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The Late Capitalist Skyscraper
Theoretically Considered

A dissertation presented
by Mariano Gomez Luque

to
the Harvard University Graduate School of Design

in partial fulfillment of the requirements
for the degree of
Doctor of Design

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Abstract

This dissertation outlines a portrait of the skyscraper within the context of the contemporary urban world, undertaking an analysis that spans the period contained between 1973 and the present. Through a critique of key theoretical texts from the late-twentieth and early twenty-first centuries, the project traces the building's manifold relations with logics of financial abstraction and urbanization, as well as its complex symbolic and spatial roles amid a period characterized by global crises and the deployment of capital at a planetary scale. Assembled as a multilayered narrative in which architectural theory intersects with a constellation of critical discourses and a mosaic of visual materials, *The Late Capitalist Skyscraper* reads the ongoing metamorphoses of the type as intrinsically connected to emerging modalities of capital accumulation and its associated socio-spatial implications across a wide range of vertical urban landscapes and territorial formations.

Keywords: skyscraper; vertical architecture; capital accumulation; late capitalism; financial abstraction; urbanization; planetary

THE LATE CAPITALIST SKYSCRAPER

Theoretically Considered

Mariano Gomez Luque
Doctor of Design Dissertation
Harvard University Graduate School of Design
Advisors: **Neil Brenner, Charles Waldheim, Douglas Spencer**

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For Norma & Rufo

Beyond the Long Twentieth Century

Prologue

This succinct book explores the following hypothesis: that the turn towards the late twentieth century marks the beginning of a moment of transformation in the historical trajectory of the skyscraper—a transitional phase whose main dimensions are intrinsically related to the intensified speculative and spatial dynamics of capital after 1973. As a starting point, this conjecture can be further described by embedding the skyscraper within the larger spatiotemporal unfolding of capital during what Giovanni Arrighi calls the 'long twentieth century.' It is indeed at the onset of this long century when the type emerged, and towards its transition to the (long?) twenty-first one when the skyscraper becomes a global architectural form, whose meaning and roles within the contemporary world-economy acquire hitherto unprecedented levels of symbolic and spatial complexity.

Capital, Arrighi argues, is a historically specific yet abstract logic that evolves through spatiotemporal cycles, reinventing itself and growing increasingly sophisticated and resilient —if also more unstable— as it moves through both space and time.[1] As it unfolds, this logic or "virus"[2] expands itself geographically, moving from one place to the other, concentrating in specific locations which then become epicenters of power at a global scale. The inner mechanics that regulate this movement proceed, schematically, as follows: after all productive outlets and markets have been saturated or exhausted —which Arrighi calls 'periods of material expansion'— and the rate of return begins to drop, then capital starts, as it were, "profiting from itself and speculating on itself, feeding on itself, by way of the stock market and its allied institutions,"[3] a moment which in Arrighi's terms entails the rise of a 'period of financial expansion'.[4] This dialectic of material and financial expansions, which constitutes the internal stages through which capital reproduces itself, is modeled on Marx's famous formula of capital, M-C-M', which expresses how money is transmuted into capital, which in turn creates more money, in an ever-expanding logic of accumulation.[5] M-C-M' is, then, reconceptualized by Arrighi as a "template for an entire historical process" and not simply as a formula that captures accumulation per se, as Marx would have it.[6] Each of these 'systemic cycles of accumulation,' through which the historical movement of capital proceeds, lasts longer than a century yet progressively contracts its length as a new cycle supersedes it.[7] Within this general conceptualization, what Arrighi terms 'long twentieth century' —the latest of these cycles after the Genoese, the Dutch, and the British— starts with the rise of the United States as a hegemonic power in the late nineteenth century, continues with its material expansion during the 1950s and 1960s, and enters into a terminal crisis, or its 'autumn,'[8] during the critical years of the early 1970s; more precisely, circa 1973.[9]

***

In relation to the study of an intrinsically capitalist architectural form such as the skyscraper, what Arrighi's pathbreaking theory of capital's historical trajectory offers is the very possibility of rethinking the formal evolution of the building when seen through the lens of the 'long twentieth century;' that is, when conceptualized as embedded within capital's M-C-M' historical template, vis-à-vis its 'spring' and 'autumn' as well as its inherently associated moments of 'expansions.' For it is certainly not a coincidence that the 'birth' of this architectural

type at the end of the nineteenth century takes place at the onset of the US hegemonic cycle of accumulation —itself initiated by a period of financial expansion—, nor that its subsequent stages of radical upscaling and spatial transformation overlap with those recurrent moments of financial crises and structural reorganization of the capitalist system during the course of the twentieth century. This overall visualization of the skyscraper's historical trajectory throughout the latest systemic cycle of capital —that is, of its embeddedness not just into its immediately political and more generally, its broader social context(s), but properly into the terrain of Historical unfolding itself; i.e., the consideration of its inscription within a much vaster logic or mode of production— is mobilized here not for the purpose of undertaking a general periodization as such, but rather to bring to light the correlation between the transformations of the building (of its associated architectural and spatial logics as well as of the prevailing theoretical narratives constructed to reify its otherwise unstable and thus contestable meanings) and the fast-changing dynamics of capital towards the end of its latest 'expansive' moment.[10] What this seems to imply, in turn, is that the architectural form we know as skyscraper might indeed be historically specific to the long twentieth century as such, and that the transition to a new long century —and consequently to a new systemic cycle (and logic) of accumulation— might well entail the metamorphosis of the building into a different species of vertical architecture altogether—a proposition to which I return at the very end of this study (see below, Appendix). In other words, the suggestion here will be that it is precisely during this last instance of systemic mutation that the skyscraper —just as capital— "chameleon-like… changes its color [and] snake-like… sheds its skin."[11] Accordingly, the following investigation will be circumscribed to this moment of transition between the end of a long century and the beginning of another.

***

While Arrighi's large-scale conceptual framework defines the general skeleton of the project, a more "focused lens" is required in order to undertake a more fine-grained analysis of the timeframe under consideration. Accordingly, and in more specific terms, this book discusses the nature and trajectory of the skyscraper-form within the cultural and spatial milieu of 'late capitalism.'[12] In so doing, it introduces the following correlation: that, just as the time circa the critical year of 1973 entails a mutation of the capitalist form (or, according to Jame-

son, marks the 'symbolic' passage towards 'late capitalism'), it also signals a *threshold* in the larger evolution of the skyscraper as well. This turning point can indeed be visualized by positioning the building within a diagrammatic timeline, where it is possible to see the coincidence between a series of significant (geo)political-economic events and the rise of the World Trade Center (WTC) in the New York skyline—which will be considered here as the first instantiation or prototype of a *global* skyscraper, one qualitatively different from its pre-1973, American predecessor. At the level of the architectural object as such, the WTC introduced a significant change in scale, as manifested in its significant increase in (size and) height, which was to be systematically augmented in subsequent decades.[13] [See **Figures A and B**] At a geographical level, the late twentieth century marks a period of expansion of the type from its original North American locus towards the Eastern World, a development intrinsically connected with the rise of Asian countries —China, most notably— as major players in the world economy.[14] These two processes, which took place among the unfolding of capitalist globalization and its associated logics of ubiquitous financialization and pervasive urbanization, are explored in three Chapters, articulated as a chronologically arranged narrative that moves from 1973 until the present moment.

***

The initial section, *Metacommentary*, describes the project's methodology, its main conceptual and theoretical references, as well as the inner mechanics of the textual and graphic 'layers' it contains therein. In this regard, this first concise piece provides an *interpretation of the interpretative framework* deployed throughout the book as a whole.[15]

Chapter One, *Threshold*, situates the building within the context of the early 1970s, using the World Trade Center as both a prototype of the kind of skyscraper that would proliferate in subsequent decades, and as an architectural lens through which to decode some of the critical transformations that define the transition towards 'late capitalism.' The WTC is then described as something like the first in a new lineage of skyscraper-forms, the architectural symbol or emblem of "an enormous quantum leap of capital," a new world system characterized by the global expansion of the commodity form, by the rise of finance capital and new levels of abstraction, and by a radical upscaling in processes of urban

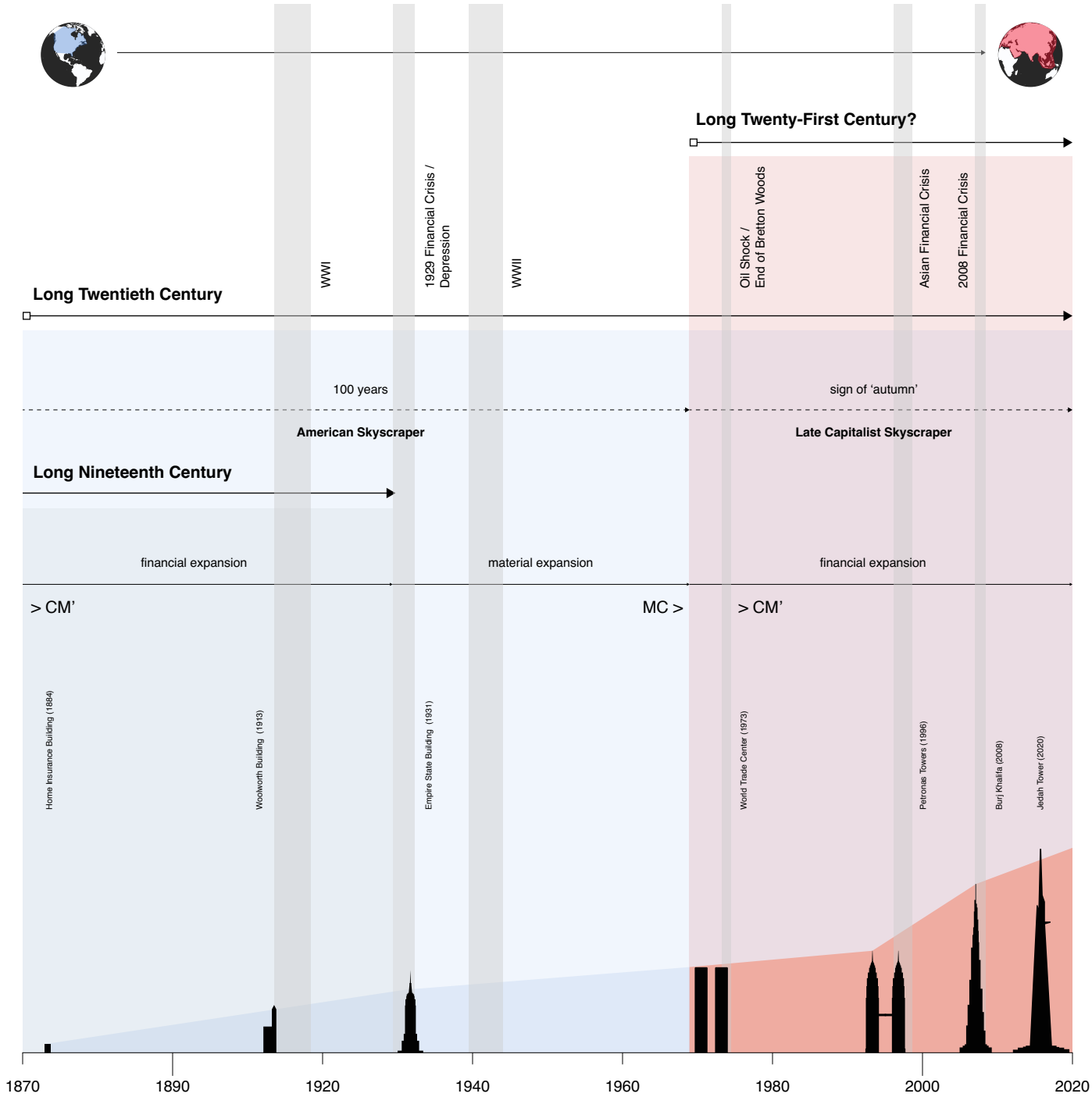


Figure A: **The Skyscraper in the Long Twentieth Century**

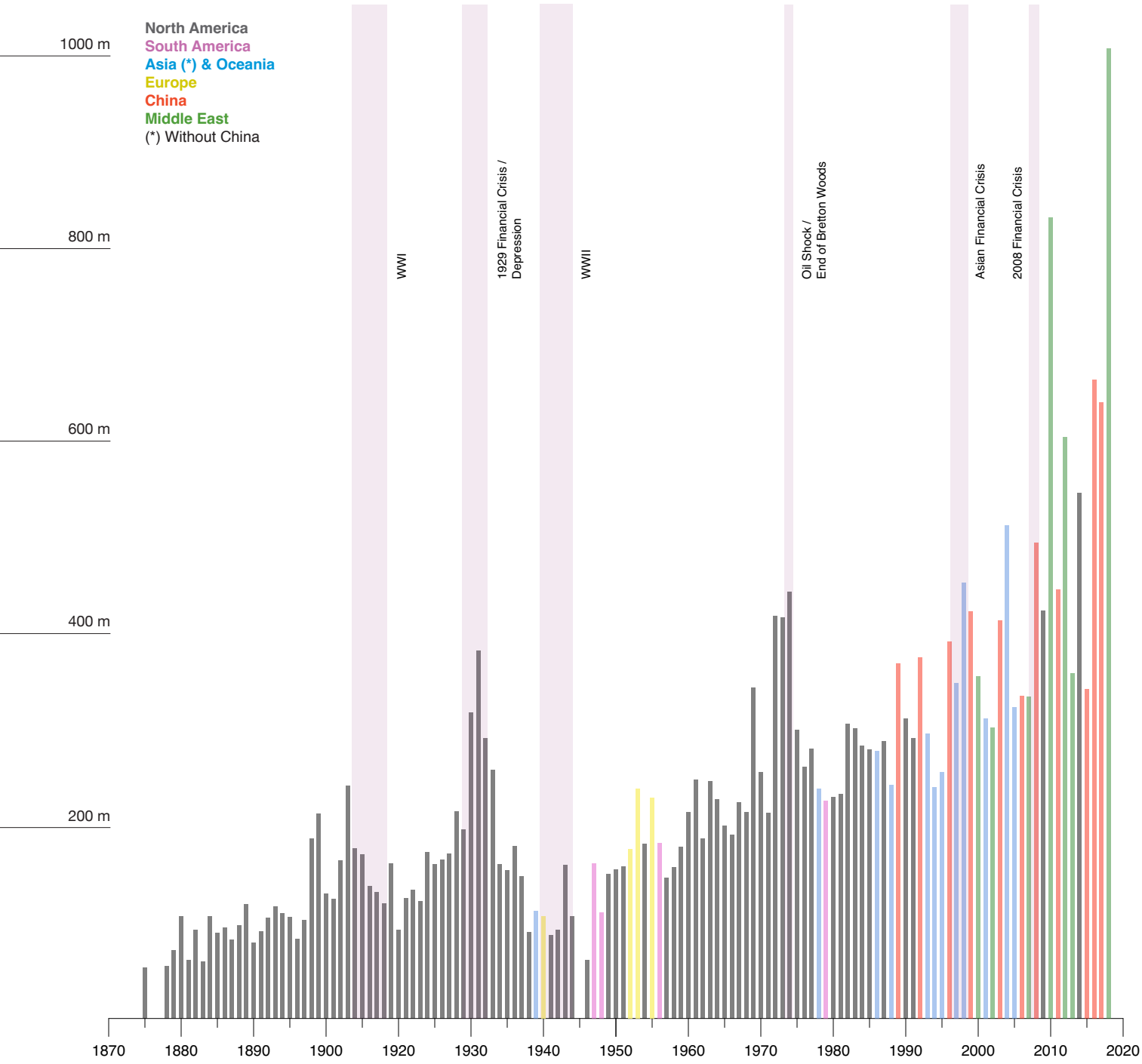
When applied to the evolution of the skyscraper during the 'long twentieth century', the M-C-M' formula —conceived as the historical template reflecting the inner 'logic' of the cycle— would yield something roughly along the following lines: the origins of the skyscraper superimpose with the 'signal crisis' of the (at that time) embryonic US systemic cycle of accumulation, and can be defined as an extended period of incubation that lasts until the financial crash of 1929, when the Empire State Building emerges in the Manhattan landscape. After this initial moment of 'gestation', a period of more robust technical development ensues, in which the skyscraper (now resolutely a 'modern' building) spreads beyond its places of incubation —Chicago and New York— and extends to encompass other major cities within the United States. This stage corresponds to the phase of 'material expansion' in Arrighi's scheme. A third moment starts in 1973, signaled by the opening of the World Trade Center, echoing the period of 'financial expansion' that announces the 'terminal crisis' —or the 'autumn'— of the US cycle, in which the skyscraper undergoes a new radical increase in height as well as in spatial and technological complexity, and begins its process of *becoming-global*. Although this last stage represents the end of Arrighi's periodizing schema, his argument can be extended by adding to this narrative the financial crash of 2008, which marks the emergence of the so-called 'mega-tall' skyscraper. A few observations are required to further unpack this tentative spatiotemporal blueprint. First, the correspondence between both trajectories (the skyscraper's and capital's, that is) is not exact, and it could never be, as neither Arrighi's rationale nor the building's evolution fit within neat temporal segments. In this sense, the embedding of the skyscraper within the M-C-M' template is meant to describe a complex process of historical mutation from a fairly abstract level of analysis.

(Continues in p. 17)

space production.[16] These complex dimensions, it should be noted, are not exhaustive nor do they explain by themselves the full complexity of the period under analysis here. Such is, indeed, an endeavor that exceeds the scope of this investigation. Rather, they are filtered through the lens of —and connected to— the exceptional symbolic role played by the WTC, an architectural object whose tragic fate and crucial cultural significance in recent history remain inescapably attached to the dynamics of the capitalist system itself. In many respects, this initial excursus outlines at a general level the themes and *problematiques* that will be analyzed in more detail in the next two Chapters.

Chapter Two, *Vast Machine of Accumulation*, focuses on the period ranging from the early 1980s until the end of the millennium, and addresses the relation between the increasing larger scale of the skyscraper and the abstraction of finance capital (and its associated logics of urban speculation) during late twentieth century. This *problematique* is approached through a close reading of two different modes of conceptualizing the building articulated during the timeframe under consideration—the first belonging to a lineage of 'mainstream' architectural discourses on the skyscraper; the second concerned with a critique of the political economy of late capitalism and the relation between its abstract processes of accumulation and (vertical) architecture. While the former privileges the skyscraper as an aesthetic and economically *rational* object, the latter seeks to trace its links with the contemporary financial and urban world, attempting to unveil the irrationality that underpins its development. Building upon this last, dialectical approach, the aesthetic character of the skyscraper as an 'exceptional' form —whose systematic 'enlargement', as expressed in its logic of *verticality for accumulation's sake*, sets it in opposition to an homogenizing urban fabric— is seen simultaneously as the materialization of the ever-increasing abstraction of finance capital itself, and as an ruthlessly efficient spatial framework of accumulation instrumental in processes of money-reproduction and value circulation.

Chapter Three, *The Late Capitalist Skyscraper*, discusses the status of the type after the destruction of the Word Trade Center in 2001 —an event which Arrighi defined as marking the demise of the US-centered hegemony[17]— and gravitates around the *problematique* of the building's planetary-scale reproduction during the early years of the twenty-first century. The chapter undertakes a critique of a set of contemporary mainstream architectural discourses which, in the wake of



Second, the sequence is contained within three 'elastic' moments of financial expansion, two of which are present in Arrighi's narrative, while the last is extrapolated from his analysis and extended into the early 21st century: the initial one correspondent with the birth of the skyscraper, followed by the scalar threshold in 'skyscraper design' brought about by the global rise of financialization in the early 1970s, and culminating with the latest and thus far still ongoing metamorphosis of the type (see Appendix below) in which its formal, technological, and scalar dimensions are 'creatively destroyed' just as a 'new' regime of accumulation looms in the horizon. Third, birth and metamorphosis are not meant to convey 'singular' or clearly circumscribed episodes, but instead long-incubated processes of gestation and radical mutation, respectively. These processes, rather than being represented by a 'pure' or consistent constellation of examples (the logic driving classic stylistic periodizations), can be simply signaled by paradigmatic cases (the Empire State, the WTC, the Burj Khalifa) positioned right at the point of transition from one stage to the next. Fourth, the geographic dimension implied in Arrighi's schema, suggests that any consideration of the evolution of the skyscraper (i.e., its tendency to become taller and spatially more complex) [See Figure B above: **Height Increase**] must be thought vis-à-vis its relation with the urban epicenters in which it has historically proliferated, and whose morphologies have in turn been to a certain extent defined by the large-scale reproduction of the building. In this sense, it is clear that the verticality of Manhattan, arguably "the capital of the twentieth century," is qualitatively different from that of Dubai, Shanghai, or Hong Kong, the new, radically enlarged verticalized urban centers of twenty-first century capitalism.

Source Figure B: *The Economist*

9/11 present the building as a techno-managerial *dispositif*, an optimized form of 'global' architecture adapted to face the challenges of a rapidly urbanizing planet traversed by manifold —social, economic, ecological— crises. Against such conceptualization, this textual excursus offers a counter-narrative in which the force driving the skyscraper's tendencies to become ever-taller and to proliferate across the world's unevenly developed urban landscapes are defined by capital's logic of endless accumulation and geographical expansion. While the increase in height further reinforces the symbolic character of the skyscraper within the global megacities and financial epicenters of the world —which makes the building conducive to the construction of capital's urban imaginaries—, its replication in increasingly larger quantities is instrumental in the urbanization of vast territories, particularly in the Chinese and Middle Eastern contexts. The contemporary, or 'late capitalist skyscraper,' is then conceptualized as a serial form spanning a spectrum of surface appearances polarized, on one extreme, by the 'uniqueness' of a consistently upscaled 'singular object' of architecture and, on the other, by the reproducibility of a generic spatial artifact.

A speculative Appendix, *Metamorphoses*, follows after the end of the chronologically assembled narrative presented in the previous three Chapters. Positing two still embryonic set of formal mutations of the late capitalist skyscraper as signaling the emergence of new kinds of urban verticality, this last section suggests that these transformations might be seen as incipiently echoing, in architectural form, the 'spring' of a new cycle of systemic accumulation, or the beginning of another iteration of the M-C-M' historical template.

Finally, the Epilogue of the book outlines further avenues of research through which to develop this project forward, and sketches the contours of a dialectical framework by means of which to undertake a critique of contemporary and fast-mutating forms of *verticalarchitecture,* as well as to imagine alternatives to it.

Notes

1 Giovanni Arrighi, *The Long Twentieth Century: Money, Power, and the Origins of Our Times*, (Verso, 2010). Arrighi's genealogy of capitalism is centered on 'systems analysis,' and advances that capital is a 'world-historical system' that has been in the making for around 700 years now. His analysis poses that the post-1970 period entails not only a sig-

nificant rise in capitalist speculation as such, but that it marks a systemic shift of capital itself towards more liquid, immaterial forms.

[2] Cf. Fredric Jameson, "Culture and Finance Capital", *Critical Inquiry*, Vol. 24:1 (1997), p. 246-265. Jameson, p. 249: "[t]he system is better seen as a virus (not Arrighi's figure), and its development is something like an epidemic (better still, a rash of epidemics, an epidemic of epidemics)."

[3] Jameson, *The Ancient and the Postmoderns: On the Historicity of Forms* (Verso, 2015), p. 231.

[4] "[F]inancial expansions are taken to be symptomatic of a situation in which the investment of money in the expansion of trade and production no longer serves the purpose of increasing the cash flow to the capitalist stratum as effectively as pure financial deals can." Arrighi, *The Long Twentieth Century*, p. 9.

[5] "Money capital (M) means liquidity, flexibility, freedom of choice. Commodity capital (C) means capital invested in a particular input–output combination in view of a profit. Hence, it means concreteness, rigidity, and a narrowing down or closing of options. M´ means expanded liquidity, flexibility, and freedom of choice… Marx's general formula of capital (M-C-M´) can therefore be interpreted as depicting not just the logic of individual capitalist investments, but also a recurrent pattern of historical capitalism as world system." Ibid., p. 5-6. Marx introduces the general formula of capital in chapter 4 of *Capital*. See Marx, *Capital: A Critique of Political Economy, Volume One* (Penguin Books, 1976), p. 247-257.

[6] Alison Shonkwiler, *The Financial Imaginary: Economic Mystification and the Limits of Realist Fiction*, (University of Minnesota Press, 2017), p. xxvi.

[7] "Although all the long centuries depicted… consist of three analogous segments and are all longer than a century, over time they have contracted, that is to say, as we move from the earlier to the later stages of capitalist development, it has taken less and less time for systemic regimes of accumulation to rise, develop fully, and be superseded." Arrighi, *The Long Twentieth Century*, p. 221. The cycles identified by Arrighi are: a) the Genoese, from the fifteenth to the early seventeenth centuries; b) the Dutch, from the late sixteenth through most of the eighteenth century; c) the British, from the latter half of the eighteenth through the early twentieth century, and the US, from the late nineteenth century up to present time.

[8] "[E]ach and every financial expansion is simultaneously the 'autumn' of a capitalist development of world-historical significance that has reached its limits in one place and the 'spring' of a development of even greater significance that is beginning in another place." Ibid., p. 374.

[9] "The coming crisis of the US regime was signalled between 1968 and 1973 in three distinct and closely related spheres. Militarily, the US army got into ever more serious troubles in Vietnam; financially, the US Federal Reserve found it difficult and then impossible to preserve the mode of production and regulation of world money established at Bretton Woods; and ideologically, the US government's anti-communist crusade began losing legitimacy both at home and abroad. The crisis deteriorated quickly, and by 1973 the US government had retreated on all fronts." Ibid., p. 309.

