in the nineteenth century, it was believed that nature itself could provide men with limits and direction for their developments. This idea gave a wrong sense of rightfulness to the artificial construct of borders and frontiers and that its originating ideal image was taken from the physical barriers that nature has spread across the earth.

Because they are naturally rooted on earth, natural borders are the most evident, the ones to rely on with most certainty and the ones that seem least questionable.

Like Matavejević describes the Mediterranean and its sea, in his *Mediterranski brevijar*,<sup>10</sup> it is clear that this is not true, as natural borders are drawn in chalk, constantly drawn and erased, by the waves and the winds, by the enterprises and inspirations that enlarge or restrict them.

The frontier is the space of the confined, the precariousness, with no present, only a past and a future, the space of the suspension of all kind of relations, of loneliness, of fear.

But as soon as the fear is overcome, the gates open and its crossing becomes possible, so does occupying, measuring and tracing, transforming the frontier into a place of meeting, of commerce, with special characteristics of intermediate areas. Then, it becomes a region or zone of transition.<sup>11</sup>

The frontier is constantly evolving, it does not have precise coordinates and can change from the inside or from the outside at any moment, it is a strip where it is impossible to distinguish what belongs inside or outside. It is unstable and its uncertainty is not only experienced on the political level but also spatially, and culturally. The front then, is the place where opposite forces confront one another, they may collide, or just meet, but in any case, they enter into crisis.

## Moving Borders

Even when made through the use of natural features, boundaries are never “natural” as human technique and choice are still the main aspects of the process.

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9. Zanini, *Significati del confine. I limiti naturali, storici, mentali*, 2002.

10. Predrag Matvejevic, *Mediterranski Brevijar* (CID Podgorica, 2008).

11. Marco Ferrari, Elisa Pasqual, and Andrea Bagnato, *A Moving Border: Alpine Cartographies of Climate Change* (Columbia Books on Architecture and the City, 2018).

At the same time, natural borders are also areas of contact and transition; rivers are often means of transportation and their administration is a collaborative act; mountain valleys may host towns and villages as well as provide passage between two regions.

A precise observation was made by Ferrari, Pasqual and Bagnato, while studying ice glaciers of the Alps, experience that concluded with *Alpine Cartographies of Climate Change*.<sup>12</sup>

Boundaries are frequently conceived as both fixed – in the sense that two states will not seek to change them – and static – in the sense that the line, once determined, will not move. The origin of the first, is traditionally much more recent than one might think, and the second, is simply inaccurate. Historically, there were many ways one could expand a territory, through alliance, marriage, purchase, conquest, or punishment; simply proving how a boundary was neither static nor stable. It is only after the 1925 League of Nations and Locarno Treaties that it was attempted, by solidifying the post-World War I territorial adjustments of Europe, to achieve fixed and static boundaries. Further agreements, like the United Nations Charter, have continued to promote territorial preservation.

Additionally, the modern idea of the boundary as an indisputable, evident line (with no with), is conceived on principles of the geological conditions of the earth that are not true everywhere in the world, but only apply for temperate climates. An important example is the issue of ice, either in the sea as an ice sheet or in the mountains as alpine glaciers, as it can be in solid or liquid form, depending on the time of the year, demanding changing legal-political administrations.

Earth is dynamic, changes can happen naturally: coastlines change, rivers drift courses or dry up, mountain peaks erode, desert lands expand, but also with the help of human activity, towns, streets, highways and railroads are built, rivers are dammed, canals created. Nonetheless, these processes are being sped up at unprecedented rate by cause of climate change.

Therefore, any single change or resolution to the boundary making process is to be considered a brief resolve.

It is interesting to notice that claiming and signaling borders does not necessarily mean to close them off and prevent access to others. At the same time, these markers do not need to be static but can be transferable, along with the limits they refer to.

The aboriginal *tijuringa* or the Chinese stone tablet are portable markers for controlling space and ways of claiming a right over it. Both serve to confirm the belonging of a community, at a given moment, to a specific place meaning that the claim on a specific territory is temporary and can be moved around. The symbols and cultural identity of these groups of people allow for a less rigid relationship with space and its borders along with the conflict that comes from them.

Similarly, in 2009, an unusual answer was proposed, when a different border agreement was deliberated between Italy and Switzerland. In the Chamber of Deputies of the Italian Parliament the concept of a “moving border” (*confine mobile*), was brought forward as a border proposition, “no longer permanently

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12. Ibid.



fixed, but that depends on the gradual changes caused by erosion and reduction of the glaciers up to the extreme instances of their disappearance”.<sup>13</sup>

This Italian-Swiss experience was then replicated on the Italy-Austria border and is a demonstration that in order to match the ever-changing nature of earth, all borders that navigate on it should be thought of as dynamic and not static, variable and even indefinite.

## The Limit

The experience of the border always starts from the inside, to limit (to fence off), is the act of containing within, a controlled, watched over portion, a sort of culturally or self-imposed horizon.

For the romans, borders and its limits were considered important and were often marked and fortified. Although it is very rare in Latin to find the word *territorium*, and it does not directly translate to the modern understanding of territory, in Latin, other boundary words were more frequent such as, *fines*, *terminus*, *rigor*, and *limes*.<sup>14</sup>

*Limes* was initially a trail or path, for the military supply chain or simply a route between places, generally a connector rather than a separation. Only with time the meaning shifted into something more closely resembling a modern understanding of frontier, a zone contested between Rome and its enemies. *Limes* then changed from a line to an area, with width.

The limit also holds in itself the meaning of the threshold. It portrays the condition of inhabiting the edge, on the perimeter of something for a preliminary phase, of preparation, necessary to get to know what is on the other side of that threshold.

The limitless and spaceless causes fear and decreases the comprehension of reality augmenting vulnerability; the limit is fundamental as it highlights and makes the differences explicit as well as helping to understand where something begins and ends.

The limit defines a territory that, in the words of Michel Foucault,<sup>15</sup> can be understood as a political technology, or a bundle of political technologies that administer the interactions between people, places and power. As boundaries do not cross flat, featureless lands, they need to be understood in three dimensions. The geophysical and socio-political nature of boundaries needs to be undertaken together.

Terrain should not just be considered as dry flat land, but a cumulative understanding of rivers, mountains, sea and sea ice, glaciers, river deltas, coastlines, deserts, swamps and marshes, airspace, and the subterranean and submarine, and a complicated and fluid relation between its physical and geopolitical aspects.

Territory is not a product; it is continually made and remade – by bordering, dividing, conquering, excluding, enclosing, controlling, surveying, mapping.

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13. Camera.It. XVI Legislatura - Lavori - Resoconti Assemblea - Dettaglio Sedute..

14. Ferrari, Pasqual, and Bagnato, *A Moving Border: Alpine Cartographies of Climate Change*, 2018.

15. Ibid.

## The Margin

A border exists only as a function for the center, usually established in a much more precise way, given its greater importance than the symbols delimiting its margin, appearing faded in comparison.

The idea, not only spatial, that the center holds all the positive characteristics of a society is still rooted today, making the margins become places for relief of negativity, of frustration and instability to the harmony of the center.

To inhabit a place also requires practice and experience, even violent, of its margins.

The border determines first of all an expulsion, delimiting a field, a clearing. Space gets cleared, and all the items placed on the inside considered useless, unfair or dangerous, are accumulated beyond its margin, or set aside near it. The margin then, is not really a place; it is composed of scarps, residues. It is, as Clément would call it, a third landscape.<sup>16</sup> The idea of the end of the earth derived from the frontier only complicates things. The undesirable is placed at the margin, right before abandoning the known world and crossing the threshold of the frontier, these include waste landfills, industrial areas, refugee camps etc.

Marginality then, becomes a way to manifest one's identity, a way to balance not being in nor out. It is also a way to look and evaluate with certain distance, what is happening on either side of the border, a way to come to contact with a culture without belonging to it.

To inhabit the margin then, would mean to live and build in this third landscape whose core passes through and inside of the inhabitants, creating a borderland identity. For this reason, the passing through the margin, through the threshold that breaches two entities, two ways of being, two cultures, acquires new significance, almost supernatural or religious, it becomes ceremonial; to become one with a new world while still belonging to the old.

As explained in this literature review, all these concepts of divided space, borders, limits, frontiers, margins, are important to understand and distinguish as they all speak on the incredibly complex spatial, social and political issues surrounding border conditions. Border spaces are sometimes more visible than others and they are much easier to recognize where there is conflict. When analyzing the work of Ronald Rael along the US-Mexico border, the more commonly used word is *border*, along with *borderwall* indicating not only its definition but also indicating (partially) its physical representation, a wall (or fence). In some of the projects that foresee the *wall* becoming a different physical entity it may be more accurate to refer to these areas as *frontiers* or even *margins*. In the case of Lawrence Halprin, and the design of Freeway Park, the *limit* and *margin* embody the issues that the design of the park was keen on overcoming.

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16. Gilles Clément, *Manifeste du Tiers paysage* (Paris: Sens et Tonka, 2014).

## Methodology

This study revolves around two types of infrastructure and essentially focuses on defining them as barriers and finding ways for architecture to overcome these barriers. In particular, the works of two architects have been selected and compared. The scope of the research wishes to give a critical reading on the theoretical production of both architects as well as proposing a close reading of the projects as ways to physically experiment the theories developed.

On the one hand, Ronald Rael,<sup>17</sup> utilizes a more academic approach. The use of irony and sarcasm are predominant in his book. It is clear that many of the projects proposed by Rael are not actually meant to be built but they are to be used as tools to envision new and different possibilities for the borderland issues on the U.S.-Mexico Border. Although very specific to the problems and environments of the U.S-Mexico Border, some of the questions raised are actually universal and Rael's approach could be used for any type of constructed barrier. The concept behind the book is not only to go beyond the idea of the wall or the fence, in this case to reduce illegal immigration, but also invites the reader to reflect on possible scenarios where the border becomes an attractor of people, of jobs and resources.

On the other Hand, Lawrence Halprin is a landscape architect who has produced numerous projects within the urban fabric of the American cities. In particular, his themes of research and interest have led him to become interested in the aesthetic of the freeways. The results of his numerous studies on the subject ensued in the book *Freeways*: "The idea of freeways as a form of art in the city is a new one. Freeways in the past have been designed by many people with varying degrees of aptitude and different interests. Some freeways have been magnificent examples of engineering which have risen to the stature of exiting art. Many more have been inept and have demanded the cities which they were meant to serve. But all have brought a vibrant new dimension into our lives – the quality of high speed motion through space".<sup>18</sup>

The book illustrates how freeways have been built and their relationship with the landscape and with the city. It does not give design solutions; it only illustrates and reflects on freeways that have already been constructed and how they relate to their immediate environment.

Even though never explicitly declared by the architect, many of his realized works are really an attempt to find solutions to the issues noticed and analyzed while writing the book; in particular, the case of the Seattle Freeway Park. The idea of the park was briefly mentioned in the book *freeways*, only as a concept. Differently from Rael's works, Halprin's project was actually constructed. Later on in the years, on the same Seattle interstate other highway lids have been built and Halprin's experiment replicated within the same city. This approach has also been used in many other cases and not only in the United States. Many examples include the projects of Boston's Big Dig, Madrid Rio, Wohnpark Wilmersdorf in Berlin.

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17. Rael and Cruz, *Borderwall as Architecture: A Manifesto for the U.S.-Mexico Boundary*, 2017.

18. Lawrence Halprin, *Freeways* (Reinhold Publishing Corporation, 1966), 5.

## Findings

### Security Infrastructure

Due to the state's necessity for clearly defined and fortified boundaries, new technological advancements became necessary.

With the increasing number of border wall fortifications, ways to evaluate their effectiveness also becomes necessary. For this reason, in 2007, the US Customs and Border Protection created the Fence Lab, a lab facility in Texas whose aim was to test the strength of the barrier that was to be constructed between the United States and Mexico. The mandate for this "technological" wall stated that "the fence must be formidable but not lethal; visually imposing but not ugly; durable but environmentally friendly; and economically built but not flimsy".<sup>19</sup> The idea was to build a fence, not a solid wall, in order to give the impression of some permeability, even if only by being able to shake hands with the other side.

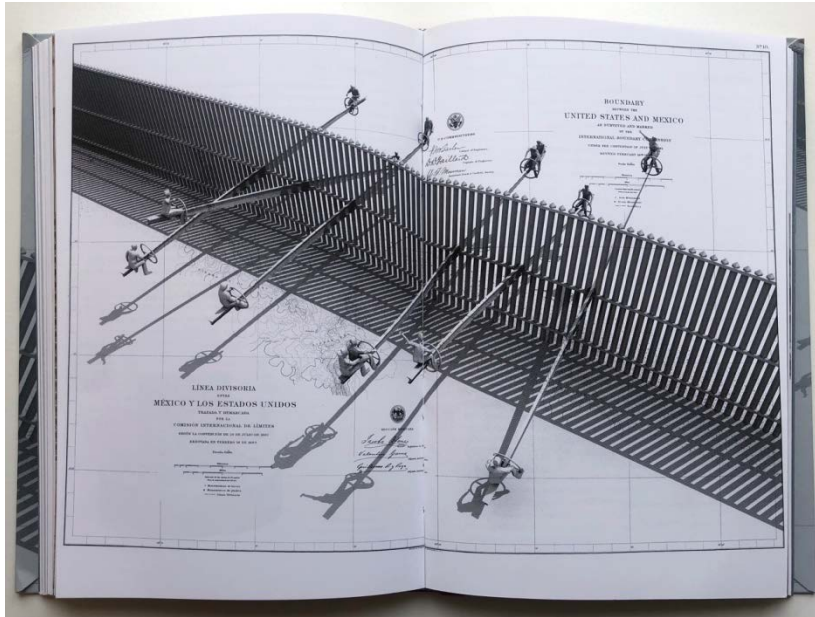
According to Ronald Rael and his book *Borderwall as Architecture. A Manifesto for the U.S.-Mexico Boundary*,<sup>20</sup> designing a fence instead of a wall does not qualify as a sufficiently designed solution. Through the use of provocation, the book highlights how the territory of the borderlands, third landscape that includes areas on either side of the border, are really places of union where communities come together. The design of the fortifications should not be solemnly focused on the issues of protecting one side, the U.S. side, from the evils of the other, the Mexican side. It should rather focus on dismantling the negative connotation associated to the "foreigner" by creating places along the border where exchanges are not only possible but encouraged.

The most fortuitous among his evocative projects has been the Teeter-Totter Wall (Figure 1) that, for around half an hour in July 2019, has allowed people of all ages to experience the fence as a hinge allowing the people on either side to push and be pushed by their foreign alter ego.

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19. Los Angeles Times, *Immigration Reform's First Hurdle: Is the Border Secure?* (Los Angeles Times, 10 March 2013).

20. Rael and Cruz, *Borderwall as Architecture: A Manifesto for the U.S.-Mexico Boundary*, 2017.

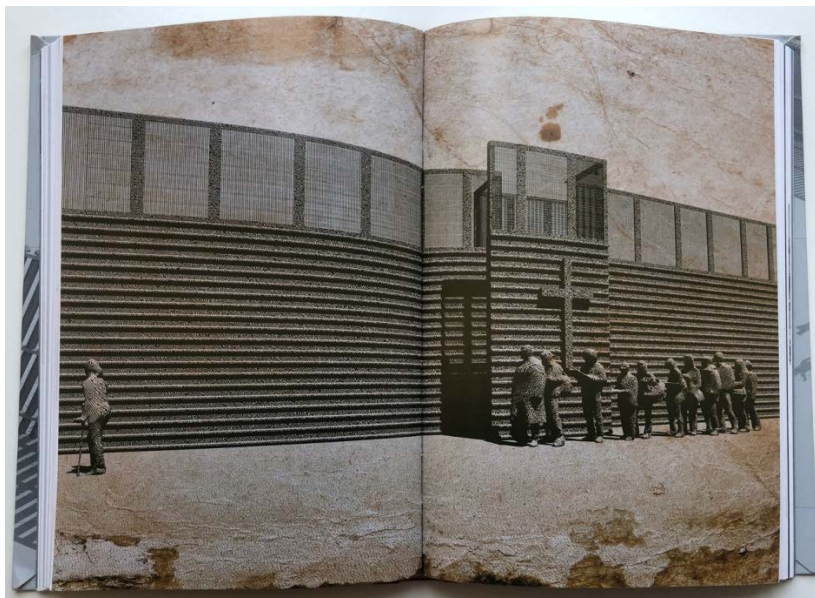


**Figure 1. Teeter-Totter Wall**

Source: Ronald Rael, *Borderwall as Architecture*.

Despite the short-lived pop art aspect of the experiment, people on both sides playfully experienced the codependency of the relationship between the two nations and how it is necessary to consider the border fence as two sided.

Similarly to the teeter-totter wall, other projects were explored, taking into consideration cultural aspects that are shared by both countries. These include the Confessional wall (Figure 2), where Rael envisions “a double-sided, perforated wall designed with a cruciform plan to enable private conversations”, allowing the wall to become the place for confession.



**Figure 2. Confessional Wall**

Source: Ronald Rael, *Borderwall as Architecture*.

A burrito wall was also designed, utilizing street food culture of both sides, providing built-in infrastructure for movable food trucks to park, along with seating to allow the sharing of culture, conversation and a good meal.

Directly referencing Haskell Free Library and Opera House, built directly over the U.S.-Canada border, a bi-national library was envisioned straddling the two sister cities of Nogales. Here the border fence acts as a bookshelf where books, knowledge and information can be shared.

The construction of a physical barrier across the state line of the two countries not only raised issues on social and communal levels but also endangered environmental aspects.

For this reason, Rael rethinks the steel wall with more ecological solutions, including the redirection of the funds used for the maintenance (and construction) of the border fence into creating different imaginations of barriers.

Another ecological issue caused by the construction of the borderwall, that passes through or is adjacent to many wildlife refuges and nature preserves, is the damage to the habitats. It prevents the physical movement of endangered animals between the two sides of the border, further jeopardizing breeding and access to genetic diversity, as well as interrupting their preferred migration paths.

Unfortunately, these problems involve birds as well. Some low flying birds for example, have difficulties flying over the border as fewer than one-quarter of their flights are actually higher than the average height of the border fence. The proposed solution in Rael's book is a "dedicated Wildlife Wall, [that] would provide gaps, ramps and sensors; create opportunities for shelter and safe nesting spots; and could be built in varying heights sufficient for the passage of native animals while still meeting security requirements".<sup>21</sup>

The overall message of the book does not focus on the necessity of the border wall but rather tries to identify possible solutions to the typological examples of barriers that have been built so far. Why is the wall or fence the only imaginable "object" able to be envisioned as a security infrastructure? Is it possible to envision a barrier that is not simply a wall?

Rael partially answers these questions by introducing different types of infrastructure to the borderlands. In particular, he envisions ways of solving actual problems and utilizing the border as an asset. Because of the desert nature of many of the cities on either side of the border, access to water is crucial and the city of El-Paso for example has come up with a storm-water levies to be collected from all landowners based on the amount of their property's impermeable surfaces, in order to reach a sufficient amount of money to construct a system of storm-water catchments to alleviate the effects of flooding.

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21. Rael and Cruz, *Borderwall as Architecture: A Manifesto for the U.S.-Mexico Boundary*, 2017, 109.





**Figure 3. Hydro Wall**

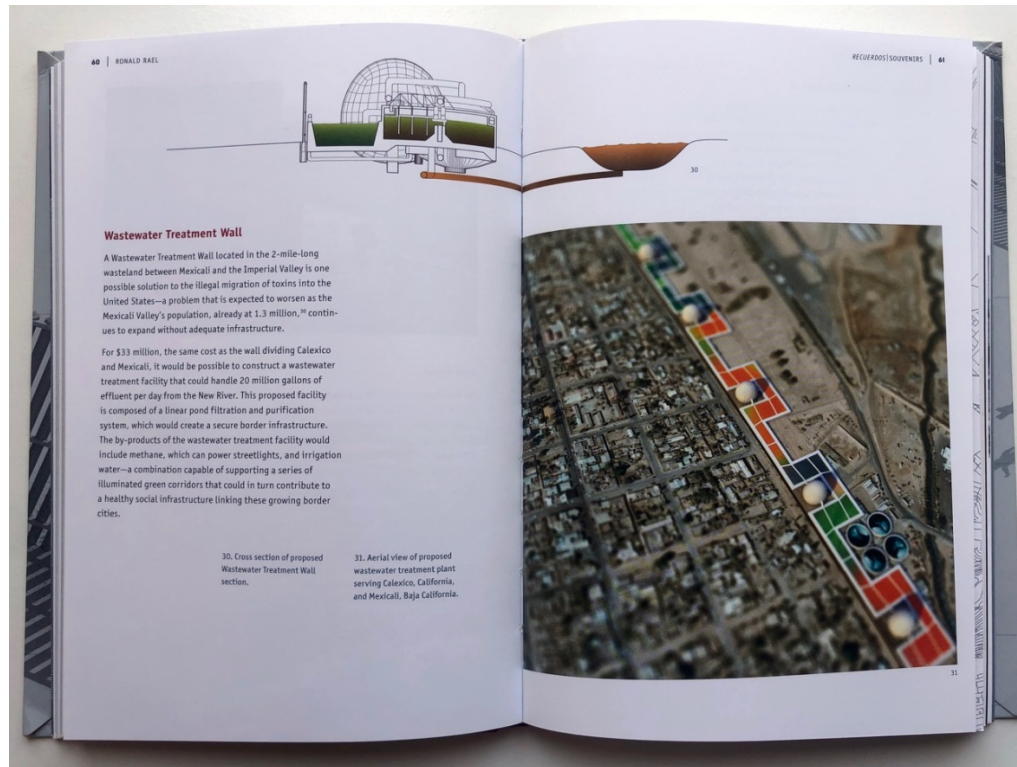
Source: Ronald Rael, *Borderwall as Architecture*.