[10] As it will become clear shortly, this general mode of conceptualizing the skyscraper is itself indebted to the Jamesonian reading and critique of the late capitalist world system, and is therefore concerned, methodologically/formally as much as in terms of 'content', with the general *problematique* of narrative and abstract theoretical discourse (as opposed to, say, the standpoints inherent to more properly 'empirical', 'historiographic', or 'ethnographic' approaches). The aim here is thus to connect the scale of the object under consid-

eration —and its associated and legitimizing architectural discourses— to the broader or macro-historical dynamics defining the general contours of contemporary financial and informational capital(ism). Now, and having said this: the point is not only, or primarily, to identify how the broad patterns in the respective movements of both capital and skyscraper through space and time intersect —a useful, important endeavor to be sure—, but more specifically to see what the current moment of turbulence of the system implies about the present constitution of the building; i.e., what it reveals regarding the mutations of the skyscraper during the period that concerns us in this study. Furthermore, what is at stake here is not simply to dwell on the logic of *financialization* or *finance* as such but on the way in which such logic is translated or codified into a specific architectural expression—this logic of 'translation', in turn, being either unevenly accounted for, or ultimately sustained by specific architectural discourses and theoretical narratives. To put it another way, the abstract movement of financial capital, which signals moments in which capitalist speculation follows periods of intense material expansion and production, seems to define a series of spatiotemporal thresholds where the logic of accumulation gets restructured, a process which is neither without material consequences in the configuration of the built environment itself, nor without conceptual consequences for the discursive apparatuses devised to 'read' and make the spatialities of such environment intelligible—an analysis that Arrighi himself does not undertake, and for which Jameson's formal and narratological theoretical work appears as a more adequate model. The intense, radical verticalization of cities in East Asia and China seen since the "critical years" of the early 1970s, with their explosive growth of skyscrapers at hitherto unprecedented scales, and in general the planetary proliferation of the building beyond its original North American sites, suggest that this architectural form is one of the various material filaments that global finance mobilizes to objectify and inscribe itself into the unevenly developed landscapes of the capitalist world. The socio-spatial implications of these processes can be 'seen', I propose, via a critique of the spatial ideologies ingrained in the very theoretical narratives constructed to account for (or rationalize) them. Establishing this initial correlation between finance capital and skyscraper is then not the central or only focus, nor the ultimate target of analysis here, but rather the point of departure for a multilayered, more nuanced set of considerations—or theoretical 'mediations'—regarding how the new conditions, dimensions and phenomena triggered by the 'expansion' of finance itself within the realm of vertical architecture are cognitively mapped by architectural discourse.

11 Harvey, *The Limits To Capital* (Verso Books, 2006), p. 327.

12 As I explain in more detail in Chapter One, the concept of 'late capitalism', as theorized by Jameson in particular, provides a more specific lens through which to map the connections between the skyscraper and the new set of *global* cultural and spatial dimensions introduced by a systemic shift in the capitalist system. In this regard, both Jameson's scheme as well as David Harvey's concept of 'flexible accumulation' will be used to complement Arrighi's 'large-scale optics', for they offer a more fine-grained account of the ramifications of the structural changes introduced by ubiquitous financialization into the domains of ideology, culture, technological change, and spatial reorganization. In other words, while Arrighi's schema allows us to see the general trajectory of the skyscraper in the *longue durée* and to situate its positionally within the highly volatile and ongoing moment of capital restructuring as it transitions towards a new long century, Jameson's and Harvey's frameworks will be mobilized in the subsequent Chapters to chart, in more specific terms, the mutations of the object vis-à-vis political-economic, technological, and urban/spatial dynamics.

13 This systematic increase in height has introduced the need to coin new terms such as 'super-tall' and more recently, 'mega-tall', which scholars such as Carol Willis describe as a 'new species' of building altogether. Still, the concept 'skyscraper' remains in use, and the aforementioned labels are often applied to it as modifiers. See, for example, Philip Nobel, ed., *The Future of the Skyscraper* (SOM Thinkers, Metropolis Books, 2015), where the concept 'skyscraper', rather than being challenged in light of its significant technological optimization and formal transformations and upscaling, is instead further reinforced. Cf.

especially Bruce Sterling's "The Unbuilt Towers of Futurity", p. 16-23: not precisely a 'utopian' blueprint of possible futures, but rather the exploration of four dark and perhaps too-close in time variants of the actual present in which the skyscraper's logic remains not only uncontested, but rather deepened.

[14] "[A]s Braudel suggested, each change of guard at the commanding heights of the capitalist world-economy reflected the 'victory' of a 'new' region over an 'old' region. Whether we are about to witness a change of guard at the commanding heights of the capitalist world-economy and the beginning of a new stage of capitalist development is still unclear. But the displacement of an 'old' region (North America) by a 'new' region (East Asia) as the most dynamic center of processes of capital accumulation on a world scale is already a reality." Arrighi, *The Long Twentieth Century*, p. 343.

[15] I adopt here, in a simplified manner, Jameson's concept of 'metacommentary', which amounts to something close to a 'method', a "model… between manifest and latent content, between the disguise and the message disguised"—an attempt, in other words, at providing interpretation for the interpretative act itself. See Jameson, "Metacommentary", *The Ideologies of Theory* (Verso, 2008), p. 7-19. For an extended and systematic application of this method, see his *The Political Unconscious: Narrative as a Socially Symbolic Act* (Cornell University Press, 2014 [1982]). For more explicit descriptions of such applications, see in the same volume esp. p. 9-10 and 208-209.

[16] Cf. Jameson, The Ideologies of Theory, p. 356-357.

[17] In a 'Postscript' written in 2009, Arrighi wrote: "Shortly afterwards… the shock of September 11, 2001… [and] for a brief moment, it seemed that the United States could preserve its hegemonic role by mobilizing a vast array of governmental and non-governmental forces in the War on Terror. Soon, however, the United States found itself almost completely isolated in waging a war on Iraq that was generally perceived as having little to do with the War on Terror, while defying generally-accepted rules and norms of interstate relations… the US belle époque came to an end and US world hegemony entered what in all likelihood is its terminal crisis. Although the United States remains by far the world's most powerful state, its relationship to the rest of the world is now best described as one of 'domination without hegemony.'" Arrighi, *The Long Twentieth Century*, p. 384.

Metacommentary

The narrative just outlined in the Prologue is constructed through the deployment of a specific *modus operandi*. It is in this regard that the subtitle of this book —"Theoretically Considered"— demands a series of clarifications. First, 'theoretically considered' can be interpreted as a polemic against the prevalent — or as I will alternatively call it throughout the next Chapters, 'mainstream' or 'hegemonic'— architectural mode of reading the skyscraper as form; namely, an approach that emphasizes an 'artistic' consideration over a political-economic one.[1] A selection from such discourses —chosen from the broad set of architectural studies on the skyscraper published since the early 1970s— constitutes the main target of critique throughout the following pages. By 'considering' the skyscraper primarily as an aesthetic category disconnected from the dynamics of capital accumulation, these analyses tend to reinforce the hegemonic understanding of the building as a fetishistic, spectacular form, severing its inner and manifold connections with networks of (bio)power, with the global political-economic landscape, and with the specific socio-spatial conditions and the unevenly developed urban landscapes in which it find itself immersed, thus rendering such relationships invisible. Against this dominant approach, theory is introduced as a tool for 'seeing' the skyscraper beyond (and often against) the familiarized tropes and interpretative frameworks established by predominant ideological design discourses, and as a means through which to denaturalize that which has been normalized by established, seemingly solidified modes of conceptualizing. In this regard, theory is understood here as a *dialectical optics*, or as a way of "seeing the unseen."[2]

Second —and at a more operational level—, in the context of this particular study, "theoretically considered" entails the amalgamation of different discursive, or *textual*, formations. In this regard, the method deployed in this work proceeds primarily through the relational examination and close-reading of a variegated constellation of textual artifacts. *Text*, therefore, emerges as the main material of analysis; textual interpretation and critique as the central operation out of which the project is built. In this regard, the chronological narrative delineated in the Prologue is literally *constructed* by extrapolating from the analysis of theoretical texts a set of critical themes, concepts, and episodes, which are then assembled and re-synthesized in new form. What this means, in turn, is that the task of this work is not to introduce an 'original' definition of the skyscraper as such nor a 'new theory' for it, but rather to 'compose' an alternative interpretation, one that crystallizes out of the immanent critique of available theoretical schemes;

that is, out of the operation of critique itself. Meanwhile, this method of inquiry positions this book within a terrain that is at odds with predominant architectural studies about the skyscraper, which tend to rely on a more direct engagement with empirical forms of analysis and are very often case-study based. Against this more traditional interpretative lens, *The Late Capitalist Skyscraper* locates itself in an interstitial, yet to be fully explored terrain in which design scholarship seeks alliance with, and builds upon, a larger body of critical spatial discourses. More precisely, the project engages with a lineage of neo-Marxian frameworks of analysis, including cultural and literary studies, historical-geographical materialism, and critical urban theory.[3]

***

The following three Chapters + Appendix are (each) split into two halves. One the one hand, there is the 'upper' body of the text (Serif typeface, 12, justified), which is articulated —as already advanced— as a chronological narrative. To get back to the metaphor invoked above, this narrative mobilizes a 'general optics' which traces, in diagrammatic form, the entanglements of the skyscraper and the world of late capitalism from 1973 until the present, in an attempt to explore (some of) the main dynamics underpinning the transition of the building from late-twentieth to early twenty-first century. This linear narrative is mainly assembled by a series of individual 'textual blocks,' each with their own title and epigraph, inserted within a broader set of chronological 'cuts' ('circa 1973'; 'post-1989'; 'After 2001'). Such blocks —whose main conceptual problematics are to a large extent dictated by the curated selection of theoretical texts constituting their 'raw' material— are then contextualized by the insertion of 'connections' in-between them providing further or additional information when needed.

On the other hand, there is the 'lower' body of the text (Sans Serif typeface, 7.5, left-aligned, highlighted in black), composed of a dense group of footnotes. Far from providing only a scholarly background to the observations and claims made in the upper part of the Chapters, this second body has to be read as a parallel and equally important layer of textual analysis. Constituted by a variegated constellation of *citations*, *micro-critiques*, *synthetic lit-reviews*, and *extended commentaries*, the footnotes operate as an expansive, non-lineal textual excursus articulating the 'negative' of the general, and rather terse, narrative displayed above them. The length of this *subtext* matches (almost exactly) that of its upper counterpart, literally working as the latter's mirror-image. In this sense, this 'lower' body can be said to constitute the very infrastructure upon the whole investi-

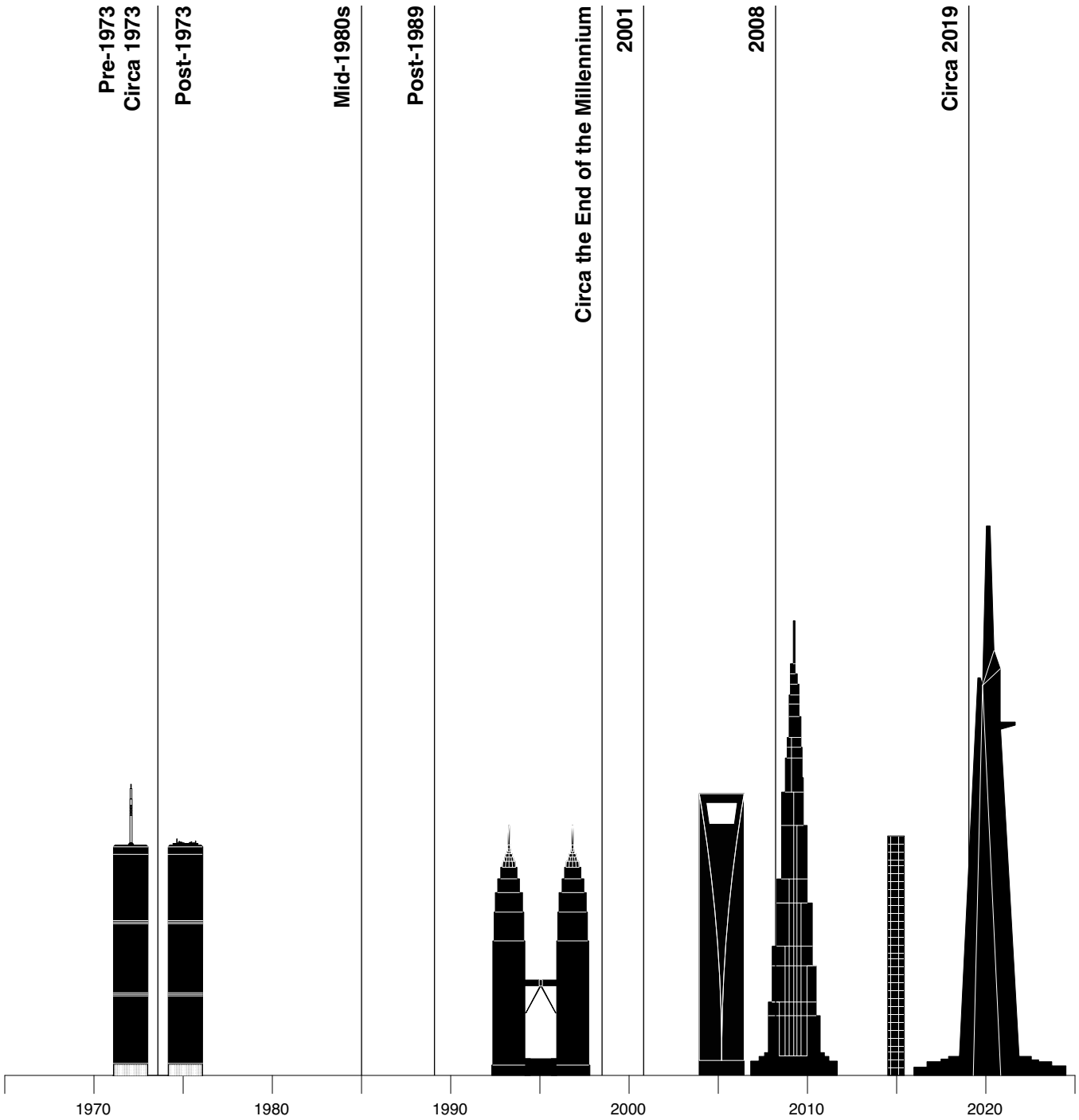


Figure 0.1: **Chronological Narrative**

Above: Set of sequential cuts structuring the 'upper body' of the Three Chapters's text; below: drawings plateaus on display throghout the book.

gation relies—a compact yet heterogeneous textual base made out of 'microscopic' readings and cross-references which aims at configuring something like a critical archive of literatures on the late capitalist skyscraper and its ties with the contemporary world; a bibliographic index in which architectural discourses are deliberately diluted within a larger set of theoretical frameworks. (See below, Bibliographic Index)

Running in parallel to these, there is a third layer made out of a series of *diagrams, drawings,* and *images* situated at irregular intervals and displayed in different formats (as 'interruptions', as complementary information, as stand-alone pieces) among the written texture of the book, whose function is not only to provide visual illustration, but to 'spatialize/formalize' the content displayed on both the upper and lower bodies of the Chapters' text, as well as to expand it in new directions.

Together, these three layers constitute an alternative *metanarrative* about the late capitalist skyscraper—namely, a narrative made out of narratives. Such metanarrative can be said to be structured by three distinct levels: a first one articulating a synthetic linear or chronological account, a second arranging an expansive network of theoretical references and critical commentaries, and a third displaying a mosaic of variegated visual and graphic materials.

Notes

[1] The main implicit references here are Louis Sullivan's classic "The Tall Office Building Artistically Considered" (1895), and Ada Louise Huxtable's *The Tall Building Artistically Reconsidered* (1984). The very notions of 'art' and of 'aesthetics' are in these cases confined within the frameworks of liberal ideology. But see, for a Marxist, materialist approach to the aesthetic question, Terry Eagleton, *The Ideology of the Aesthetic* (Blackwell, 1991).

[2] The notion of 'dialectical optics' is proposed by David McNally, building upon the work of Walter Benjamin, in his book *Monsters of the Market: Zombies, Vampires and Global Capitalism* (Brill, 2011). Cf. p. 6-8; 145; 210; 250.

[3] There are, in this regard, prominent figures whose work is systematically cited and referenced throughout the book. The two most salient ones are Fredric Jameson and David Harvey, whose foundational analyses of late capitalism and the urban geographies (and political economy) of the contemporary capitalist world, respectively, constitute the main conceptual basis upon which the analysis undertaken in all chapters is built. The work of Jean Baudrillard is also of key importance, and is noticeably referenced in Chapters One and Three. Recent scholarship in literary studies on the relation between financial abstraction and cultural representation has also proven particularly valuable, and I highlight here the outstanding contributions of literary scholars Alison Shonkwiler and Leigh Claire La Berge. The work of Neil Smith on the production of space and capitalist uneven develop-

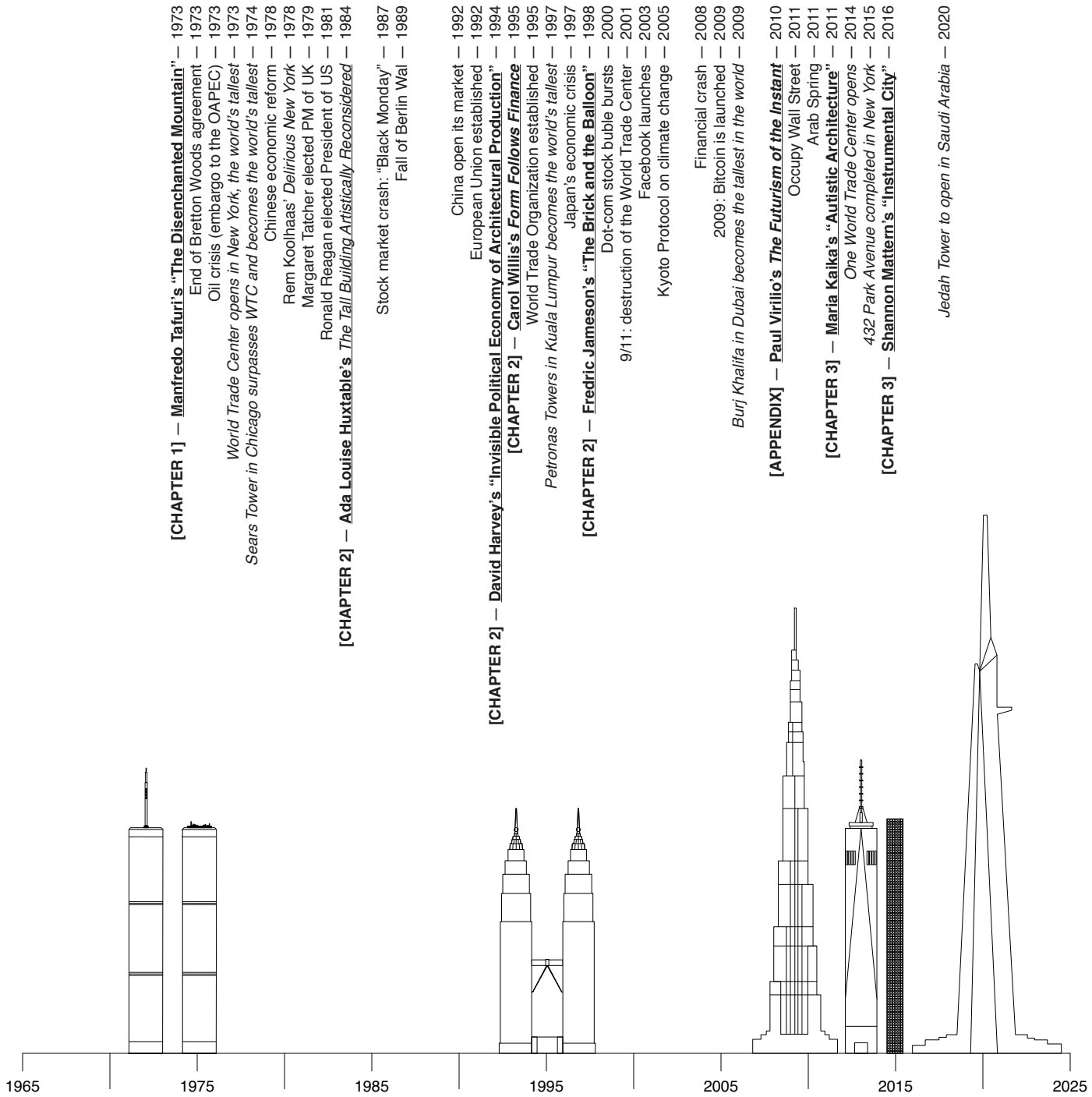


Figure 0.2: **Timeline**

Regular typeface: important events 1973-2019
Italics typeface: tallest skyscrapers 1973-2019
Bold typeface: selected texts on the skyscraper discussed in Chapters 1-3

See works cited in the 'lower body' of the text in **Bibliographic Index**, p. 149-153

ment, and of Neil Brenner on planetary urbanization, has also been crucial, and remain cited practically throughout all Chapters and textual excursuses. As a result, there is implicit in the book a problematization of the concept of 'city' (and thus a certain reluctance to present it as the skyscraper's main 'locus' or 'datum'), and instead a marked tendency to discuss the urban in terms of more fluid and heterogeneous *landscape formations* cutting across 'traditional' agglomerations and extended territories alike. In the field of architecture as such, the key reference is undoubtedly that of Manfredo Tafuri, whose radical critique of the skyscraper —"The Disenchanted Mountain: The Skyscraper and the City" (1973)— is mobilized here as both the specific point of departure of the whole study and as the main conceptual background against which the investigation resonates. Indeed, the formal organization of the texts that follow can be seen as a reinterpretation of Tafuri's essay —and of its narratological structure—, this time around covering a different historical period and assembling a different cast of projects, figures, and conceptual tools. The work of Peggy Deamer on the relation between architecture and capitalism and that of María Kaika on the twenty-first century skyscraper has also been of vital relevance. Finally, if all of these scholars are fundamental in the detailed discussion of the *problematique* at stake, the work of Giovanni Arrighi on the trajectory of capital in the *longue durée*, as outlined in the Prologue, has provided the main reference for the construction of the project's larger structural skeleton.

Figure 0.3: **Text Structure**

Top: 'Upper body' of textual blocks
Middle: Figures (drawing/diagrams only)
Bottom: 'Lower body' of footnotes' network

LAYER 3	LAYER 2
	CH 1
	Notes 1-17
Figure 1.1	Notes 18-19
	Notes 20-30
	Notes 31-39
	Notes 40-47
Figure 1.2	Notes 48-50
	Notes 51-54
	Notes 55-59
	Micro-critiques: n-53
	Synthetic Lit-Reviews: n-44, 58
	Extended Commentaries: n-4,17, 30, 42
	CH 2
	Notes 1-16
	Notes 16-32
	Notes 33-44
	Notes 45-50
	Notes 51-53
Figure 2.1	Notes 54-60
	Notes 61-67
	Micro-critiques: n-35, 49
	Synthetic Lit-Reviews: n-15, 58
	Extended Commentaries: n-2, 10, 13, 33
	CH 3
	Note 1
	Notes 2-15
	Notes 16-29
Figure 3.1 / 3.2 / 3.3	Notes 30-37
Figure 3.4	Notes 38-49
	Notes 50-55
	Notes 56-64
Figure 3.5 / 3.6 / 3.7	Notes 65-70
	Notes 71-78
	Notes 79-85
	Notes 86-93
	Micro-critiques: n-33, 48, 54, 56
	Synthetic Lit-Reviews: n-7-9, 19-20, 29, 52
	Extended Commentaries: n-1, 42, 44, 58
	CH 4
	Notes 1-2
	Notes 3-17
	Notes 18-27
Project Diagram	**Synthetic Lit-Reviews:** n-21
	Extended Commentaries: n-7, 17

LAYER 1

1. Threshold
1.1 — Pre-1973
No Need For Idealistic Masks
1.2 — Circa 1973
Threshold
Global(ization)
Financial(ization)
Cloning
1.3 — Post-1973
The Skyscraper After the World Trade Center
Reassessment
A Force Field of Discourses

2. Vast Machine of Accumulation
2.1 — Mid-1980s
Re-enchanted Machine
2.2 — Post-1989
Financial Reason
Skyscrapers Floating in Streams of Money
2.3 — Circa the End of the Millennium
The Aesthetics of Abstraction
The Materiality of Accumulation

3. The Late Capitalist Skyscraper
3.1 — After 2001
Event of Consciousness
A Techno-Managerial Dispositif
3.2 — Post-2008
Grow Taller and Multiply
The Singular Skyscraper and the Late Capitalist Imaginary
Material Embeddedness
The Generic Skyscraper and Emerging Landscapes of Urbanization
"Nestle everywhere, settle everywhere, establish connections everywhere"
Skyscraper Series
Dialectical Framework
3.3 — Circa 2019
The Late Capitalist Skyscraper

4. Appendix: Metamorphoses
Mode of Production
A: Becoming-Taller
B: Becoming-Multiple

Threshold

1.1 — Pre-1973

No Need for Idealistic Masks

> The skyscraper… an organism of potentially infinite development [which] by its very nature, defies all rules of proportion. [1]

Manfredo Tafuri's "The Disenchanted Mountain: The Skyscraper and the City," (1973) assembles a detailed portrait of the skyscraper in its transition from early to late twentieth century. Tafuri's is a retroactive operation, in which he constructs a narrative of historical episodes, singular projects, and failed utopias in order to assess the building's status vis-à-vis the capitalist city.[2] The essay tells a story that unfolds from the early 1920s onwards.[3] Analyzing the complex intersections between the urban dynamics of American cities and the visions of a constellation of both modern European and American architects, Tafuri articulates a reading that foregrounds the design ideologies at play in the formal and technological evolution of the type, positioning them within the broader historical landscape of capitalist development.