The project envisions the filling of an existing concrete basin (Figure 3) between El-Paso and Juarez with catchments creating a linear water park and the introduction of a riparian ecology. Additional collectors in the shape of shed roofs would be added in order to increase the amount of rainwater collected and they would create cool, shaded places for community gatherings, events, markets. The purpose of the wall construction is not to stop the flow of immigration from the south, but rather to slow it down. The Department of Homeland Security already recognizes rivers as natural obstacles yielding additional minutes for the border patrol agents. The water park, then, would become a sufficiently secure barrier while also, and more importantly, creating a secure, tactical, useful, social, ecological and hydrological infrastructure.

Along with illegal immigration, the issue of illegal toxins flowing to and entering the United States through an opening in the worder wall that allows the waters of the New River to flow freely. The river is actually considered one of the most polluted rivers in the United States.<sup>22</sup> A possible solution is the introduction of a Wastewater Treatment Wall (Figure 4) infrastructure located in the 2-mile-long wasteland between Mexicali and the Imperial Valley, known as America's winter Salad bowl, a major source of fruits, vegetables and grains for the nation. Rael envisions a relocation of the sum of money spent to create the walled portion of the border between Calexico and Mexicali. The money would be sufficient to build a wastewater treatment infrastructure composed of linear pond filtration and

22. California Water Boards, *Introduction to the New River/ Mexicali Sanitation Program* (California Water Boards).

purification system that, as mentioned before could also act as a secure border infrastructure. Additionally, some of the by-products of the treatment facilities, like methane, could be used to power streetlights, and irrigation water. This could allow for the creation of a network of illuminated green corridors that could link and encourage healthy social infrastructure between the growing border cities.



**Figure 4. Water Treatment Wall**

Source: Ronald Rael, *Borderwall as Architecture*.

### Connecting Infrastructure

Barriers are built everyday but, instead of being designed as such, the isolating aspects seem to be cruel consequences. This is particularly true when it comes to highway construction and the immediate context that surrounds it.

Since the Federal-Aid Highway Act of 1956,<sup>23</sup> in the United States, new Interstate roads have been designed and built, in order to connect different Cities and States all across the country. The Act included specific guidelines that instructed how and where the highways were to be built, in particular, they were to be controlled-access expressways designed for high-speed driving with no level crossings or intersections, they had to have overpasses or underpasses. They would also have to be of at least four lanes and preferred to be elevated within city centers.

23. Richard F. Weingroff, "Federal-Aid Highway Act of 1956: Creating The Interstate System," *Public Roads* 60, no. 1 (1996).

Once the first interstate portions had been built, the unpleasant and unplanned consequences started to become evident. The highways inflicted a devastating tear through the urban fabric of many cities and neighborhoods, displacing people from their homes and their neighbors, along with dividing communities. Ultimately, the separated portions of the city experienced segregation, abandonment and decay.<sup>24</sup>

In this regard, it is quite obvious to notice how the construction of Highways and Freeways has been interpreted as creating physical barriers that separate portions of city and community relationships. An emblematic example can be found in the city of Seattle and the unfortunate collocation of Interstate 5 (Figure 5).



**Figure 5.** On the Left: Interstate 5 before the Highway Lid and Freeway Park. On The Right: Highway Lid and Freeway Park

Since before the completion of the freeway in 1966, there had been uprisings by citizen activists requesting the construction of a lid over the 10-lane portion between the neighborhoods of Downtown Seattle to the west and First Hill to the east<sup>25</sup>.

Because of Lawrence Halprin's published book *Freeways*<sup>26</sup> in 1966, and his work for the Federal Highway Administration's Urban Advisors Group, he was asked by the Seattle Parks Commission to design the park to be placed over the highway lid (Figure 6).

In the 1966 book Halprin explored how "In the city new vistas unfold because of elevated freeways: vast panoramic views are disclosed which were never seen before. Some of the greatest new urban experiences are those of driving into a beautiful city".<sup>27</sup>

24. History.com Editors, *The Interstate Highway System* (History. A&E Television Networks, 2010).

25. The Architect's Newspaper, *Seattle's Brutalist Freeway Park is Reviewed for National Register and Approved for Renovation* (The Architect's Newspaper, 5 November 2019).

26. Halprin, *Freeways*, 1966.

27. Ibid.



For this reason, he did not wish to negate the aesthetic of the I-5 hiding it with vegetation but wished to create a visual integration between the two elements.

The idea of the Lawrence Halprin and Associates studio was to create a park atop the lanes of the interstate, serving as a bridge, able to reconnect the two neighborhoods. The 5.2-acre Freeway Park was completed in 1976 by the studio with Angela Danadjieva as the project designer.

Recognizing both the negative aspects of the freeway, like the noise and environmental pollution impacts and the creation of abandoned dead areas, Halprin also recognized the organizational value it had for motorists travelling through the city.

Freeway Park was meant to be designed for everybody, for the pedestrian travelling through the park to get from one side to the other, for the park goers but also the motorist driving by, scaling down the high impact of the freeway.



**Figure 6.** Freeway Park View from the I-5

The urban aspect of the park was also important to the design thus creating a new urban landscape, a new idea of nature.

The natural selection for the park included both native and ornamental plants in the attempt to give the park a naturalistic forest image, contrasting with the harsh geometrical architectural forms of concrete.<sup>28</sup>

In addition, vegetation played an important role for its ability to reduce pollution as well as slightly muffle the sound of the freeway.

The success of the park is not only due to its strong aesthetic, but also to the fractal characteristic of the concrete elements that although similar, mutate to

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28. The Architect's Newspaper, *Seattle's Brutalist Freeway Park is Reviewed for National Register and Approved for Renovation*, 2019.

become plazas, squares, “rooms”, ramps, stairs, fountains, “canyons” allowing for easy expansions and modifications. The park functions as a combination of clusters that can be attached, removed, enlarged, added, modified and the unity and architectural language is not compromised.

The 1984 addition of the Pigott Corridor, and the construction of the Washington State convention Center in 1988, where demolitions of some walls and original planters of the park were necessary, are clear examples of this characteristic.

The park is composed by a series of plazas of various dimensions, surrounded by geometric concrete planters and walls as well as intertwined and connected by tunnels, paths, ramps and stairs. Reoccurring materials include board-formed concrete, mainly evergreen plants and water.

In particular, the spaces are defined by the dynamism of their water features. In the Central Plaza for example, the water tumbles down a cluster of 10-meter-high concrete blocks and overhangs, conscious of the city and the highway with the use of materials, but resembling in character the Cascade of the Olympic Mountains (Figure 7). This water feature is consciously placed above the canyon of the freeway, where the sound of the cascading water almost completely covers the sounds of the speeding cars.<sup>29</sup>

Because of Halprin’s belief in the user’s participation into spaces, the water features have been designed without any kind of barriers. On the one side the design invites adults and children alike to step onto the concrete slabs and play with water, on the other side, Halprin’s design relies on an explicit sense of danger inviting the user to be cautious (*prima facie*).

At the base of the “canyon”, a glass window allows the curious spectator to see the cars driving by on the freeway, creating a visual relationship between the park and the city, the freeway, the cars driving by, filtered by the water cascade.

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29. JAWABSOALLIVE, *Topography of Terror - The Stranger* (Jawab Soal, 2 June 2022).



**Figure 7.** *Top Left: Fountain of Pigott Corridor; Top Right, Bottom Left: “Canyon” Fountain of Freeway Park; Bottom Right: Aerial View of Main Plaza of Freeway Park*

## Conclusions

This paper represents a first stage in a larger, ongoing research but in the meantime, it is already possible to advance some considerations from the comparison between the two issues.

Where security infrastructure and connecting infrastructure are similar, is in their inherent way of separating, either by choice or as a consequence, but also in their way of bringing together by creating margin. The design strategies for these third landscapes unite these places.

In the case of Security Infrastructure, the separation aspects are neither unwanted nor undesired, but by simply keeping two sides separate, no issues are actually resolved. Ronald Rael recognizes the waste in designing an expensive infrastructure that is only able to one thing, not very effectively, as many people



actually have been injured or have died trying to cross the border. He actually recognizes that, by changing the surrounding context of “useful” problem solving infrastructure, the otherwise negative aspect of linear separation, becomes something positive. Other examples of projects designed on the border like “Invisible Walls” by José Bermudez, “Hinge Points” by Patrick Tighe Architecture, “The Prison Wall” by Estudio 3.14, “Border Breach” by M-Rad Studio, “The No Border Line” by Codena Concept Design, just to name a few, all express a willingness to “look over” the border and offer many different (even opposing) visions, all contributing to a broader architectural discussion to be had over these types of territories.

In the case of connecting infrastructure, on the other hand, the consequence of the physical barrier cannot be considered something positive. But, in order to be able to overcome this particular barrier, the solutions in terms of functional program are similar: the addition of functions, of stratification of uses and users. In the case of Freeway Park, along with connecting the two sides separated by the freeway, the design includes car travelers by allowing them to see and visually connect with the unexpected “floating” natural elements. Homeowners experience an increase of economic value to their asset as well as a general improvement of living conditions due to the decrease in air and sound pollution with the introduction of the park. Community park goes to inherit an equipped urban park with green areas, for community activities, theater representations, places for kids and adults alike to play and meet. New parking spots have also been added underneath the park to serve both, the neighborhood and the convention center.

Many contemporary projects dealing with different types of infrastructure, pedestrian bridges like MVRDV’s project for Seoul or the bridge over the Carpinteira Stream by Carrilho da Graca, urban parks designed over the course of rivers like in Valencia or Madrid, repurposing of retired railway lines like the New York High Line or the Katy Trail in Dallas, are all ways that the architectural project has succeeded in returning livable pieces of the city to the community.

Adding stratified complexity of uses, functions, geometries, materials favors the meeting between people, places and environments.

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## **Fragments of the Iron Curtain – The Polveriera of Romans d’Isonzo: A Methodological Experiment between Architecture and Landscape**

*By Thomas Bisiani<sup>±</sup> & Adriano Venudo<sup>\*</sup>*

*The article accounts the results of an applicative research carried out by researchers from the University of Trieste for the recovery, conversion and, architectural, landscape, environmental and infrastructural reuse of a large military area, abandoned for over twenty years, located in the territory of Gorizia, in Friuli Venezia Giulia. The area was a former powder magazine dating back to the Cold War period. A garrison at the service of the former border called “Iron Curtain” that passed right near the Municipality of Romans d’Isonzo, on the Gorizia and Trieste Carso. The area was abandoned for decades and has been invaded by lush vegetation and meadows of important ecological value. Today, in addition to its considerable localization and extension potential, it has a significant strategic value for the vast area on which it stands: the low Isonzo plain. The study experimented with a methodology for the construction of the transformation forecast, working extensively on the use and applicability of simulation tools (indicators, scenarios, visions) and then on the processes of evaluating the impacts and consequences of the transformations at different scales and for different territorial areas (internal and external). The study adds to the discussion, not only the intrinsic results, the effectiveness or not of the reconversion project of this discussed military area, but also the development of a working scientific method (analysis, design and evaluation), and therefore, the construction of an operational model that can be exported to other case studies (on other military sites in the Friuli Venezia Giulia region) and on other contexts (in general on abandoned or disused areas).*

### **Introduction - Redevelopment, Conversion and Reuse of a Former Military Site: Architecture Designed with Nature**

The paper deals with the results of a scientific research carried out at the Department of Engineering and Architecture, University of Trieste, by the two authors, relating to the tools and methods of redevelopment, conversion and reuse of a former military site (Figure 1), the former – Polveriera di Romans d’Isonzo – Gorizia (Figure 2) in Friuli Venezia Giulia, from an architectural, landscape and infrastructural point of view. It is a large area (near the former Iron Curtain, between Italy and the former Yugoslavia), abandoned since the end of the Cold War (Figure 8a).

The general research activity has developed themes, tools and above all, methods of architectural recovery characteristic of large disused military sectors

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with attention to functional reconversion and integration with landscape qualities and potential, within a context strongly characterized by settlement dispersion and ecological fragmentation (Figure 6).

This research investigates a case study (Figure 3) that has as its specific and applicative object the functional, architectural, landscape and environmental recovery of the former Polveriera of Romas d'Isonzo (Gorizia – Italy). The area that is currently being studied, was a military ammunition depot before the decommissioning. It was built in the early 1980s, closed in the late 1990s, and was then sold by the Italian Army to the Municipality of Romans d'Isonzo in the early 2000s. For about 20 years the area was closed, thus becoming a sort of naturalistic “reserve” (Figure 8b), very interesting also for the environmental and landscape aspects. It is a very large area of about 100,000 square meters with about thirty buildings inside, surrounded by large earth embankments (Figure 2). The buildings are arranged according to an orthogonal grid that also draws the internal network of roads (Figure 7). The whole area is enclosed by a buffer about seven meters thick and access occurs only from a point on the northern part of the site (Figure 7).

In the last 20 years of neglect, the vegetation has re-appropriated the site, transforming it into a large prairie, which is technically defined as the “arid eastern sub-Mediterranean meadow”. In addition to the prairie, there are shrubs of weed brambles that have invaded all the powder pits and embankments, but that are nevertheless an important community of pioneers for the forest.<sup>1</sup> To the south, the area is bordered by a large depression in the ground, it is a relic of the ancient course of the Isonzo river, technically called the “Isonzo paleoalveo” (Figure 5). Inside the paleoalveo, a luxuriant multi-specific forest has spontaneously formed which constitutes a compact and continues naturalistic corridor that is, as of today, the only true element of landscape and environmental value of this area. The territorial location (Figure 3) of the former powder magazine is of great value as it fits into a quality agricultural context, with ponds and patches of vegetation (Figure 5).

Therefore, the research has two objectives, on the one hand to identify a directly applicable solution and on the other a methodology that can be exported to other similar cases, given the regional context in which it is located, and given the large patrimony of brownfield sites in Friuli Venezia Giulia.

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1. *Ailanthus altissima* (P. Mill.) Swingle – Ailanthus; *Rubus ulmifolius* Schott - Common Bramble; *Polystichum setiferum* - Silk Fern; *Thymus vulgaris* L. – Thyme; *Populus nigra* L.- Black Poplar.



**Figure 1.** *Aerophotogrammetry, Year 2000. The Study Area in the Territorial Context*

Source: AGEA FVG.



**Figure 2.** *Aerial View of the Former Military Site. Polveriera di Romans d'Isonzo (Gorizia, Italy) 2021*

Source: Research team.

### **Literature Review – Scenarios, Self-Naturalization, Recycle Landscapes, Reuse Architecture**

The literature review that follows is articulated in the different disciplinary fields and in the different thematic areas of interest to the present study. The first

theme concerns the methodology of scenarios that was used for the development of the project, a second area deals with the theme of sustainability and the future in architecture, the phenomena of re-appropriation of abandoned spaces by nature, architectural approaches to the theme of reuse. A third part deals with the specificities and dynamics of the areas near the border, to conclude with the theme of disused military areas, with particular reference to the territorial scope of the project.

According to Franco Purini, “together with writing, drawing is one of the few languages capable of making time visible”.<sup>2</sup> This statement establishes the possibility of not considering time only as a single, continuous, one-way flow. Through the design, and therefore through the project, it is possible to bring to light both past and present experiences, but above all, future ones. Consequently, it is therefore possible to fix knowledge through the use of drawing, a multiplicity of visions belonging to different alternative futures, to different times and ultimately to different *possible worlds*. This approach is, of course, also found in literature. In his essay, *Heterocosmica*, Lubomir Doležel deals with the concept of *fiction* through the paradigm of possible worlds, a universe that “constantly expands and diversifies.”<sup>3</sup> This approach allows you to move away from the doctrine of mimesis,<sup>4</sup> that is, from the idea that the work of imagination, and therefore also the project, can only be an imitation or representation of human experience limited to the current world and to the present time. The reductionist risk of such an approach is evident. Limiting oneself to developing the project as a simple extrapolation of past experiences or present conditions (typical analytical methodology based on the construction of cognitive frameworks of a predictive nature, defined on the basis of information collected in the past), guarantees an improvement trend in terms of optimization of design solutions, so-called “good practices”, but nevertheless does not offer any structural possibility to the project to make significant evolutionary leaps forward.

The paradigm of possible worlds though, recalls the concept of the *sense of possibility*, expressed by Robert Musil in *L'uomo senza qualità* (Man Without Qualities):

“If the sense of reality exists, and no one can doubt that its existence is justified, then there must also be something that we will call a sense of possibility. Those who possess it do not say, for example: this or that has happened here, it will happen, it must happen; but imagine: here it could or it should happen, this or another thing; and if you tell him that something is as it is, he thinks: well, it could probably be different. So that the sense of possibility could also be defined as the ability to think all that could be, and not to give more importance to what is, than to what is not.”<sup>5</sup>

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2. F. Purini, *Gli Spazi Del Tempo. Il Disegno Come Memoria e Misura Delle Cose*, 2011.

3. L. Doležel, *Heterocosmica : fiction e mondi possibili* (Milano: Bompiani, 1999), IX.

4. Ibid, X.

5. R. Musil, *L'uomo senza qualità* (Torino: Einaudi, 1956), 12-13.



These worlds have been given the name of *scenarios*, shaped from the sense of possibility, from the disciplinary point of view. The methodology of scenarios<sup>6</sup> was developed after the Second World War as a tool for describing possible futures. It is part of a group of techniques such as formal game theory and gaming simulation, aimed at training and strategic analysis in military environments.

The main definitions refer to studies completed in the United States and published starting from the second half of the 1960s. However, an interesting precedent of an applicative nature can be identified in the Assisi plan, drawn up by Giovanni Astengo in the 1950s. Astengo's technique develops through the so-called implicit scenarios, scenarios expressed in textual form and not visualized through drawn representations. Some fundamental elements that constitute the structure of the conditional scenario remain unchanged, starting from the question "what would happen if?": the identification of a desirable future, an ideal scenario, the definition of a trend-based scenario on the extrapolation of current conditions, and the recognition of a latent scenario of a pessimistic nature, in the event that threats arise, and weaknesses are not remedied.

In 1959, however, Saverio Muratori proposed an application of explicit scenarios on the occasion of the Sandbanks of San Giuliano, in the Venice lagoon. Instead of just one project, Muratori presents three. These are three scenarios (a scheme based on the archipelago of Venetian islands of the year 1000, one on the continuity of Gothic Venice and finally the last on the Venice of the 16<sup>th</sup>-17<sup>th</sup> century), developed starting from his research on historical Venetian settlement typologies.<sup>7</sup>

Muratori's is a complex approach, first of all because the proposed scenarios should not only be considered as alternatives to each other, but should be seen in an evolutionary sense, a sequential development of three solutions with increasing complexity. Furthermore, because Muratori opens a controversy with the urban planning discipline, precisely in relation to the forecasting capacity of the latter,<sup>8</sup> to which he proposes a form of *creative continuity*,<sup>9</sup> starting from the survey and analysis of the different building types and the different urban fabrics that have developed over the centuries in Venice.

The planning field has often drawn on these techniques. A broad line of research on scenarios was led by the Research Doctorate in Urban Planning of the IUAV, coordinated by Bernardo Secchi. Various publications followed these activities, the *Quaderni*<sup>10</sup> which dealt with these topics in some monographic issues. Secchi's reflections on the theme of scenarios are also different, starting

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6. L. Vettoreto, *La costruzione di scenari per la città contemporanea: ipotesi e casi di studio* (Venezia: IUAV, 2001). Scenarios: an introduction of the case studies and some research perspectives – Luciano Vettoreto.

7. S. Muratori, *Studi per una operante storia urbana di Venezia* (Roma: Istituto poligrafico dello Stato: Libreria, 1960).

8. Ibid, 16.

9. Ibid, 40.

10. Vettoreto, *La costruzione di scenari per la città contemporanea*, 2001; P. Viganò, *Nuovi Territori: Situazioni, Scenari, Progetti per La Città e Il Territorio Europei* (Italy, Europe: Officina Edizioni, 2004).

from the references contained in the *Prima lezione di urbanistica*<sup>11</sup> (First Lesson of Urban Planning) and in a series of articles in the online magazine *Planum*.<sup>12</sup> Secchi identifies the resumption of this methodology<sup>13</sup> in the research of MVRDV, starting from the development of their *Datascape*.<sup>14</sup>

Recently, these techniques have been taken up in the studies for the development of the Trieste Airport. In this case, starting from the project of an intermodal hub, the saturation level of the airport service infrastructure was assessed through three development scenarios: the minimum reversible scenario, the optimal scenario and the crisis scenario, with maximum saturation of the service level of the infrastructure. It is no coincidence that the research report is titled *Le regole del gioco*<sup>15</sup> (The Rules of the Game), the reference is directed to the origins of the scenario as a real form of play.<sup>16</sup>

The idea of investigating possible futures implies a principle of sustainability, the design action is a path from the known to the unknown, from the probable to the possible. Therefore, a problem of safeguarding and protecting the future, also arises. As Albert O. Hirschman argues in various writings, one must leave future generations, as many options as possible.<sup>17</sup> The theme of future generations is addressed by Benno Albrecht, from a typically architectural point of view, through the analysis of the thought of John Ruskin, William Morris e George Perkins Marsh in *Conservare il futuro*<sup>18</sup> (Conversing the future).

The sufficiently well-known positions of Ruskin and Morris are accompanied by the reading of Marsh who for the first time<sup>19</sup> recognizes the value of man as a geographical modifier of the planet and that architecture recognizes the task of dealing with these modifications, pursuing an aim of control and sustainability. The principle of reuse of resources in architecture then, addresses the theme of abandoned areas. In literature the main contributions concern brownfields, abandoned industrialized areas, *in between* areas, *waste land*, *terrain vague*, *tiers*

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11. B. Secchi, *Prima lezione di urbanistica* (Roma: Laterza, 2000).

12. Bernardo Secchi, 'Diario 06 | Scenari' (Diary 06 | Scenarios) (Planum association), accessed 4 June 2022, <http://www.planum.net/diario-06-scenari-bernardo-secchi>; Bernardo Secchi, 'Diario 08 | Tre parole' (Diary 08 | Three Words) (Planum association), accessed 4 June 2022, <http://www.planum.net/diario-08-tre-parole-bernardo-secchi>; Bernardo Secchi, 'Diario 10 | Progetti, visions, scenari' (Diary 10 | Projects, visions, scenarios) (Planum association), accessed 4 June 2022, <http://www.planum.net/diario-10-progetti-visions-scenari-bernardo-secchi>.

13. Secchi, *Prima lezione di urbanistica*, 2000, 171.

14. MVRDV, *Farmax: Excursions on Density* (Rotterdam, 1998); MVRDV, *Metacity Datatown* (Rotterdam: 010 Publishers, 1999).

15. G. Fraziano, *Le regole del gioco: scenari architettonici e infrastrutturali per l'aeroporto FVG* (Trieste: EUT Edizioni Università di Trieste, 2015).

16. Vettoreto, *La costruzione di scenari per la città contemporanea: ipotesi e casi di studio*, 2001, 18.

17. A. O. Hirschman, *Felicità privata e felicità pubblica* (Bologna: Il Mulino, 1983); A. O. Hirschman, *Ascesa e declino dell'economia dello sviluppo: e altri saggi* (Torino: Rosenberg & Sellier, 1983).

18. B. Albrecht, *Conservare il futuro: il pensiero della sostenibilità in architettura* (Il poligrafo, 2012).

19. G. Perkins Marsh, *Man and Nature, or Physical Geography as Modified by Human Action by George P. Marsh* (BNCF, 1864).

*paysage*. A series of definitions that according to Alessandro Gabianelli<sup>20</sup> highlight the multiplicity of interpretations and the complexity of these places, but also the difficulty of defining clear and precise categories that allow to identify such spaces. However, Gabianelli underlines a common characteristic, the most significant contemporary public spaces, arise from the transformation of these typologies of places.

Among these residual spaces, Alan Berger<sup>21</sup> particularly recognizes the *Drosscapes*. *Scapes*, landscapes, therefore, complex places, but with a residual character, left over from the transformation processes of the territory.

The aesthetics of waste, residue and its reuse has been consolidated in Italy since 2011 with the *Re-Cycle* exhibition curated by Pippo Ciorra and Sara Marini. A *tentative theory*<sup>22</sup> according to which architecture is not just a recyclable material but a contemporary form of expression among the most current and sophisticated. This is a theoretical position of great clarity and effectiveness: the concept of recycling applied to architecture, while not denying the history, context and identity of an artifact, explicitly presupposes its possible transformation.

The concept of recycling proposed by Ciorra and Marini has the merit of placing the architectural dimension of the interventions in the foreground. In fact, the theme of reuse and transformation had already developed between the 80s and 90s. With two editorials for Casabella, Vittorio Gregotti traces a path from *modification* to *abandoned areas*. The limit of these positions, however, lay in observing the phenomenon from a predominantly urbanistic point of view,<sup>23</sup> still linked to a modernist approach.

According to Piero Zanini, borders are made up of residues and scraps, of marginal elements.<sup>24</sup> Accumulation areas, precisely of those urban and architectural materials and activities that we do not want to consider an integral part, or at least central elements, of our territories. Scraps, which are, however, indispensable to us, also because they function as tangible elements of a limit, which in some cases become an ecological frontier.<sup>25</sup>

A significant case of ecological frontier, but with a positive meaning, is the European Green Belt (EGB). An ecological network, but also a system of landscapes of memory on a pan-European scale, divided into four macro-regions (Fennoscandian, Baltic, Central European and Balkan Green Belt), which goes from Norway to Turkey. An ecological corridor of 12,500 km that passes along the old *Iron Curtain*. This peripheral condition, characterized by few infrastructures

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20 . A. Gabbianelli, *Spazi residuali: la vegetazione nei processi di rigenerazione urbana* (Gorizia: GoToEco, 2017).

21 . A. Berger, *Drosscape: Wasting Land in Urban America* (New York: Princeton Architectural Press, 2006).

22 . P. Ciorra and Sara Marini, *Re-cycle: strategie per l'architettura, la città il pianeta pianeta* (Milano; Roma: Electa : Maxxi, 2011), 18.

23 . Ibid, 19.

24 . P. Zanini, *Significati del confine: i limiti naturali, storici, mentali* (Milano: Bruno Mondadori, 1997), 9.

25 . Ibid, 24.

and settlements, has allowed the conversation and development of habitats rich in biodiversity with a limited level of fragmentation.<sup>26</sup>

The EGB becomes part of those global infrastructures that make up the *architectures of the world*.<sup>27</sup> Visions of the planet as a system of networks where scenarios<sup>28</sup> can be implemented on a large or very large scale.

Moving from global to local, these issues can be found by studying the effects and consequences of the decommissioning of military sites in Friuli Venezia Giulia, the easternmost and most militarized region in Italy. The literature is extensive on the decommissioning of military areas after the fall of the Berlin Wall, the first references<sup>29</sup> dating back to 2003 can be found within more general issues.

A few years later, starting from 2010... *Dietro front!*<sup>30</sup> (Retreat!), *Fortezza FVG*<sup>31</sup> (Fortress FVG) and *Un Paese di primule e caserme*<sup>32</sup> (A Country of Primoses and Barracks), opened a reflection of a more systematic nature, with a broader view of the entire regional system and the re-appropriation by local communities of these common goods.<sup>33</sup>

These are contributions that collaborate to define a horizon of *military landscapes*<sup>34</sup> that is geographically increasingly vast and disciplinarily heterogeneous.

Studies are currently continuing along various lines,<sup>35</sup> both theoretical and operational, as in the present study, which through the investigation of a *minimal landscape*,<sup>36</sup> intends to explore phenomena of territorial scope through the instrument of architectural design.

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26 . R. T. T. Forman, *Land mosaics: the ecology of landscapes and regions* (Cambridge: Cambridge University Press, 1995).

27 . A. Ferlenga et al. (Eds.) *L'architettura del mondo: infrastrutture, mobilità, nuovi paesaggi* (Bologna: Editrice Compositori, 2012), 76.

28 . Ibid, 83.

29 . U. Leone (Ed.), *Aree dismesse e verde urbano: nuovi paesaggi in Italia*, 1st Edition Geografia e organizzazione dello sviluppo territoriale (Bologna: Pàtron, 2003), 30, 34.

30. A. Dapretto and P. Ongaro (Eds.), *Dietro-Front!*, Architettiregione 46 (Trieste: Federazione degli Ordini degli Architetti, Pianificatori, Paesaggisti e Conservatori del Friuli Venezia Giulia, 2010).

31. M. Baccichet, Giorgio Zanin, and Elia Mioni, *Fortezza FVG: dalla guerra fredda alle aree militari dismesse*, Ambiente e territorio (Monfalcone: Edicom, 2015).

32 . Corde architetti, *Un paese di primule e caserme caserme* (Pordenone: Cinemazero, 2016).

33 . A. Marin and V. Leoni, *Territori e Immobili Demaniali Dismessi Come Beni Comuni. Introduzione* (Italy: Società di Studi Geografici, 2016).

34 . D. R. Fiorino, and G. Damiani, *Military Landscapes: Scenari per Il Futuro Del Patrimonio Militare: Un Confronto Internazionale in Occasione Del 150. Anniversario Della Dismissione Delle PiazzeForti Militari in Italia* (Skira, 2017).

35 . E. Marchigiani, *Il riuso delle caserme in piccole e medie città: questioni di progetto a partire dal Friuli Venezia Giulia*, Esercizi di ricerca e progetto sulla città (Trieste: EUT Edizioni Università di Trieste, 2022).

36 . S. Basso, *Nel confine: riletture del territorio transfrontaliero italo-sloveno* (Trieste, 2010), 121.

### Materials and Methods - Design with Simulation

The area of the former Polveriera di Romans d'Isonzo has considerable potential deriving from its location in a strategic infrastructural node (Figure 4), near the motorway exit between A36 Villesse - Gorizia and the A4 Trieste – Venice (Figure 3). The abandonment of the area for about 30 years has allowed the “reactivation” of spontaneous environmental dynamics as a second nature, especially in the vicinity of the paleo riverbed of the Isonzo river (principle of Nature of the Fourth type by A. Gabbianelli,<sup>37</sup> or of Second nature by A. Geuze<sup>38</sup> and even before the Third Landscape by G. Clement<sup>39</sup>), to the detriment of the military building heritage to date, that is however still abandoned. Given the considerable size of the area (over 20 hectares), equal to the entire inhabited center of the municipality in which it is located, the building heritage (almost thirty buildings), contained within the proximity, the system of lakes deriving from former quarries, the surrounding intensive agricultural fabric and belonging to a particular polycentric territorial system, the former military sector has a natural strategic vocation not only for the Municipality in which it is located, but for the whole territory of the Gorizia plain.

The interest of the research concerns, in particular, the development of the methodology with which the multicriteria analysis phase was integrated, that of data interpretation and processing of the transformation project. The approach to recovery strategies saw the development of 7 scenarios, as metaprojects, based on the demand for transformation, “what would happen if...” (Figure 10b, c, d, e, f, g, h) according to the historic methodology devised by Giovanni Astengo at the end of the 1950s. From here we returned to the analysis, identifying 7 territorial transformation indicators to define the scenarios in context. The scenarios were then “tested” with possible stakeholders. The 7 transformation hypotheses were recombined (matrix) and synthesized into 3 more complex and alternative hypotheses. These three trend scenarios were then integrated into a “structure scheme” (Figure 9b, c, d, e, f, g, h) which became the basis for the masterplan. This “analytical method”, partly deductive and partly inductive, has made it possible to develop divergent hypotheses, positive and negative, to visualize the effects of the different configurations of the area (architectural, landscape, environmental, infrastructural) and to evaluate the internal (architectural) and external (urban and functional on the surrounding territory) impacts, but above all, it allowed to understand the limits of use, the crisis condition, and the structural elements (for example the environmental frame).

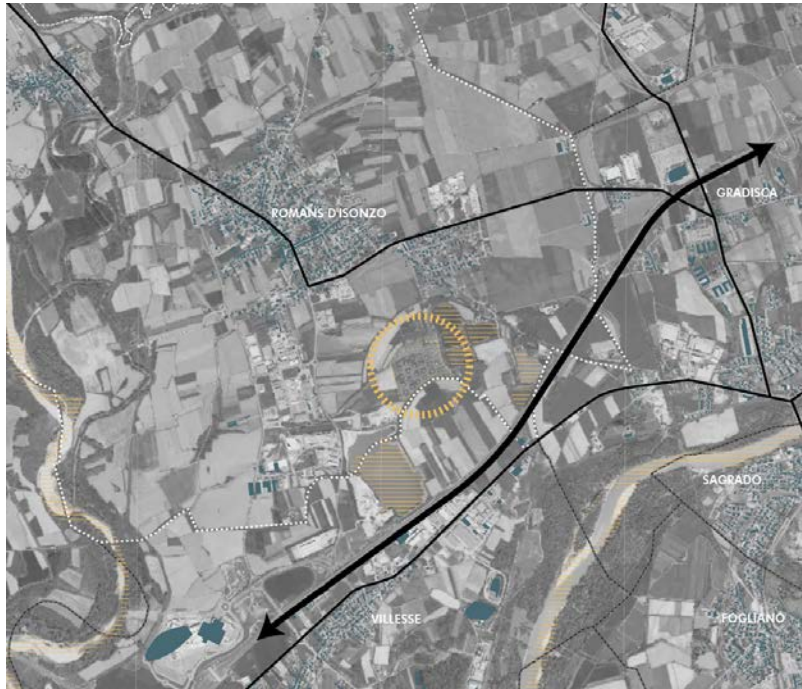
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37 . A. Gabbianelli, “Quarto,” in *Vesper Architecture Magazine, Arts and Theory*, no. 3 (Macerata: Quodlibet, 2020), 217

38. A. Geuze, and M. Skjonsberg, “Second Nature,” in *Landscape as Infrastructure. A Base Primer* (ed.) P. Belanger (New York: Routledge, 2016).

39. G. Clement, *Manifesto del terzo paesaggio* (Macerata: Quodlibet, 2005).

The results that we present here intend to demonstrate the effectiveness of the methodology adopted in giving solutions to complex problems, according to the principle that the universe of possible worlds is constantly expanding and diversifying. In fact, critical design, generating alternatives, is able to create “compasses” instead of “maps”, to offer less rigid and more resilient design solutions in an increasingly dynamic and changing reality.



**Figure 3.** Location. *Infrastructure Networks and Catchment Area (Romans d'Isonzo, Gorizia, Italy) 2021*

Source: Research team.

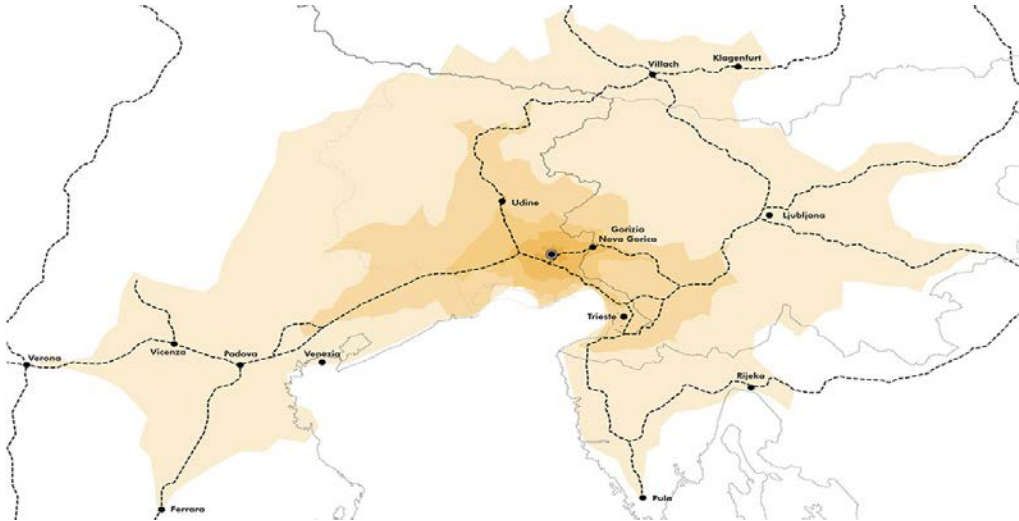
This study stems from the need of the Municipal administration of Romans d'Isonzo to collect “ideas and tools” to reuse, recover and reconvert the large military sector of the former Polveriera. The primary aim of the research is therefore, to provide a technical, scientific and methodological answer to the question “what to do?” and “how to do it?”. The aim then, is not a finished design solution, but a working method (between analysis and project) and a set of alternative reconfigurations in the form of forecasts, in order to be able to make overall (for functional, territorial, etc.) and comparative considerations (is it convenient? Does it impact? Does it work?), and then on how to insert (buildings, open spaces, roads, quantities, types, permeability, etc.).

The themes and contents developed during the research are the following:

1. Overall reorganization of the urban layout and new intended use.
2. Evaluation of the methods of recovery of existing buildings (conservative restoration, restoration and expansion, partial demolition and new construction, demolition and reconstruction).



3. Sizing of the “settlement load” in relation to the environmental system, the road network and access to the area.
4. Organization of car parks in relation to the catchment area.
5. Connection with external roads.
6. Layout of soils, vegetation and the environmental system.
7. Relation to the surrounding countryside and possible interference.



**Figure 4.** Relationship Map. Isochrones Processed on the Road Network in the Cross-Border Macro-Region (Italy, Austria, Slovenia) 2021

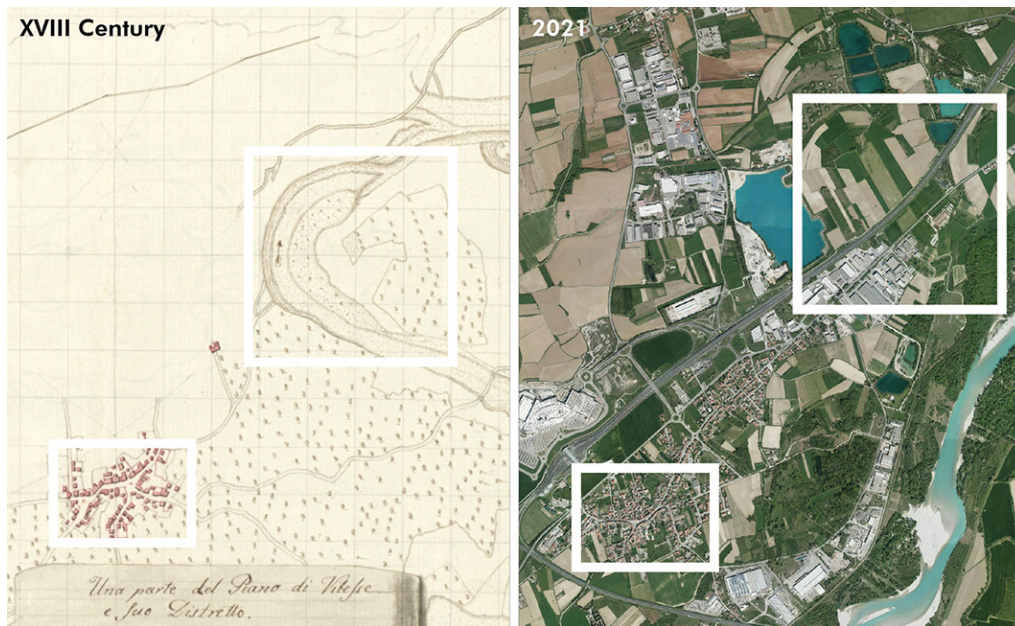
Source: Research team.

The study had a dual purpose: The first, concerns the identification of the themes, methods and tools to be used (methodology) to set up the area's reconversion path. It should be clarified right away that this research is preparatory to the future design of the former military sector, it is not a project, but a metaproject. The study therefore has an exploratory and cognitive purpose. The *goal* is to trace a path of evolution over time and to allow the evaluation of the impact of the transformation.

The second, concerns the identification of alternative transformation configurations (layouts), capable of accommodating compatible and propulsive functions for the landscape, architectural and infrastructural reorganization of the area itself in relation to the reference context.

The large military sector was originally an agricultural area inserted in a vast and uniform countryside (Figure 5), itself part of a very homogeneous historical-geographical context of reference (Figure 1), in which the powder magazine constitutes the only discontinuity. Here, there is a very simple and continuous history of the territory: it has always been countryside, and around it there is countryside. This is why we felt the need to investigate widely, to look for stimuli, even if far away, and then “build a new history” of the territory starting from small things, in search of possible complexity and articulation. We have proposed a path that starts from the reconstruction of the context (history and geography) between the qualities of the landscape, the characteristics of the architecture and the design of the infrastructures. Costantino Dardi argued that the project must be based on

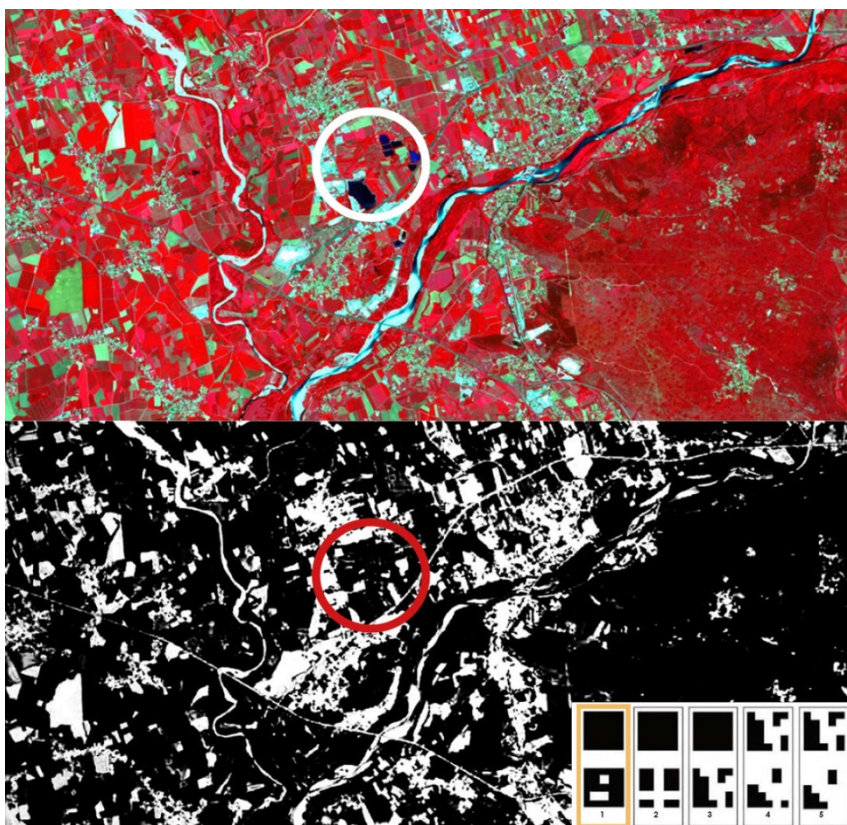
“contextual relations”,<sup>40</sup> or rather on the search for “external connection structures” because they are naturally able to give meaning to the project.