Tafuri's 'mountain' has to be seen, in general terms, as a metaphor standing for the skyscraper as a singular object of architecture, or, as he puts it, that "gigantic enlargement of a fragment [that attempts to impose] its presence on the distracted metropolitan public." (402) More specifically, it can be read as an at-

[1] Manfredo Tafuri, "The Disenchanted Mountain: The Skyscraper and the City", p. 389. Essay included in G. Ciucci, F. Dal Co, M. Manieri-Elia, M. Tafuri, eds., *The American City: From the Civil War to the New Deal* (The MIT Press, 1979), p. 389-528. Originally published in Italian in 1973. Subsequent references are given parenthetically after quotations.

[2] **DISENCHANTED MOUNTAIN —** The text is an extended essay structured by a series of different episodes, organized as follows: 1) "The *Chicago Tribune* Competition;" 2) Eliel Saarinen and the Coordinated Skyscraper Complex;" 3) "The Regional Plan of New York and Its Environs and the Problem of Congestion;" 4) "Hugh Ferris: Ode to the Skyscraper;" 5) "Raymond Hood: From the Tribune Tower to 'Manhattan 1950;'" 6) "The Creation of the Rockefeller Center;" and 7) "From City to Megalopolis: Pittsburgh's Golden Triangle and Urban Planning as a 'Negligible Discipline.'" Tafuri himself has another significant text on the skyscraper, which focuses on the period 1913-1930, and which partially overlaps with his own account in "The Disenchanted Mountain": his "The New Babylon: The 'Yellow Giants' and the Myth of Americanism" (where he calls the building a 'magic mountain'), in Tafuri, *The Sphere and the Labyrinth: Acant-Gardes and Architecture from Piranesi to the 1970s* (The MIT Press, 1987), p. 171-195.

[3] For useful accounts of the early years of the skyscraper, which I do not address in this book, see Rosemarie Haag Bletter, "The Invention of the Skyscraper: Notes on Its Diverse Histories," *Assemblage* 2 (Feb 1987), p. 110-117; also Joanna Merwood-Salisbury, "The First Chicago School and the Ideology of the Skyscraper", in Peggy Deamer, ed., *Architecture and Capitalism: 1845 to the Present* (Routledge, 2014), p. 25-46. For a more detailed historical overview, see Winston Weisman, "A New View of Skyscraper History", in Edgar Kaufmann Jr., *The Rise of an American Architecture* (Praeger Publishers, 1970), p. 115-162.

tempt to capture the intrinsically contradictory nature of this object as a formal 'exception' to the homogenizing artificiality of the vast metropolis.[4] According to the Italian critic, the exceptionality of this mountain was originally seen —and often romanticized— by architects during the timeframe under consideration as a spatial mechanism of "formal control" over the city. Yet, as the century unfolded and the modern metropolis underwent a process of radical spatial expansion, such initial *utopianism*[5] —however deluded it might have ultimately been— turned into impotent resignation ("a desperation shared by intellectuals and businessmen alike") in light of the "enigmatic course" of what could only be perceived, by the early 1970s, as an "indomitable" urban field. (503) Hence the movement from *enchanted* to *disenchanted* mountain.

Tafuri's is a highly idiosyncratic 'intellectual history' of the skyscraper spanning an arc that starts with a meticulous analysis of the entries for the famous 1922 *Chicago Tribune* competition, and ends in 1973, with the emergence of the World Trade Center in the Manhattan skyline. In-between these two extremes, the text is woven with detailed examinations of the 'contributions' to skyscraper design by figures such as Eliel Saarinen, Hugh Ferris and Raymond Hood.[6] The allegory of the 'enchanted mountain' is first introduced by Tafuri in his description of Saarinen's proposal for the *Chicago Tribune*[7] —"a competition [which] can be seen, historically, to have marked a turning point in the conception of the sky-

[4] As we will see later, especially in Appendix, part B, this understanding of the building as a mountain, which could only hold within an predominately horizontal urban landscape in which there is still room for densification and verticalization, does not necessarily apply to some of the most radically verticalized cities in the world today (mostly located in Asian contexts), where the skyscraper is less and less an exception, and more and more the norm. Fredric Jameson has been consistent in updating this Tafurian metaphor. In discussing the conditions of urban space by the end of the twentieth century, and the kind of architecture it enables (or precludes), Jameson states that "a new notion of homogeneous space seems to impose itself. The question that arises is thus not merely the stylistic one—although that's quite important—but how a specific monument or building makes itself felt in a homogeneous urban space. In Tokyo, for example, it is very hard to see how the city could be reorganized or rebuilt or turned back into a classical city of the type that seems to be presupposed by most urban projects; it is also hard to see how any specific building would ever stand out in this kind of fabric." Jameson, "Interview with Michael Speaks," in Ian Buchanan, ed., *Jameson on Jameson: Conversations on Cultural Marxism* (Duke University Press, 2007), p. 124.

[5] Tafuri describes the ideas about the skyscraper developed between 1922 and 1973 by the figures analyzed in the book as belonging to a diverse array of positions, some overtly, even romantically 'utopian', as in the case of Hugh Ferris; some others as imbued with a more ambivalent 'utopianism', such as some of the proposals for the *Chicago Tribune*; yet others as simply opportunistically optimistic, such as in the case of the Rockefeller Center. In all instances, however, it is clear that the kinds of utopia invoked in the narrative are expressions of 'false consciousness.' On this last point, see below, **footnote 10**.

[6] In his own reconstruction of the trajectory of the skyscraper during the first half of the 20th century, Tafuri idiosyncratically privileges certain projects and architects, leaving outside of his frame the important contributions to theoretical debates about the building made by figures such as Le Corbusier or Hilberseimer, for example, only mentioned in passing. Regarding Le Corbusier's "contributions" to a theory of the skyscraper, see Iñaki Abalos and Juan Herreros, *Tower and Office: From Modernist Theory to Contemporary Practice* (The MIT Press, 2003), p. 11-36. On Hilberseimer's investigations on the high-rise type, see his *Metropolisarchitecture and Selected Essays*, Richard Anderson, ed. (GSAPP Books, 2013), especially p. 201-217.

[7] "Saarinen offered the Americans a model of the skyscraper in which the setback structure is balanced by a continuous and modular development of the volumetric articulation. *The organic quality* of his design was to be interpreted as the victory of architecture over the artificiality of the metropolis. As the model of an 'enchanted mountain,' it would inspire Ralph Walker's Barclay-Vesey Building in New York, Albert Kahn's Maccabees and Fisher buildings in Detroit, and Charles Z. Klauder's project for the new University of Pittsburgh… as well as the Bell Telephone Building in Cleveland by Mills, Rhines, Bellmann and Nordhoff… In Saarinen's design… organic logic enters the city." Tafuri, "The Disenchanted Mountain", p. 417-418. In other words, Saarinen's 'organic' skyscraper set a prototypical precedent for subsequent developments of the building within the United States. My emphasis.

scraper" (400)—, whose 'organic quality' aimed, he claims, at reasserting "the victory of architecture over the artificiality of the metropolis." (417) Yet this victory was nothing, he goes on to add, but an illusion for which the 'enchanted mountain' provided a convenient image, an "idealistic mask" intended to cover the "harsh reality of the financial and speculative ventures connected with urban concentration and the development of commercial construction." (417) In other words, the 'enchanted mountain' was but a romantic facade engineered to hide the urban-economic processes running in the background of the skyscraper's "symbolic form." (405)

As the modern metropolis continued to expand, and the productive forces underpinning its development grew to reach new proportions, this romantic view acquired more and more the character of a "regressive utopia."[8] There was, in other words, a widening, ultimately insurmountable gap between the "poetic celebration" of the formal exceptionality of the skyscraper as architectural object and the extended urban territory out of which it emerged. For at this point, the capitalist city "no longer [had to hide] its face beneath a romantic mask." (493) Tafuri's critical eye is directed here to the work of Hugh Ferris, whose designs for an "imaginary metropolis" amounted, he says, to "nothing more than… an ingenuous attempt to reintegrate the universe of 'values' in [a] city dominated by the 'flux of monetary current.'" (448) As this last passage makes explicit, Tafuri's metaphor is a translation into architecture of Max Weber's notion of 'disenchantment,' i.e., the sublimation and disavowal of values, traditions, beliefs and emotions in favor of the pervasive deployment of an exacting, purely instrumental means-end calculation.[9] When applied to the relation skyscraper/city, the transition from enchanted to disenchanted mountain has to be seen, therefore, as a movement from a 'belief' on the building's capacity —as an exceptional architectural form— to provide a model of urban legibility, towards a new stage of consciousness in which such belief reveals itself as nothing but an untenable illusion, a fantasy torn apart by the ubiquitous, relentless forces of capitalist rational-

[8] Ibid, p. 448. Tafuri employs this expression in his critique of Hugh Ferris. In footnote 114, p. 517 of the text he elaborates on this point, characterizing Ferris' work as representative of a "regressive humanism." For a more specific discussion of the notion of 'regressive utopia', see Tafuri, *Architecture and Utopia: Design and Capitalist Development* (The MIT Press, 1976), p. 41-49.

[9] **DISENCHANTMENT —** In the quotation taken from p. 448 there is also an implicit reference to Simmel's famous passage in his seminal "Metropolis and Mental Life". There, Simmel describes values as "float[ing]… in the constantly moving stream of money" of the capitalist city. See below, Chapter Two, **footnote 47**. For a recent discussion on the issue of (dis)enchantment, see the videos and notes from the symposium at the AA, "The (Dis)enchanted Subject of Architecture" (2016), organized by Douglas Spencer and Nadir Lahiji. Link to video and event's details: https://www.aaschool.ac.uk/VIDEO/lecture.php?ID=3500

ity.[10] One of the last comprehensive attempts to give traction to the ambition to organize the city through the deployment of the skyscraper-form was for Tafuri the Rockefeller Center, whose design intended to define an "island of 'equilibrated speculation'" (461) within Manhattan's vertical landscape. Yet, and despite its novelty as a composite, significantly enlarged 'urban' form, and the reverberations of its design scheme across other American cities,[11] the singularity of this 'multi-block skyscraper' was to be in the end inevitably subsumed, if not liquidated, within the 'icy waters' of rampant urbanization.[12] By the second half of the twentieth century, as the modern metropolis became a "city without quality" — or, to stick to the metaphor, a "disenchanted city"— the futility of "restor[ing] an 'enchantment' to what could by this time be only a 'disenchanted mountain'" was, Tafuri asserted, self-evident.[13]

Having laid out the inner logic underpinning the basic movement in the skyscraper's trajectory from early to late twentieth century, Tafuri proceeds to delineate his conclusion. The lesson to be learned here is nothing other, he writes by the end of his long exegesis, than to acknowledge that "the *urbanized* territory rejects any utopia, and thus all attempts to restore lost enchantment to an urban 'adventure', which now reflects only the necessary *imbalances* of capitalist development." (500, my emphasis) In other words, what the post-1970s period — which Tafuri saw as a new, still unclear phase in the history of the skyscraper— entails is a complete subjugation, a full subsumption of the singular architectural object within the sea of the capitalist city. The skyscraper, now endowed with a new, unprecedented scale, had paradoxically become a "structure that does not wholly identify with the reasons for its own existence" and thus had evolved into an "entity that remain[ed] aloof from the city." (389) This is epitomized, in Tafuri's account, by the rise of what he somewhat dramatically calls a 'super-sky-

[10] Here the power of Tafuri's 'negative critique', construed upon an understanding of ideology exclusively in terms of "false consciousness", comes to the foreground. As Fredric Jameson acutely articulates in his critical reading of Tafuri, the power of such 'negative critique' of ideology lies precisely "in the assumption that everything that does not effectively disrupt the social reproduction of the system may be considered as part and parcel of the reproduction of that system." See Jameson, "Architecture and the Critique of Ideology", in *The Ideologies of Theory*, p. 344-371.

[11] Tafuri discusses in some detail the influence and ramifications of the design logic of the Rockefeller Center in the urban renewal of Pittsburgh and Philadelphia during the 1960s. See "The Disenchanted Mountain", p. 485-499.

[12] Towards the end of the essay, Tafuri concludes that "the model of the Rockefeller Center, of the multi block skyscraper, in which American urbanism placed such hope in the period between 1940 and 1950, has not constituted a new departure on which to base a progressive restructuring of the city." Ibid, p. 500. The expression 'icy waters' is taken from Marx's and Engels's striking phrase in *The Communist Manifesto*: "The bourgeoisie… has drowned the most heavenly ecstasies of religious fervor, of chivalrous enthusiasm, of philistine sentimentalism, in the icy water of egotistical calculation."

[13] "If Rockefeller Center represented the most complete 'disenchanted mountain' of the 1930s, renovated Pittsburgh was the maximum example of the 'disenchanted city' of the 1960s. The capitalist city no longer hid its face beneath a romantic mask; no Mendelsohn would ever again photograph Pittsburgh as a mysterious forest; no Saarinen or Ferris would be moved to 'sing' its force. The 'city without quality' created itself in Pittsburgh as the direct expression of the forces that actually manage it." Ibid, p. 493.

scraper,' embodied by the then brand-new World Trade Center (WTC) in New York: those "inflated, empty signs, intent on communicating nothing beside their own surreal presence."[14] The WTC represents then for Tafuri a turning point in the spatial logic of the skyscraper, which now, liberated from the burden of having to sustain the utopian 'fiction' of giving the urban any sense of intelligibility, comes instead bluntly and unapologetically to represent nothing other than capital itself.[15] At the same time, the impressive new scale of the Twin Towers made clear that "the relationship between skyscraper and city has been definitely broken," a condition that transformed the building into a "gigantic antiurban machine" (503) which, by virtue of its size alone —of its ever increasing height and volumetric proportions— aims at attaining "the value of a totality" in direct confrontation with the totality of the capitalist city itself. This outgrowth is what defines the definitive mutation of the skyscraper, at the turn towards the last quarter of the twentieth century, into an "antiurban paradox"[16] (503): for its movement from 'enchanted' to 'disenchanted' must be grasped as both a process of further isolation, or alienation, of the building from the urban field of the city, and at the same time as its full formal instrumentalization by the forces of late capitalist development.[17]

[14] Ibid., p. 500. As we will see below, this is a contestable proposition, as the WTC indeed became the totem of a complex global financial system—an architectural construct whose symbolism operated at multiple levels of signification.

[15] "Everything can be sacrificed to the metaphysics of quantity they [the Twin towers] incarnate: economy of general conception, technological logic, an urban-planning logic as well." Tafuri, Ibid., p. 500.

[16] Although Tafuri uses the word 'urban' throughout the essay, it is clear that for him such concept is a synonym of 'city.' This is, as we will see later on (especially in Chapter Three), a conflating that must be problematized today, when the 'urban' engulfs within its abstract substance city and non-city spaces alike.

[17] **NO PIECEMEAL CHANGE —** One might pose here that Tafuri's conclusion about the skyscraper is consistent with his pessimistic claim regarding architecture's emancipatory impossibility. Under the rule of capital, his thesis poses, any individual building will always be in contradiction with both its social function and its urban context. The most the building can do is to attempt to resolve these contradictions via ingenious formal innovation, but even these are ultimately bound to fail, since they are confined within an aesthetic domain severed from the social body out of which contradictions emerge in the first place, and —fundamentally— because systemic change, if it can be properly named as such, cannot be fragmentary or piecemeal but must be *total*. Cf. Tafuri, *Architecture and Utopia*; also Jameson's exegesis of Tafuri's critique in his essay "Architecture and the Critique of Ideology."

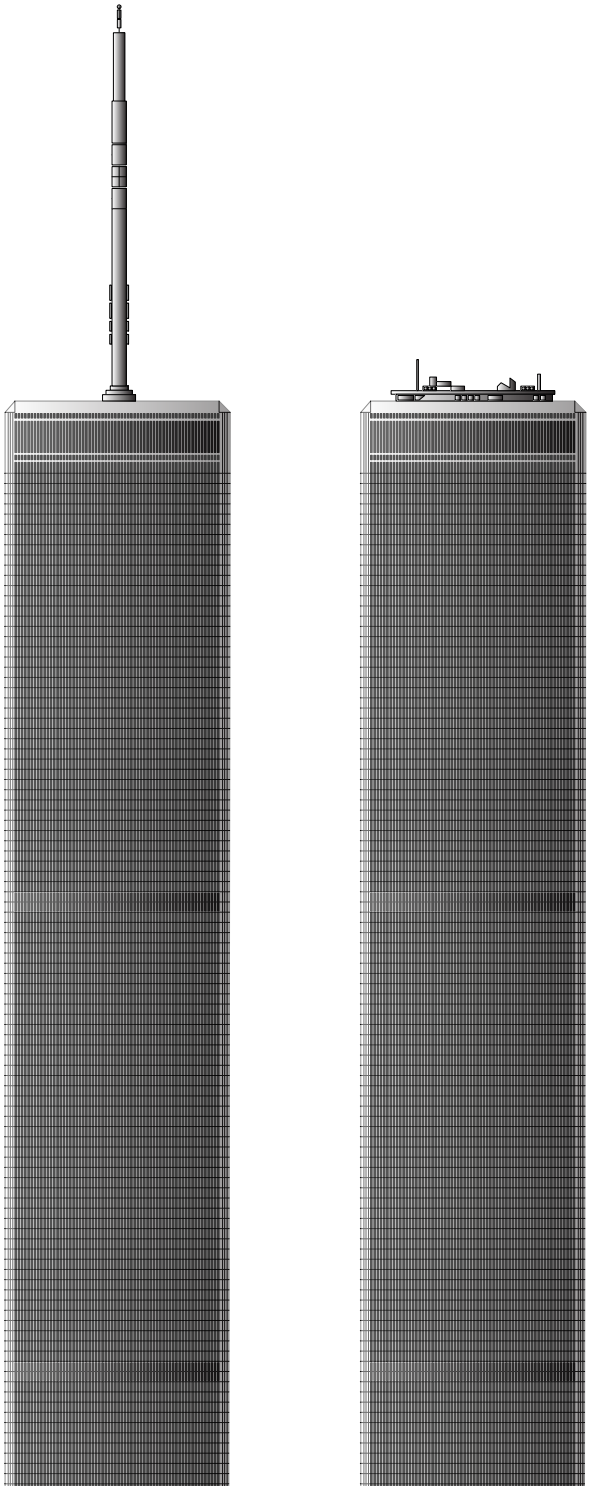
Figure 1.1: **WTC**

New York
1973-2001
Drawing by author

600 m

400 m

200 m



1.2—Circa 1973

Threshold

> "The Twin Towers… marked in towering glass and steel the moment of transition from Fordism to flexible accumulation led by the financialization of everything."[18]

I will argue that what the emergence of the World Trade Center signals is not (only) a break with the city, as Tafuri advanced, but more generally a radical moment of transition which, retrospectively, can be seen to constitute a turning point in both the conception of the skyscraper and its role within the new world order that was unfolding in parallel to the Twin Towers' appearance on the Manhattan skyline. The hypothesis here is indeed that proposed by David Harvey in the preceding epigraph. In other words, what Tafuri —writing from the historical vantage point of the early 1970s— could only see as the culmination of his own analysis can be understood, from the present time, as designating a moment of mutation within the longer trajectory of the skyscraper throughout the (long) twentieth century, one which is prompted by, and inscribed within, the systemic shift of the capitalist system itself. Indeed, what Harvey seems to suggest is that the World Trade Center has to be grasped as a *symptom* of the transformation of capital itself; or, more specifically, as an *architectural expression*[19] of some key aspects and dimensions of capital's new structural configuration. According to this reading, the WTC is therefore standing at a broader historical threshold, for which it itself appears as symbol. What is at stake, from this perspective, is therefore to identify what new dimensions of analysis the crossing of this threshold introduces, which in turn must be taken into account in order to critically update Tafuri's insightful but incomplete reading of the skyscraper's status after 1973.

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[18] David Harvey. "Cracks in the Edifice of the Empire State," in Michael Sorkin & Sharon Zukin, eds., *After the World Trade Center: Rethinking New York City* (Routledge, 2002), p. 58.

[19] **SYMPTOM —** As Fredric Jameson agues, the architecture of the post-1970s, as much as post-1970s art in general, have to be understood as specific "symptoms" of that systemic transformation which he, building upon Ernest Mandel, calls 'late capitalism.' As such, these 'spatial' symptoms "express" specific aspects of capital's new, largely expanded structures. In this sense, Jameson says, these "symptoms are themselves expressions" of the system's new dimensions. Jameson, "The Aesthetics of Singularity: Time and Event in Postmodernity", *New Left Review* 92, (March 2005), p. 101-132.

Global(ization)

> The World Trade Center was the eye of a needle through which global capital flowed, the seat of an empire. However anonymous they appeared, the Twin Towers were never benign, never just architecture.[20]

What Harvey calls 'flexible accumulation' is indeed a new logic of capital, one possible way of naming the profound transformations that the system has undergone since the last quarter of the twentieth century onwards.[21] Such transformations —which are manifold, expansive, and occur simultaneously at the level of political economy, of technology and culture, and of spatial organization— prompted, Harvey argues, a new, and more 'flexible' regime of capital accumulation, one characterized by "rapid change, flux, and uncertainty" and defined by the "*global* dynamics of a new kind of capitalism."[22] For Fredric Jameson, this new stage of capital can be simultaneously described as the age of globalization and financialization, and as a time dominated by "space and spatial logic."[23] All of these dimensions —the world-scale scope of capital's reach; its financial (and cultural) volatility and expansion; its omnipresent spatiality— are for him subsumed, and kept together, under a single and relational 'periodizing concept': *late capitalism*.[24] In effect, what this label signals is "the theory of something like a total system" marked by the creative destruction of older social structures, the subsumption of nature under abstract space, and even the penetration of the 'Unconscious' itself by what thinkers of the Frankfurt School called 'culture industry,' namely, "media, mass culture, and the various other techniques of the

[20] Michael Sorkin, Sharon Zukin, Introduction to *After the World Trade Center,* no page indexed.

[21] Cf. Harvey, *The Condition of Postmodernity: An Inquiry Into the Origins of Cultural Change* (Blackwell, 1990), especially Part II, Chapter 9.

[22] Such new 'flexible' nature of capital is to be sharply differentiated from what Harvey describes as the 'rigidities' of the preceding Fordist period —'rigidities' which defined, to a large extent, the technological as much as the aesthetic conditions of possibility of the early and mid-twenty century skyscraper critically dissected by Tafuri. Harvey, *The Condition of Postmodernity*, p. 124; 137, respectively. My emphasis.

[23] See Jameson's updated formulation of his earlier theorization of 'postmodernism' (which he now terms 'postmodernity'), in his "The Aesthetics of Singularity: Time and Event in Postmodernity". One of the most important additions to his initial reading is indeed the theory of finance capital developed by Arrighi.

[24] Cf. Fredric Jameson, *Postmodernism, or the Cultural Logic of Late Capitalism* (Duke University Press, 1992). Jameson, building upon Ernest Mandel's formulation, mobilizes 'late capitalism' so as to convey that "something has changed, that things are different, that we have gone through a transformation of the life world which is somehow decisive but incomparable with older convulsions of modernization and industrialization, less perceptive and dramatic, somehow, but more permanent precisely because more thoroughgoing and all-pervasive." (p.xxi)

commodification of the mind."[25]

Although this new stage of capital had been incubating since the post-war,[26] it effectively crystallized into a more cohesive structure, Jameson argues, around the "great shock of the crises of 1973," including the oil crisis, "the beginning of the end of traditional communism, and the end of the international gold standard."[27] In effect, this last episode—the breakdown of the Bretton Woods agreement, a critical juncture that entails nothing other than a mutation, or dematerialization, of the money-form itself[28]—is often considered to mark the shift towards our current, vertiginous world of accelerated speed and consumption; namely, as the rise of a financial-monetary-technological apparatus whose scale and complexity "are completely unprecedented in human history."[29] It is at this very historical turning point, amid the unfolding of this convoluted new world and its associated crises, that the World Trade Center—whose doors opened in New York on April 4, 1973—will come to symbolize, as Harvey's provocative remark hypothesizes.[30]

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[25] Jameson, "Architecture and the Critique of Ideology," in *The Ideologies of Theory*, p. 356.

[26] Ibid. Here, Jameson expands the initial formulation of his *Postmodernism,* locating this logic's initial, embryonic manifestations in "the immediate postwar period in the United States and the late 1950s in Europe."

[27] Jameson, *Postmodernism,*, p. xix-xx.

[28] **GOLDEN TOWERS —** "Since 1973, money has been 'de-materialized' in the sense that it no longer has a formal or tangible link to precious metals (though the latter has continued to play a role as one potential form of money among many others), or for that matter to any other tangible commodity. Nor does it rely exclusively upon product time activity within a particular space. The world has come to rely, for the first time in its history, upon immaterial forms of money." Harvey, *The Condition of Postmodernity*, p. 297. Cf. Also David Graeber, *Debt: The First 5,000 years* (Melville House, 2014), Ch. 12: "The Beginning of Something Yet to Be Determined," esp. p. 362-363. There, Graeber mentions a curious rumor that had been circulating for decades in New York City, and which suddenly acquired unexpected traction right after the attack to, and collapse of the Twin Towers on September 11, 2001. Apparently, many people believe(d) that the Towers were literally standing on top of secret gold vaults containing "not just the US gold reserves, but those of all the major economic powers" of the world. If anything, the collapse itself intensified the myth: Had the gold melted with the towers destruction? Had any of this to do with the attack itself? Setting aside the verisimilitude of this story, the towers were actually very close to where the US Federal Reserve's gold stockpile, together with those of "more than one hundred other central banks, governments, and organizations", *are* actually stored: the Federal Reserve building, located only two blocks away from the WTC. That the public imaginary linked them to the Twin Towers is, within the framework of this study, revealing enough: where else could the gold have been hidden, or so the logic would seem to suggest, if not in the most conspicuous architectural embodiment of capital(ism) itself?

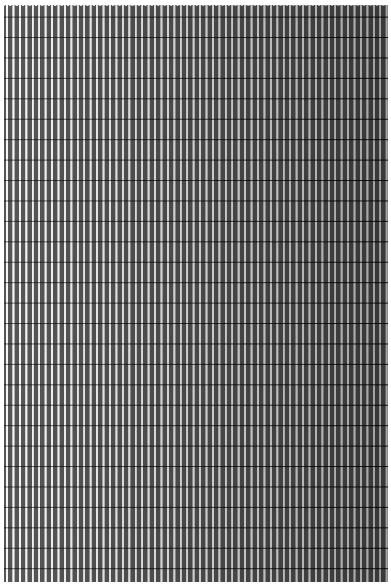
[29] Martin Arboleda, "On the Alienated Violence of Money: Finance Capital, Value, and the Making of Monstrous Territories", in M. Gomez Luque and G. Jafari, eds., New Geographies 09: *Posthuman* (Harvard GSD, Actar, 2018), p. 98-105 (quote p. 101).

[30] Among the novel dimensions unleashed by these cascading crises, which characterize the transition to this new stage of capital, both Harvey and Jameson include the rise and the global expansion of the financial sector, the development of new technological and computational forms, the emergence of new logics of consumption, of cultural and aesthetic production, and a whole new kind of relation to space and time, which Harvey describes in terms of 'a new round of time-space compression', and Jameson as the rise of 'hyperspace.' See Harvey, *The Condition of Postmodernity*, p. 147; and Jameson, *Postmodernism*, p. xviii-xx; 43. At advanced in the Prologue, the location of the shift around the early 1970s is here coincidental, at the level of cultural and social analysis, with the temporality of the systemic shift identified by Arrighi in his reading of capital in the *longue durée*, which we have taken as a general point of departure for this study.

Financial(lization)

> The towers belonged, first, to a global circuit of capital flows, where money—or its abstract symbols—passed through national stock exchanges, multinational banks, and global trading firms just as their local employees passed through the turnstiles at Cortlandt Street.[31]

As it has been often pointed out—especially after 9/11, 2001—the towers, although situated in New York, were actually the totem of larger, multinational networks of power; the visible image of a faceless planetary financial empire.[32] Indeed, there was a correlation between the towers' relentlessly 'cold' appearance and unprecedented size, and the new and rapidly growing abstraction of finance capital itself. Following Jameson, we can say that they introduced a new kind of architectural mediation "between the economic and the aesthetic" through which the abstraction of finance acquired corporeal expression.[33] While the aesthetics of the towers, on the one hand, created the illusion of condensing in architectural form the vastly fluid, extensive and intangible circulation of financial capital (giving it a 'face'),[34] on the other, and by virtue of its "circular and tautological seriality," it also symbolized finance's "spectral capacity to be here and here and here at the same time."[35] The very image of the WTC (→), then, both represented the epicenter or 'locus' of global financial power and si-



[31] Sharon Zukin, "Our World Trade Center", in *After the World Trade Center*, p. 15.

[32] "[T]he two towers [were] both a physical, architectural object and a symbolic object (symbolic of financial power and global economic liberalism)." Jean Baudrillard, "Requiem for the Twin Towers", In his *The Spirit of Terrorism and Other Essays* (Verso, 2012, digital edition, no pagination).

[33] Jameson, "The Brick and the Balloon: Architecture, Idealism, and Land Speculation", in Jameson, *The Cultural Turn: Selected Writings on the Postmodern, 1983-1998* (Verso, 2009), p. 162-189. I return to this text in Chapter Two.

[34] "The key symbolic role of the World Trade Center, the rationale for both its design and is destruction, was to represent the global marketplace. In a strange way, supersolid, supervisible, superlocated buildings stood as a figure for the dematerialized, invisible, placeless market." Mark Wigley, "Insecurity by Design", in *After the World Trade Center*, p. 74.

[35] Reinhold Martin, *Utopia's Ghost: Architecture and Postmodernism, Again* (The University of Minnesota Press, 2010), p. 108; 106, respectively.

multaneously codified its ubiquity.[36] There is here a complex relationality between that which is being represented and the very medium of representation itself. For, as Reinhold Martin argues, the abstraction of finance capital not only defines the physical form(s) of architecture, "but it is also defined by them." The kind of skyscraper that the WTC introduces, thus, has to be seen as an architectural instrument through which "financial globalization [was not only made] visible" but was brought "into being in the first place."[37] This is not to suggest, however, that architectural form constitutes the only (or privileged) medium through which the abstraction of finance capital is materially expressed, but rather that it is indeed one among the "cluster of interdependent processes constituting [finance] as a historical and *spatial* incarnation" of the late capitalist mode of production.[38] In this sense, the kind of architecture that the WTC introduced —its material scale as much as its aesthetics—can be seen to have provided one particular instance for such spatial incarnation to occur; or, in other terms, to have articulated a spatial substrate upon which finance capital, although in itself an abstract logic of "accumulation [which] no longer passes through the production of goods"[39] could nevertheless be both symbolically-and-materially hosted within a concrete building form.

Cloning

> "The [World Trade Center] towers… are the city itself and, at the same time, the vehicle by means of which the city as a historical and symbolic form has been liquidated—repetition, cloning."[40]

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[36] This is, indeed, the reason why they were targeted for destruction, as Baudrillard suggests: "Shaped in the pure computer image of banking and finance, (ac)countable and digital, [the towers] were in a sense its brain, and in striking there the terrorists have struck at the brain, at the nerve-centre of the system." For, he adds, "The violence of globalization also involves architecture, and hence the violent protest against it also involves the destruction of that architecture." Baudrillard, "Requiem for the Twin Towers."

[37] Reinhold Martin, "Financial Imaginaries," in *The Urban Apparatus: Mediapolitics and the City* (The University of Minnesota Press, 2016, digital edition), no pagination.

[38] Cédric Durand, *Fictitious Capital: How Finance is Appropriating Our Future* (Verso, 2017, digital edition), Introduction: "The Sign of Autumn", no pagination. My emphasis.

[39] Franco Berardi, *The Uprising: On Poetry and Finance* (Semiotexte, 2012), p. 23.

[40] Jean Baudrillard, Jean Nouvel, *The Singular Objects of Architecture* (University of Minnesota Press, 2002), p. 38.

The WTC was not a 'mountain' in the Tafurian sense; it expressed nothing organic or romantic in its image and formal constitution. On the contrary, there was something uncanny about their duplication, which would come to anticipate not only the "end of any original reference"[41] characteristic of the postmodern and the reproducibility of capital as spectacle and simulacrum within urban space,[42] but also its ulterior planetary-scale replication across variegated geographies of the world as a quasi-automatic *framework of accumulation*, as we will later explore. Michael Hays, building upon Baudrillard's notion of 'architectural cloning,' writes that "the twinness of the Twin Towers —a building that was a replica of itself— was already… an anticipatory sign of the computerized, genetically networked, cloning society that was emerging."[43] Yet, the implications of Baudrillard's idea of 'cloning' go beyond that, as they suggest that the *serial* multiplication of this large architectural object as a repeatable formula deployed within the urban fabric introduces a new, openly conflictive —if not antithetical— relation between city and architectural form, as Tafuri's meticulous analysis concluded. Writing a decade before the construction of the WTC, Lewis Mumford —an implacable critic of the skyscraper— had already postulated a correlation between the quasi-mechanic urban reproduction of ever-taller skyscrapers across large-scale territories, and the formal dissolution of the city's 'image' itself.[44] As urbanization proceeded unrestrained, Mumford warned in the early 1960s, the historical image of the city was "sinking out of sight," (112) eclipsed by the rise of an "urbanoid tissue [which] can be produced anywhere, at a profit, in limitless

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[41] "The fact that there were two of them signifies the end of any original reference. If there had been only one, monopoly would not have been perfectly embodied. Only the doubling of the sign truly puts an end to what it designates." Baudrillard, "Requiem for the Twin Towers."

[42] **SPECTACLE —** In *The Condition of Postmodernity*, Harvey emphasizes the importance of the proliferation of commodified images throughout both media and urban space alike. The "bombardment of stimuli" witnessed after the 1970s, Harvey points out, was to introduce "problems of sensory overload that [made] Simmel's dissection of the problems of modernist urban living at the turn of the century seem to pale into insignificance by comparison." (p. 286) This becoming-image of capital, ("the spectacle", Guy Debord famously asserted in thesis 34 of his *Society of Spectacle*, "is *capital* accumulated to the point that it becomes images"), this explosion of signs of all kinds, and their associated psychological and spatial reverberations —their accentuation of the sense of volatility and ephemerality of fashions, products, production techniques, labour processes, ideas and ideologies, values and established practices— is for Harvey to be grasped vis-à-vis the development of electronic banking, new expressions of the money-form, and the global expansion of financial services, all of which contributed to the intensification of these dynamics. Seen in this relational light, space therefore becomes a medium in which the more intangible dimensions —cultural, political-economic, technological— of the late capitalist world acquire concrete form.

[43] Baudrillard and Nouvel, *The Singular Objects of Architecture*, Foreword by Michael Hays, p.xi.

[44] **ANTI-HUMAN ARCHITECTURE? —** Lewis Mumford, "The Disappearing City", in Donald L. Miller, ed., *The Lewis Mumford Reader* (Pantheon Books, 1986), p. 108-112. Subsequent references are given parenthetically after quotations. Is the skyscraper an anti-human building? Mumford seems to agree, based on the many critical commentaries on the different incarnations of this building type dispersed throughout his writings. For him, the skyscraper is an "anonymous repetitive bureaucratic" form; an abstract instrument of financial speculation"; "humanly speaking [towers]… stink"; by their "very scale and impersonality," very tall buildings constitute "an alien and… hostile environment." Moreover, the skyscraper is "an eloquent but unintentional symbol of the great perversion of life values that takes place in a disintegrating civilization" which encourages a "love of abstract magnitude… land-gambling, [and] conspicuous waste." *The Mumford Reader*, p. 76; 185; 239; 95; 57 respectively. See also his short piece, "Magnified Impotence", published by *The New Republic* on December 22, 1926, where he angrily writes: "The people who see our architectural salvation in the skyscraper know very little, I suspect, about either architecture or salvation."

quantities." (110) Such tissue, he suggested, had both an extended ('suburban') spatial manifestation, as much as a concentrated one, which he described as a vertical 'anti-city', or, as he also put it, the "multiplication of standard, de-individualized high-rise structures, almost identical in form, whether they enclose offices, factories, administrative headquarters, or family apartments, set in the midst of a spaghetti tangle of traffic arteries, expressways, parking lots, and garages." (112) Mumford's was, indeed, a prescient formulation, for it anticipated the implications of the large-scale reproduction of the skyscraper-form for the morphological identity and the historically sedimented 'image' of the city—implications that, as Baudrillard argued later, were to be intensified by the new spatial scale introduced by the WTC itself. Writing circa 1970 (and thus closer to our 'threshold' here) Henri Lefebvre proposed that the radical expansion of capitalist space could not any longer be captured by the deployment of the concept 'city' —understood as a clearly defined, bounded object— but had instead to be grasped in terms of an *urban process*.[45] His pathbreaking analysis, indeed, locates the rise of "planetary urbanization" —the unfolding of the urban as a socio-spatial process cutting across city and noncity spaces alike— around the transition towards the last three decades of the twentieth century.[46] What this radical theorization of (late) capitalist space entails is that even those landscapes that lie beyond the traditional city —formerly 'remote' territories now integrated into a global spatial web, and increasingly irrigated with skyscraper-forms, as Mumford's early 'vertical anti-city' anticipated— have to be considered as an integral part of the variegated urban fabrics of the world.[47]

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[45] "[T]he 'urban': this term is preferred to the word "city", which appears to designate a clearly defined, definitive *object*, a scientific object and the immediate goal of action, whereas the theoretical approach requires a critique of this 'object' and a more complex notion of the virtual or possible object." Henri Lefebvre, *The Urban Revolution* (The University of Minnesota Press, 2005), p. 16.

[46] **PLANETARY URBANIZATION —** As Neil Brenner and Christian Schmid argue —building upon Lefebvre's conceptual framework— such worldwide expansion of the urban (whose early manifestations they locate at the turn towards the late twentieth century) would subsequently entail a number of profound transformations, including a) the creation of ever-larger scales of space production, b) the blurring and reshuffling of territorial boundaries, c) the dismembering and disintegration of the 'hinterland', and d) the disappearance of 'wilderness.' Given this complex and significantly reconfigured global spatial scenario, the 'urban', authors contend, cannot any longer be understood as a discrete spatial form or type of settlement space, but as a planetary-scale condition in which political-economic processes and socio-spatial relations are deeply enmeshed. See Brenner and Schmid, "Planetary Urbanization", in Brenner, ed., *Implosions / Explosions: Towards a Study of Planetary Urbanization* (Jovis, 2014), p. 160-163.

[47] It should be noted, as Brenner and Schmid have insisted, that the collapse of spatial barriers and the urbanization of remote territories does not mean that the significance of cities is decreasing. What this approach insists on, on the contrary, is that the so called "world cities" that emerged as financial and corporate epicenters after the 1970s (global enclaves equipped with teleports, airports, fixed communication links, as well as financial, legal, business and infrastructural services) must be understood as constituting a specific moment of concentration within a broader process of expansion and extension of the urban across virtually all landscapes of the planet. Urbanization, therefore, is to be grasped as a dialectic of intertwined moments of concentration and extension. See Brenner, "Theses on Urbanization", *Public Culture* 25:1 (2013), p. 85-114, especially thesis 9.

1.3 — Post-1973

The Skyscraper After the World Trade Center

> As the skyscraper has spread to other continents, one may wonder whether it still has the same meaning and function it had in the beginning.[48]

On the one hand, the WTC can be seen as a radically upscaled *singular object*, whose then unprecedented height and mystifying aesthetics formally codified the growing abstraction of finance capital itself. The complex's 'singularity,' in this regard, reasserted its own character as a "self-contained machine" at once negating the city out of which it emerged,[49] as Tafuri had indeed argued, and symbolizing a new —global and all-encompassing— network of power. On the other hand, the towers' condition as 'clones', i.e., as *generic objects* —expressed in their perfectly mirrored symmetry and diagrammatic formal expression— uncannily anticipated the massive and quasi-mechanic proliferation of the skyscraper-form in ulterior decades, when its geographical epicenter would be displaced from North America to the Eastern world [**Figure 1.2**]. It is after this threshold, then, that the type will effectively be turned into a global architecture of capital devised not only to symbolize the system at a cultural/ideological level, but also to expand capital's abstract urban space at new territorial scales. In its interplay between uniqueness and reproducibility —the former entailing a complex aesthetic mediation between the increasing abstraction of political-economic processes; the latter instrumental in the urban expansion of capitalist development—, the WTC appears as the architectural marker of a historical shift towards an era in which financialization and urbanization would come to reconfigure the world in profound ways. In this scenario, vertical architecture will come to play an important role, as the following two chapters will attempt to postulate. Far

[48] Jean Gottmann, "Why the Skyscraper?", *The Geographical Review* (1966) 56:2, p. 188.

[49] "The Twin Towers were purposely isolated from the downtown street system, and designed to fit Le Corbusier's dictum 'We must kill the street.'" Marshal Berman, "When Bad Buildings Happen to Good People," in *After the World Trade Center*, p. 7. For an extended discussion on LC's call to 'kill the street!,' see Berman, *All That is Solid Melts Into Air: The Experience of Modernity* (Penguin Books, 1988), p. 164-171.

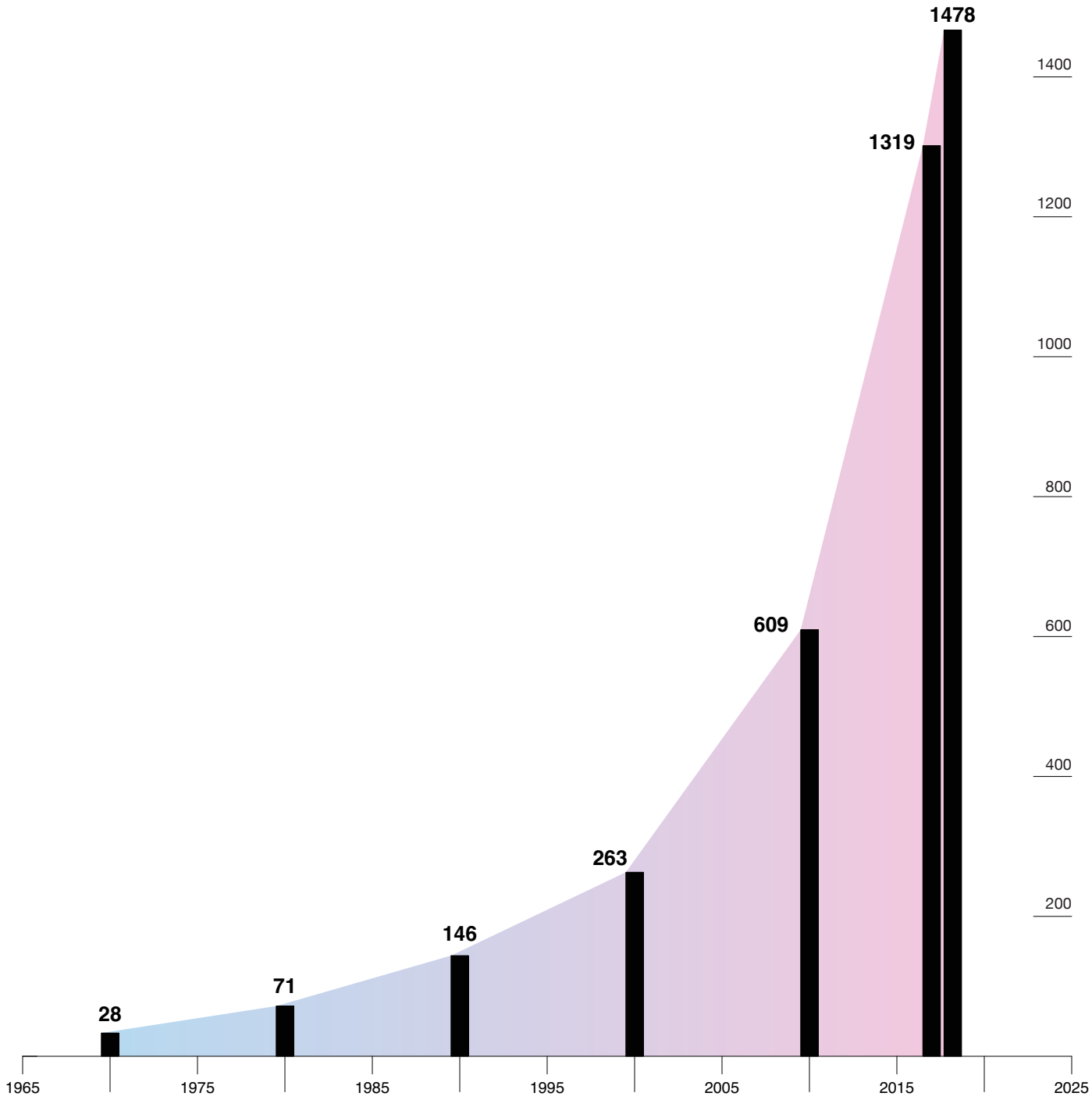

Figure 1.2: number of **+200m tall skyscrapers, 1973-2018**

Gradient from blue to red represents the transition from North America to Asia: 67% of total amount of skyscrapers in the world is now on Asian soil.

Source: Council on Tall Cities and Urban Habitat
Diagram by author

from being just another episode in the historical trajectory of the skyscraper in the *longue durée*, the WTC embodies then a mutation of the type which cannot be detached from the broader systemic transformations in the logic of capital itself, but must rather be considered as instigated by, and occurring in simultaneity with, these last. In this particular sense, architecture must be understood here as a sort of material and formal background in which less visible or tangible changes are inscribed and expressed; or, as Martin writes, "as a cipher in which is encoded a virtual universe of production and consumption, as well as a material unit, a piece of that universe that helps to keep it going."[50]

Reassessment

> The critique of capitalism requires not only adaptations to every transformation of the system but a constantly renewed critique of the analytic instruments designed to understand it.[51]

If we now, in light of these considerations, return to Tafuri's text, it would be necessary to update some of the problems he productively introduced — problems which, reformulated, can in turn be used as conceptual guidelines for the excursuses that follow. As implied in the initial section of this text, his critique is built upon a dialectic between the skyscraper and the city. For him, accordingly, any analysis of the building's historical transformation has to be mapped, conceptually as much as materially, within the space of the capitalist metropolis.[52] Yet, and paradoxically, the culmination of his narrative posed that, as both the building and its urban field became greatly enlarged, their relation reached a point of inevitable disjuncture and was ultimately "broken."

But, as the discussion on the WTC suggests, Tafuri's dialectic skyscraper/city does not hold after 1973. For, as insinuated above, and as we will see later, after passing through this 'threshold' the skyscraper will become at once a singular,

[50] Martin, *Utopia's Ghost*, p. xi.

[51] Ellen Meiksins Wood, *Democracy Against Capitalism: Renewing Historical Materialism* (Verso, 2016 [1995], digital edition), Introduction, no pagination.

[52] For Tafuri, Jameson reminds us, "the outer limit of the individual building is the material city itself, with its opacity, complexity, and resistance." Jameson, *The Ideologies of Theory*, p. 353.

increasingly enlarged symbol of financial *globalization* and a serially reproduced generic form replicated in significantly larger quantities and strategically deployed across the unevenly developed landscapes of an urbanized world. These new dimensions, it seems clear, entail both a symbolic and spatial stage vastly superior to that of the city: that of the planet itself. Therefore, Tafuri's critical-analytical framework 'skyscraper/city' would have to be fundamentally reframed as a dialectic 'skyscraper/planet' (see below, Epilogue). Videlicet, from 1973 onwards, any analysis of the building's spatial and symbolic functions cannot be circumscribed (only) to the scale and the concept of the 'city' —whose status, as we saw, must be re-conceptualized in light of a critical study of the urban—, but has rather to be embedded within a properly *global* schema. This is not to say, however, that the building's (conflictive) relation with the city is not to be taken into account, but rather that such consideration must be pursued against the background of a radically enlarged scope of inquiry.

At a more specific level, Tafuri's American-European conceptual genealogy of the skyscraper would have to be (definitely) circumscribed to the space and time correspondent to the first half of the twentieth century, and a new spectrum of skyscraper-forms (the super-tall, the mega-tall, as seen not only in the US, but also, and especially, in China and the Middle East) will have to be cognitively mapped against the drastically reconfigured and expansive urban spatiality of the post-1973 world-scenario.[53] Such genealogy will, accordingly, have to mobilize the 'urban,' and not just the 'city,' as a guiding theoretical framework. In this regard, the question may not be whether the relation skyscraper/city is broken —this might well be indeed a misplaced or incomplete assumption, see below, p. 105-106—, but rather to explore how the status and the terms structuring such a relation have been reconfigured within the spatiotemporal coordinates of late capitalism and its associated global, financial, and urban/spatial logics. Likewise,

[53] **FORMAL PARAMETERS —** I'd like to clarify, from the onset, what the formal parameters for defining a building in terms of a skyscraper are. I follow here the standard definition of the type as set by platforms such as Emporis and The Council of Tall Buildings and Urban Habitat (CTBUH): a skyscraper is a building at least 100 meters tall. CTBUH, in turn, defines a 'super-tall' skyscraper as a structure at least 300 meters tall, and reserves the expression 'mega-tall' skyscraper for buildings taller than 600 meters. The functions of these enlarged forms are not any longer circumscribed to office space, as initial 'canonical' categorizations proposed (more about this in Chapter Two and Three), but now encompass a variety of programs, including the residential one, historically captured by the modernist term 'high-rise.' For an interesting discussion about the historical differences between the terms 'skyscraper' and 'high-rise', see Jane M. Jacobs: "A Geography of Big Things", *Cultural Geographies* 13:1 (2006), p. 1-27. There, Jacobs separates the meaning of 'skyscraper' from that of 'high-rise', presenting the former as 'mainly' a commercial form, detached from the 'social' function of the latter as an infrastructure of housing. Jacobs: "[t]he (mainly) commercial skyscraper and the residential high-rise are only distantly related forms. Indeed, nowadays we would assume that the state-sponsored residential high-rise was but a poor, lost cousin of the skyscraper." (6) For Jacobs, there is a tension between, on the one hand, the 'singularity' of the skyscraper, often presented as totem symbolizing 'difference' ("a mark of becoming different"), and on the other 'generic' features of the high-rise as a spatial form consistently repeated and reproduced at a planetary scale ("a mark of becoming modern" [meaning "more civilized, more international"]). What emerges is then a dialectic between uniqueness (skyscraper) and seriality (high-rise), spectacular iconicity and dull reproducibility. In my account, these two dimensions —as already suggested in this initial Chapter— are subsumed under the rubric 'skyscraper' itself, which in turn will be said to adopt, during the course of late capitalism, two 'surface appearances' (see below, Ch. Three): that of the 'singular' and 'generic' object of architecture.