**Figure 5.** Historical Evolution of the Territory and Relationship Between the Case-Study Area and the Cities of Romans d'Isonzo and Villesse (Gorizia, Italy) 2021

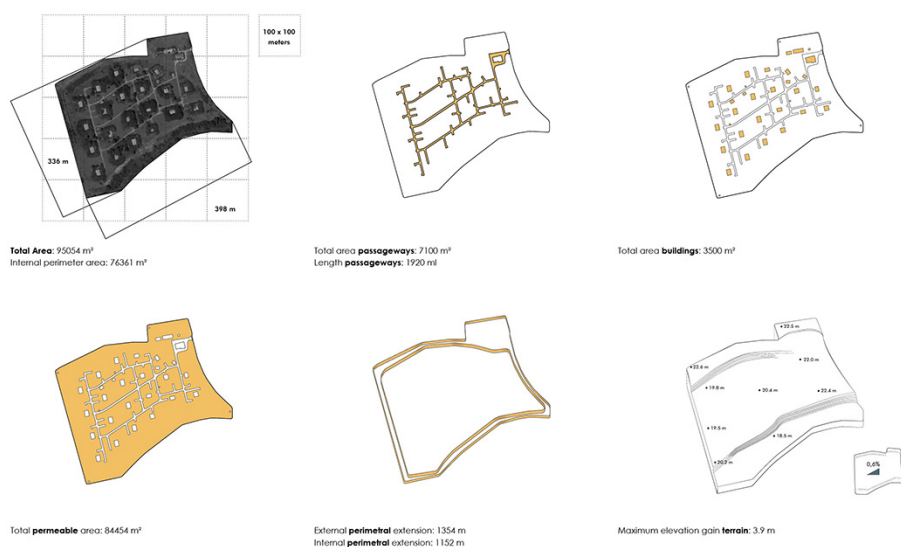
Source: Research team.

40. C. Dardi, *Semplice lineare complesso. L'acquedotto di Spoleto* (Roma: Edizioni Kappa, 1977), 255-256.



**Figure 6.** Analysis of the Ecological Fragmentation of the Surrounding Area According to Forman's Model (Gorizia, Italy) 2021

Source: Research team.



**Figure 7.** Morphological Study of the Former Military Site. Layout, Grids and Routes, Functionality Internal Roads, Buildings, Fortified Perimeter, Ground and Open Spaces (Romans d'Isonzo, Gorizia, Italy) 2021

Source: Research team.

The research, which lasted longer than a year, was developed in ten phases. Each phase was verified and shared, each time, with the Public Administration and with the main stakeholders. It was therefore, a participatory process. The analysis phases alternated with those of design and simulation, according to a non-linear<sup>41</sup> path. At the same time, the research was also fueled by the results of the didactic experiments carried out with the final dissertations within the Integrated Design Laboratory of 2019-2020 and 2020-2021.

The research was developed through the construction of alternative scenarios, through those ten visions for the future, 10 metaprojects (7+3) contained in the scenarios (Figures 10-11). By proposing these ten visions for the future as points for reflection and open discussion, even by radicalizing the conflict and contradictions, we have explored the possible extremes: the limits of the future project.

The study has developed analysis on various disciplinary fields (territorial, urban, infrastructural, environmental, historical and architectural), from which data were drawn that “indicate” the potential and criticalities of the area: scenario indicators. Through the “size” and quantity of the scenario indicators (Figure 8), seven transformation hypotheses (forecasts) were developed, with an exploratory survey character under different profiles: capacity of the road system and mobility, capacity of the production and commercial system and of the hospitality system and of services, capacity of the settlement system and of the vegetation structure. The indicators are the capability of indices (ratio between direct measures) and therefore indicate the levels with which we then built the scenarios:

- a.) Level of service, indicator for the infrastructure system.
- b.) Level of territorial fragmentation and land consumption, an indicator for the production and commercial system.
- c.) Reception level, indicator for the tourist accommodation system.
- d.) Level of urban load and rare functions, indicator for the settlement and service system.

The choice of the indicator a.) is linked to the location of the area in relation to the service level of the infrastructural system, since any choice of conversation of the former Polveriera will require a significant level of accessibility both from the north, from SR 252, and from the south, from the SP3 up to the Villesse motorway junction.

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41. The steps of the research are as follows: Phase 1: Thematic cartographic analyses, Data collection and interpretation, field inspections; Phase 2: Identification of the design themes and possible functions and activities that can be established; Phase 3: Presentation of results from Phase 1 and 2, discussion and verification with the PA; Phase 4: From the results of Phases 1, 2, and 3, extrapolation of the main work topics and identification of the scenario indicators. Check scenario indicators with the PA; Phase 5: Elaboration of 7 exploratory scenarios; Phase 6: Public presentation of the results of Phase 5, discussion and verification of scenarios with the PA. Listening tables and open discussions with the main stakeholders; Phase 7: From the results of Phases 5 and 6, verify “shared” scenarios, comparative evaluation of scenarios to be discarded and identification of issues to extrapolate/discard from each scenario. Setting 3 synthesis scenarios and sharing with the PA; Phase 8: From Phase 7, elaboration of the 3 synthesis scenarios; Phase 9: Presentation to the Administration of 3 summary scenarios; Phase 10: From the comparative elaboration of the 3 summary scenarios, extrapolation of the standards sheet and conclusions.

The indicator b.) was chosen for the size of the intervention in relation to the inevitable environmental impact assessments that a similar project will pose. Furthermore, the area under study is a fundamental piece of both the current local and regional environmental and landscape system, since it is part of one of the main corridors of the Regional Ecological Network (RER FVG) identified by the PPR FVG.

The indicator c.) derives from the intrinsic characteristics (potential) of the vast area of reference, the Isonzo territory, the Collio, the nearby Gorizia Carso: a polycentric territory with numerous excellences linked to rural traditions, food and wine chains, the history and memory of the places and the cultural heritage, that over time has also developed a receptive system, also rich in services, and spread throughout the Isonzo area.

The indicator d.) was partially inherited from a regional vision, also considering the barycentric location of the site in question with respect to the Friuli Venezia Giulia region. This indicator expresses the “shortcomings” at the macroscale of the so-called rare functions in relation to the settlement load of all those territories that represent potential catchment areas for the site of the former Polveriera.

Through these four indicators we have built the simulations and then, the 7 exploratory scenarios of the trends expressed by the territory. The seven exploratory scenarios were subjected to various checks and tests, including a satisfaction survey by the Administration and a verification with the main stakeholders. These verifications led to a further synthesis. This reduction provided the data and arguments for the development of 3 summary scenarios (Figure 11) that offer an overall and articulated, but more defined vision. We then further reworked these 3 synthesis scenarios in a “standard form” (Figure 12) by extrapolating on the one hand, the structural elements and the invariants, and on the other, the more flexible ones, the variables. This scientific method, partly deterministic and partly argumentative, has already been used and tested by our research group for the preparatory study for the project of the Intermodal Hub of Ronchi dei Legionary of Trieste Airport (Trieste – Italy).

Below is a brief outline of the method we used to elaborate the exploratory scenarios and the subsequent synthesis ones:

1. Identification of the question: “... what would happen if...”
2. Identification of the “field of application” (transformation area, areas of influence, catchment areas).
3. Identification of scenario indicators and transformation themes.
4. Definition of objectives, strategy and framework of alternative hypotheses.
5. Organization of the actors involved (public, private, etc.)
6. Dimensioning of spaces and functions (layout).
7. Definition of the main settlement rules and dimensional parameters.
8. Combination of phrases and time management (short, medium, long term).
9. Visualization of the hypothesized transformations (visioning).
10. Impact assessment and territorial implications.
11. Summary of results: extrapolation of system variables and in-variables.
12. Final verification test.



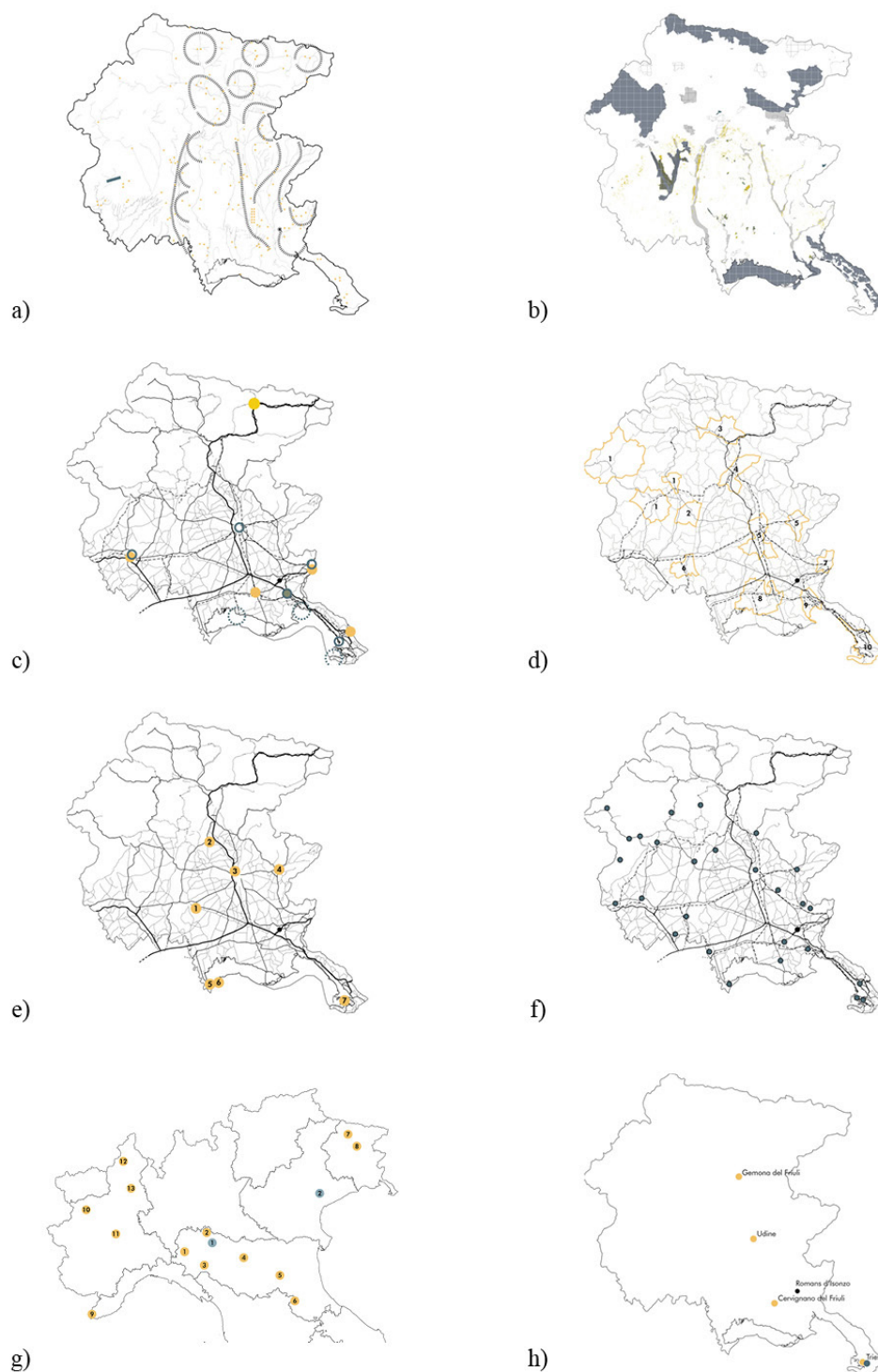
The work plan proposed through the scenario method provides for a preliminary study for some large possible and alternative hypotheses that are formulated in a schematic way to be compared with each other and possibly, subsequently reduced by later steps, for the extraction of a single, final model. This methodology is in contrast with forecasting in the classic sense of the term, as it deals with the extrapolation of trends from a series of historical data from which we try to imagine the future, starting from the past.

The scenario is a suitable tool for dealing with complexities, by isolating some specific aspects and asking the question “what would happen if...”. It is possible to proceed in “discrete portions”, thus fragmenting the problem into simple subunits. It is a method that has allowed us to imagine the development of a territorial phenomenon up to the extreme consequences, or at least to the most probable ones. This way, we have obtained some images of the future. These images can be inconsistent or in competition with each other, just as the subjects who support them can be in competition. In this case, it is not a methodological limitation but a series of possibilities to choose or mediate from by finding intermediate solutions. The scenario, applied to architectural research, is a form of critical design that generates alternatives, and it helps to build compasses for orientation, rather than creating pre-established maps. For this reason, the scenarios balance provocations with strong links to the real world; they have a hypothetical value and therefore it is irrelevant if they do not actually take place.

We have developed seven alternative, consciously divergent scenarios, which explore seven different development possibilities in the area. Specific contents have been identified for each scenario (Figure 10): an “analytical” layout, a functional scheme, the accessibility and mobility system, the demolition and construction budget and a summary structure scheme, as well as images (photo simulations insertions):

1. Stable Park. A mosaic of habitats with services and activities for the public and ecosystem services, an outdoor naturalistic museum.
2. Event City. Hypothesis of a large green area, characterized by arenas for hosting shows and major events.
3. Cold Park. The museum of the former Polveriera, as a testimony of the Cold War, integrated with themed sports activities.
4. Caravanseraì. An infrastructure dedicated to accommodation for alternative forms of tourism.
5. Ecovillage. The idea of a residential development aimed at new inhabitants who seek alternative forms of quality of life.
6. Play Ground. A complex sports infrastructure, equipped not only with fields and equipment but also with accommodation capacity, a village to host major events related to sports activities.
7. Truck Parking. An area to support heavy traffic for the nearby motorways, strategic along the east-west axis with some logistics services.





**Figure 8.** *Maps of the Indicators Used for Design of the Scenarios, 2021. a) Military Sites in the Region; b) Natural Reserves of the Region, Core Areas and Main Hydrographic Network; c) Infrastructural Network, Logistics, Ports and Airports; d) Production and Industrial Districts; e) Tourist Locations; f) Specialized Sports Centers and Major Events; g) Ecovillages; f) Cemeteries with Cremation Halls*

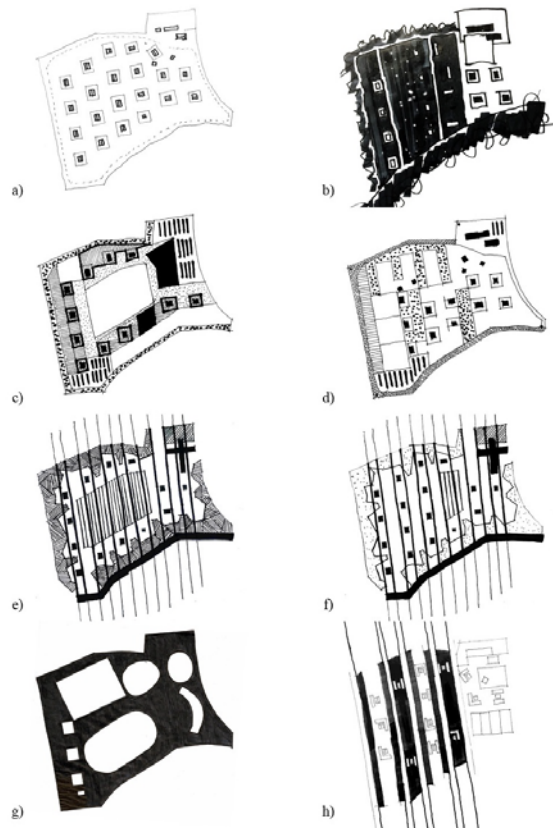
Source: Research team.

The layout of each scenario identifies in detail, functions, locations, organization of open spaces and significant dimensions, where “visions” are added of the scenario, to also allow non-experts to be able to understand. From the layout, the seven functional schemes were then deduced as they recognized the precise perimeters and areas with unique functions. The structure scheme (Figure 9) of each scenario summarizes and transforms the scenario layout into a two-dimensional figure through perimeters and surfaces. The aim is to build a “simple”, “synthesis” figure, which – dried in the representation of the details – is comparable with the other scenarios and allows their combinations and synthesis. The synthesis scenarios are in fact obtainable starting from the comparison of the different structure schemes which identify the invariant elements among the “families of schemes” and can therefore act as a backbone. This way they are able to be “true” at the same, in several alternative hypotheses.

### **Results - Alternative Visions for the Future: Tools, Configurations and Structure-Relationship Diagrams**

If we scroll through the research path we have completed, we can reconstruct its evolution: an initial technical and disciplinary analysis made it possible to prepare a “playing field”, a known terrain with respect to which to develop subsequent moves. Projects stop here more and more often, and become a flat shell of what the analysis, the cognitive framework, describes. These are possible and improvement proposals, but which lack the “transformative” value, the ability to constructively question what already exists.

The first action that triggers the “optimistic” contents of the project, corresponds to the development of the first wave of scenarios (Figure 10). It is about free and multiple, alternative and contemporary readings. An accumulation of raw material, essential to feed the next phase. The second action, the presentation of the project scenarios, instead, has the aim of producing reactions from the administrators and the community. Some scenarios attract interest, others don't. Even if this step, the decreed death of some possible futures, is part of the process, it is indeed a necessary stage to access the next phase.



**Figure 9.** a) Current Status; b) - h) Structure Schemes of the 7 Alternative Scenarios

Source: Research team.

Finally, the synthesis is obtained by comparison. The invariant elements have been recognized, that is, those that are always true, in each of the possible futures. On the one hand, this last operation allows us to define the outcome of the study, the standard form from which to start the planning activity for the area of the former Romans d'Isonzo powder warehouse. On the other hand, it leaves open a series of possibilities and alternative futures.

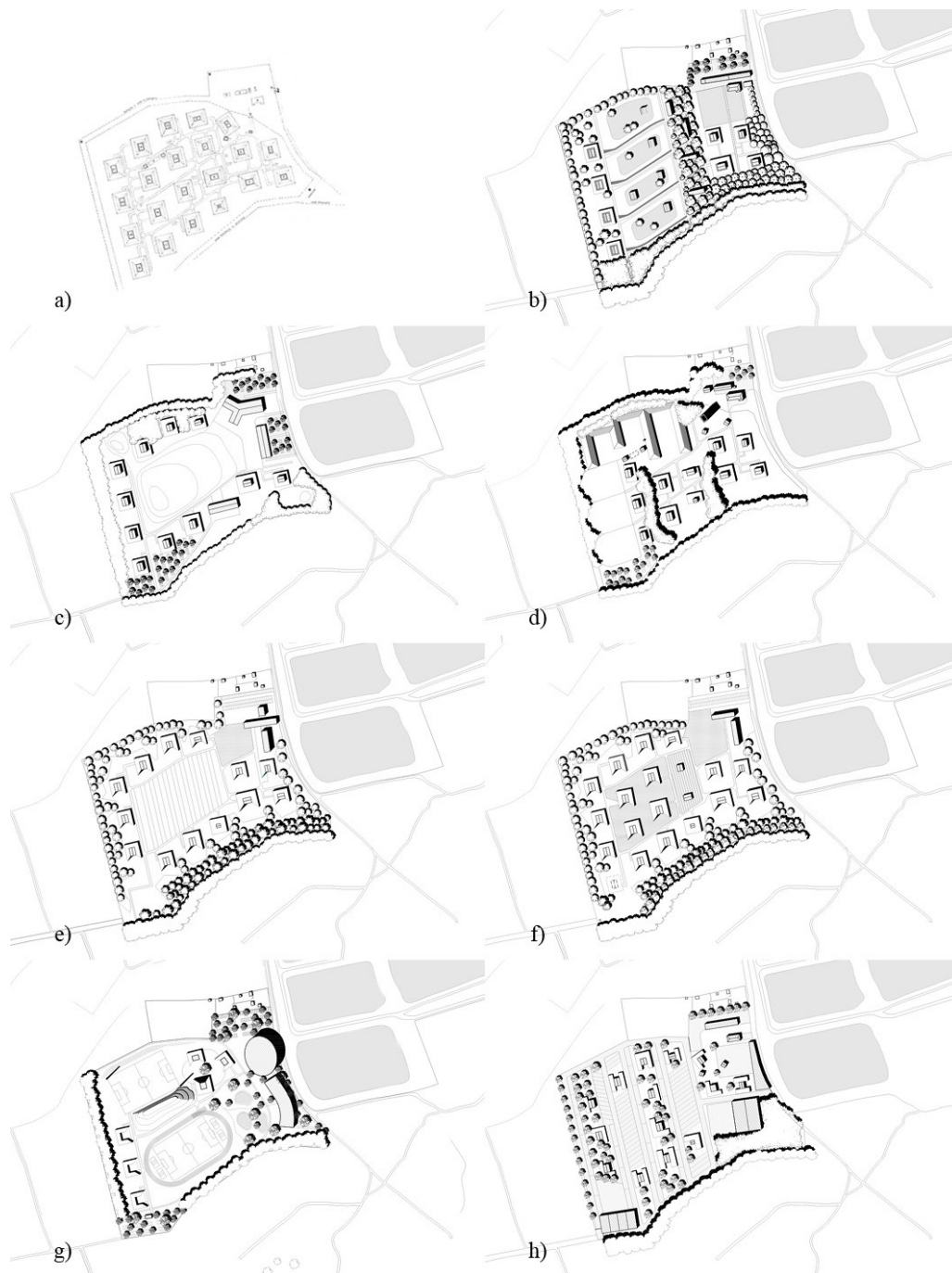
The third step, the subject of this section, is an iteration of the first action. In evolutionary terms, it corresponds to a second generation of possible futures, obtained by crossing the “survivors” of the previous phase (Figure 11).