Tafuri's intrinsic definition of the skyscraper as a "typology of the exception"[54] (a 'mountain') will have to be critically reconsidered in light of the seemingly ubiquitous proliferation of the building not only as a *singular* but also as a *generic* form, differentially deployed across an urban fabric cutting through both so-called 'global cities' and their less visible counterparts —'generic', 'informal' or 'ghost' cities— as well.

A Force Field of Discourses

> A certain power resides in discourses. Once things are cast exclusively in one language, then it becomes difficult, if not impossible, to hear or see critical perspectives that depend upon another.[55]

In the preceding sections I have rehearsed, in broad, general terms, the themes that I intend to discuss in more detail in the next chapters. My intention in the following pages is merely to trace some of the main contours of these processes and dynamics along the lines of a chronologically organized narrative, in turn structured in the form of a critical engagement with a selected constellation of theoretical texts about the skyscraper published after 1973. Tafuri's landmark intervention then provides not only the starting point for the articulation of this sequential narrative, but will also operate —keeping the just outlined problematization of its conclusion in mind— as the conceptual background against which many of the coming observations and critiques will resonate. Such narrative will use as its raw material two set of discourses: on the one hand, a series of *mainstream* design narratives; on the other, a curated selection of critical textual interventions following in Tafuri's steps, which expand and push his general thesis in new directions.[56] I read these opposed discourses as hegemonic and counter-

[54] Tafuri, *The Sphere and the Labyrinth*, p. 172.

[55] David Harvey, "Cracks in the Edifice of the Empire State," *After the World Trade Center*, p. 57.

[56] **MAINSTREAM DISCOURSES** — I address more in detail what the label 'mainstream design discourses' on the skyscraper is meant to convey on Chapter Two, but I advance here in more general terms that these are constituted by textual architectural interventions which, concerned with the skyscraper as an *object of architectural design*, are broadly in alignment with the institutionalized *episteme* (the building's definition, its formal and structural characteristics, etc.) historically constructed to circumscribe and delineate the concept 'skyscraper'. Thus I will come to define them as 'formalistic' in the following Chapter(s). By contrast, a critical lineage of neo-Marxist readings of the skyscraper (which in manifold ways are implicitly or explicitly related to Tafuri's radical critique of architecture) reads the building as an *object of critique*. As we will see, and elaborate upon, while the former tends to privilege the skyscraper as *form*, the latter will consider it as embedded within capital's totalizing *processes*.

hegemonic, respectively.[57] Such characterization is intended to update, reframe, and recast, in the context of late capitalism, the divergent modes of reading this building form, already present and set in antagonistic tension ever since the onset of the long twentieth century. For, as scholar Joanna Merwood-Salisbury argues, the skyscraper has always been at the center of an "architectural ideological battle."[58]

At stake in what follows is then a reading of how this battle is configured within the spatiotemporality of late capitalism and its 'force field' of cultural impulses.[59] The post-1973 skyscraper will therefore be presented here as the site of competing discourses—discourses which, by deploying specific interpretive codes, attempt to define and/or contest the very terms through which the building is to be thought, and thus rendered intelligible. The line dividing hegemonic from counter-hegemonic discourses is drawn by the irreconcilable conceptual and ideological apparatuses deployed in the construction of these narratives: the former mobilizing a framework that is (despite interpretative nuances) largely accepting —when not openly celebratory— of the building's nature as speculative business enterprise, and of its symbolic role as capitalist icon; the latter articulating a immanent critique intended to undermine the fetishization of the skyscraper as form and thus concerned with a more relational understanding of the building's status within the contemporary urban world and vis-à-vis abstract dynamics of accumulation and urban space production. On the one hand, and more precisely, I define mainstream or hegemonic discourses as those that continue to reproduce and update, albeit in new forms and by mobilizing a wider constellation of analytical —aesthetic, economic, technological— lenses, the

[57] **CAPITALIST SPECIES OF BUILDING —** At a general level, I use the word 'hegemonic' in the sense that Chantal Mouffe mobilizes this Gramscian term: "We call 'hegemonic practices' the practices of articulation through which a given order is created and the meaning of social institutions is fixed." Mouffee, *Agonistics: Thinking the World Politically* (Verso, 2013), p. 1. More specifically, what are here called 'hegemonic' discourses have to be understood as those which either explicitly or tacitly support, in their analytical approach to the skyscraper, the ideology of capital, and are therefore functional to the reproduction of the type as an *inherently capitalist species of building*; while the 'counter-hegemonic' ones constitute a rather more covert reservoir of (architectural) thought invested in radically opposing such naturalization.

[58] **THE SITE OF COMPETING DISCOURSES —** Joanna Merwood-Salisbury, "The First Chicago School and the Ideology of the Skyscraper", p. 35. Since the skyscraper's first appearance in late nineteenth century, Merwood-Salisbury notes, a confrontation immediately ensued, with its focus on the US but with some ramifications in Europe as well: on one side, there were the pundits of capitalism celebrating it as symbol of progress; on the other, radicalized labor movements, building trade unions, and anarchist groups vilified it as "an instrument of class oppression." (p. 25) By mid-twentieth century, however, such blunt confrontation (which had thus far played out at a multiplicity of venues, including popular newspapers and magazines as well as specialized architectural and real-estate journals) gave way to a more monochord and openly celebratory, positivistic rhetoric by means of which the skyscraper came to be framed primarily —if not exclusively— as a technological and aesthetic marvel. (p. 25) From that moment onwards, Merwood-Salisbury goes on to postulate, this last conceptualization became the 'defining narrative' of the skyscraper; so much so that such discourse "assumed the mantle of a modern 'mythology'", that is to say, "a historical construction whose ideological origins are suppressed." (p. 26)

[59] According to Jameson, 'the cultural logic' of late capitalism can be said to be articulated as a "force field in which very different kinds of cultural impulses —what Raymond Williams has usefully termed 'residual' and 'emergent' forms of cultural production— must make their way." Jameson, *Postmodernism*, p. 5.

canonic definition of the skyscraper as a consistent synthesis of aesthetic form and business enterprise. This mode of reading —solidified, ramified and intensified during the spatiotemporal frame of late capitalism— provides the grounds upon which the default, taken-for-granted, seemingly unchallengeable definition of the type relies. On the other hand, I conceive the lineage of neo-Marxist discourses springing from Tafuri's critique as counter-hegemonic, for they fundamentally reject any easy or straightforward synthesis between aesthetics and political economy, positing the post-1973 skyscraper instead as an increasingly enlarged form mutating together with, and ultimately instrumental to, abstract processes of accumulation.

New York by the end of the 1970s

Vast Machine of Accumulation

2

Throughout the late 1970s and 1980s, we find a proliferation of architectural readings that, in a variety of ways, emphasize the aesthetics, semantic and stylistic dimensions of the skyscraper, precisely at the moment in which the urban landscape of American cities —as Tafuri's analysis reveals— was becoming greatly enlarged and processes of land value speculation started to acquire new scale.[1] Within early postmodern architectural circles, an initial fascination with the image and meaning of architectural form took place in parallel with a process of decoupling of the discipline's theoretical apparatus from a critical consideration of the city and the relation between the architectural object and the urban.[2] Accordingly, it is not surprising to find, within early postmodern architectural circles, an initial fascination with the image and especially the *meaning* of the skyscraper.[3] In this regard, it is clear that there is an opposition between Tafuri's relational model of analysis, in which the skyscraper form must be read vis-à-vis the totalizing field of the capitalist city, and what we might describe as the rather more *formalistic* model of analysis pursued by mainstream design discourses during the course of late twentieth century, which will tend instead to consider the building in more autonomous terms.[4]

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[1] Cf. Charles Jencks, *Skyscrapers—Skycities* (Rizzoli, 1980); Paul Goldberger, *The Skyscraper* (Knopf, Inc., 1981); Ada Louise Huxtable, *The Tall Building Artistically Reconsidered: The Search for a Skyscraper Style* (Pantheon Books, 1984); Thomas van Leeuwen, *The Skyward Trend of Thought: Five Essays on the Metaphysics of the American Skyscraper* (AHA Books, 1986). I advance commentaries on each of these variegated and heterogeneous approaches to the skyscraper in **footnote 15** below.

[2] **THE POSTMODERN TURN IN ARCHITECTURE —** "Arrived at an undeniable impasse, architectural ideology renounces its propelling role in regard to the city and structures of production and hides behind a rediscovered disciplinary autonomy." Tafuri, *Architecture and Utopia*, p. 136. The turn towards the 1970s, scholar Mary McLeod writes, entailed a "return to the concept of architecture as art. Architecture's value no longer lay in its redemptive social power, its transformation of productive processes, but rather in its communicative power as a cultural object. If this new perspective harked back to traditional aesthetic parameters, it also reflected a new interest in cultural signs, spurred by semiology and communication theories. Meaning, not institutional reform, was now the objective." McLeod, "Architecture and Politics in the Reagan Era: From Postmodernism to Deconstructivism", *Assemblage* 8 (Feb. 1989), p. 27. Cf. Tahl Kaminer, *Architecture, Crisis and Resuscitation: The Reproduction of Post-Fordism in Late Twentieth Century Architecture* (Routledge, 2011); also, Douglas Spencer, *The Architecture of Neoliberalism: How Contemporary Architecture Became an Instrument of Control and Compliance* (Bloomsbury Academic, 2016). Consistent with these shifts, the post-1970s skyscraper will be both theorized (via architecture discourse) and designed (via architecture praxis) with concerns focused on the multiple dimensions of its formal, symbolic and typological constitution (its internal programmatic, structural, and material spatialities) rather than on the variegated abstract and physical networks of capital, labour, and infrastructural technologies that define its holistic complexity, as both a singular object functional to the 'cultural' logic of late capitalism, and as a generic spatial artifact instrumental in processes of capitalist urbanization.

[3] **SEMIOTICS OF THE SKYSCRAPER —** "[T]his can be seen as the semiotics of the skyscraper, with the buildings in question understood as texts open to continual reinterpretation", as Merwood-Salisbury has written more recently on her review of post-2000 architectural books on the skyscraper, such as Benjamin Flower's *Skyscraper: The Politics and Power of Building New York in the Twentieth Century* (University of Pennsylvania Press, 2009), or Meredith Clausen's *The Pan Am Building and the Shattering of the Modernist Dream* (MIT Press, 2005), which, although not comparable in any direct or straightforward manner with the 1970s-1980s group of publications addressed here, can be said to belong to the same, broad semiotic interpretative tradition. See Merwood-Salisbury, "The Death of the Skyscraper", in *Journal of Urban History* 38:6 (2012), p. 1133-1137.

[4] "[P]ostmodern currents, whether historicist or poststructuralist, can be viewed as a return to architecture as a primarily formal and artistic pursuit, one that rejects the social engagement of the modern movement." McLeod, "Architecture and Politics in the Reagan Era", p. 24.

Meanwhile, a planetary-scale process of financialization started to flourish.[5] Literary scholar Alison Shonkwiler situates the roots of what she calls 'the financial imaginary' in the last decades of the twentieth-century, when "the growth of global financial markets, […] the return to Gilded Age-levels of inequality, and the emergence of new technologies… made the logic of late capitalism clearer."[6] This logic, she contends, is that of a growing, all-encompassing abstraction.[7] Shonkwiler mobilizes abstraction as a mediating term through which to study the relation between economic and cultural forms, deploying a method that was indeed first articulated by Fredric Jameson's *transcoding* of Arrighi's longue durée framework into the cultural milieu of late capitalism. "As Arrighi teaches us," wrote Jameson in his seminal essay "Culture and Finance Capital" (1996), "nothing is quite so abstract as the finance capital which underpins and sustains postmodernity as such."[8] It is precisely this question of abstraction, largely absent in architectural accounts of the post-1973 skyscraper, which I want to chart in a series of textual excursuses discussing two antithetical modes of reading the relation between the building and finance capital during the last two decades of the twentieth century: an architectural mode of reading that privileges the building as *form*, and a dialectical-materialist one which grasps it as embedded in the broader processes of financial abstraction and urban space production of the late capitalist economy.

I split these two approaches in two interrelated groups of texts. The first one is composed by two architectural analyses, Ada Louise Huxtable's *The Tall Building Artistically Reconsidered* (1984) and Carol Willis' *Form Follows Finance* (1995), that belong to what I would characterize as a broader mainstream design narrative constructed around the skyscraper that can be traced back to the type's 'birth' in the early 'long twentieth century.' This conceptual definition —which

[5] **FINANCIAL TURN —** "The process of financialization that led to the crisis we are living in now is distinct from all other phases of financialization historically recorded in the twentieth century. Classical financial crises were situated at a precise moment of the economic cycle, particularly at the end of the cycle, in conjunction with a fall of profit margins as a result of capitalist competition on an international scale… Typical twentieth-century financialization thus represented an attempt, somewhat 'parasitic' and 'desperate', to recover what capital could no longer get in the real economy in financial markets… This financialization… began with the crisis of growth of Fordist capitalism in the 1970s." Christian Marazzi, *The Violence of Financial Capitalism* (Semiotexte, 2011), p. 26-27.

[6] Alison Shonkwiler, *The Financial Imaginary*, Introduction: "Representing Financial Abstraction in Fiction", p. xx.

[7] "In using finance as an index to chart and analyze abstraction, I do not presume that finance is the only way to think about abstraction, but that finance effectively metonymizes the exceptionally fluid processes of rationalization and mystification, designed to the ends of value capture, that can be generalized beyond stock exchanges, hedge funds, and the circuits of global investment." Ibid, p. x.

[8] Fredric Jameson, "Culture and Finance Capital," *The Cultural Turn: Selected Writings on the Postmodern, 1983–1998*, p. 136–61. Although, as Leigh Claire La Berge has remarked, "intriguingly, Giovanni Arrighi's *The Long Twentieth Century*… rarely deployed the term" abstraction itself to qualify finance. See La Berge, "The Rules of Abstraction: Methods and Discourses of Finance", in *Radical History Review 118* (2014), p. 93-112.

can be seen at work already in as early a text as Louis Sullivan's brief but influential "The Tall Office Building Artistically Considered" (1896)[9]— postulates the skyscraper as a synthesis of aesthetic beauty and business pragmatism, of *culture* and *economics*, and interprets the building's most striking formal feature, i.e., its height, as the symbolic indexing of the "myth of capitalist progress", both in its cultural/economic and technological dimensions.[10] This general framing is articulated by the deployment of a specific language that both describes the building's form through an array of historically constructed metaphors about the symbolism of vertical structures,[11] and naturalizes its condition as a speculative economic venture. The skyscraper, according to this conventionally accepted definition, is a "machine" that both elicits aesthetic pleasure and generates profit. 'Machine' then emerges as a symbolic construct reconciling the technologically sophisticated aesthetics of the building and the ruthless efficiency in the operations it performs.[12] Correspondingly, the skyscraper is both a technological marvel and a "machine that makes the land pay."[13] It is to this *hegemonic* lineage then

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[9] See Sullivan, "The Tall Office Building Artistically Considered", in *Progressive Architecture* 38:6 (1957), p. 204-206. It should be noted that at the time Sullivan's piece was published, the word 'skyscraper' was not yet institutionalized, which explains its absence from the text. The expression had been mobilized in various ways prior to the last decade of the 19th century: as a vague synonym with tall things of discrete kinds, such as "a triangular sail (also known as 'moon-raker'), a tall person, a high horse;" also, and interchangeably, as "something high, bold, and perhaps brash." In any case, ever since Sullivan's essay, the term became universally known to index what a 'tall building' is. See Rosemarie Haag Bletter, "The Invention of the Skyscraper: Notes on Its Diverse Histories"; and J. Carson Webster, "'Skyscraper', etc.", in *American Speech* (1960), Vol. 35:4, pp. 307-308.

[10] **"THIS IS THE LAW" —** In his short text, Sullivan lays out what he considered to be the essential elements of any 'proper' theoretical examination of the skyscraper: the clear definition of the building's central function —the conduction of business—, and the search for an adequate aesthetics (which he referred to as 'style') through which to synthesize the 'speculative' nature underpinning such functional logic. We might say that Sullivan's conceptualization of the 'tall building' defined, in rather laconic but precise terms, the main features of what is still today considered to be the essence of the skyscraper: while 'building' denotes the kind of object under consideration —an *architectural* object—, 'business' is the object's purpose, what delineates its fundamental role as form, and 'tallness' is the main feature of such form, the 'quality' that characterizes it as such and synthesizes in aesthetic terms the 'progress' of technology as much as the thriving of 'business'. "*This is the law,*" Sullivan wrote. This is a pervasive, seemingly unchallenged definition across various lines of thinking, old and new, about this form of architecture. In "The Disenchanted Mountain", which we discussed in the previous Chapter, Tafuri touches briefly upon the 'aging' Sullivan's influence during the early 1920s, and discusses his reading of the *Chicago Tribune* competition, especially his enthusiasm about Saarinen's project, which as we mentioned earlier, provides the model for Tafuri's notion of the 'enchanted mountain.' See Tafuri, "The Disenchanted Mountain", p. 417-421.

[11] In his book *Vertical: The City From Satellite to Bunkers* (Verso, 2017), p. 16-17, Stephen Graham argues that 'vertical metaphors' have been universally used to "describe hierarchies of power and worth in society." The association of height and tallness with the notion of 'greatness' is, to be sure, a pervasive one across architectural scholarship on the skyscraper.

[12] **MACHINE —** The notion of 'machine' that I use here follows in general lines the meaning of the metaphor as applied to the skyscraper, and intends to convey the mechanistic principle of land value replication that drives the skyscraper as form. Le Corbusier, for example, famously defined the skyscraper as an 'efficient' machine "designed purely for business purposes." (Le Corbusier, *The City of To-morrow and Its Planning* [Dover, 1987], p. 167.) This building-machine is in turn coupled to another, larger machine —the urban grid—, whose purpose is to appropriate, subdivide and ultimately render abstract —i.e., commodify— the earth's surface. For a neo-Marxian (and neo-Deleuzian) re-examination of the concept of machine, see Gerald Raunig, *A Thousand Machines: A Concise Philosophy of the Machine as Social Movement* (Semiotexte, 2010).

[13] "The skyscraper is a machine that makes the land pay" belongs to architect Cass Gilbert, and is cited in Willis, *Form Follows Function*, p. 19. There is a quasi-axiomatic dimension hidden in this characterization, articulated by Gilbert in 1900, just a few years after the publication of Sullivan's text. In many respects, this is a remarkable formulation, as it reveals in blunt terms what Sullivan's definition (and its ulterior iterations) *actually* entails beyond the mask of its more neutral language. A canonical definition bringing together both the aesthetic/technological and the economic can be found in one of the most well-known architectural histories of the skyscraper, Carl W. Condit's *The Rise of the Skyscraper* (1952). There, Condit lists as one of the 'essential characteristics' of the skyscraper its "*great* height," which defines the aesthetic superiority of 'higher' over 'lower' buildings. The existence of this object, says Condit, is in turn dependent on the development of specific technological conditions, and the availability of labor and capital. Cited in Rosemarie Haag Bletter, "The Invention of the Skyscraper", p. 112. My emphasis.

that both Huxtable's and Willis's landmark interventions belong; and it is this mode of reading's inherent conceptualization which these two important texts will seek to further consolidate, update and extend during the last two decades of the twentieth century, as financial abstraction unfolded and ramified.

The second group of texts, which includes David Harvey's "The Invisible Political Economy of Architectural Production" (1994) —a political-economic critique— and Fredric Jameson's "The Brick and the Balloon" (1998) —a materialist-aesthetic one—, belongs to a different lineage of readings, one that can be traced back to Tafuri's radical critique of the skyscraper and of the status of the architectural object within the field of 'capitalist development.'[14] It is within the general conceptual space carved out by this foundational negative critique that I want to map the tangential and fragmentary —if deeply generative— insights articulated by Harvey and Jameson about the skyscraper as a form embedded in the abstract space of the late capitalist city. It is this very question of abstraction —which Tafuri's analysis seems to keep implicit but never really addresses— which constitutes the gravitational center of what we might term as an alternative or *counter-hegemonic* narrative of the post-1973 skyscraper. This is a mode of reading which, in its resolute attempt to demystify and reveal the totalizing processes running behind surface appearances, presents the skyscraper not as an object to be praised for its cultural symbolism or technological qualities, but rather as a *problematic* form of architecture mutating vis-à-vis the unfolding of capital's abstract space itself. From the point of view of this radical critique, thus, the skyscraper is considered as a fetishistic object whose essence must be found beyond the coordinates of its status as a cultural sign.

2.1—Mid-1980s

Despite their diverse, nuanced depictions, what I have described as a mainstream design narrative entails the perpetuation of a kind of 'episteme' of the skyscraper across various waves of sociospatial transformation and ideological

[14] I use the term 'capitalist development' in ways that might vary from Tafuri's mobilization of it. I deploy it so as to convey the *spatial* and geographical unevenness of capitalism, as theorized in particular by Neil Smith in his *Uneven Development: Nature, Capital, and the Production of Space* (University of Georgia Press, 2008 [1984]). "Uneven development," Smith writes, p. 206, "is both the product and the geographical premise of capitalist development." It is within this spatially uneven planetary landscape that the skyscraper would multiply since late twentieth century onwards.

restructuring:[15] 'tallness' is seen here as both the vigorous expression of thriving business, and as the master signifier of the power of 'speculation' —narrowly defined in terms of the 'leap of faith' that any commercial activity demands if a surplus is to be gained[16]— to push the boundaries of the skyscraper machine towards higher levels of technical, functional, and ultimately formal refinement. In privileging a *formalistic* reading of the building, therefore, these discourses avoid a critical confrontation with the totalizing forces of capital — forces which, as mentioned above, were during the last three decades of the twentieth century transforming the city and reshuffling the urban fabric in fundamental ways. A certain limit to, and exhaustion of, this mainstream narrative can be perceived, however, in the case of Huxtable's landmark intervention from the mid-1980s— an intervention which, in sticking to a stylistic mode of interpretation and refusing to engage in an in-depth examination of the political economy of the skyscraper at a time of significant financial and urban expansion, articulates an uneasy and ambivalent portrait.

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[15] **1970-1990s DISCOURSES: A Micro-Review —** Indeed, I do not mean to convey that the portraits of the skyscraper termed as mainstream or hegemonic here constitute a monolithic or homogeneous block. If on the one hand I describe them as formalistic, given their consistent and marked attention they pay to the skyscraper as architectural form, on the other it is fair to say that they encompass a multiplicity of approaches not always reconcilable with each other: some emphasizing the building's formal/aesthetic qualities; others inquiring into its manifold meanings and symbolisms; others yet exploring the skyscraper-form's more exuberant and sublime aspects. For example, Paul Goldberger's *The Skyscraper* (1981) is "concerned… primarily [with] aesthetics", and recites the (by then naturalized) notion of the building as a "bold force [of] commercial architecture" (p. x; 3, respectively). Charles Jencks' idiosyncratic *Skyscrapers—Skycities* (1980), although belonging to this interpretative genealogy, problematizes the very meaning of 'skyscraper' by placing it within a longer historical process of development, thus challenging its taken for granted one-to-one identity with the more universal notion of 'tall building.' The skyscraper, Jencks asserts, is but the last addition to a long genealogy of 'sky-buildings' spanning from "the first obelisks, ziggurats and pyramids built 3,000 years ago, or to heaven-aspiring structures built before that." (7) Its 'machinic' constitution —which reflects the assemblage of novel technologies—, it would follow from this, must be seen as historically specific to capitalism, yet this is a conclusion the critic never reaches. Just as in the case of Goldberger's account, and despite this welcome (and largely dismissed by subsequent accounts) terminological inquiry, the building's characterization as "a place of business and corporate pride" remains here unchallenged, and thus squared within the mainstream frame we outlined at the beginning of this Chapter. The notion of 'business' as a purely pragmatic commercial endeavor, and that of 'machine' as a solely mechanistic principle of profit-making, are deconstructed in both Rem Koolhaas' pathbreaking *Delirious New York* (1978) —which I cite here in passing but I'm reluctant to include in this category— and in Thomas van Leeuwen's *The Skyward Trend of Thought* (1986), which present them under a more 'metaphysical' guise, introducing the 'unconscious' and the 'sublime', respectively, as dimensions inextricably linked to what otherwise appears, at first glance, as a ruthless set of economic calculations and commercial formulas encapsulated in a machine-like building form. For both Koolhaas and van Leeuwen, the skyscraper is not only a 'hyper-efficient' but fundamentally a "desiring" machine — a mixture of ruthless economic pragmatism and exuberant imagination. Yet Koolhaas' goes beyond the contours of more conventional and established (historical, aesthetic, technological) narratologies to 'retroactively' invest the American skyscraper with an ambiguous aura in which capital's irrationality remains surreptitiously invoked, formulating in the process a whole program and vocabulary which would prove deeply influential in the theoretical landscape of architecture during late twentieth century. In this regard, his is an account which cannot easily be labeled, and might well be postulated as an exception to the purposely schematic, rough categorization presented here. Setting this aside, in all remaining cases (Goldberger's focus on the building as aesthetic artifact; Jenck's semiotical foray; Van Leeuwen's metaphysical reading), and whether strategically invisibilized, suppressed, or openly acknowledged, the essential premises of Sullivan's formula remain as a subterranean current. On Koolhaas, see below, Chapter Three, **footnote 86**.

[16] "All capitalist ventures, including those of the architect, are speculative. This is what it means to throw money into circulation as capital and hope to realize a profit." Harvey, *Spaces of Hope* (Edinburgh University Press, 2000), p. 204. See below, **footnote 49**.

Re-Enchanted Machine

> As time passes and towers multiply, it is increasingly clear that skyscraper design has been motivated, above all, by an unresolved search for style, which is its only aesthetic consistency.[17]

Against the widespread "celebration of modern technology" with which the skyscraper is often invested within architectural circles, its status as a synthetic work of artistic expression is more prominent than its technical-material constitution and the varied economic pressures that gravitate around it, Huxtable contends in her extended essay (published later as a book) "The Tall Building Artistically Reconsidered," an homage to Louis Sullivan's foundational text that at the same time attempted to be a "critical revaluation beyond what is currently passing by that name." (12) This is so, she adds, since "with all of this, and often in spite of it, the skyscraper is still an art form." (8) Central in her analysis is, then, the fact that beyond the need to disentangle the layers that constitute such technological fetishism, what prevails is an 'unresolved search for style.' The oversimplification that her own approach attempts to correct entails a narrow concern with the material and technical constitution of the building that is ultimately detached from broader social, cultural and urban questions—an approach that has tended, in other words, to emphasize the object's attractiveness as a technological marvel at the expense of a more detailed, conscientious analysis of its rather more "disturbing"[18] dimensions as these have evolved through time. Yet, her own analysis can be said to incur in the same operation of contextual 'flattening,' only this time around in favor of a fascination not with the skyscraper as a spatial technology, but rather as an expression of architecture as cultural artifact, or, as she puts it, as an embodiment of 'great' art.[19]

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[17] Ada Louise Huxtable, *The Tall Building Artistically Reconsidered: The Search for a Skyscraper Style* (Pantheon Books, 1984), p. 8. Subsequent references are given parenthetically after quotations.

[18] "Disturbing", indeed, is used by Huxtable in various occasions throughout the text: "[i]f the status and drama of the tall building, its engineering and architectural achievements, its embodiment of superlatives, are universally admired, the philosophical questions that it raises continue to be disturbing." (11) "What is… disturbing is the fact that the most questionable hallmarks of this particular kind of building are characteristic of much culture and the process that passes by education today." (98) "[T]oday attitudes toward skyscraper design are changing in a way that is profoundly disturbing." (102)

[19] "Architecture is, admittedly, an extremely complex and pragmatic art, but it is an art nonetheless, and one which endures on its final quality. Only when a building transcends its inconvenient marriage of aesthetics and economics does it become convincing, and even great, architecture." Ibid, p. 8. Against this, it might be useful to juxtapose Sharon Zukin's rather opposite view: "Skyscrapers have always been built for love of money, not for permanence, or public purpose, or art." Zukin, "Our World Trade Center", in *After the World Trade Center*, p. 15.

In Huxtable's text, a whole set of aspects involved in the formalistic reading of the skyscraper —which the essay takes for granted; most notably, the passive acceptance of the problem of 'style' as the essence of any architectural consideration of the type— are ultimately subsumed within a pessimistic (if strategically balanced) tone that casts profound doubts about the viability and social value of this form of architecture in the long run, were the logics that drive its development to continue unchallenged.[20] What imprints the essay with its uneasy combination of hope and despair —manifested in the oscillation between, on the one hand, the enthusiastic "search for a skyscraper style" and, on the other, a gloomy, even mournful take about its possible trajectory within a city undergoing drastic socio-spatial changes— is precisely Huxtable's unwillingness to depart from the line of 'autonomous' stylistic analysis opened up by Sullivan. One might even say that it is Huxtable's reluctance to address the pressing question of the relation between processes of land speculation/capital accumulation and what she calls 'skyscraper-design' what ultimately thwarts her otherwise far-reaching insights. Unable to effectively name and bring to light the source of the real but invisible circuits of money and financial power traversing the building's body, most of her critique passes by as a moralistic denunciation which, while attempting to reignite the agency of 'skyscraper-design', leaves its links with the political-economic sphere unexplored. The activity of design (which she codifies here as 'style') is thus presented as a *positive* search for architectural solutions to problems which lie outside of architecture, and which in her text are never fully exposed or laid out in their inner complexity.[21]

The limitations associated with this mode of conceptualizing the skyscraper are perhaps most evident when Huxtable explicitly addresses the last of what she terms 'phases of skyscraper-design,' the one corresponding to the post-1970s period.[22] This 'postmodern' phase is characterized by an overemphasis on aesthetic concerns — concerns, she concedes, that are disjoined from, and in open con-

[20] "We are seeing some spectacular new building, but we are also seeing signs of a disturbing dead end in scale and impact, and a frivolous dead end in style… the effect of the tall building in our overcrowded, malfunctioning, and deteriorating cities has become demonstrably destructive and dehumanizing." Ibid., p. 9.

[21] "One does not expect the larger contextual vision from builders and bankers, for whom investment is primary. But one does expect it from architects, as part of a responsible design process… If the architect has erred in the past by claiming powers beyond [sic] his art, he has now reversed himself and is diminishing that art. He has no one to blame but himself if he finally makes his work seem marginal." Ibid., p. 10. This last affirmation exposes the attitude I'm trying to bring to the foreground here. However well-intentioned this claim might be, what it ultimately does is to deviate the focus of attention from the original source of power (undoubtedly on the hands of bankers and investors, not designers) and instead blame the architectural profession for the systemic urban issues Huxtable describes. This is not to say, however, that architects play no part in the equation, but rather that the discussion should be centered on the very relation between architecture and capitalist power—something that the essay avoids to do.

[22] Huxtable's phases of 'skyscraper-design' are: a) the functional, b) the eclectic, c) the modern, and d) the postmodern.

frontation with, the rather more "disturbing" developments taking place at the scale of the city, which largely exceed the 'image' of the skyscraper to impact the lives of people on the ground.[23] This contradiction, I want to suggest, remains unresolved throughout the whole text, as she seems aware of the fundamental consequences that processes of urban transformation have on the architecture of the very tall building, yet is ultimately unable to reconcile them with her own search for the building's proper 'style.' The dichotomy between the 'stylistic' analytical lens chosen by the critic and the complexity of the processes she ultimately wants to denounce, and react against, might well constitute the cause of her uneasiness regarding the status of the skyscraper by the end of the twentieth century.[24] On the other hand, it is fair to add, the detachment of the essay's commitment to the question of style as the gravitational center of any study of the building from the more structural economic dynamics underpinning the issues at stake in her critique is not entirely unproductive, nor without its unexpected advantages, for it is this very tension which invests the text with both a sense of uncertainty and a degree of perplexity which push the reader to look beyond the repeated complaints about the puzzling, semiotically charged 'postmodern' skyscrapers, and to excavate the rather more profound implications hidden in Huxtable's trenchant observations, however anchored these are in the building's 'stylized' body itself.[25] In this regard, perhaps one of the most remarkable aspects of the essay is the insinuation that what she calls the 'postmodern' phase entails much more than a focus on the building's image-as-commodity might convey, and that the transition towards the twenty-first century might well mark the crossing of a line, signaled by the rise of a radically different kind of *super*-tall building (a "super-skyscraper", as the critic dramatically puts it, that "will make urban life unbearable", p. 120) — one whose full contour still remains out of clear sight, and thus unavailable to more comprehensive theorization. This is analo-

[23] "The are pivotal issues of enormous importance to the design of the tall building, both subtle and complex… that need careful scrutiny. There is an incredible default of critical appraisal where it counts, and where it hurts, in the lives of cities and people." Ibid., p. 9.

[24] Towards the end of the book, Huxtable returns to a formulation she had made almost in passing when discussing the first phase of skyscraper design: that it is economics (i.e., capital) which determines what is possible and what is not in the spatial, aesthetic, and technological configuration of the tall building: "Ultimately, the design of the tall building is a product of investment economics and urban politics." Yet, one paragraph later, she states that "the catalyst and unifying force for all these conflicting concerns has been the search for style. The enormous *rational* and romantic diversity of skyscraper design makes this increasingly clear." Ibid., p. 99, my emphasis.

[25] Huxtable is particularly harsh with the postmodern skyscraper; she sees one manifestation of it —what we might call its historicist/eclectic version, of the likes of Philip Johnson's AT&T tower in NYC— as a problematic (and rather shallow) embodiment of a cultural shift signaling the abandonment of the values held by the modern project. Thus, she reads postmodern tall buildings of this kind as "stand-up jokes that have much more to do with fashion than with style, in which the joke is turned on the client and the rest of us." The pomo skyscraper is then no more than a "high-building act that manipulates art, history, and the environment for very high stakes and a very dubious product." Ibid., p. 70.

gous to Tafuri's designation, a decade earlier, of the World Trade Center as the prototype of an overgrown skyscraper (they even use the same unoriginal term, "super-skyscraper"). But while for Tafuri this new kind of building had rendered any 'illusions in design' worthless, for Huxtable it simply marks the "end of the line" of a design style gone awry. To 're-enchant' the skyscraper by investing it with a new, more proper or adequate 'style' is what she is really after in her text.

The very obstacle in Huxtable's general assessment of the 'tall building' a century after its invention is not her detailed attention to form but rather her schematic portrait of the building's evolution as a more or less compartmentalized, sequential succession of aesthetic styles, and thus her reluctance to see such form simultaneously as the result of a *spatial process* inscribed within the increasingly abstract and fast-changing landscape of capitalist development.[26] This is especially clear in the absence of references in her book to key moments of capitalist restructuring during the course of the twentieth century. Huxtable takes instead the route of a purely stylistic analysis[27] which largely suppresses, or at least refuses to engage in detail with, the highly problematic intersections between the 'postmodern' skyscraper and the "deregulation of financial markets, the rise in interest rates and the influx of international capitals"[28] taking place in the mid-1980s, which were going to mark a turning point towards the massive levels of inequality of subsequent decades.[29] The word 'finance' as such is curiously absent from Huxtable's book, as it is the word 'capitalism,' although their presence looms heavily, as the critic does indeed perceive the profound gap between the multilayered aesthetic styles of the building and the economic and urban processes that such appearance codifies. 'Abstraction', on the other hand, is only in-

[26] "Considering the rapidity and brutality of capitalist development, the real surprise is not that so much of our architectural and constructed heritage has been destroyed but that there is anything still left to preserve." Marshall Berman, *All That Is Solid Melts Into Air*, p. 100.

[27] Huxtable's is an analysis of the changes in the skyscraper's image through time that is presented as internal to the history of architecture itself — a study which, taking recourse of, and ultimately relying upon, a style-based periodization (closer to the examination of artistic practices than to the broader cultural changes she explicitly wants to trace), is devoid of any specific link to those systemic political-economic dynamics, forces, shifts and breaks which, although external to 'design' as such, nevertheless shape the conditions in which the latter is inscribed, and out of which it evolves. Likewise, the mutations of the building since the mid-1970s onwards cannot be fully grasped without a relational approach that weaves the logic of 'skyscraper-design' together with broader patterns of sociospatial transformation.

[28] Cédric Durand. *Fictitious Capital*, Ch. 5: "Financial Accumulation."

[29] "The frenetic financial innovations of the 1980s, 1990s and 2000s were never anything more than a multiplication of the means of organising chains of indebtedness." Ibid., Ch. 4: "The Contemporary Rise of Fictitious Capital." In his book *Postcapitalism: A Guide to Our Future* (Farrar, Straus and Giroux, 2015, p. 16-17), journalist Paul Mason summarizes the general dimensions of 'financialization,' describing "four specific changes that began in the 1980s: 1. Companies turned away from banks and went to the open financial markets to fund expansion. 2. Banks turned to consumers as a new source of profit, and to a set of high-risk, complex activities that we call investment banking. 3. Consumers became direct participants in the financial markets: credit cards, overdrafts, mortgages, student loans and motor car loans became part of everyday life…. [and] 4. All simple forms of finance now generate a market in complex finance higher up the chain: every house buyer or car driver is generating a knowable financial return somewhere in the system."

voked as a 'sculptural' or 'geometric' quality of the skyscraper-form as such, and thus dissociated from broader speculative urban and spatial processes.[30] In other words, she does not articulate any explicit connection between the forces driving skyscraper-design (of which the architect is but a mere passive instrument, she goes as far to imply, in another contradiction),[31] the rapidly growing number of very tall buildings proliferating across an increasingly complex and upscaled urban space, and the political-economic landscape of the US at the time.[32] Thus the 'tall building' emerges, by the end of the text, as a 'black box' which, hiding the multiple processes shaping both its material body and dictating its roles within an expansive urban fabric, cannot be decoded. This explains her apprehension regarding the unclear, troublesome path the building was taking at this stage of its development, which she intuited in raw form yet could not fully unpack in critical terms.

[30] Huxtable discusses abstraction in relation to the different aesthetic styles at play in her analysis: the abstraction of modernist skyscrapers (p. 83); that of certain postmodern approaches (in reference to Peter Eisenman's work, p. 85). In other words, she takes it as an "aesthetic mode of nonfigurative representation", as Leigh Claire La Berge describes it in her essay "The Rules of Abstraction", p. 96. There she usefully summarizes the usages of the term in different disciplines: "In philosophy, it denotes something not fully realizable in time and space. In social theory, it indicates something not fully realizable by a particular." In Marxism, on the other hand, "abstraction serves as a conduit and hindrance to economic knowledge, and it is there that the term has been most theorized and differentiated." It is not a surprise, then, that neither Huxtable, nor Carol Willis (as discussed below) —both belonging to the hegemonic lineage of post-1973 skyscraper's discourses— engage with the *problematique* of abstraction in this last sense.

[31] "Style is the result of the architect's most concentrated and comprehensive efforts to resolve those often irreconcilable factors in an expressive synthesis at the level of art. But he [sic] has never had an easy job or a clearly defined role in dealing with the tall building. The choice has been between two conflicting courses. *He could either proclaim his power, and his right, to turn the engineer's and the economist's calculations into an art form that carries the special freight of responsiveness to people and the environment, or he could disclaim any power to do anything about these controlling factors at all.* Most architects have opted for the first course; those who simply settled for being the developer's drafting arm have traditionally been scorned. But today attitudes toward skyscraper design are changing in a way that is profoundly disturbing. It has become fashionable for the architect to profess that he is unable to affect the basic building package." Huxtable, *The Tall Building Artistically Reconsidered*, p. 102, my emphasis. Note that even here, to 'renounce' power is, for Huxtable, the architect's choice.

[32] A landscape in which "Reagonomics, with its supply-side bias [was cutting] social programs [and] eliminat[ing] governmental regulations of industry… this was not laissez-faire economics—it was regulated deregulation." Peggy Deamer, "Context: 1970-2000", in Deamer, ed., *Architecture and Capitalism: 1845 to the Present*, Routledge, 2014), p. 148.

2.2—post-1989

Financial Reason

> Cities are competitive commercial environments where buildings are business and space is a commodity… [t]he principles that give them order are complex, but comprehensible, and in that, there is great beauty.[33]

The marked tendency to avoid any direct invocation of capital, or to embark into a detailed examination of the building's entanglements with broader urban and economic processes that characterizes Huxtable's text —as much as its more properly 'postmodern' precedents—, was to be counteracted in the 1990s with the publication of Carol Willis' influential book *Form Follows Finance* (1995), which explicitly undertakes an analysis of the relations between skyscrapers and the world of financial capitalism. What Tafuri had lucidly concluded —namely, that after the 1970s there was no longer any need to use any 'idealistic mask' to disguise the real nature of the skyscraper as a capital formation— seems to enter the consciousness of mainstream architectural discourses only at this particular time. The reasons for this shift are to be found within the specific historical circumstances in which Willis' intervention is inscribed; that is, the aftermath of the fall of the Berlin Wall and the collapse of the Soviet Union, followed by a period of euphoric optimism about the 'free-market economy' that proliferated across the Western world.[34] Being an architectural historian scrutinizing how 'form follows finance,' Willis mobilizes a relational framework that takes into account both the architectural and the economic. Yet the point to be highlighted here is that, although she forcefully introduces the language of capital and its financial instruments to emphasize their central role in 'skyscraper-design,' she does so in a manner that further naturalizes rather than contests them. The last line of *Form*

[33] Carol Willis, *Form Follows Finance: Skyscrapers and Skylines in New York and Chicago* (Princeton Architectural Press, 1995), p. 182. Subsequent references are given parenthetically after quotations. I should clarify here that Willis' study focuses on the timeframe between late 19th century and the early 1970s, and that therefore, her analysis does not correspond to the period under consideration in this thesis. Yet, from the point of view put forward here, her book is a significant landmark within what I have described earlier as *mainstream* architectural discourses on the skyscraper, as she gives centrality to the question of economics (finance, in particular), and embraces the language of capital and its associated logics of accumulation, which the publications discussed earlier carefully avoided. My analysis in what follows, therefore, addresses her book at a discursive level, and positions it within the context of its publication, that is, the 1990s, amid the apogee of capitalist globalization.

[34] Cf. Deamer, *Architecture and Capitalism*, p. 147-168.

Follows Finance (*FFF*), placed as the epigraph of this section, is very telling in this regard.

Skyscrapers are 'vernacular of capitalism', Willis claims. Yet 'vernacular,' a term typically applied to small-scale structures, appears as a somewhat odd, even counterintuitive choice of words, for it does not capture, nor does it convey, one of the most steady features that the skyscraper has displayed throughout its historical evolution: a constant increase in scale and size.[35] This process of enlargement is not to be so directly bypassed, as it triggers mutations that, through time, modify the very parameters of what a skyscraper is considered to be. Willis adds that her notion of 'vernacular' is linked to a typological kind of analysis, one that "identif[ies] different characteristic forms… and interprets these as the product of standard market formulas and specific urban situations." [7] But is typology, often seen as a "frozen mechanism"[36] an adequate concept to grasp the fluid movement of financial abstraction through the skyscraper's body? Or, for that matter, is it the most suitable medium through which to make visible how such body internalizes the demands of finance as this last evolves further through time? Isn't the notion of typology, as traditionally understood, too rigid to be reconciled with the more liquid, changeable, constantly evolving and increasingly *abstract* nature of finance capital?[37] Indeed, and in the absence of a more precise articulation of the way the term is mobilized, 'typology' —the crystallization into form of historical convention and use— may not be the most fruitful lens through which to read the morphological changes induced by the meticulously designed and standardized financial instruments that Willis so diligently scrutinizes.

But if, on the one had, there is in *FFF* a reification of the skyscraper's form in its reading as a vernacular typology, on the other there is a certain flattening of the very notion of finance as well. For Willis, finance expresses itself through normalized real state formulas and a variety of other techno-managerial instru-

[35] **TALLNESS —** In her account, Willis provides different explanations for the increase in skyscraper's heigh through time; earlier on, she argues that it responds to the interrelation of different aspects (advances in engineering and construction techniques; the need to capture sunlight; as a response to 'ego' and 'advertising'; p. 41-43). Later on she adds that, for these reasons, "the history of the skyscraper" cannot be said to be "a steady progress from small to tall." (p. 143) Later still, she says that the tallest buildings appear "just before the end of a(n economic) boom, their height driven up by the speculative fever that affects both developers and lenders." (p. 155) This last claim (indeed aligned with my own hypothesis in this study) is somewhat contradictory with the notion of 'vernacular', which would seem to signal a rather ordinary kind of architecture, more concerned with functionality and use than with pure financial speculation.

[36] Rafael Moneo, "On Typology", in *Oppositions* (1978) 13, p. 23-44.

[37] "Finance is the most abstract level of economic symbolization. It is the culmination of a process of progressive abstraction that started with capitalist industrialization… [Today,] the symbolic spiral of financialization is sucking down and swallowing up the world of physical things, of concrete skills and knowledge." Franco Berardi, *The Uprising: On Poetry and Finance*, p. 23-24.

ments devised to ensure that, whatever the formal/spatial scheme of the skyscraper is, it will generate economic returns. Architecture, in her account, does not enter the picture until these dispositifs have demonstrated, in mathematical form, the viability of the whole building enterprise.[38] But I would like to argue that interpreting the skyscraper solely as the "product of standard market formulas" (7) entails a logic of finance that is, perhaps, too plain; one that presents it as *too rational* an activity—a form of mechanical, quantitative intelligence that leave us with a picture of the skyscraper as a *straightforward* object, flattening the mysterious dimensions that pertain to it as a *complex* spatial product of financial speculation. Saskia Sassen has recently insisted on the need to think finance beyond the limits of this instrumental lens, proposing to consider it instead as a sublime form of *intelligence* which is synchronously the product of a shape rise in mathematical complexity. For Sassen, finance is a faceless, increasingly all-encompassing entity that generates social expulsions and destroys the environment — a vast, seemingly ever-growing abstract entity that is constantly optimizing itself and infiltrating hitherto inaccessible realms, whether spatial, social or subjective.[39] In circumventing these more intricate and pervasive dimensions, the image of the skyscraper that emerges from Willis' narrative is thus too coldly removed from the more nuanced 'novelties' ingrained in its design, and not least, from the fundamental mutation in the building's aesthetics introduced by the algorithmic infiltration of finance into its body—mutations that, as Jameson will later suggest (see below), remain a crucial problem for architectural theory to unpack.[40] For the role that very tall buildings play in the contemporary global economy is neither neatly nor solely circumscribed to the demands of direct financial gain, but also partakes in the project of reproducing the symbolic, ostensibly impervious hegemony of financial power, as the discussion on the World Trade Center in Chapter One suggested. In other words, skyscrapers are not solely built to make a profit (undoubtedly a structural reason behind their existence), but to embody, and thus make *real*, in variegated geographical contexts, the very ideology that positions accumulation at the center of the socio-spatial organiza-

[38] Describing the 'design' of the Empire State, Willis writes that all initial schemes were "entirely financial, not architectural… Once the financial blueprint was in place, the owners hired a team of experts to generate the building program and plan, including architects." Willis, *Form Follows Finance*, p. 95.

[39] Saskia Sassen, *Expulsions: Brutality and Complexity in the Global Economy* (Harvard University Press, 2015). Sassen understands finance as "a complex assemblage of actors, capabilities, and operational spaces;" a complex system combining "persons, networks, and machines with no obvious center", p. 119; 10, respectively. The sophistication and increasing opacity of such system produces, paradoxically, new forms of brutality and socio-environmental destruction at a planetary scale.

[40] In "Culture and Finance Capital", p. 246, Jameson establishes a correlation between the form of the city (and its associated 'postmodern' architecture) and the dynamics of financial abstraction and land values.

tion of the world.[41] In treating finance as *technique* and not as *intelligence*, as Sassen proposes, Willis clears out from her critical assessment the less immediately visible, and more metaphysical, uncanny aspects of finance capital—namely, its capacity to reproduce, in increasingly sophisticated ways, its spiral movement towards higher levels of abstraction, and the seemingly endless, cyclic ritual through which it "seeks to die and be reborn in some 'higher' incarnation";[42] and thus misses the opportunity to index how these large-scale temporal dynamics are translated into the sensuous formal and material constitution of the skyscraper itself. Videlicet, by reading Willis' account, it is not possible to consider the temporality of finance capital, nor its multiple ramifications. In this regard, her periodization scheme comes as something of a surprise, as it is generally detached from any specific consideration of the movement, crises, and inner logics of finance capital during the course of the twentieth century. Instead, what she proposes is a periodizing frame justified, in the end, on aesthetic grounds; one that, despite her explicit intentions of "depart[ing] from… issues of style" (10-11), runs closer to that of Huxtable in that it relies, ultimately, on how changes are manifest within the coordinates of the building's morphological constitution itself, rather than placing these within the space and time of capital's historical movement. Indeed, one wonders as to why such framework remains insulated, as it were, from the broader *problematique* of finance capital under consideration in the book as a whole. Or, in other words, why she reads change in the building's *form*, but does not consider the metamorphoses in the logic of finance itself.

The tension that Huxtable had productively insinuated in her account of the 'postmodern' skyscraper, Willis reinstates as 'normal', turning the former's anxious critique into earnest acceptance. In this, *Form Follows Finance* —written in at a moment of intense economic expansion and ideological embracement of capitalist globalization— emerges as symptomatic of the "political resignation of architecture" and its surrender to the forces of the market economy that characterized the 1990s.[43] In other words, Willis' position, although illuminating in its analytical rigor, does not attempt to question the nature of the building as an embodiment of capitalist ideology but rather assumes this to be an inescapable —and perhaps desirable— reality; and in so doing, it remains decisively circumscribed

[41] "[A]rchitecture today… promises meaning through sublime abstraction, by bringing a global calculus to the street." Reinhold Martin, *The Urban Apparatus*, Ch. 2: "Financial Imaginaries".

[42] Jameson, "Culture and Finance Capital", p. 251.