The outcome of this procedure is, on the one side, the recognition of the fixed elements of future transformations, the essential ones, on which to invest efforts and resources. On the other side, it is the maintenance of a wide “possibility of maneuver” that offers freedom, even in the subsequent project phases, to choose alternative development directions, without having “tied hands” by previous choices that are incongruous with the appearance of unexpected surrounding conditions or new opportunities.

The synthesis scenarios are less radical and less numerous than the initial ones. The goal is to mediate the initial hypotheses, programmatically diverging, to converge towards operational solutions capable of accommodating multiple, synergistic activities, efficient enough to sustain each other and to enhance

themselves. This “mixité” of compatible functions can also be modulated by making one prevail over the other, depending on the degree of differentiation or homogeneity that is intended to be introduced in the area.

Compared to the initial scenarios, in the summary ones, it is possible to recognize as whole or in part, some themes or specific solutions detailed in the previous phase, while others simply disappear.



**Figure 10.** a) Current Status; b) - h) Project Plans of the 7 Alternative Scenarios

Source: Research team.

This rewriting and redefinition operation is the result of the intermediate participation processes, implemented between these two stages of scenarial development. The confrontation with stakeholders and the Administration, on the basis of “radical” and monothematic scenarios, in fact, allowed the community to choose some directions, or at least unequivocally discard others, taking clear and aware positions on the basis of alternative “visions”.

The synthesis of this research track, or rather what we can really define as the result of the experiment, is the “standard sheet” (Figure 12a). The standard form is the arrival point of planning by scenarios, but it is also the new starting point for the effective planning (for preliminary and executive architecture) of the individual parts that we have identified. The standard file contains all the reasons for the transformation request, the simulations, the verifications of the modification hypotheses, but it also contains all the local and territorial analyses. The traces of this path between analysis and project are “deposited” in the standards sheet.

The standards sheet is therefore the tool with which it will now be possible, starting afresh from the larger scale (urbanism), to start the planning phase (drafting of the municipal plan, Piano Paricolareggiato Comunale), that will also contain the detailed planning of the individual UMIs (minimum units of intervention) and the related “urbanization works” (green and parking standards, roads and sub-services in the network).

At first glance, the path that led to the standards sheet might seem very laborious and perhaps even too complex. However, the goal was also to test a methodology, a process. So for us, the development of the method was also a result that we put up for discussion. Moreover now, thanks to this method, the “scheme-structure”, the functional zoning and the urban layout are based on verified choices, which have also passed through the evaluation test of the “alternative and comparative solution”.

In a nutshell, it is possible to say that we have tried to do the reverse design process, compared to what would usually be done. We started from the particular (architectural scenarios) and arrived at the general (the standards sheet and the urban layout) according to a bottom-up flow. And now from the general it will be possible to return to the particular, but with more awareness.

Another aspect that we place among the results is the language of the “standards sheet”. Language that does not only concern the graphic definition, but the overall syntax, which allows its use, interpretation, and application. We have said that the “standards sheet” is like a sort of genetic code that contains all the information on the phases of the process (analysis, modeling scenarios, checks, variables, invariants, etc.), but since it is a tool, it must be “instrumentally” usable, therefore declinable in space (scope of intervention) and over time (according to the Minimum Intervention Units), while guaranteeing the protection of elements or spaces recognized as valuable, or strategic, and the right flexibility to accommodate solutions and different programs. Therefore the syntax of the “standards sheet” is played out according to a structuralist approach, of the relationship between the parts (connected or not connected) and the morpho-typological role of the parts (variable dimension or non-variable dimension). We can therefore say that this new syntax works through configurations.



But let us now retrace the salient stages of this method. The synthesis scenarios identified and developed are (Figure 11):

### Scenario A

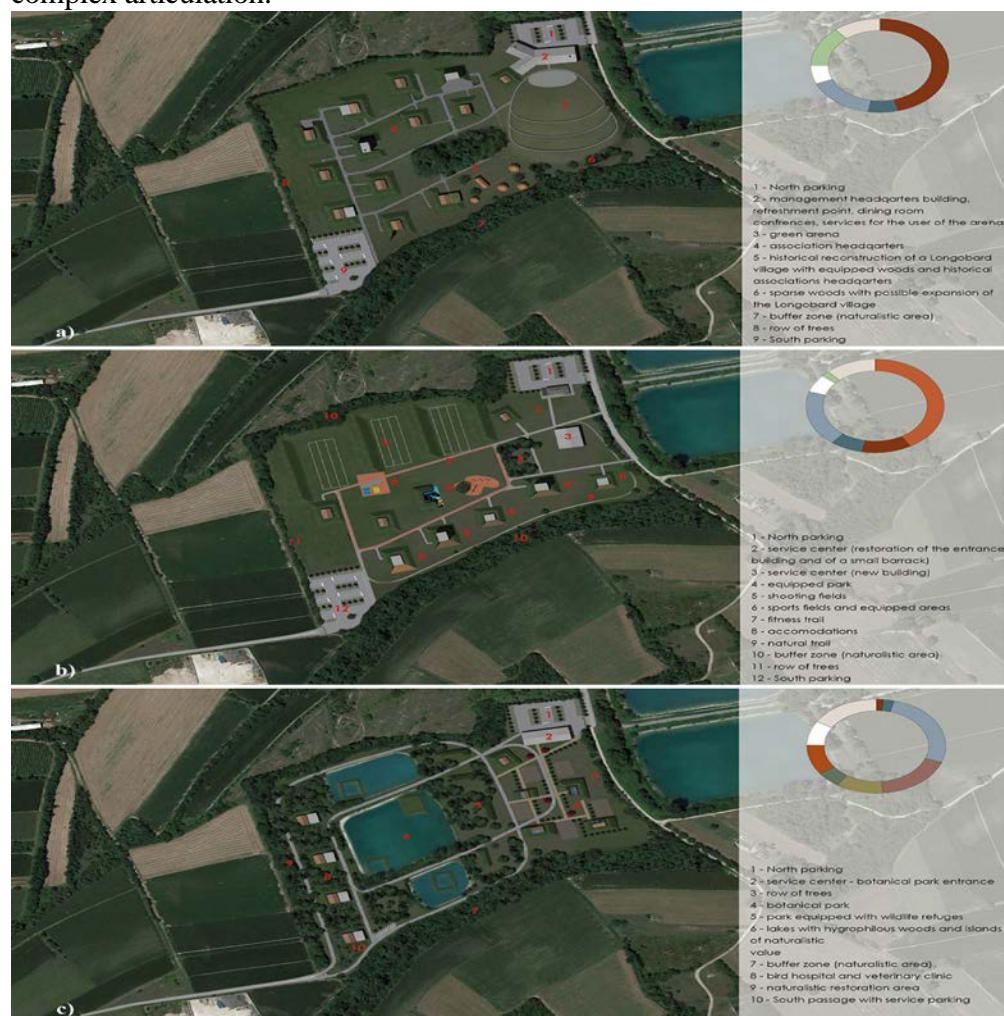
Events and Associations: an attractive area on a supra-municipal scale that wants to, however, also remain at the service of local, social and cultural activities.

### Scenario B

Sports and Hospitality: informal sports activities, open to all, and more structured but not present in the municipal area, are articulated with an area dedicated to accommodation and temporary hospitality, aimed at alternative forms of tourism.

### Scenario C

Naturalistic Park: a large area of environmental value, grouped according to different sub-themes: teaching, public services, which constitute a rich and complex articulation.



**Figure 11.** Photosimulation. Scenario a), Scenario b), Scenario c) Plans with Insertion of the 3 Final Synthesis Scenarios

Source: Research team.



Finally, the synthesis is obtained by comparison. The invariant elements have been recognized, those that are always true, in each of these three possible futures. The identified “constants” gave rise to a “standard sheet”. This content was intended to serve as a reference basis for the development of an Implementation Plan, an opening move for any concrete transformation process of the area.

The standard form (Figure 12a) identifies two “dimensions”:

1. The structural components that have the function of being “system invariants”, or components, or configurations, or prescriptive pre-dimensions for the future designs and planning;
2. Flexible components that have the function of being the “variables of the system”, or components, or configurations, or pre-dimensioning free and open to the needs of the case, to the contingencies of the moment, to the possible different natures, and origins of the demand for transformation.

At the end of this process, we also wanted to perform a final “laboratory test” to verify the functioning of the model developed, defining the standard form to the requests for transformation and reconversion of the area, which in the course of the development of the research also emerged, thanks to the research itself.

This final simulation (Figure 12b) verifies not only the result, but also the method (process) set by the research path and proposes an integrated layout with a new landscape outline and a transformation, but also recovery, of all the building heritage present on the site.

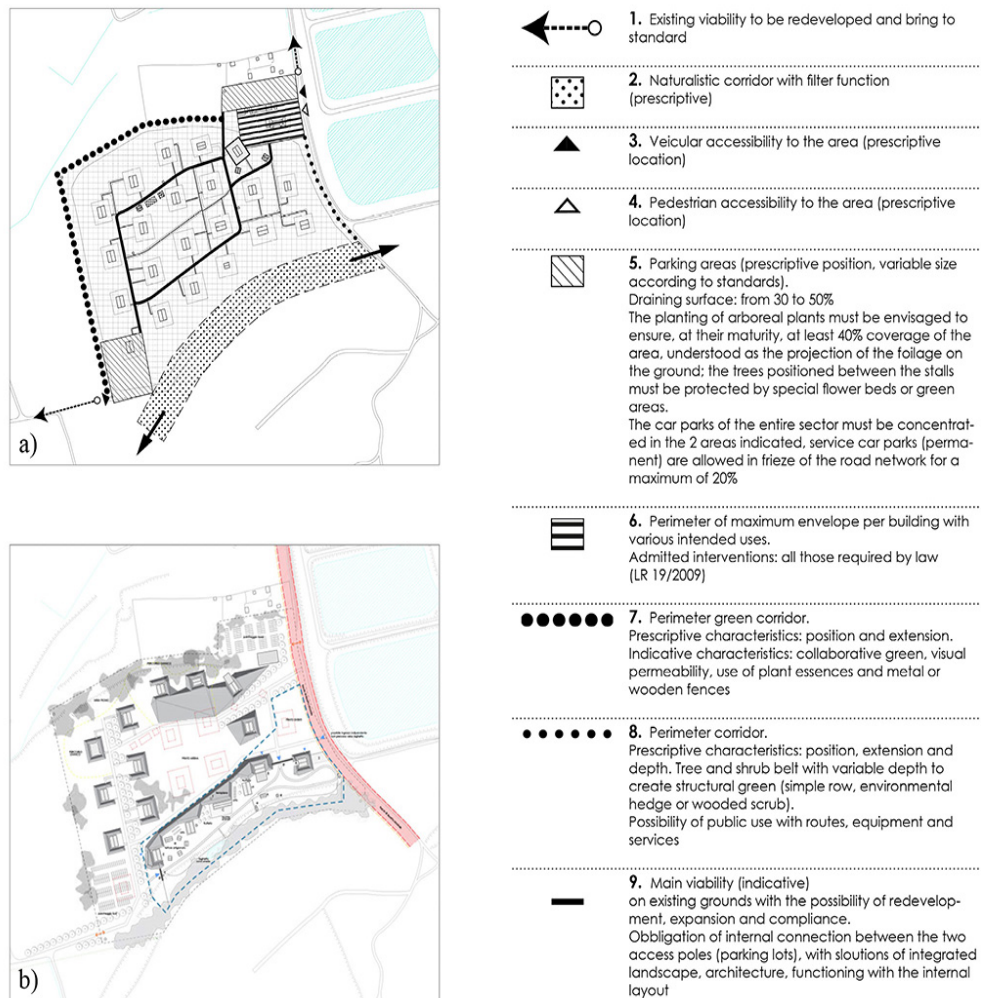
In synthesis, it is assumed that a set of public spaces with different specializations will be created, strongly characterized by the naturalistic dimension and by a thematic area that promotes local traditions, history and culture (Longobard archeological park). The reconversion project also includes the adaptation of the access roads, the construction of two public car parks to serve the entire area, and the re-naturalization of the entire perimeter (plant filter with environmental hedges, rows of trees and shrubs), with a wooded area of particular naturalistic value within the paleoalveo in the southern part of the area. This functional layout, rather than urban and architectural, arises from requests for use by local associations and individuals.

The summary configuration provides a layout consisting of 3 Minimum Intervention Units (UMI), in addition to the connected “urbanization works”: UMI 1. the public park, green areas among the former powder magazine completed by a large central area (green arena) for shows, events, demonstrations and outdoor parties.

UMI 2. the village of associations, the set of former powder magazines and surrounding spaces (detected) which will be restructured (even in different times and ways) to become the headquarters of all the associations. UMI 3. the Longobard archeological park which will propose the reconstruction of a Longobard village in which to develop educational, recreational and cultural activities linked to the historical re-enactments.

This last simulation summarizes the results obtained, the themes, the tools, the qualities and the most pertinent dimensions for the conversion of the former

Polveriera, with the aim, in addition to verifying, of showing the application of the “standard form” and therefore to be an example of declination of the “rules” for the future implementation of the area.



**Figure 12.** a) *Standard Form Result of the 7 Exploratory Scenarios and the 3 Summary Scenarios*; b) *Draft Project to Test the Validity of the Standard Form*  
Source: Research team.

However, the results obtained also have a broader, methodological and disciplinary impact. The exploration of possible worlds amplifies the scope and the added value of the architectural project, intended as a privileged tool for building a better future, an innate tendency of the human being, a transformative capacity aimed at making the environment in which we live.

In the last century this attitude took on the forms of modernism and manifested itself through faith in technological progress. However, it is not a side effect of planning and building, this form of trust or even faith in the future is not a consequence, but a driving force of the discipline that pushes it to evolve, to introduce change.

More correctly, we could say that the optimist is not so much the architect, but rather that optimism is a quality of the project, that the architect must cultivate and grow. The figure of the architect-demiurge, therefore, disappears in this picture and, on the basis of his disciplinary and exclusive knowledge, expresses the design solution in a drawn form, the only one possible.

In summary, we can classify the design result obtained as a masterplan, a strategic vision destined to direct subsequent operational choices. The laboratory and operational character that this experience contains, however, defines within it a real project dimension that details and specifies the concept of masterplan. On the one hand, in fact, possible alternatives are explored, but on the other, the responsibility is assumed to condense ideas into forms.

### **Discussion and Conclusions - Scenario, Project and Replicable Configuration: Rule and Model**

The research was articulated on different disciplinary areas (architectural, landscape, environmental, urban planning, traffic) and with different modalities (construction of the simulation, model, project, etc.) which allowed to collect and systematize heterogeneous contents and to experiment working methods and evaluation.

The study was first of all an experimental research, as it applies operational methodologies for the recovery of a disused military site on a specific case study, the former Polveriera of Romans d'Isonzo (Gorizia).

However, the study also presents a more “general” and therefore purely scientific modeling character of theoretical research, which specifically concerns the methodologies of analysis, collection, interpretation and use of territorial data (landscape, environmental, architectural), and simulation techniques and forecast for the elaboration of transformation scenarios. For these two aspects, techniques consolidated by the discipline were used and methodological experiments were carried out starting from the “simulation theories” (indicators scenarios – Figure 8, and combination of scenarios – Figures 10-11).

The research also had developments in the purely didactic field, as the contents were deepened in a “graduate laboratory”, which saw the development of three final dissertations, two of which (Figures 13-14) have already been discussed<sup>42</sup> and one is in progress.

Finally, the research has had and will continue to have implications in the field of scientific dissemination and the so-called “third mission”, dissemination to the public.

During the work process, various public engagement activities were organized: presentations, round tables and meetings for the discussion of the steps and the progressive results. Not only to show the client the progress, but also to share it,

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42 . Degree thesis of: Daniela Divkovic, *Cinque Habitat per una nuova ecologia* (Università degli Studi di Trieste, catalog OPAC, 2021); Nicol Di Bella, *Progetto di riqualificazione dell'ex-Polveriera di Romans d'Isonzo* (Università degli Studi di Trieste, catalog OPAC, 2021).

and above all for feedback that can be used and integrated in the processing of the research object's own contents and develop scenarios.

In addition to these dissemination activities aimed at sharing research activities, the scientific results have already been proposed at an international conference on urban studies.

Finally, the entire body of research will, by 2022, be the subject of a specific scientific publication of an in-depth analysis and integration of the results by the working group, in which they will be reorganized, systematized and illustrated for scientific dissemination.

The methodology used in the development of this study, was used for the first time in Italy in the 1950s, by Giovanni Astengo for the development of the urban plan of Assisi. However, there are numerous and subsequent examples in Europe, such as the French Datar or the Dutch Vinex, that studied urban and territorial transformation beginning from the techniques of "construction of prediction" borrowed from the methodologies of gaming simulation, of the if-then or of the what-it used for war games, but above all for the simulation of atmospheric precipitation and the forecast of climate change in meteorology. Urban planning, landscape planning and often also landscape design use "alternative or incremental simulation" for scenarios as a forecasting and consequently evaluation tool (often as a basis for ex-ante SWOT analysis), regardless of whether they are large or small transformations, since this methodology permits the "rationalization of the complexity" in finite parts and therefore allows a "more objective" evaluation.

The path proposed to the scientific discussion was an "open" type, as was the result: building a multitude of forecasts, simulating complex processes, in some cases deliberately negative or problematic (crisis scenarios). It allows you to "look ahead" with one wider visual spectrum and then to sum up by subtraction, it allows you to visualize "what remains", what is "really structural" (the scenario invariants) and what is modifiable, flexible, and transformable. This might seem almost paradoxical because if we think in terms of the project, we should fix a layout, but in this case the attempt is to use (perhaps test) the project as a "configurational choice", as Costantino Dardi<sup>43</sup> called it.

Tackling a similar theme with the scenario also constitutes a challenge for scientific research in architectural and urban fields (especially for brownfields): tackling the construction of scenarios for such large abandoned areas, to be re functionalized today, has meant questioning once again some of the large categories of modern thought: zoning or mixed use? Enclosed system or contextualism? Local or global strategy? necessary expansion or infill development? New urbanism or smart growth? These word pairings were discussed throughout the research development. Now, at the end of the process, it seems to us that these pairs of words can open up new research paths, starting precisely from the set of projects that build the horizon of the simulation and in particular will be understood as: exploration of trends, construction of the vision, delimitation of limits and constraints, process crisis structures, layout functionality.

From a practical point of view, all this can be directly applied to the area under study, but the method can also therefore be replicated throughout the region,

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43. Dardi, *Semplice Lineare Complesso. L'acquedotto di Spoleto*, 1987, 24.

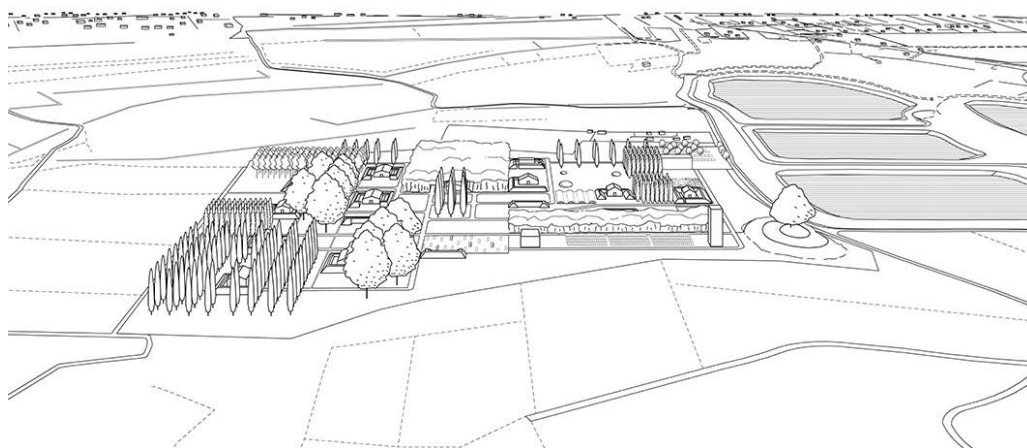
given the number and extent of brownfield sites and considering the settlement and infrastructural characteristics of Friuli Venezia Giulia (Figure 8). These reconfigurations of an incremental process may be useful to the Administrations, and in particular if they are small Administrations (with reduced annual budget capacity), because they will be easily projected into long-term planning.

In the end, we can say that the construction of the simulation with the scenarios was “a game of friction” because we made the scenarios interfere (by overlapping and by increasing) the scenarios with each other, with the rules of gaming, we mixed and combined (according to various theories), the numerous images (*visions*) gradually emerged, and therefore a sort of “new horizon of reference” was built. All this has brought out (almost automatically) the represented new landscapes, has radicalized the conflict (in this extremely useful phase), and also the contradictions of the design choices (avoidable therefore in the subsequent design phases), and finally, and more importantly, has explored the extremes (limit states).

Finally, we can add to the discussion the following synthesis hypothesis: working with scenarios leads to reflect on possible compatibility and coexistence, on oppositions and differences, always allowing, in the end, to select “places and potentials”, and thus to propose visions for the future (which is different from the project) for reflection and open discussion.