[43] McLeod, "Architecture and Politics in the Reagan Era", p. 54.

to the broader, 'mainstream' mode of reading described earlier. Willis' most recent iterations of her research, focused on the new Manhattan 'supertall' skyscrapers —which she describes as signaling the historical emergence of a 'new building type'— further reinforces this interpretation, especially as she proceeds to scrutinize what she calls "the logic of luxury" ingrained in such exclusive very tall buildings while carefully avoiding a critique of the specious motivations behind this new trendy form of architectural development and its bleak socio-spatial consequences.[44] In this, and just as in the case of Huxtable, we might say that Willis' work opens up a fertile terrain of analysis while at the same time foreclosing its possibilities, as she reveals the skyscraper's most *machinic* functions as a spatial instrument of finance capital only to provide a rationalization of them, and in so doing, ends up further naturalizing (if not openly celebrating) the building as "the ultimate architecture of capitalism." (181)

Skyscrapers Floating in Streams of Money

> Think of Canary Wharf, floating like a lost ark downstream from the City on the tide of the Thames, and floating even more emphatically in that moving stream of money which hollows out the core of things and destroys all alternative senses of value.[45]

Written around the same time as Willis's text, David Harvey's "The Invisible Political Economy of Architectural Production" (1994) paints a diametrically opposed portrait of the skyscraper. Against Willis' naturalization of this form of architecture as *rational* business machines, Harvey reads the corporate skyscrapers of Canary Wharf in London as the spatial expression of the 'spirit' of finance—a form of 'madness' crystallized in architectural form. Harvey's analysis 'sees' the building as if through a pair of X-ray glasses: as a bare, naked, resolutely abstract spatial *framework of accumulation* which despite its instrumental, applied 'rational-

[44] See "Sky High & The Logic of Luxury", in *The Skyscraper Museum* in New York, directed by Willis; www.skyscraper.org/EXHIBITIONS/SKY_HIGH/sky_high.htm. See also Willis' blunt comments on The Guardian's recent article, "Super-tall, super-skinny, super-expensive: the 'pencil towers' of New York's super-rich", Feb 5, 2019, accessible here: https://www.theguardian.com/cities/2019/feb/05/super-tall-super-skinny-super-expensive-the-pencil-towers-of-new-yorks-super-rich?CMP=share_btn_tw For a critique of Manhattan 'supertall skyscrapers', see Michael Sorkin, *What Goes Up: The Rights and Wrongs to the City* (Verso, 2018).

[45] Harvey, "The Invisible Political Economy of Architectural Production", in O. Bouman and T. van Toorn, eds.. *The Invisible in Architecture* (Academy, 1994), pp. 420-27 (quote from 420-421). Subsequent references are given parenthetically after quotations.

ity', is in the last instance an expression of the opposite: capital's deep-rooted irrationality.[46] The complex's towers are, he states, impersonal, decisively hostile to any sense of communal space, and must be considered as "the last instance of the *insane*, credit-fuelled real estate boom" characteristic of late twentieth century (420, my emphasis). The glossy facades of corporate skyscrapers hide, Harvey argues, the labyrinthine flows of money that the financial institutions housed by them make out of "among other things, real estate ventures like Canary Wharf." (420) It is this very recursion which reveals the 'madness of economic reason' governing the building's logic: for its reproduction as a form has no other (more important) purpose than to reproduce money itself. It is not, thus, as a 'cultural artifact' that a critical analysis of the skyscraper should focus on, but instead on the cultural and spatial implications derived from its essential function as a money-making machine. The skyscraper appears here then as both the manifestation of the abstract dynamics of money and at the same time as a black box that curbs its real movement and workings. The skyscraper's image is but an envelope that obscures and mystifies the rather more intangible, yet objective, circulation of capital through the skyscraper's body. Borrowing from a famous line in Simmel's 1903 essay "The Metropolis and Mental Life," Harvey proposes to picture the building in metaphorical terms, as if 'floating in streams of money.'[47]

In his attempt to bring to light the processes hidden behind appearances, Harvey reads the skyscraper's height as an index of the proliferation of money materialized in vertical form: capitalists, he goes on to point out, seek always to accumulate more and more of it, and so "when they build, they build up and up to clutch at the only distinction that monuments

[46] "Everything is rational in capitalism, except capital or capitalism itself." Gilles Deleuze & Felix Guattari, "Capitalism: A Very Special Delirium", in Chris Kraus, Sylvère Lotringer, eds., *Hatred of Capitalism: a Reader* (Semiotexte, 2001), p. 215-220. Cf. also Harvey, *Marx, Capital, and The Madness of Economic Reason* (Oxford University Press, 2017).

[47] "To the extent that money, with its colourlessness and its indifferent quality, can become a common denominator of all values it becomes the frightful leveller — it hollows out the core of things, their peculiarities, their specific values and their uniqueness and incomparability in a way which is beyond repair. They all float with the same specific gravity in the constantly moving stream of money." Simmel, "Metropolis and Mental Life," in D. Lavine, ed., *On Individuality and Social Forms* (University of Chicago Press, 1972). Earlier in Chapter One, we saw Tafuri making a similar reference to this very passage by Simmel as well.

to capital have left: to score, at the skyline of every capitalist city that 'I am bigger, larger, richer and more important than you!'" (421) Height and accumulation go, then, hand in hand. This sharply opposes Willis' idea of the skyscraper as a rational machine whose height is to be seen as a *logical* expression of economic and financial formulas. For Harvey, on the contrary, skyscrapers are *irrational machines* of capital — a large-scale form of architecture detached from any real use-value other than to allow the latter's smooth, seamless movement throughout the variegated *(ir)rational landscapes* it creates after its own image.[48] In this sense, Harvey's understanding of the building as an abstract skeleton, a spatial framework whose main *raison d'être* is to enable processes of accumulation to proceed allows to read the skyscraper's steady vertical *enlargement* through the course of the late twentieth century as a reverberation, in architectural form, of capital's seemingly unstoppable tendency to reproduce itself at hitherto unconceivable scales: *verticality for accumulation's sake*. What Harvey's mode of reading reveals is then that the 'insanity' ingrained in the pursuit of building high in order to accumulate, which results in the creation of alienating, oppressive environments inimical to people and only functional to the fluid circulation of capital, is always disguised as a 'rational' process when seen from the point of view of the market

[48] **(IR)RATIONAL LANDSCAPE** — "Capital flow presupposes tight temporal and spatial coordinations in the midst of increasing separation and fragmentation. It is impossible to imagine such a material process without the production of some kind of urbanization as a 'rational landscape' within which the accumulation of capital can proceed. Capital accumulation and the production of urbanization go hand in hand." Furthermore, "considerations derived from a study of the circulation of capital dictate, then, that the urban matrix and the '*rational landscape*' for accumulation be subject to continuous transformation. In this sense also, capital accumulation, technological innovation and capitalist urbanization have to go together." David Harvey, "The Urbanization of Capital", in *The Urban Experience*, (Johns Hopkins University Press, 1989), p. 22-23, my emphasis. 'Rational' is here an euphemism — 'rational landscape', that is, only when seen from the standpoint of capital itself.

— precisely the position from which Willis articulates her analysis.[49] The vertical architecture of Canary Wharf, and like it analogous corporate enclaves of the same kind 'cloned' around the world, stand as spatial formations of capital whose main purpose is not (only) to provide working/office space or to symbolize power, but rather —and fundamentally— to ensure that the flow of money running through the built environment gets never interrupted. That is their *real* task. This is not to say, however, that they constitute a terminal or critical point in the process of money circulation —for if a blockage occurs it's unlikely to affect this type of development directly— but to insist that its role lies beyond the boundaries of its envelope and the program that it hosts. In this sense, what from one position appears as a 'rational' form of architecture is, from another, nothing but a fake, cynical mask (and not just an 'idealistic' one, as Tafuri would have it) disguising behind its fetishistic image a vast territory of delirious capital activity: landscapes of extraction and logistical operations, large-scale infrastructures of production and processing, and the whole network of circulation and labor required to transmute these raw materials into the shiny forms of corporate space visible in cities like London, New York, or Shanghai.[50]

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[49] **ON REAPPROPRIATION —** Given such negative take on the skyscraper, it is not a surprise to find Harvey's spatial imaginary as depicted in one of his most creative and speculative texts, his fictional appendix to *Spaces of Hope* (p. 257-281) about the transition to a post-capitalist scenario, as completely devoid of any kind of vertical architecture. Indeed, in this extraordinary piece, Harvey vividly articulates an alternative blueprint for a different socio-spatial order. This short text is of great interest, as it couples within the space of a chapter both a critical analytical apparatus and a resolutely utopian drive; that is, critique and imagination, analysis and projection, in the best tradition of science-fiction literature. Emulating Edward Bellamy's classic *Looking Backward* (1888), Harvey tells his vision in the form of a dream, in which he is haunted by "a whole host of utopian figures" contradicting the regressive and seemingly impervious ideological power contained in the neoliberal TINA ("there is no alternative") assertion. The story is set in the year 2020, and describes in detail the spatial reorganization of a new world beyond capital's rule: its radical political logic, its novel institutional arrangements, its emancipatory potential. Yet, whenever he gets the chance, Harvey is eager to make clear that in this new world there is no place for any kind of vertical architecture—"virulent opposition to any structures higher than four or at most seven storeys meant major transformations in urban design in what used to be called the West." (p. 265) This is, perhaps, understandable within the context in which the text was produced —that is, around the turn of the millennium— where the explosion of skyscraper construction in China and the Middle East, and the enormous wave of high-rises to follow in virtually all urban regions of the earth had yet not taken place. But it is, nevertheless, the weakest point of the story by far: for any radical reorganization of the space capital has produced over the course of the last two centuries would have to take into account the spatialities created by heterogeneous global vertical landscapes proliferating in all major cities of the world—landscapes that constitute, at this point in history, perhaps the largest reservoir of built space to be creatively transformed. This is somewhat contradictory with Harvey's own views as expressed elsewhere. In an exchange with Antonio Negri and Michael Hardt, Harvey writes that one should be "careful not to demolish, too readily, the collective (if alienated) structures that capitalism has produced," suggesting instead that they should be re-appropriated. In another of his most imaginative texts, "Possible Urban Worlds", he states that although "all capitalist ventures, including those of the architect/planner, are speculative", it does not necessarily follow from this that 'speculation' has to be wholly reduced to a profit-making endeavor. Speculation signals also, Harvey postulates here, the capacity of the mind to 'imagine' realities that do not yet exist. This inherent capacity of the human is indeed what led Marx to articulate his well-known analogy between architects and bees in Volume One of *Capital*: "what distinguishes the worst architect from the best of bees", he wrote there, "is that the architect builds the cell in his mind before he constructs it in wax." (*Capital*, p. 284) Despite its ruthless, deeply alienating instrumentality, capitalism, Harvey adds, is itself "a gigantic speculative system in which… fictitious and imaginary elements surround us at every turn." As such, he then argues, its inherent speculative power can be mobilized to 'grow' "alternatives from within the interstices of itself," (91) instead of coming from a putative (and perhaps, in today's context, inexistent) 'outside'. Would it be possible, in this regard, to apply this logic to a dialectical conceptualization of the skyscraper, one that while unveiling its nature as a cold-blooded business enterprise, is simultaneously able to retrieve it as an object of the architectural utopian imaginary — i.e., one of those dormant spatial schemes lying within the system itself, and through which —as Harvey suggests— to speculate "with all the passion and imagination at our command" about other possible urban futures? See Harvey, "Possible Urban Worlds", in *Megacities: Lecture 4* (Twynstra Gudde Management Consultants, 2001), esp. p. 89-91. See also his discussion with Negri and Hardt, "Commomwealth: An Exchange", in *Artforum* (November, 2009, p. 211-214; 256-258, and Chapter Three below, **footnote 33**.

[50] On the phantasmagoric process that, on the one hand, operationalizes extended territories, while on the other generates megacities populated by corporate vertical architectures and other forms of large-scale urban agglomerations, see Martin Arboleda, "In the Nature of the Non-City: Expanded Infrastructural Networks and the Political Ecology of Planetary Urbanisation", *Antipode* 48:2 (2016), pp. 233-251.

2.3—Circa the End of the Millennium

After two decades of a globalization process in rapid expansion, the 1990s marked the consolidation of neoliberal hegemony. Towards the end of the decade, the rise of China as a major player in the capitalist world economy signaled the displacement of the United States by Asia as the "most dynamic center of processes of capital accumulation on a world scale."[51] The emergence of super-tall skyscrapers on Asian regions during the last years of the century must then be understood within this context. In 1997, the Petronas Twin Towers in Kuala Lumpur effectively became the tallest buildings in the world, relegating the Sear Towers in Chicago, which had become the tallest shortly after the construction of the WTC in the early 1970s. Even if it was still unclear by then whether there would be, as Arrighi put it, "a change of guard at the commanding heights of the capitalist world-economy," this was certainly the moment in which a change of guard in skyscraper-building took place. As Peggy Deamer writes, while the new Asian super-tall towers "initially received attention for the local revitalization they both symbolized and hoped to produce, the more interesting story has proven to be the financial mechanism that enabled them."[52] Among these last, we must count the crucial implementation of so-called Special Economic Zones—spaces of exception that allow business to bypass the state's regulatory, political and financial system.[53] The rise of Asian skyscrapers then entailed a cocktail of financial and land speculation at a new scale, on a process that was in

[51] Arrighi, *The Long Twentieth Century*, p. 343.

[52] Deamer, *Architecture and Capitalism*, p. 170.

[53] Under the SEZ's "umbrella are Free Trade Zones (FTZs) and Export Processing Zones (EPZs); each uses customs and tax exemptions to attract foreign capital, create jobs, and develop infrastructure." Ibid. Cf. also Keller Easterling, *Extrastatecraft: The Power of Infrastructure Space* (Verso, 2014), p. 25-69.

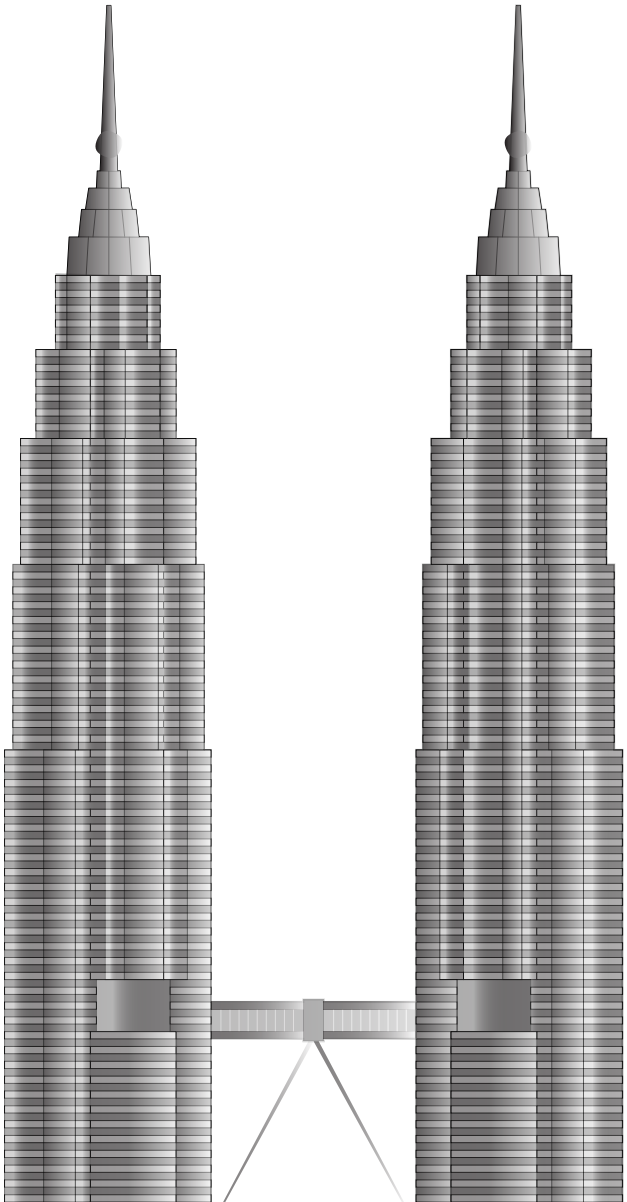
Figure 2.1: **Twin Petronas Towers**

Kuala Lumpur
1997
Drawing by author

600 m

400 m

200 m



turn instrumental in China's largest economic and cultural transformation. It is in this particular context, when finance was giving way to new mechanisms for the production of urban space —mechanisms which would enable skyscrapers to proliferate wildly on Asian soil in subsequent years, as we will see in the next Chapter—, that Fredric Jameson turned his attention to the relation between real state speculation and the architectural/urban form of the greatly enlarged late-capitalist city, first with his landmark essay "Culture and Finance Capital" cited at the onset of this Chapter, and shortly after —and more important for our purposes here— with his "The Brick and the Ballon", in which the complex intersections/interplays between the abstraction of finance, the new scale of the urban, and the emergence of a new architectural/spatial aesthetics are critically dissected.

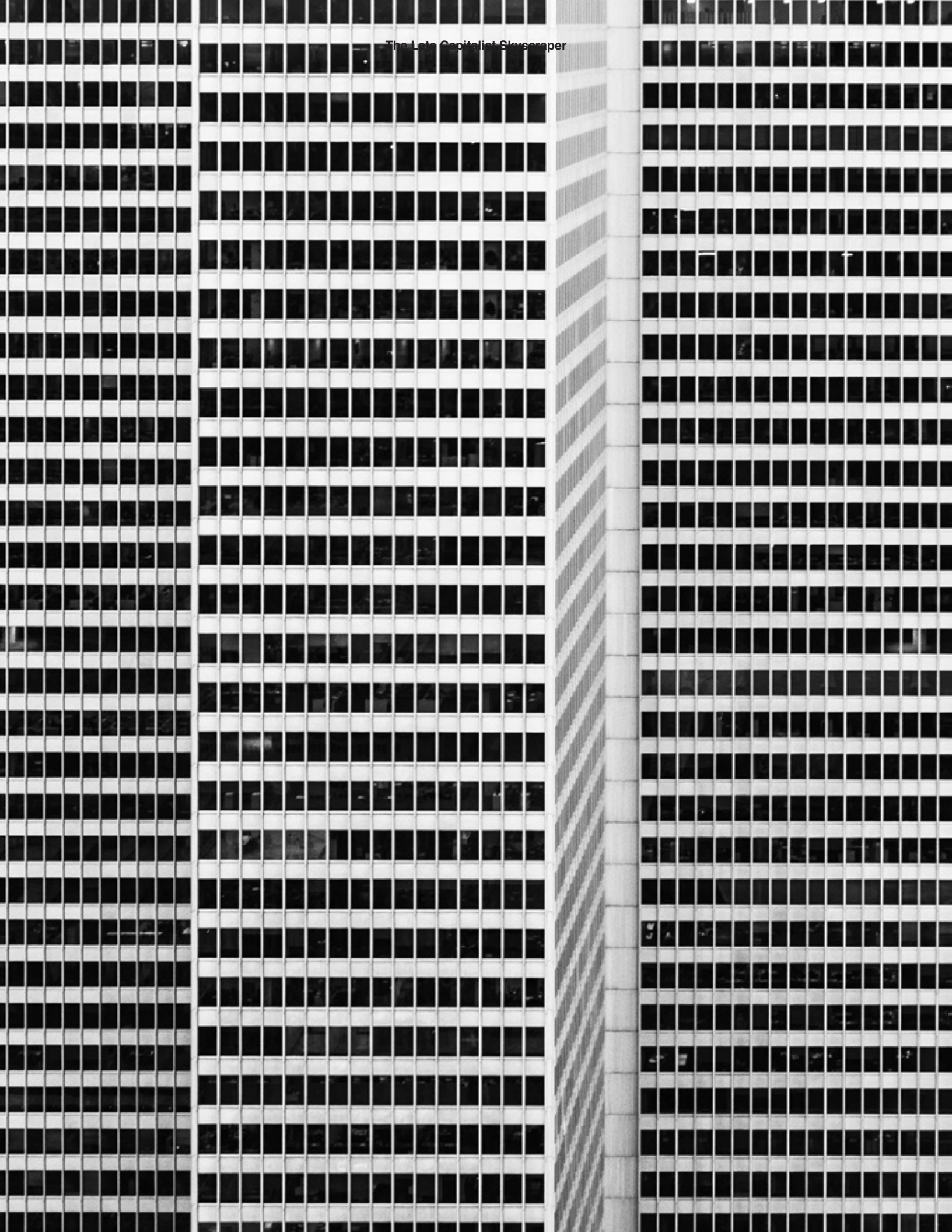
The Aesthetics of Abstraction

> [Are the aesthetics of the individual building] radically to be disjoined from the problem of the urban in such a way that the problems raised by each belong and remain in separate compartments?[54]

Jameson's essay can in some respects be understood as both an extension of Tafuri's "The Disenchanted Mountain" as much as a critique of it.[55] In the text, the skyscraper is presented as the most distinctive architectural *form* correspondent to the "self-multiplying exploitations" of city space known as land speculation ("a pre-eminently urban phenomenon") that have characterized financial capitalism since its rise in the 1970s. (26) What this relationality implies, Jameson contends, is nothing less than a 'new form of abstraction,' which in turn engenders its own material aesthetics—a spiraling logic of land value reproduction that indexes in architectural form what he, following Arrighi's periodization of capitalism, reads as a particular moment in the historical development of capital as such. It is clear here that Jameson, while indebted to Tafuri in his reading of the skyscraper as a 'self-contained machine' in outright opposition to the city, also

[54] Jameson, "The Brick and the Balloon: Architecture, Idealism and Land Speculation", p. 42. Subsequent references are given parenthetically after quotations.

[55] It is worth mentioning that the 'skyscraper' as such is invoked by Jameson in this text as an example in relation to the central problems at stake in his analysis—namely, those of finance capital, abstraction and land speculation. In this sense, the building is mobilized as a kind of concrete aesthetic 'evidence' of rather more intangible processes, and does not occupy the exclusive center of the essay's narrative.


The Late Capitalist Skyscraper

moves in a different direction, addressing upfront how the aesthetics of the skyscraper intersects with —and is indeed derived from— the political economy of an increasingly totalizing urban condition, in an analysis that keeps as background the more intangible, if equally totalizing, realm of financial capital. What Jameson proposes, via a reading of Harvey's interpretation of Marx, is that the skyscraper body is a materiality traversed by 'fictitious capital' (Marx's term), a logic that reads land as inherently "oriented towards the expectation of future value." (43) In one stroke, and paraphrasing Jameson, we might say the building is "revealed to be intimately related to the credit system, the stock market and finance capital generally."[56] The skyscraper, an architecture of land-value multiplication,[57] is *de facto* both a spatial mechanism for the exploitation of the land and a machine to claim and collect the future revenue that might be extracted from it (an observation, I note in passing, that is at one with Harvey's more recent critique of the skyscraper as embodiment of financial power),[58] and these two operations are channeled through, and ultimately crystallized into, architectural form. What this entails is, then, nothing less than the prefiguration and colonization of 'specific futures' as the realization of 'fictitious capital' through the vehicle provided by architecture itself; more precisely and prominently, via the medium of the skyscraper as *aesthetic form*. Within the financial-urban realm of late capitalism, architectural form then operates at two distinct levels: an 'infra-

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[56] Ibid. p. 43. Jameson makes this last point not regarding the building as such, but in relation to land value. Cf. Harvey, *The Limits to Capital*, p. 283-329.

[57] **DIVISION AND MULTIPLICATION —** According to Mario Manieri-Elia, both the form of the skyscraper and its height are to be seen as the result of two arithmetic operations: "the first of division, the second of multiplication." Manieri-Elia, "Towards an 'Imperial City', in Ciucci et al, eds., *The American City*, p. 5; 122 (n. 5). What this means is that the skyscraper's verticality is a key feature of its nature as a machine of accumulation: an abstract principle of land replication whose purpose is to extract as much value as possible out of the 'plot' it occupies in order to accommodate those speculative activities that, in turn, as Harvey argues, ensure the reproduction of money capital.

[58] **TOWERS OF DEBT —** If, on the one hand, Harvey 'sees' the skyscraper as a machine of accumulation, as discussed above, on the other he also understands it as a metaphor of the piling amounts of debt that pervade our neoliberal present, and thus as an image of a particular kind of future—a future that is foreclosed, as he elaborates in his recent *Marx, Capital, and the Madness of Economic Reason*, especially in Chapter 4, p. 72-93. As financialization becomes ubiquitous, more corporate towers proliferate in urban centers, as if they were to index the extent to which the specific future they symbolize (a future of more corporate and financial hegemony, and thus of more debt) is already inscribed and prefigured in the present. The ubiquitous reproduction of corporate skyscrapers operating as the visible facade of a global financial empire is one way, Harvey seems to suggest, in which that neoliberal motto, "there is no alternative", is manifest (see below, Chapter Three, "The Singular Skyscraper and the Late Capitalist Imaginary"). Harvey: "The fact that so many find it harder to envisage the end of capitalism than the end of the world has everything to do with the fact that the future of capital accumulation is foreclosed in a *towering volume* of debt as anti-value. For many, the only seeming hope is that some external intervention –an apocalyptic event of some sort– will save us. It will not. The only thing that can save us is an explicit winding down if not demolition of the *tower* of debt that dictates our future." (*Madness of Economic Reason*, p. 93; my emphasis.) One might imagine that Harvey, not particularly inclined to praise the subtleties of design, merges in his formulation both the actual architectural and urban effects (the enclosure of public space, the expulsion of people living around or close to new developments, etc.) triggered by this form of architecture, as much as the symbolic role they play in representing, legitimating and reproducing financial hegemony at the level of cultural signification. As he put it in *A Brief History of Neoliberalism* (Oxford University Press, 2005, p. 157): "So-called global cities of finance and command functions have become spectacular islands of wealth and privilege, with towering skyscrapers and millions upon millions of square feet of office space to house these operations. Within these towers, trading between floors creates a vast amount of fictitious wealth. Speculative urban property markets, furthermore, have become prime engines of capital accumulation. The rapidly evolving skylines of Manhattan, Tokyo, London, Paris, Frankfurt, Hong Kong, and now Shanghai are marvels to behold." See below, **footnote 65**.

structural,' thoroughly abstract one ("an extreme isometric space") that allows the building to seamlessly accumulate, and a 'superstructural', figurative one (the building's "enclosed skin volumes") that fulfills its more ephemeral, rapidly changing demands of iconicity and spectacularity, dissolving the volume into pure surface. (44) Here lies, thus, both the difference between 'brick' and 'balloon'; or, in other words, the seemingly mystifying and simultaneous articulation between the building's 'embodiment' as accumulation machine and its 'dematerialization' as an image dissolved within the totalizing realm of the urban.[59] Displacing the central importance assigned to the skyscraper as *designed* cultural artifact (as in Huxtable) and undermining its naturalization as the logical expression of finance's formulas (as in Willis), Jameson suggests a path of analysis in which the building's form emerges as both a symbolic *symptom* and a material expression of (finance) capital's abstraction. What this conceptual move suggests then is that finance, as Shonkwiler proposes "must be understood as a process of abstractification and concretization"[60] at once, and that this duality, in turn, is manifest in the skyscraper as a *concrete* machine whose body is traversed by, and instrumental to the reproduction of, *abstract* processes of accumulation.