**Figure 13.** *Experimental Design for the Case-Study. Daniela Divkovic, Degree Thesis: “Five Habitats for a New Ecology”, Supervisor Prof. Adriano Venudo, Co-Supervisor Prof. Alfredo Altobelli, University of Trieste, OPAC Catalog, 2021. Source: Daniela Divkovic.*



**Figure 14.** *Experimental Design for the Case-Study. Nicol Di Bella, Degree Thesis, "Redevelopment Project of the Former Polveriera di Romans d'Isonzo", Supervisor Prof. Adriano Venudo, Co-Supervisor Prof. Thomas Bisiani, University of Trieste, OPAC Catalog, 2021*

Source: Nicol Di Bella.

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## Urban Dystopia on Screen: The City, Architecture and Power in the Contemporary Science Fiction Film

By Marko Kiessel\* & Jonathan Stubbs<sup>±</sup>

*This paper investigates the urban, architectural and spatial mise-en-scène of major western 21<sup>st</sup>-century science fiction film dystopias portraying urban societies under totalitarian rule. While extensive scholarship exists on architecture, the city and power and similarly on architecture, the city and film, the triad of architecture/city, film and power remains under-researched. This paper therefore concentrates on how power is mediated through built form on screen. It also investigates whether recurring visualizations and meaning(s) of built form concerning power can be observed. Considering key works about the built environment and its relation to power, this study also uses a semiological approach in order to assess the symbolic-metaphorical use of urban, architectural and spatial form. We assume that producers, directors, set-designers, screenwriters on one side and the film audience on the other ‘speak a similar language’ and share cultural codes and symbols. The frequent recurrence of specific urban, architectural and spatial visualizations in science fiction films which mediate specific meanings of power may be proof of a widespread, conscious or subconscious reading of these visualizations and understanding of their meaning(s) with regards to power – meanings which may therefore be deeply rooted in the culture of western societies.*

### Introduction

This paper investigates the urban, architectural and spatial mise-en-scène of several major western science fiction film dystopias of the 21<sup>st</sup> century which portray urban societies under oppressive totalitarian rule, including intensive surveillance. The urban science fiction dystopia genre has been interpreted by many scholars as a reflection of, and a means to comment on, contemporary social aspirations and fears. These dystopias mirror discourses which emerge from their respective times concerning society, politics, the economy and changing values, as well as developments in the built environment and technology. Scholars have generally agreed that science fiction film dystopias comment critically on modern urbanism and architecture. For example, Janet Staiger states that future noir dystopias include criticism of utopian modernist architecture and cityscapes through a semiotic transformation of the “signifiers of modern life” so that they turn into “signs of a troubled society”. Similarly, Kevin McNamara points out that “the *Blade Runner* cityscape, especially its ironic treatment of elements that once expressed architecture’s utopian aspirations... will be recognized as a commentary

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on the failure of modernist architecture and planning's utopian aspirations."<sup>1</sup> However, although scholarly work on architecture, the city and power is exhaustive and while work examining architecture, the city and film is similarly well developed, the triad of architecture/city, film and power remains under-researched.

This paper therefore concentrates on the ways in which power is "mediated"<sup>2</sup> on screen through built form. It also aims to examine whether recurring patterns may be observed in the visualizations and meaning(s) of the built environment with regards to *power*. And it seeks to answer whether those meaning(s) conveyed on screen are generalizable for the interpretation of meaning(s) in the existing built environment.

This research is based on several observations, namely that "buildings are, whether architects intend it or not, carriers of meanings, even in those cases in which they are meant to be meaningless",<sup>3</sup> that "language is at the core of making, using and understanding buildings", that this language "cannot be innocent", and that the values and intentions of its authors are present directly and indirectly in form of a "silent discourse."<sup>4</sup> Therefore, we assume that the "visual rhetoric"<sup>5</sup> of films may likewise be regarded as a non-innocent language that directly and indirectly informs the meaning(s) of the city and its architecture which we seek to understand.

We consider several key works about the built environment and its relation to power, such as Thomas A. Markus (1993), Kim Dovey (1999), and Thomas A. Markus and Deborah Cameron, who assert that there are no "power-free spaces".<sup>6</sup> Our current study refers especially to the terminology, definitions of power and forms of mediation in Kim Dovey's *Framing Places: Mediating Power in Built Form* (1999). Dovey subdivides power into two basic forms, the primary *power to* do, act upon, realize, conduct things, and more relevant for our scope, the *power over* others. Forms of *power over* emerge from institutional authorities of the society such as the state, corporations and the family. They are defined by Dovey as *force* (for example spatial exclusion) and *coercion* (a latent kind of force), the latter including *domination/ intimidation* (for example through scale), *manipulation* (a form of power which is invisible to the subject, often being exercised with the support of control and/or [disciplining] surveillance) and *seduction* (manipulation of interests/desires).<sup>7</sup> These forms of power are mediated through urban, architectural and spatial features in reality. Dovey also states that forms of mediation of power often work as antithetical pairs<sup>8</sup>, such as "segregation

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1. Sobchak, "Cities," 124; Staiger, "Future Noir," 99, 112, 120; Gold, "Darkened Skies," 338-39; McNamara, "Los Angeles 2019," 123-24, 127; Mennel, *Cities and Cinema*, 131-32, 140; Babish, "Concrete Futures," 136, 164, 168, 184.

2. A term borrowed from Dovey, *Framing Places*, in the sense of "expressed" or "communicated."

3. Klotz, *Moderne und Postmoderne*, 14, transl. from the German by M. Kiessel.

4. Markus, *Buildings and Power*, 4.

5. Fortin, *Architecture*, 132.

6. Markus and Cameron, *Words*, 60.

7. Dovey, *Framing Places*, 10-12.

8. Dovey, *Framing Places*, 15-16.

vs. access”, “stability vs. change” (“stability” meaning the impression or illusion of permanence and stable order, for example through size<sup>9</sup>), and “dominant vs. docile” (“dominant” through relative size).

While investigating built environment and power Dovey, Markus and Cameron, and Martin Hofmann also refer to Michel Foucault’s notion of the disciplinary character of (modern) architecture and space. Catherine Chaput provides a summary of Foucault’s theoretical work and links it to the narratives of a few science fiction films. Drawing from this work<sup>10</sup>, the relevant aspects of Foucault’s theories for our study can be summarized as follows: Disciplinary power works through social and spatial practices. Foucault’s study of spaces like prisons, factories and hospitals demonstrates how this power acts through norms and the control of deviations from the norms. It is a bio-power which works on bodies and disciplines them into compliance and docility through constant surveillance. It includes the partitioning of space according to rank, class, grade and function, coupled with the regulation of routine. In other words, disciplined bodies result from forceful and/or coercive (using Dovey’s terminology) spatial partitioning, surveillance of activities and the organization and the co-ordination of groups of individuals.

Scholarly work investigating architecture in (science fiction) film occasionally discusses the above introduced aspects of power in addition to this, but it does so rather unsystematically. Relevant work includes: Dietrich Neumann, Vivian Sobchak, Janet Staiger, John R. Gold, Kevin McNamara, Barbara Mennel, David Fortin, and Stephen Babish. A detailed discussion of these authors falls outside the scope of this chapter; for this reason we refer to their relevant observations about architecture and power in science fiction film where meaningful. However, Kiessel and Stubbs (2022) is worth outlining in brief here because it focuses on the subject more systematically. The chapter concentrates on vertical and horizontal urban, architectural and spatial “segregation” and “boundaries” in SF films of the 20<sup>th</sup> to 21<sup>st</sup> centuries, segregation and boundaries being forms of the mediation of power, not forms of power as such. The chapter also discusses how architectural style may contribute to the visualization of urban, architectural and spatial forms of segregation and boundaries.

In contrast, the current study concentrates on film examples from the 21<sup>st</sup> century and approaches the subject differently, starting from a theoretical definition of power, based on the various forms of *power over* as defined by Dovey in *Framing Places*, and proceeding to investigate how these forms of *power over* are expressed through visualizations of urban, architectural and spatial mis-en-scène. It also introduces new analyses of science fiction films not previously discussed in depth.

This paper also takes a semiological approach, drawing on all elements of the filmic mis-en-scène, of the visual rhetoric, as symbols and codes of meaning. More precisely, our study is related to cultural semiotics which discusses symbolic

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9. See on “permanence” also Klotz, *Moderne und Postmoderne*, 71.

10. Dovey, *Framing Places*, 19-20, 23; Markus and Cameron, *Words*, 60; Hofmann, “Macht und Raum”, 6, 12-13; Chaput, “Regimes of truth”, 92, 97.

meanings in relation to culture.<sup>11</sup> Because the understanding of the meaning(s) of the urban, architectural and spatial mis-en-scène of films is dependent on the cultural socialization which both have experienced, the professionals involved in film-producing and the audience. This is what Markus effectively means when mentioning that understanding the meaning of language requires speakers and listeners to belong to the “same language-using community.” Likewise, a subject (observer, user, reader) understands meaning when it experiences a building (the object), and both subject and object are “embedded in their historical societies.”<sup>12</sup>

Similarly, Markus and Cameron emphasize that architectural form functions symbolically in conveying power, for example through the metaphorical equation of height with importance, but only in case a community shares the validity of this equation.<sup>13</sup> And finally, Motamed states while investigating the meaning of colour in architecture that “colour meanings need to be considered in their cultural context and never alone.”<sup>14</sup>

We may assume therefore that the visual rhetoric of films is, consciously or unconsciously, designed to be widely readable within a given (in our case the western) culture, or in other words that professionals involved in film-producing and the audience must share basic cultural codes if a film is to resonate successfully with the audience. Even more so, genre films are economic enterprises and thus require a certain degree of shared codes in order to become marketable products, a circumstance which becomes critical when addressing international, transcultural audiences.

The films investigated may be regarded as a specific sub-genre of the science fiction film, centered on future societies in (future) urban environments. Science fiction films with narratives of space exploration and alien invasion, zombie apocalypse, prehistoric monster and natural disaster in urban environments of the present are not included. In addition, our sample centers on films produced since 2000. The films included are:

Blade Runner 2049 (2017). Directed by Denis Villeneuve. Warner Bros.  
 High Rise (2015). Directed by Ben Wheatley. StudioCanal.  
 Divergent series: Divergent, Insurgent, Allegiant (2014-2016). Directed by Neil Burger, Robert Schwentke. Lionsgate.  
 The Giver (2014). Directed by Phillip Noyce. Weinstein Company.  
 Elysium (2013). Directed by Neil Blomkamp. Sony Pictures.  
 The Hunger Games series: The Hunger Games, Catching Fire, Mockingjay 1, Mockingjay 2 (2012-2015). Directed by Gary Ross, Francis Lawrence. Lionsgate.  
 Total Recall (2012). Directed by Len Wiseman. Columbia Pictures.  
 Children of Men (2006). Directed by Alfonso Cuarón. Universal Pictures.  
 Aeon Flux (2005). Directed by Karyn Kusama. Paramount Pictures Studios.  
 Code 46 (2003). Directed by Michael Winterbottom. MGM.  
 Minority Report (2002). Directed by Steven Spielberg. 20<sup>th</sup> Century Fox.  
 Equilibrium (2002). Directed by Kurt Wimmer. Miramax Films.

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11. Motamed, “Colourful Language”, 42.

12. Markus, *Buildings and Power*, 5.

13. Markus and Cameron, *Words*, 59.

14. Motamed, “Colourful Language”, 57.



Star Wars: Attack of the Clones (2002). Directed by George Lucas. Lucasfilm Ltd.

The following films from the 20<sup>th</sup> century are referred to for comparative purposes:

Metropolis (1927). Directed by Fritz Lang. UFA

Things to Come (1936). Directed by William Cameron Menzies. London Films.

Alphaville (1965). Directed by Jean-Luc Godard. Athos Films.

Fahrenheit 451 (1966). Directed by François Truffaut. Universal Pictures.

THX 1138 (1971). Directed by George Lucas. Warner Bros.

Soylent Green (1973). Directed by Richard Fleischer. MGM.

Logan's Run (1976). Directed by Michael Anderson. MGM.

Blade Runner (1982). Directed by Ridley Scott. Warner Bros.

Brazil (1985). Directed by Terry Gilliam. 20<sup>th</sup> Century Fox.

We investigate the mediation of forms of power in those 21<sup>st</sup>-century western films by focusing in the following four sections on spatial partitioning according to class; size; disciplining space and spatial partitioning according to societal function/ position; and on architectural style.

### ***Force, Coercion and the Spatialization of Class Relations***

Force and coercion are forms of *power over*. When linked to space and class they are visually expressed through the *mise-en-scène* of (extra-) urban and architectural space, specifically through scenes with a horizontal center-periphery/inside-outside dialectic, and scenes of boundaries/thresholds, segregation and depth of spatial access.<sup>15</sup>

The first *Blade Runner* (1982) directed by Ridley Scott and Denis Villeneuve's sequel *Blade Runner 2049* (2017) visualize a dystopian, dark vision of future urbanity (Figures 1-2), a "future noir".<sup>16</sup> As with many science fiction cities, the urban setting uses a "spider web" scheme with a high-rise center expressing power and control.<sup>17</sup> There is no forced segregation but both films suggest the existence of a coercive segregation based on economic/social status, as Chaput has argued of the original film from 1982.<sup>18</sup> Their centers are immediately readable as places of (economic) power (see more about size and place in the next section). The web also refers to modern urban planning, such as Le Corbusier's utopian concept of the *Ville Contemporaine* (Figure 3). As Staiger notes, its high-rise center was reserved for individuals of higher social rank while workers were accommodated "further out" in the periphery in a conjunction of architectural and social pyramid.<sup>19</sup> As such, these future noirs use the international high-rise or the

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15. Kiessel and Stubbs, "The Present in the Future," 98-105. On space syntax and depth of spatial access see Dovey, *Framing Places*, 20-23.

16. Staiger, "Future Noir". On future noir see also Bruno, "Ramble City".

17. Gold, "Darkened Skies," 340.

18. Chaput, "Regimes of truth," 98.

19. Staiger, "Future Noir," 108

nostalgic pyramid-peaked skyscraper in order to address the hierarchies and elitism of the late capitalist class system.<sup>20</sup> Moreover, such visualizations of polluted, decayed and segregated megacities “will be recognized as a commentary on the failure of modernist architecture and planning’s utopian aspirations,” as McNamara suggests of the original *Blade Runner*.<sup>21</sup>



**Figure 1.** *The Endless Urban Sprawl of Los Angeles in 2049, Scene from Blade Runner 2049 (2017)*

*Directed by Denis Villeneuve. Warner Bros.*



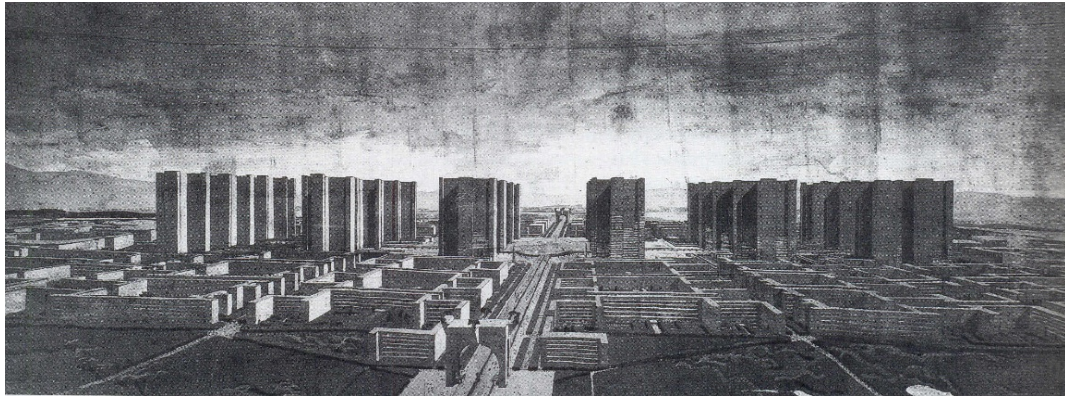
**Figure 2.** *The High-Rise of the Police Headquarter, Scene from Blade Runner 2049 (2017)*

*Directed by Denis Villeneuve. Warner Bros.*

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20. Staiger, “Future Noir,” 114.

21. McNamara, “Los Angeles 2019,” 123-24.



**Figure 3.** *Le Corbusier, Ville Contemporaine (after Moos, “Le Corbusier,” 176)*

The decayed, polluted and darkened urban web seen in the two *Blade Runner* films refers back to Richard Fleischer’s *Soylent Green* (1973)<sup>22</sup> and is revived similarly in Terry Gilliam’s *Brazil* (1985), and in Len Wiseman’s *Total Recall* (2012), in which the decayed housing of the masses are rendered in a Japanese metabolist modernism. On a regional level beyond the urban boundaries, the same socio-economic web is rendered in the relation between the Capitol city and its 13 districts in Gary Ross and Francis Lawrence’s *The Hunger Games* series, although the future noir imagery of decay is omitted.<sup>23</sup>

In Alfonso Cuarón’s future-noir(ish) *Children of Men* (2006) a decayed Britain is portrayed as the destination of the world’s refugees (Figures 4-6). In contrast to the previous examples, this film renders forceful horizontal segregation through guarded boundaries/thresholds: between the center of governmental power, filmed at London’s monumental Battersea Power Station (Figure 4), the inner city zone which recalls a gated community and which is accessed through a guarded Roman-style triumphal arch (Figure 5), another zone which seemingly consists of middle class housing and refugee housing in maintained or decayed Brutalist high-rises (Figure 6), and finally the distant Bexhill-on-Sea that has been turned into a prison-camp for refugees.<sup>24</sup>

22. Gold, “Darkened Skies,” 340.

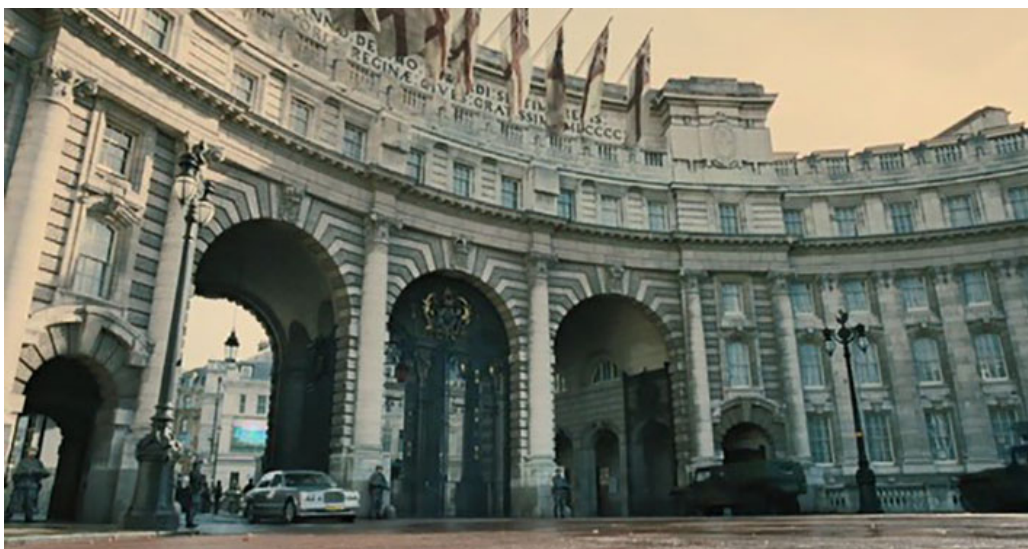
23. Kiessel and Stubbs, “The Present in the Future,” 104.

24. Kiessel and Stubbs, “The Present in the Future,” 103.



**Figure 4.** *Central Government Building (Battersea Power Station) in the Inner Zone of London, Scene from Children of Men (2006)*

*Directed by Alfonso Cuarón. Universal Pictures.*



**Figure 5.** *Roman-Style Triumphal Arch as Guarded Gateway to the Inner Zone of London, Scene from Children of Men (2006)*

*Directed by Alfonso Cuarón. Universal Pictures.*





**Figure 6.** *Outer Zone of London, Refugee Housing, Scene from Children of Men (2006)*

*Directed by Alfonso Cuarón. Universal Pictures.*

The forced horizontal spatialization of class is similarly visualized in Michael Winterbottom's *Code 46* (2003) in which the class-based society is segregated into outer and inner zones and access-controlled by check-points (Figures 7-9), CCTV and genetic surveillance. In Neil Blomkamp's *Elysium* (2013), which like *Children of Men* strongly thematizes once more the issue of migration, forced segregation is most apparent: an exploited labor force in decayed mega-cities on earth, the slums of which appear to be indebted to the visualization of the urban scenes in *Soylent Green*, is contrasted with a privileged population on a gated-community-like space habitat (Figures 10-11). This is the kind of "off-world" colony mentioned but not seen in the original *Blade Runner*.<sup>25</sup> Although *Code 46* and *Elysium* lack some of the typical future noir features, notably the dark/polluted or decayed imagery, both films play like other future noir dystopias with features of utopian designs such as "symmetry, order, [and] clarity".<sup>26</sup>

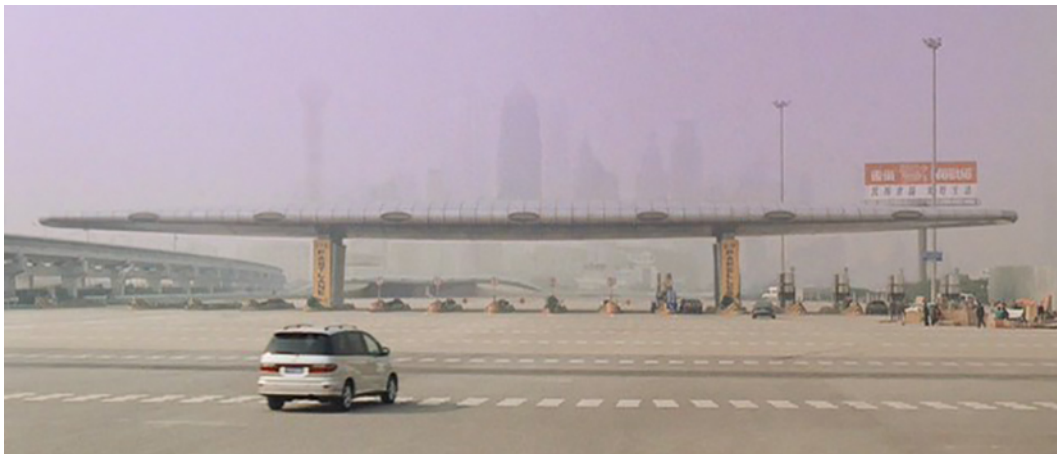
25. Kiessel and Stubbs, "The Present in the Future," 102.

26. Staiger, "Future Noir," 102.



**Figure 7.** *Periphery Vernacular, Scene from Code 46 (2003)*

*Directed by Michael Winterbottom. MGM*



**Figure 8.** *Access Control to Central City, Scene from Code 46 (2003)*

*Directed by Michael Winterbottom. MGM*

All of these films visualize an inside-outside dialectic, with more or less clearly defined boundaries and thresholds, and with coercive or forceful spatialization. This dialectic is also related to the construction of identity, as well as the perception of the self and the other, as perceived by the film audience from the perspective of the protagonist(s).<sup>27</sup> Additionally, the films emphasize asymmetric concentrations of power where, as in the Baroque palace of Versailles, the powerful occupy the deepest cells and where the degree of depth of access to the cells/spaces indicates the level of power of individuals or groups.<sup>28</sup>

27. See Dovey, *Framing Places*, 43 on identity and space.

28. Markus, *Buildings and Power*, 14-16, 23; Dovey, *Framing Places*, 20-23.





**Figure 9.** *High-Rises of Central City (Filmed in Shanghai), Scene from Code 46 (2003)*

*Directed by Michael Winterbottom. MGM.*



**Figure 10.** *A High-Rise Center of a Deteriorated Mega-City on Earth, Scene from Elysium (2013)*

*Directed by Neil Blomkamp. Sony Pictures.*

Ben Wheatley's future noir(ish) *High Rise* (2015) was shot mainly in monotonously colored and dimly lit interiors (Figures 12-13). Throughout the film, the coercive spatialization of class – based on the socio-economic status of the tenants, the depth of access and possibly also the construction of identity – is linked to a vertical organization of space.<sup>29</sup> Although Royal, the architect of the fictional Brutalist residential towers, “describes his design as being a ‘crucible for change’, the upper classes still occupy the top levels. The architect himself resides in the penthouse – just as Ernő Goldfinger took an apartment at the top of his Brutalist Balfron Tower – [...]”<sup>30</sup> Royal's wife openly points out that the “the high rise has already developed a strict hierarchy based on how close to the top a

29. Kiessel and Stubbs, “The Present in the Future,” 99.

30. Winston, “High Rise.” The quote ‘crucible for change’ recalls the alleged missionary attitude of the architect being the redeemer of societal problems, see Blake, *Form Follows Fiasco*, 149.

given resident lives”.<sup>31</sup> Ironically, the access-restricted deepest cell of the tower is a vernacular timber-frame building within the roof garden where Royal designs the vertical hierarchical spaces of a miniature societal pyramid. The vertical spatialization of class relations goes back ultimately to Fritz Lang’s *Metropolis* (1927), with its (forceful) division of the population between an underground city for laborers and an above-ground high-rise city for office employees and the upper classes.



**Figure 11.** *Space Habitat Elysium, Scene from Elysium (2013)*

*Directed by Neil Blomkamp. Sony Pictures.*



**Figure 12.** *Roof-Garden and Vernacular Cottage with Atelier of Architect Royal, Scene from High Rise (2015)*

*Directed by Ben Wheatley. StudioCanal.*

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31. [Robinson, “High Rise.”](#)



**Figure 13.** *The Residential High-Rises, Scene from High Rise (2015)*

Directed by Ben Wheatley. StudioCanal.

### ***Power to, Coercion, Height and Size***

The *power to* build and plan, together with the coercive forms of *power over*, namely domination/intimidation and manipulation/seduction, are visually expressed typically through the mise-en scène of urban space and architecture which emphasize height and size.

As Dovey puts it, “vertical symbolism permeates the language of power”, carrying “metaphors of force”, “male fertility”, “masculine violence” and being of “phallic character”.<sup>32</sup> Monumental verticality on screen is often linked to urban symmetries and axuality, for example in the cases of the cities Libria in Kurt Wimmer’s future noir *Equilibrium* (Figure 14) and the Capitol in *The Hunger Games* series (Figures 15-16). The verticality, height, size and the symmetries of their cityscapes clearly express their totalitarian authority’s *power to* build such architectural structures. The first director of *The Hunger Games* series, Gary Ross, explains the choice of the film’s set in this way: “If you look at any seat of power – from the Brandenburg Gate to Red Square – it’s open space punctuated by buildings of tremendous mass. That was our idea behind it. To Katniss [the protagonist], it all evokes a sense of might and power”.<sup>33</sup> If verticality, height and size are linked to a classicizing language, either abstract/stripped or more figurative, as in these two films, they also may express what Dovey calls the “history of empire”,<sup>34</sup> that is the permanence of power, order and authority based on the impression (or illusion?) of timelessness, history and authenticity.<sup>35</sup>

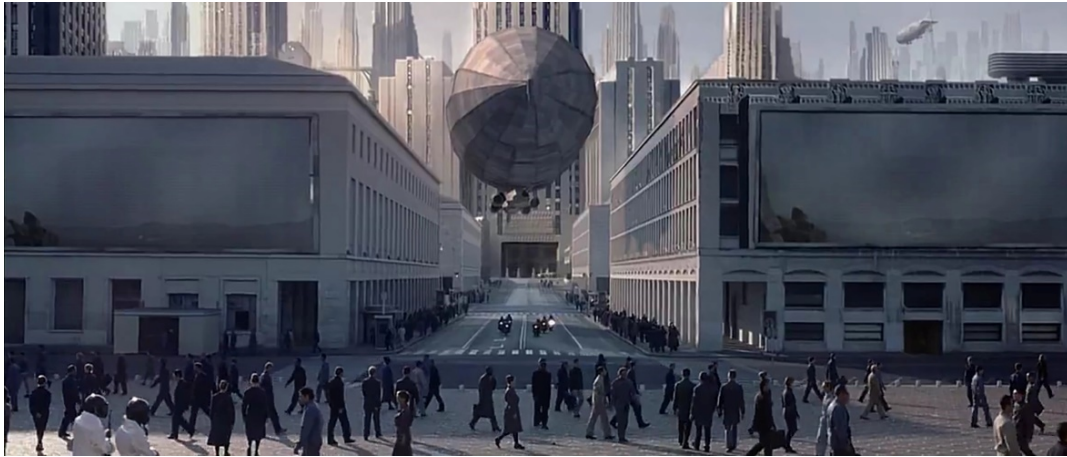
32. Dovey, *Framing Places*, 41, 109.

33. Ross in Lionsgate, *Hunger Games* Production notes.

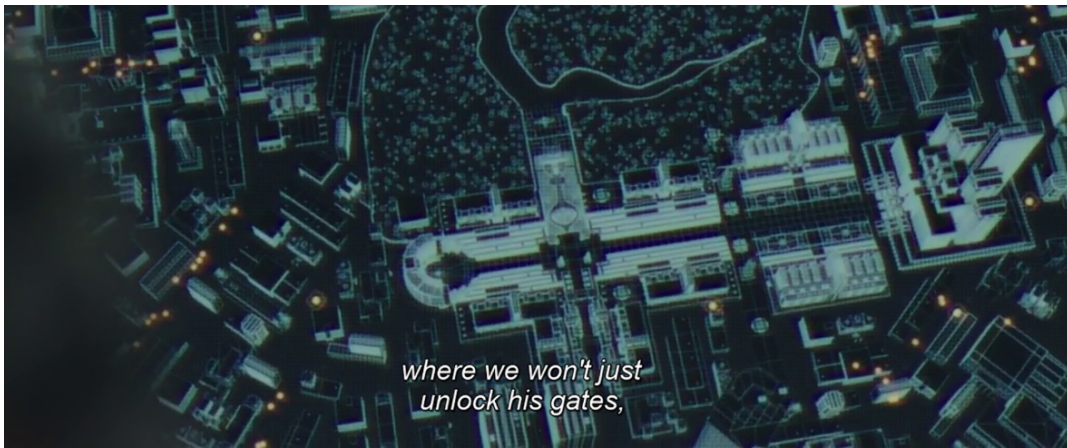
34. Dovey, *Framing Places*, 16, 68-70.

35. See also Ward, “Totalitarianism,” 36-37 on the link between monumentality, classicism, permanence – and totalitarianism.





**Figure 14.** *Postapocalyptic City Libria with the Equilibrium Building at the End of the Central Axis, Scene from Equilibrium (2002)*  
Directed by Kurt Wimmer. Miramax Films.



**Figure 15.** *Center of the Capitol with Presidential Palace 'North' of the Circus Promenade, Scene from The Hunger Games Series (2012-2015)*  
Directed by Gary Ross, Francis Lawrence. Lionsgate.

Monumentality and permanence may also be addressed through the visualization of architecture together with landscape. Stuart Cohen suggests that Hugh Ferriss' drawing "The Four Stages" presents skyscrapers as natural phenomena that resemble a mountain range in the background of the drawing while the mountain is interpreted as the metaphorical link between earth and heaven.<sup>36</sup> In the same way, the vertical cityscape of the Capitol in *The Hunger Games* series may be understood as an extension of the mountainous landscape that rises up behind the city (Figure 16).

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36. Cohen, "Skyscraper," 16 explains the Art Déco "setback"-skyscraper as Ferriss's interpretation of the mountain shape.



**Figure 16.** *Center of the Capitol with Circus Promenade (Mountain Range in the Background), Scene from The Hunger Games Series (2012-2015)*  
Directed by Gary Ross, Francis Lawrence. Lionsgate.

The cityscapes of Libria and the Capitol may, at the same time, mediate the related coercive forms of *power over*, namely domination/intimidation. As Heinrich Klotz suggests, “monumental architecture is the architecture of power and of the powerful. It surpasses proportionally the crowd of the common people. Therefore, it is also able to intimidate, to belittle, to suppress”.<sup>37</sup> Furthermore, his general, possibly debatable claim that “forms of symmetry and of axiality do not really fit to a democratic state system”<sup>38</sup> does support the interpretation of both *mis-en-scène*.

However, the boundaries between being dominating/intimidating and being manipulative/seductive are fluid: the size of these film architectures and spaces may trigger sensations of being belittled/threatened, as well as of awe. One may also consider that events held in the Roman-style circus in *The Hunger Games* series (Figures 15-16), such as “ritual displays of force, discipline and community”<sup>39</sup>, could create an overwhelming sensation of community and of belonging, a psychological trick which authoritarian regimes, past and present, have successfully applied. Naturally, this manipulation targets the film audience, which is meant to perceive the architectures and spaces and to read the visual rhetoric from the perspective of the fictional film characters. The feature of monumental vertical scale in film goes back as far as to the skyscraper city of *Metropolis* (1927).

Phillip Noyce’s *The Giver* (2014), a narrative about a postapocalyptic egalitarian society subdivided into factions, takes a different approach to size. The low-rise city extends horizontally on a vast scale while being strictly axial and

37. Klotz, *Moderne und Postmoderne*, 71; transl. from the German by M. Kiessel.

38. Klotz, *Moderne und Postmoderne*, 52; transl. from the German by M. Kiessel.

39. Dovey, *Framing Places*, 70.

symmetrical. It consists of structuralist clusters of white, standardized International Style-like residential buildings of the same height, mirrored along a central axis that contains public and communal buildings (Figure 17). The cityscape is a demonstration of *power to* concerning planning: through the display of order it suggests a powerful authority behind the utopian planning. The same is also true for the almost Baroque-style mix of landscape, water and architecture in Karyn Kusama's *Aeon Flux* (2005). As with vertical size, size in horizontal form is used to evoke feelings of awe in the viewer, that is to manipulate/seduce, and by so doing to make the audience perceive/ experience architecture and space through the perspective of the films' protagonists. In both films there is a strong and presumably intentional contrast between dystopian narrative and utopian mise-en-scène, which does not include the future noir elements of decay, pollution and darkness. Nevertheless, as with future noir dystopias, both films play with features of utopian designs like "symmetry, order, [and] clarity".<sup>40</sup>

However, the general low-rise horizontality of *The Giver* is not able to express *power over* in the sense of domination/intimidation. Horizontality in modern architecture has been associated with the "break of the modern movement with conventional representation of power as the concept of democracy of the 1920s brought about an egalitarian ideal also architecturally".<sup>41</sup> Urban axiality and symmetries without verticality may nevertheless emphasize places of power. Being strikingly similar to Lucio Costa's urban design of Brasilia with its central axis of public and governmental buildings<sup>42</sup>, the city layout seen in *The Giver* suggests that power and authority are concentrated on a linear central axis.



**Figure 17.** *The Postapocalyptic City, Scene from The Giver (2014)*

*Directed by Phillip Noyce. Weinstein Company.*

40. Staiger, "Future Noir," 102.

41. Klotz, *Moderne und Postmoderne*, 159, transl. from the German by M. Kiessel.

42. Frampton, *Modern Architecture*, 256-57 fig. 257; Kostof, *The City Shaped*, 178-79 fig. 178.



Individual buildings that are part of a vertical symbolism are usually the headquarters of governments or their institutions (Figures 2, 4, 14), or of powerful corporations that have partially replaced governmental power, as with the Tyrell pyramid in the original *Blade Runner*. In Neil Burger and Robert Schwentke's *Divergent* series, a post-apocalyptic society is subdivided into factions. The headquarters of the "Erudite" faction of scientists (Figure 18) is a tall white skyscraper with a tripartite façade design, a modernized version of an Art Deco skyscraper based on the design of Richard Meier's 1980s High Museum of Art in Atlanta.<sup>43</sup> It is surely not coincidental that the structure is colored white, as are costumes of the scientist faction – a color which is commonly associated with modernist architecture and its societal, spatial, technological and *scientific* ideology.<sup>44</sup> The greyish, Brutalist skyscrapers in *High Rise* are residential (Figure 13), but all of these individual high rises express the *power to* build such structures and places of power that literally stand out. Additionally, some may be perceived being more dominating and intimidating, whereas others may appear to be more manipulating and/or seducing.

The size of interiors also mediates power effectively and is visualized in the rendering of the foyer of the "Erudite" skyscraper in the *Divergent* series. The *mise-en-scène* makes use of the particular "symbolic importance of the foyer" through its "ubiquity", "spatial grandeur", and surface spectacle as reflection of power<sup>45</sup>, meaning that it is manipulative-seductive. The scene recalls the classicizing Art Deco foyer of the Ministry of Information in *Brazil*, although this space expresses domination/ intimidation and the "history of empire" and highlights a specific power-related feature of foyers: the power to grant or refuse access, meaning the aspect of the depth of access to the deeper cells.<sup>46</sup> Another interior that plays on size and expresses power of a dominating-intimidating kind is the council hall in *Aeon Flux*, filmed at Axel Schultes and Charlotte Frank's Brutalist Crematorium Baumschulenweg in Berlin<sup>47</sup>, a space which mediates once more a "history of empire" through the classical quality of its abstract monumental columns.

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43. See for the museum Jodidio, *Richard Meier*, 47-49.

44. Klotz, *Moderne und Postmoderne*, 19, 25, 39; Herrel, "Farbe," 99, 112-13. Herrel demonstrates that colour was originally a common element in the modern architecture of the 1920s.

45. Dovey, *Framing Places*, 114-15.

46. Markus, *Buildings and Power*, 14-16, 23; Dovey, *Framing Places*, 20-23; Kiessel and Stubbs, "The Present in the Future," 98-99, 105-06.

47. Schultes and Frank, "Crematorium."



**Figure 18.** *Headquarter of the Erudite Faction, Scene from the Divergent Series (2014-2016)*

*Directed by Neil Burger, Robert Schwentke. Lionsgate.*

### ***Manipulation, Disciplined Bodies and the Foucauldian Spatialization of Societal Relations***

Much like the spatialization of class relations discussed previously, the coercive-manipulative spatialization of societal relations according to rank and function discussed in this section are expressed typically through the *mise-en-scène* of urban and architectural space, which visualizes spatial partitioning. However, it is not so much the affiliation to *class* in a capitalist socio-economic sense which motivates the spatial partitioning, but rather the rank and/or functional position of groups within a society, in a Foucauldian sense. At the same time, the latter feature cannot always be separated from the *class* aspect.<sup>48</sup>

The rank and functional purposes of societal groups are thematized in the *Divergent* series, set in a postapocalyptic Chicago, where a theoretically egalitarian society is divided into five factions to which citizens elect to join as teenagers. The factions are only theoretically of equal rank and are spatially separated from each other in terms of places of accommodation and work, forming sub-communities with their own distinct identities within the society. Examples of accommodation spaces for three factions are rendered more in detail. Social division, which is one aspect of the dystopian narrative, is also visually emphasized in the procedure through which teenagers select their faction. The procedure begins with the visualization of five separate entrances to the society's central community building known as "The Hub", shot at the Willis tower

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48. See on Foucault Dovey, *Framing Places*, 19-20, Chaput, "Regimes of truth," 97, and especially Hofmann, "Macht und Raum," 6.

(formerly Sears tower) in Chicago, where the teenagers line-up (Figure 19).<sup>49</sup> The coercive manipulation lies in the fact that having to select a faction does not amount to real freedom of choice. This specific spatialization therefore evokes the functional-hierarchical organization of a society portrayed in *THX 1138* (1971) rather than the (forceful) vertical division of underground city for laborers and above-ground high-rise city for office employees and the upper classes seen in *Metropolis*.<sup>50</sup>

The *Divergent* series' orderly lay-out of grey, standardized cubic dwellings in an International Style-like housing settlement (Figure 20) may be regarded as an expression of the egalitarian character and identity of one of the five societal factions, meaningfully named "Abnegation" and nicknamed "the Stiffs". But this visual rhetoric also suggests that the displayed repetitive standardized architecture coerces/disciplines the minds and bodies of the factions' members in a Foucauldian sense into the same way of living and into the same patterns of behavior. In other words, like every house, the standardized dwellings of the Abnegation faction convey and construct the social identity of its inhabitants.<sup>51</sup> This notion is supported by the standardized dresscode as part of the faction's identity.



**Figure 19.** *Teenagers Choosing Their Future Faction, Scene from the Divergent Series (2014-2016)*

*Directed by Neil Burger, Robert Schwentke. Lionsgate.*

49. "Sears Tower," Divergent Fandom, accessed November 22, 2022, [https://divergent.fandom.com/wiki/Sears\\_Tower\\_\(Willis\\_Tower\)](https://divergent.fandom.com/wiki/Sears_Tower_(Willis_Tower)).

50. On *THX 1138* see Kiessel and Stubbs, "The Present in the Future," 100.

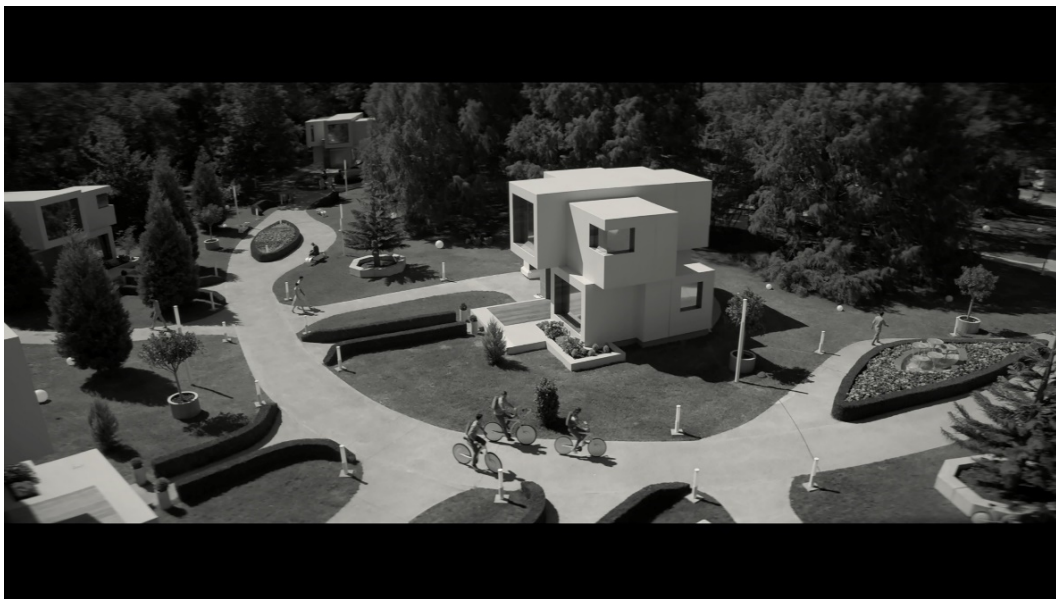
51. Dovey, *Framing Places*, 140 on the house and identity.



**Figure 20.** *Standardized Modernist Residences, Abnegation Faction, Scene from the Divergent Series (2014-2016)*

*Directed by Neil Burger, Robert Schwentke. Lionsgate.*

Similarly, the orderly planning of urban clusters in *The Giver*, and their white, standardized cubic dwellings (Figures 17, 21), suggest that inhabitants are manipulated/ disciplined into the same lifestyle and behavioural patterns while reflecting the egalitarian identity of the portrayed society. But the aspect of disciplining is taken a step further in *The Giver* as control of the minds and bodies is also achieved through the mandatory use of medication, a narrative feature indebted to *THX 1138*, and through thorough surveillance techniques.<sup>52</sup>



**Figure 21.** *Standardized Modernist Residences, Scene from The Giver (2014)*

*Directed by Phillip Noyce. Weinstein Company.*

52. See once again Dovey, *Framing Places*, 19-20, 23 on the Foucauldian disciplinary bio-power, surveillance, and partitioned space.

Disciplining through architecture and space was not only a theme for Jeremy Bentham in relation to his design for the panopticon, the ideal prison,<sup>53</sup> and for other disciplinary institutions but also for Le Corbusier in relation to the design of housing settlements. According to him, a “well-mapped out scheme, constructed on a mass-production basis, can give a feeling of calm, order and neatness, and *inevitably imposes discipline on the inhabitants*.”<sup>54</sup> Scholars have also suggested that the use of right angles in Le Corbusier’s earlier work of the 1920s/30s may be interpreted as a metaphor for the order which he sought to achieve.<sup>55</sup>

What shines through here – in reality and on screen – is the supposed ambition of modern architects and planners to coerce people to change for the better, to build a better society through (modern) architecture – an ambition that is the essence of all utopian architectural and urban concepts.<sup>56</sup> Due to its rather austere character, modernist architecture in form of a monochrome white or grey International Style or Brutalism may serve the expression of the coercive-disciplinary characteristics of architecture better than any other style. This is perhaps what the philosopher Ernst Bloch had in mind when he claimed that functionalist architecture was a product of the “ice-cold world of robots”.<sup>57</sup> And the boundary between order and discipline on one side and totalitarianism on the other is thin, as Tony Ward points out, for example, when he states that the “totalitarianism of ‘Democratic [i.e. modern] Architecture’ is there”.<sup>58</sup>

In the *Divergent* series and *The Giver*, modernist architecture – through its austerity, standardization and lack of ornament – emphasizes the “sameness” of individuals within the depicted societies. The term “sameness” is introduced by the Giver (played by Jeff Bridges), one of the main characters in the film, and is initially meant in a utopian sense, as a feature in an egalitarian, better society. However, as “sameness” is suggested to be equivalent to a lack of individuality, this feature later takes a dystopian turn.<sup>59</sup> Standardization in modern architecture, clothing and headgear featured in science fiction dystopias about egalitarianism-gone-wrong can be traced back to the underground workers’ city of *Metropolis* in 1927 and, after a long hiatus, to *THX 1138* (1971). Of the utopian science fiction texts that use this feature to truly stress the utopian character of an egalitarian society, the earliest example is the underground block-of-flats in William Cameron Menzies’ *Things to Come* (1936).

The modernist idiom is also used in interiors to emphasize “sameness” and “disciplined bodies” in *Divergent*. The lack of privacy for female and male novices of the Dauntless faction in bare modernist-Brutalist sleeping and washing spaces visualizes the intended disciplining of young people into a specific group

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53. Markus, *Buildings and Power*, 123-27.

54. Hofmann 2003, “Macht und Raum,” 10, referring to Le Corbusier, *Towards a New Architecture*, 224-25.

55. Hofmann, “Macht und Raum,” 9-10. See also Blake, *Form Follows Fiasco*, 123-25 on order and control related to housing settlements.

56. See on utopia and architecture for example Markus and Cameron, *Words*, 77-78.

57. Krift, *Architectural Theory*, 440.

58. Ward, “Totalitarianism,” 46-47. See also Fortin, *Architecture*, 127 on the authoritarian character of brutalist architecture.

59. Director Phillip Noyce on “sameness”: Frei, “The Giver.”



identity which transgresses conventional gender boundaries (Figure 22).<sup>60</sup> The small flat occupied by Maria in a run-down block-of-flats in *Code 46* is spatially compartmentalized into functional zones that are part of an open-plan interior, separated by (sliding) glass panels. This compartmentalization, together with the visualization of the squares and rectangles of the flat's ceramic and glass tiling, create the impression of being enclosed or imprisoned in daily routines and by life in general. The square and rectangle motifs seen in Sam's flat in *Brazil* (1985) and of THX 1138's flat in *THX 1138* may be interpreted in the same way.<sup>61</sup>

In *Equilibrium*, as with in *The Giver* and *THX1138*, the mandatory self-disciplining suppression of human emotions by medication, enforced by surveillance, is reflected through orderly, austere, white or greyish colored modernist private interiors, apart from the standardization of cloths and their color, and by an austere stripped classicism of public exteriors (Figure 14). *Equilibrium* was shot in the Esposizione Universale Roma (EUR), built in the 1930s during the Fascist regime under Mussolini.<sup>62</sup> Taken in its entirety, this reflects the order of a totalitarian system in which people are reduced to a powerless and anonymous mass.



**Figure 22.** *Novices's Accommodation, Dauntless-Faction, Scene from the Divergent Series (2014-2016)*

*Directed by Neil Burger, Robert Schwentke. Lionsgate.*

### ***Power Over and Architectural Style***

As already argued above, architectural style contributes to the mediation of meaning(s) of power on screen. One of the most consistent features in the rendering of architecture in science fiction dystopias is the recurring juxtaposition of both classicism and modernism, which highlights power relations and the previously discussed spatial partitioning of class. Repeatedly (decayed) modern

60. Kiessel and Stubbs, "The Present in the Future," 101.

61. Kiessel and Stubbs, "The Present in the Future," 101. See on this motif also Wheeler, "Brazil," 98, and Telotte, "THX 1138," 48.

62. Ingram, "Berlin," 369. On the EUR see also Stern, *Moderner Klassizismus*, 46; Frampton, *Modern Architecture*, 207.



architecture, in the form of a monochrome greyish International Style or Brutalism, is associated with the politically and economically powerless and the possibly oppressed, whereas classicism reflects the powerful and wealthy.<sup>63</sup> Once again, this form of visualization can be traced back as far as *Metropolis*, where the labourers' underground city is rendered in a bare, austere modernism and the rich and powerful are shown in classical and classicizing Art Déco environments. This contrast can also be observed in *Equilibrium*, *Children of Men* (Figures 4-6), *Total Recall*, *Elysium* (Figures 10-11, 23), and *The Hunger Games* series. More specifically, classicism in these texts may express domination/intimidation, as in the previously discussed mise-en-scène of architectures, spaces and places of (governmental) power, such as the Baroque-style "father's" office (Figure 24). This colour-loaded space is the deepest, most strictly access-restricted cell within *Equilibrium's* city of Libria from which the "father" exercises absolute power, recalling the French kings in Versailles during the era of Absolutism of the 17<sup>th</sup> to 18<sup>th</sup> centuries.<sup>64</sup> A similarly dominating/intimidating classicism also features in the triumphal arch in *Children of Men* (Figure 5) and the "reaping" stages or "halls of justice" in *The Hunger Games* series, the architectural setting for the forceful selection of the participants for the Hunger Games (Figure 25).<sup>65</sup>



**Figure 23.** *Classicist Mansion on Elite Space-Habitat, Scene from Elysium (2013)*  
Directed by Neil Blomkamp. Sony Pictures.

In contrast to modernist styles, classicism is also able to convey the "history of empire", that is the permanence of power, order and authority emerging from the impression (or illusion?) of timelessness, history and authenticity, regardless of whether this power is perceived positively or negatively.<sup>66</sup> It is suitable because the "classical is an architecture of regularity, symmetry, harmony and hierarchy."

63. Kiessel and Stubbs, "The Present in the Future," 105.

64. Kiessel and Stubbs, "The Present in the Future," 101, 106.

65. Kiessel and Stubbs, "The Present in the Future," 105-06.

66. See on the aspect of "history of empire" also Stubbs and Kiessel, "Futures past and present".

It is therefore possible to “read such architecture as a metaphor for similar qualities in the political order.” The sense of permanence so often associated with classicism is something that modern architecture is unable to provide.<sup>67</sup> The fact that classicism plays a prominent role in (US) science fiction dystopias may be linked to deep-seated cultural values and it being the enduring public language of western institutions.<sup>68</sup> It is the “art of authority and authoritative art”, an “assertion of authority, of power under whatever form”.<sup>69</sup> And specifically in relation to the US of the late 18<sup>th</sup> and 19<sup>th</sup> centuries, its meaning is related to the democratic and republican forms of government of ancient Greece and Rome.<sup>70</sup>



**Figure 24.** *Deepest Cell (“Father’s” Office), Scene from Equilibrium (2002)*  
Directed by Kurt Wimmer. Miramax Films.

The mediation of the permanence of (governmental) authority and of the “history of empire” through classicism in science fiction dystopias can be observed in the mise-en-scène of the Roman-style triumphal arch gateway in *Children of Men* (Figure 5), the presidential palace filmed at the 1920s Neo-Baroque Swan house in Atlanta in *The Hunger Games* series<sup>71</sup>, and the “reaping” stages from the same films. The building material of the latter, ashlar stone, contributes to the sense of permanence (Figures 25-26).<sup>72</sup> Despite the overall modern appearance of the city seen in *The Giver*, based on its visualization of housing areas, permanence can also be observed in a building with a classical temple façade which is situated within the city’s central axis and which is obviously the seat of government and authority. The motif of the classical Greek or Roman temple is one of the most frequent in the world of architecture, especially in the US, and even today the motif may signify “reliability”, a “secure

67. Dovey, *Framing Places*, 68-70.

68. Stern, “What the classical can do,” 31.

69. Zerner, “Classicism,” 36.

70. Greenberg, “Architecture and Democracy,” 71.

71. Lionsgate, *Catching Fire* Production Notes.

72. See on totalitarianism, permanence (and stone): Ward, “Totalitarianism,” 36-37; Dovey, *Framing Places*, 112.

future”<sup>73</sup>, trustworthiness, authenticity, and justice. Therefore, it is probably the strongest motif to convey permanence.

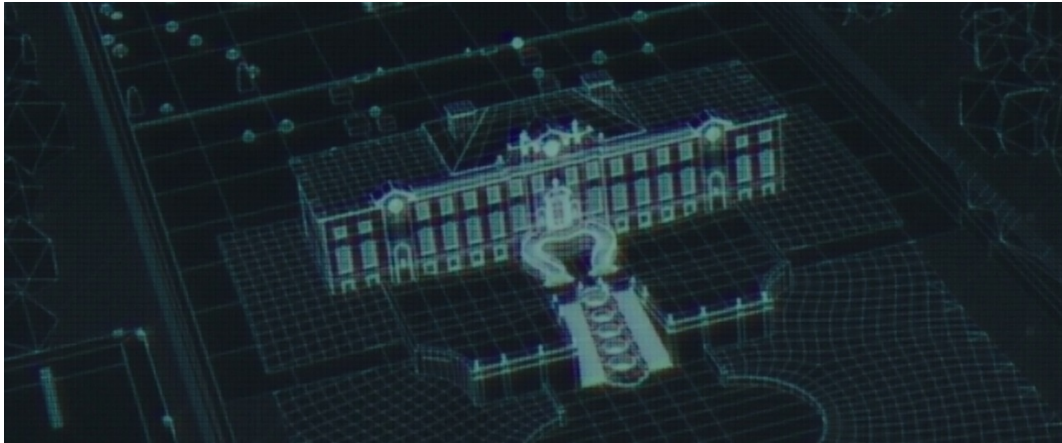


**Figure 25.** *Reaping Tribune, Scene from The Hunger Games Series (2012-2015)*  
Directed by Gary Ross, Francis Lawrence. Lionsgate.

In George Lucas’s *Attack of the Clones* (2002) from the Star Wars prequel trilogy, Theed, the capital of the peaceful and democratic people of Naboo, is rendered by architectural pastiche, mixing the Baroque (shot partially in the palace of Caserta, close to Naples) with the historicist 19<sup>th</sup>-century Haussmann-Paris through scenes that evoke the Champs Elysée boulevard with its Arc de Triomphe, and with domed buildings that recall Byzantine-type church architecture. However, the use of classicism and historicism in this film are unusual among contemporary science fiction dystopias due to their mediation of a democratic and hence positively connoted power/authority. They are contrasted with the high-tech modernism of the mega-cityscape of Coruscant, representing the negatively connoted authority of the Republic’s power-center which is in the process of turning into a totalitarian Empire. The invasion of Theed by the Republic’s android army and the army’s triumphal march on Theed’s representative monumental axis evoke the triumphal march of Nazi German troops in Paris after the capitulation of France in 1940.

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73. Klotz, *Moderne und Postmoderne*, 49.



**Figure 26.** *Presidential Palace (Swan house, 1920s, Atlanta), Scene from The Hunger Games Series (2012-2015)*

*Directed by Gary Ross, Francis Lawrence. Lionsgate.*

Beyond these aspects of class and/or governmental power, classicism may also express seduction in several narratives, especially in scenes that emphasize inequalities of status and wealth, for example in *Elysium* (Figures 10-11, 23), in *Total Recall*, through the contrast of Quaid's modernist-metabolist and Hauser's classicist accommodations, and in *The Hunger Games* series, through the classicizing houses occupied by the victors of the gladiatorial games.<sup>74</sup> The latter, with their symmetrical façade, central entrance and interior classicist detailing, are trophies of granted status and wealth, possible seductive attractions for the lower classes of the exploited districts, living in standardized dwellings of a vernacular character as in District 12, filmed at an abandoned 1920s mill town in Henry River, North Carolina.<sup>75</sup>

The rare case of restriction of knowledge as a means to exercise power over<sup>76</sup> is rendered in *The Giver* where the house of the Giver, the keeper of all forbidden pre-catastrophe knowledge, is a classicizing temple-like building (Figure 27). The structure is made off-limits to common inhabitants not through forceful exclusion but through coercive manipulation: orally transmitted rules and a location at the distant boundary of the city. The classical language emphasizes the authority and power that emerges from holding knowledge and the power of restricting knowledge, and it is linked to the expression of the "history of empire" at the same time. This feature in science fiction dystopias goes back at least to Norman Jewison's *Rollerball* (1975), for which the 1930s League of Nations building in Geneva<sup>77</sup>, designed in a stripped classicism, was chosen – unsurprisingly – to serve as the location of forcefully shielded-off and forbidden/hidden knowledge. Earlier science fiction visualizations of hidden power/knowledge regimes are the supercomputers in Jean-Luc Godard's *Alphaville* (1965) and in Michael

74. Kiessel and Stubbs, "The Present in the Future," 106.

75. On the mill town: Ross in Lionsgate, *Hunger Games* Production Notes.

76. See Markus and Cameron, *Words*, 61 on Foucauldian regimes of power/knowledge and authoritative knowledge.

77. Geneve International 2022.



Anderson's *Logan's Run* (1976) albeit not rendered by means of a classical vocabulary.



**Figure 27.** *House of the Giver, Keeper of Memories, Scene from The Giver (2014)*  
Directed by Phillip Noyce. Weinstein Company.

Many science fiction films also emphasize the motif of escape from urban authoritarian regimes to a rural sanctuary, with the countryside standing for an “existence rooted in the virtues of family and community life”.<sup>78</sup> The science fiction city as place of oppressive dystopia is therefore often juxtaposed with a romanticised countryside,<sup>79</sup> as in François Truffaut's *Fahrenheit 451* (1966) and Michael Anderson's *Logan's Run* (1976). Accordingly, the vernacular architecture of the countryside often expresses freedom from or opposition to totalitarianism, as in *Fahrenheit 451* where knowledge, forbidden by the totalitarian government, is hidden and protected from its reach by the resistance in a vernacular residence and, as the final scenes show, in the freedom of anti-urban nature. In effect this narrative contains a reversal of the Foucauldian power/knowledge regime because the power of knowledge lies with the (supposedly) powerless. Steven Spielberg's *Minority Report* (2002) expresses on the one hand the existence of “home”, family and positive emotions by “traditional notions of domesticity”<sup>80</sup> through an idyllic lake-side vernacular and the presence of a female character.<sup>81</sup> But while the vernacular log-house (Figure 28) in the final scenes of the film conveys similar “traditional notions of domesticity”, it also represents freedom from forceful imprisonment and abusive exploitation, as previously experienced by the now liberated three seers. Similarly, the symbolism of the vernacular-in-nature in *The Giver* is encountered once again in the final scenes during the escape from the modernist city and its totalitarianism, expressing the absence of force and

78. Gold, “Darkened Skies,” 341. See also Kellner, Leibowitz and Ryan, “Blade Runner”, and Dovey, *Framing Places*, 150 who states that a nostalgic “pseudo-vernacular” is linked to the myth of harmonious village life.

79. Gold, “Darkened Skies,” 341.

80. Fortin, *Architecture*, 151.

81. See Fortin, *Architecture*, 145 on the contrasting main protagonist's modern urban condominium.



manipulation and instead the presence of a home, which hosts a real family and where genuine emotions can be found.



**Figure 28.** *Vernacular Countryside Refuge, Scene from Minority Report (2002)*  
Directed by Steven Spielberg. 20<sup>th</sup> Century Fox.

However, the vernacular also may occur instead of a decayed modernism, as in the poor Shangrila housing settlement in *Brazil*, namely in the mise-en-scène of the peripheries mediating the lack of power as in *Code 46*'s vernacular of a rather Arabic-oriental appearance (Figure 7), and in *The Hunger Games* series' standardized houses of vernacular character in District 12. In the case of *High Rise*, the meaning of the idyllic vernacular cottage on the rooftop, the atelier of architect Royal and deepest cell of the residential tower, is possibly ironic (Figure 12). It is as if the mastermind of the hierarchical Brutalist spaces wished to escape from their totalitarian reality, albeit only from time to time. If it was not intended to be ironic, however, the traditional meaning of the vernacular in science fiction film, as outlined before, would have been reversed in *High Rise*, as if to express that the vernacular style is now occupied by the powerful and wealthy and has ceased to function as a symbol of resistance to, or refuge from, totalitarianism and oppression.

## Conclusion

In the western, 21<sup>st</sup>-century urban science fiction films we have analyzed, dystopian narratives of totalitarianism, class segregation, egalitarianism, and surveillance are given visual form. The films contain multiple cases of mediation of power through urban, architectural and spatial form.

Recurring expressions of *power to* and of forms of *power over* have been observed, such as force, coercion, domination/intimidation, manipulation/seduction, being frequently coupled with surveillance. These forms of power are mediated through recurring specific urban, architectural and spatial settings, such as the dialectic of center-periphery/inside-outside, vertical and horizontal size, partitioning of space, depth of spatial access, urban, architectural and spatial order

achieved by symmetry, axuality and standardization, and finally through classicist, modernist and vernacular architecture. The following combinations of specific forms of power and specific urban, architectural and spatial visualizations recur on screen:

Power relations between classes that are linked to the mediation of force and coercion are visualized repeatedly through architectural and urban spatialization, namely by an inside-outside/center-periphery dialectic, coupled with scenes of depth of spatial access and of thresholds/boundaries. Such power relations are frequently highlighted by juxtaposing classicist and (decayed) modernist International-Style or Brutalist architecture, which represent the powerful/wealthy and the powerless/poor, respectively. Coercive-manipulating power in a Foucauldian sense is expressed through spatial partitioning on the basis of rank and of the functional role of individuals and groups within a society or community, although this cannot always be separated from the aspect of *class*.

Dominating/intimidating or manipulating/seducing urban and/or architectural size expresses, not surprisingly, concentrated administrative, political and/or economic power. Size is a code which is the most likely among the investigated urban, architectural and spatial features to resonate cross-culturally. It is frequently displayed in combination with an either more figurative or more abstract classicism. Both mediate an imagery of permanence; size and classicism therefore express the “history of empire” (Dovey), that is the permanence of power, order and authority based on the impression (or illusion?) of timelessness, history and authenticity. In rare cases classicism is also used to express authoritative knowledge, meaning knowledge as source and means of *power over*, and to express restricted access to knowledge.

Order, when conveyed through standardized monochrome International-Style or Brutalist architecture and space, often in conjunction with urban symmetry and axuality, is connected with the Foucauldian manipulation and disciplining of minds and bodies. It is linked to narratives of “sameness”, a sense of egalitarianism-gone-wrong. A romanticized countryside vernacular, especially when being juxtaposed with the modern (mega-) city, expresses the absence of *power over*, in other words the freedom opposite to totalitarianism. In rarer cases, however, the vernacular mediates the lack of power of the non-privileged.

The repeated use of specific urban, architectural and spatial visualizations, and the fact that they can be traced back to the beginning of the postmodern era, and in part even to film production in the 1920s, may be proof of a widespread conscious or subconscious reading of these visualizations and understanding of their meaning(s) with regards to power – meanings which therefore may be deeply rooted in the culture of western societies. In contrast, it is debatable whether certain visualizations, for example of modernist architecture, are read by audiences of non-western cultures in the same way. Based on the results of this paper, this question has got the potential to evolve into a new study.

The ongoing use of urban, architectural and spatial features from earlier dystopian science fiction films, such as the modernist spaces in *THX 1138* from the early postmodern age, poses also a certain danger. The fact that the modernist vocabulary, for example, is so often used to express either a totalitarian disciplining

of people's minds and bodies or the forceful or coercive spatialization of class may lead to or may have already led to stereotypes on screen, namely that modernism is usually negatively connoted. This is to say that the reflection of specific meanings through recurring specific urban, architectural and spatial settings may risk the artificial augmentation and self-replication of these very meanings. This issue may also be worth investigating further.

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