The Materiality of Accumulation

> [A]rchitecture today, and also its formal originality, lies in… the 'seam it shares with the economic.'[61]

The textual excursuses examined above move from an *affirmative* design discursivity providing legitimation for the continuous reproduction of the skyscraper as a cultural and rational economic machine, towards a *critical* discursivity concerned with unveiling what lies behind its form to reveal the skyscraper's rather more deceptive role(s) within the late capitalist world. The critical commentaries of both Harvey and Jameson may be read as critical operations of

[59] For a more detailed analysis, see David Cunningham's close reading of Jameson's text in his essay "The Architecture of Money: Jameson, Abstraction and Form", in N. Lahiji, ed., *The Political Unconscious of Architecture: Re-opening Jameson's Narrative* (Ashgate, 2012), p. 37-55. What Cunningham proposes there (p. 49-50) is to bring together both *aesthetics* and *money* in any contemporary study of the relations between abstraction and architectural form, in a framework that would be largely consistent with the analyses of Harvey and Jameson as presented here.

[60] Shonkwiler, *The Financial Imaginary*, p. xxiii.

[61] Jameson, "The Brick and the Balloon," p. 26.

'unmasking' (to stick to this Tafurian metaphor) of a host of naturalized tropes constitutive of the skyscraper as concept. Such tropes are, as we saw, rehearsed by Huxtable in her stylistic analysis, and by Willis in her 'revisionist' approach:[62] the exaltation of the building as a 'designed' cultural artifact at the expense of its rather more cloudy functions within an increasingly abstract urban space traversed by processes of land speculation in the case of the former; the naturalization of the skyscraper as a *rational* financial enterprise, and by extension of its role as such within an increasingly commodified urban space, in the case of the latter. On closer inspection, what can be seen then is that in these first two cases, there is a double operation of invisibilization (Huxtable) and rationalization (Willis). In this respect, one might pose that Huxtable, writing at the peak of the postmodern turn, is imbued, as McLeod contends, with the "desire to make architecture a vehicle of cultural expression" at the expense of examining how such expression is connected with power dynamics and the political economy of late capital.[63] In so doing, these last remain unexplored, and ultimately left out of sight. In other words, "we cannot see the process because the object gets on the way," as scholar Martin Parker puts it in his study of the skyscraper.[64] On the other hand, what we see in Willis is an explicit invocation of the language of finance capital itself; yet this invocation is ultimately mobilized for the purpose of providing a rationalization of skyscrapers as commonsensical, logical financial enterprises. Such rationalization ultimately claims that in the deployment of architecture as an economic/financial formula there is, indeed, "great beauty." On the opposite side of this formalistic approach the mobilization of a form-process dialectic reveals that the economic logics that govern the skyscraper-form are, contra Willis, deeply irrational; that disguised behind its stylized surface appearance lies a machinic framework whose main function is both to reproduce money and to allow value to circulate through space;[65] that the building's image/status as cultural icon occludes its thorough instrumentalization by late capitalism's

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[62] "Because it offers an approach quite different from such standard themes as style, 'schools,' structure, or cultural expression, this study may be seen as revisionist." Willis, *Form Follows Finance*, p. 14.

[63] McLeod, p. 24. Also: "Postmodern practitioners and critics have tended to seek ideological justification, not in program, function, or structure, but in *meaning*." Ibid.

[64] Cf. Martin Parker, "Vertical Capitalism: Skyscrapers and Organization" in *Culture and Organization* 21:3 (2015), pp. 217-234. See below, Chapter Three, **footnote 87**.

[65] **ANTI-VALUE** — Harvey has recently suggested that the tall buildings populating the financial epicenters of the world, "such as… London, Wall Street, Frankfurt, Shanghai and the like", whose purpose is not (necessarily) to be used, but rather to allow value to circulate, should be seen as "centers of anti-value formation". This is, he contends in *The Madness of Economic Reason*, "what all those debt-bottling plants that dominate the skylines in these global cities truly signify." Debt, for Harvey, is one of the biggest forms of anti-value, which in turn must be understood as the always latent, invisible other side of value. See *Madness of Economic Reason*, p. 72-93.

greatly intensified processes of land and financial speculation. Likewise, contra Huxtable, Jameson's analysis suggests that the skyscraper's character as aesthetic form is not controlled (or 'designed,' for that matter) by the architect herself, but rather dictated by capital's speculative volatility. Moreover, what Jameson seems to submit is that the building's form —both in its image (its 'enclosed skin') and inner structure (its 'abstract isometric space') is but a crystallization, or architectural instantiation, of financial abstraction itself. By combining both Harvey and Jameson's insights, what results is a critical update and expansion of Tafuri's critique of the skyscraper, which did not engage explicitly with neither the question of aesthetics nor that of abstraction.[66] Jameson's compelling approach suggests, in this regard, a powerful synthesis—one that in turn is anchored, as we saw, in his own *transcoding* of Arrighi's foundational theory of finance capital into the realm of cultural and spatial analysis.[67] What he poses, ultimately, is that the skyscraper formal changes over time have to be seen as spatial modulations of the abstract metamorphoses of capital itself. His characterization of the building's dual nature, split in its sensuous surface appearance and its abstract internal spatiality, thus configure it simultaneously as an *aesthetic form* and an *abstract framework of accumulation*. Harvey's diagrammatic analysis, in turn, presents the skyscraper's increase in size and scale as an architectural index of financial expansiveness and the principle of *verticality for accumulation's sake*. Finance capital courses through this dual and ever-taller body modifying it both at the level of its surface appearance and of its deep formal structure. In so doing, the abstract movement of capital engenders a new aesthetics that, in reinforcing the character of the building as a (Tafurian) 'self-contained machine,' (symbolically) alienates it from the urban fabric and sets it in open contradistinction with it. Meanwhile, processes of value and money circulation optimize the skyscraper's internal formal/spatial configuration so as to enable further accumulation to proceed, thus rendering the building as a mere instrument of land value speculation. While as an aesthetic form the object self-affirms itself as an *exception*, a pure symbol of capital's power structures projected onto space, as a *serial* framework of accumulation it can be endlessly replicated to commodify as much land as possible.

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[66] For Tafuri, architecture's aesthetics is a category disjoined from the economic and political plane where systemic change can actually be enacted. See Jameson, *The Ideologies of Theory*, p. 346. Also, Jameson, The Brick and the Ballon, p. 39: "The bleakness of Tafuri's readings always stemmed from the principled absence in his work of any possible future aesthetic, any fantasized solution to the dilemmas of the capitalist city, any avant-garde path by which art might hope to make a contribution to a world-transformation which could for him only be economic and political."

[67] **TRANSCODING —** In *The Political Unconscious*, p. 40, Jameson defines 'transcoding' as "the invention of a set of terms, the strategic choice of a particular code or language, such that the same terminology can be used to analyze and articulate two quite distinct types of objects or 'texts', or two very different structural levels of reality."

Shenzhen at the beginning of the 21st century

The Late Capitalist Skyscraper

3

Within the milieu of late capitalism, what seems to transpire from the trajectory of mainstream or hegemonic architectural discourses on the skyscraper is a movement away from earlier, properly 'postmodern' stylistic concerns towards more recent attempts, in the twenty-first century, to fashion a language attuned to the current contemporary scenario of crises.[1] This movement coincides with the process of geographical expansion of the skyscraper and its proliferation as a global architectural type — a process which starts to take up a new scale after the destruction of the World Trade Center in 2001, and becomes greatly intensified after the financial crash in 2008.

3.1 — After 2001

Event of Consciousness

> What is commonly called environmental consciousness could be described as subterranean consciousness—the awareness that we are in a very real sense not on the earth but inside it. That awareness can evolve in many directions. Our environment will inevitably become less natural; the question is whether it will also become less human.[2]

[1] **CRISES —** "If one considers the scale of the major issues confronting the contemporary world, from the financial crises and their consequences for employment and structural economic inequalities, to climate change and the ensuing environmental crises, not to mention geo-political conflicts, terrorism and humanitarian armed interventions, it is clear that the posthuman condition has engendered its own inhuman(e) dimension." Rosi Braidotti, *The Posthuman* (Wiley, 2013), p. 110. For Braidotti, the early twenty-first century entails a paradigm-shift that is visible in different spheres of contemporary life—a historical moment out of which the very notion of the 'human' emerges as an unclear, fuzzy, challenging question. This process of *decentering* of the 'human' as a historically specific (and therefore contingent) 'construction' is, she contends, enabled as such by the systematic undermining of its historical conditions of possibility prompted by the simultaneous unfolding of multiple (philosophical, environmental, humanitarian, geopolitical) crises, as already captured by Foucault at the end of *The Order of Things,* where he advanced that a category of thought emerges and becomes historically pressing precisely at the moment of its disappearance; or, in other words, that there is a correlation between becoming 'thinkable' and entering a state of profound and terminal crisis. According to this view, then, the manifold (social, economic, technological, spatial) consequences of the profound transformations triggered since the early 1970s can only now be 'seen' or 'visualized' in their full scope. Yet, the 'post-' of 'posthuman' theory does not imply in any way that we are in the verge of a 'post-power, post-class, post-imperial', and/or, I add, a 'post-capitalist' moment. Quite the contrary: for Braidotti, the 'posthuman' signals a subjectivity, or a 'way of being in the world' deeply embedded into the complex and totalizing logics of 'advanced' (or, in the context of this study, 'late') capitalism. For an attempt to trace the spatial and geographical reverberations of the world's contemporary crises through this conceptual lens, see M. Gomez Luque, G. Jafari, eds., New Geographies 09: *Posthuman*.

[2] Rosalind Williams, *Notes on the Underground: An Essay on Technology, Society, and the Imagination* (The MIT Press, 2008), p. 211-212.

Contrary to some early predictions, the post-2001 period saw an unprecedented revival of 'skyscraper-design'.[3] Instead of introducing a space of critical re-evaluation of the type as conventionally understood, the destruction of the Twin Towers in New York on September 11, 2001, triggered a widespread architectural response that not only did not challenge the building's naturalized definition, but fundamentally amplified it to incorporate a new set of features that would present it as adapted and 'optimized' to face the ecological and environmental challenges of the new century.[4] The competition to rebuild Ground Zero, held eighty years after that of *The Chicago Tribune* —to recall, an episode signaled by Tafuri as an inflection point in the conception of the skyscraper[5]— can be said to mark yet another crucial moment in the disciplinary history of the building, one which would forcefully reinstate the premises of the type and render it as a resolutely 'resilient' *capitalist* machine. "If capitalism's capacity to subsume radical practices into its machinations is recognized" writes Felicity Scott in her critique of the competition, "here this logic of cooptation is accelerated without reserve."[6] In other words, the generalized reaction to 9/11 was one of resounding affirmation of the historically constructed premises of the skyscraper as a symbol of capital; there was no systematic attempt to reevaluate or reconsider, at a conceptual level, the building's complex relation to power, nor its socio-spatial role and status within the city (and the world).[7] This has to be understood as a concerted response by what sociologist Leslie Sklair calls the 'transnational capitalist class' (TCC): a new and consolidated global elite organized in different fractions

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[3] **9/11, 2001** — "[W]hile in the aftermath of the World Trade Center attack doubt was cast on the future of the tall building in the city, it soon became clear that, if anything, it stiffened the resolve of architects and developers to improve evacuation, fire and structural technologies." Donald McNeill, "Skyscraper Geography", in *Progress in Human Geography* 29:1 (2005), p. 42. Shortly after the destruction of the towers, Mike Davis wrote: "There is little doubt ... that Bin Laden et al have put a silver stake in the heart of the 'downtown revival' in New York and elsewhere. The traditional central city where buildings and land values soar towards the sky is not yet dead, but the pulse is weakening. The current globalization of fear will accelerate the high-tech dispersal of centralized organizations, including banks, securities firms, government offices, and telecommunications centres, into regional multi-site networks ... In this spatial model ... satellite offices, telecommuting and, if the need be, comfortable bunkers will replace most of the functions of that obsolete behemoth, the skyscraper." Nothing could have been further from what actually happened. Davis, "The flames of New York", *New Left Review* 12 (Dec. 2001), p. 44.

[4] For a critique of the Ground Zero competition and a discussion of its ulterior implications for the discipline of architecture, see Felicity Scott, *Architecture or Techno-utopia: Politics after Modernism* (The MIT Press, 2010), p. 247-253.

[5] Tafuri, "The Disenchanted Mountain," p. 400.

[6] Scott, *Architecture or Techno-Utopia*, p. 280.

[7] Retroactively, Peter Marcuse pessimistic position about the outcome of the competition and his skepticism regarding (or despite of) the good intentions behind any efforts to rebuild the site, proved to be correct. Marcuse: "Money, after all, is going to be a key factor in every decision dealing with the consequences of September 11, in downtown Manhattan and elsewhere… (…) Despite all the professional actions, the good intentions, and the diverse ideas for rebuilding, money is the basic force that will determine the outcome. And unfortunately, naïveté about money is the largest hurdle facing many of the civic groups pressing for greater participation." Marcuse, "What Kind of Planning After September 11? The Marker, the Stakeholders, Consensus-or…?", in *After the World Trade Center*, p. 153; 162, respectively. For a recent critique of the close-to-completion One World Trade Center complex of buildings, see Reinhold Martin, "Can Design Change Society", talk given in the Und Pop-Up-Ausstellung Symposium in Berlin, September 18, 2015. Available here: https://www.youtube.com/watch?v=nNOgVr7MHUw

(corporate, political, professional, and consumerist) with the power to control economic resources, political influence and mass-media attention, and thus to operate across both the political-economic and the cultural-ideological realms alike.[8] This hegemonic class, which has penetrated both architectural discourse and praxis alike, expresses its power through the creation of "iconic buildings, spaces, urban mega-projects, and sometimes whole cities," including "ever-higher skyscrapers" which by projecting their outlines "especially in a skyline, [are] one of the most popular signifiers" of what Sklair terms 'capitalist globalization.'[9]

In the face of an attack that was directed to the very core of global financial power —both represented and embodied, as suggested in Chapter One, by the architecture of the WTC itself— the reaction of the architectural TCC was one of strong opposition to any attempt to re-conceive the very *concept* of the skyscraper within a reconfigured geopolitical scenario. But if conceptual/theoretical reconsideration was discarded *tout court*, technical enhancement was fully embraced. Indeed, most efforts were directed to the adaptation and optimization of the building's technological constitution so as to stabilize its decentered status after the 2001 attack.[10] In effect, if the space contained within the rise and the demise of the WTC can be described as the expansion and consolidation of neoliberal globalization —and consequently as marking the process of *becoming global* of the skyscraper— 9/11 signals the entrance into a different kind of *globe*, one crisscrossed by a multiplicity of intensifying and cascading crises (environmental, geopolitical, economic) taking place in conjunction with a series of radical technological and spatial transformations.[11] This is a 'global' world of networked culture, digital media, and information technologies; of algorithmic financialization,

[8] Leslie Sklair, "Iconic Architecture and Capitalist Globalization," *City*, Vol. 10: 1 (2006), p. 21-47. To briefly unpack Skleir's categorizations, the four fractions of the TCC (in architecture) are constituted as follows: A) the *corporate*: the people that own or control the major architectural/engineering/real state firms; B) the *political*: the politicians and bureaucrats that decide what gets built where and how changes to the built environment are regulated; C) the *professional*: leading technicians involved in the structural features of new buildings, (also, those responsible for the education of students and the public on architecture, generally allied with globalizing corporations); D) the *consumerist*: the people responsible for the marketing of architecture, and whose main task is to connect the architecture industry with the culture-ideology of consumerism.

[9] Sklair, *The Icon Project: Architecture, Cities, and Capitalist Globalization* (Oxford University Press, 2017), p. 51. Sklair differentiates between 'generic, capitalist, and alternative' globalizations. The first refers to the "new phenomena that have become significant since the middle of the 20th century" (electronic revolution, mass media, information infrastructures; the postcolonial revolution with its fist and third worlds; the creation of transnational spaces and the rise of cosmopolitanism); the second refers to the actual impact these transformations had on the livelihood of the global population, which makes clear that "the dominant global system at the start of the 21st century is the capitalist global system." The third one points towards alternative futures which may challenge the state of things as they stand in the present. While I find Sklair's analysis useful, I remain dubious about the notion of alternative *globalization*'; see Epilogue below.

[10] "The collapse of the WTC has initiated rigorous research to improve tall building safety, security, and other aspects such as environmental quality." Kheir Al-Kodmany, "The Logic of Vertical Density: Tall Buildings in the 21st Century, *International Journal of High-Rise Buildings*, Vol. 1:2 (2012), p. 142.

[11] Cf. M. Gomez Luque, G. Jafari, New Geographies 09: *Posthuman*, p. 8-11.

ubiquitous urbanization, and anthropocenic climate change.[12] Such crises and novel spatial/environmental conditions, in turn, have introduced a critical new awareness of both the scale and fragility of the *planet* —as opposed to the 'globe'— which is directly opposed to the optimism about capitalist globalization that we described earlier as characteristic of the last two decades of the twentieth century. Borrowing from historian of technology Rosalind Williams, we might say then that 9/11 represents what she, building upon Eric Hobsbawm's notion, calls 'an event of consciousness'[13]—namely, the "re-irruption of 'history' into that post-historical world" eagerly announced by the pundits of neoliberal capitalism ever since the fall of the Berlin Wall.[14] I will return to the question of 'planetarity' in the Epilogue, but for now I want to notice that, given this new configuration, it is fair to state that twenty-first century mainstream design discourses on the skyscraper locate it decisively in the category of the 'global' rather than that of the 'planetary'.[15]

[12] Ibid., see especially: Erik Swyngedouw, "More-than-Human Constellations as Immuno-Biopolitical Fantasy in the Urbicene"; Benjamin Bratton, "Geographies of Sensitive Matter: On Artificial Intelligence at Urban Scale"; Shannon Mattern, "Extract and Preserve: Underground Repositories for a Posthuman Future?"; Martín Arboleda, "On the Alienated Violence of Money: Finance Capital, Value, and the Making of Monstrous Territories"; McKenzie Wark, "Adventures in Third Nature"; Jason W. Moore, "Confronting the Popular Anthropocene: Toward an Ecology of Hope."

[13] That is: a dramatic, radical episode which, by the sheer force of the transformation of reality it implies, enters the "consciousness of reflective minds who lived through it." Rosalind Williams, "Redesigning Design", Ibid., p. 13. For an analysis of such an 'event of consciousness' (9/11) and its ramifications within the realm of contemporary American literature, see Ruth Mackay, *Waiting for the Sky to Fall: The Age of Verticality in American Narrative* (The Ohio State University Press, 2016). For a literary meditation on the profound psychological and emotional effects of 9/11, see Don DeLillo, *Falling Man: A Novel* (Scribner, 2007).

[14] Cf. also Peter Sloterdijk, *In the World Interior of Capital* (Polity Press, 2013), p. 169-176.

[15] **PLANETARY —** As Maja and Reuben Fowkes argue, as a specific, strategic terminological choice, the 'planetary' signals a critical mode of awareness of the world, and the postulation of a different kind of common life which is opposed to the imperialist, extractivist, and instrumentalist logic of capitalist development. In it in this sense, then, that I say that the skyscraper is decisively in the category of the 'global' rather than in that of the 'planetary'. See the 'planetary' entrance by Maja and Reuben Fowkes in Rosi Braidotti and Maria Hlavajova, eds., *Posthuman Glossary* (Bloomsbury, 2018), p. 318-320.

A Techno-Managerial Dispositif

> [T]he city today is staged as experimental terrain for the implementation of new socio-technical arrangements that render it not only smart, but also 'resilient' in the face of uncertainty, and 'adaptive' to potentially disruptive processes of rapid socio-ecological change.[16]

It is within this general context that a technologically optimized and environmentally 'friendly' skyscraper now proliferates globally.[17] While on the one hand the building is presented as a renewed cultural artifact, stylistically attuned to express the cosmopolitanism of a new, hyperconnected world, on the other it is described as a 'resilient' architectural form reengineered to face the socio-ecological challenges introduced by climate change in the age of the Anthropocene.[18] As part of this effort to update the general *episteme* of the skyscraper to the demands of the time, a whole series of qualifiers —labels such as 'global/local', 'kinetic', 'mediatic', 'green' and of course, 'sustainable'[19]— has been added in order to present the tall building as a brand-new "environmental skyscraper."[20] According to this conceptualization, the skyscraper is now not only an advanced

[16] Swyngedouw, "More-than-Human Constellations", in New Geographies 09: *Posthuman*, p. 21.

[17] "Sustainable, high-performance buildings and 'green architecture' have become important architectural criteria today as concerns about increased world population in conjunction with the depletion of natural resources, renewal and recycling of natural and synthetic materials, as well as construction of non-renewable energy resources, take on global proportions. Architects have been in a race to build the most sustainable buildings, and most recently, architects have an aggressive agenda to build the greenest skyscrapers. 'The green meets the blue' expression refers to how architects are incorporating sustainable design principles augmented with new materials and technology into the design of tall buildings. Green building design principles also point to resource-efficient approaches to construct a tall building that will eventually be more economical to operate." Kheir Al-Kodmany, "Sustainability and the 21st Century Vertical City: A Review of Design Approaches of Tall Buildings, in *Buildings Journal*, 8: 102 (2018), p. 2.

[18] [G]reen design is transforming the architecture of skyscrapers and producing new aesthetics that is based on eco-friendly design features and principles. In other words, the green design revolution has produced new aesthetic qualities, in some cases, iconic and strikingly unconventional. These iconic green skyscrapers enjoy local even global status and are considered to be among the most attractive. These tall buildings possess powerful imageability and embrace green design technologies simultaneously. These eco-iconic skyscrapers put their cities on the map by making their cities receive national and international recognition… (…) [A] plant and tree-covered towers trend is spreading worldwide, creating a new architectural design paradigm that responds to environmental problems and climate change while offering exciting aesthetics." Ibid., p. 3; 31, respectively.

[19] Cf. Eric Höweler, *Skyscraper: Designs of the Recent Past and for the Near Future* (Thames & Hudson, 2003). Höweler's is a case-study based analysis that presents the skyscraper as an "extremely fine-tuned architecture" effortlessly bringing together "market forces and technological efficiencies" in order to "consciously engage [with] issues of sustainability" (p. 9; 14). The book surveys the structural and technological challenges currently at play in the development of the skyscraper as a 'global/local' form. In that sense, his is an account that works more as a general outline of formal, aesthetic and structural tendencies than as a systematic assessment of the type's cultural status within the early twenty-first century.

[20] Cf. Scott Johnson, *Tall Building: Imagining the Skyscraper* (Balcony Press, 2008), p. 107-116. Johnson's is a detailed account of the multiple (environmental, symbolic, technological) dimensions of the skyscraper up until the end of the first decade of the 21st century, manifested in the organization of the book by thematic chapters ('The Inevitable Skyscraper' surveys the origins of the type in America; 'The Enrichment of Vertical Space' studies the structural and programmatic challenges of vertical organization; 'The Environmental Skyscraper' focuses on the sustainable performance of the type vis-à-vis new climate dynamics; 'Designer's Skyscraper' addresses the increasing singularity of the skyscraper-form; 'Future Tall' goes on to outline the characteristics of the skyscraper in Asian cities; and 'Art Skyscraper' deals with the 'artistic' and formalistic features of tall buildings).

aesthetic-cultural artifact and an economically enhanced rational business machine (as we saw both Huxtable and Willis forcefully assert in the previous Chapter), but also an increasingly 'smart'[21] and ecologically 'benign' architecture. However, as Erik Swyngedouw asserts, the invocation of these conceptual tropes is misleading, as they disguise their *real* ideological function as *techno-managerial dispositifs* (or 'architectural eco-bubbles', as he alternatively describes them) designed for preserving the given spatial order, for it is clear that "the construction of urban eco-bubbles for the privileged simultaneously produces unprotected exiles and deepens ecological destruction elsewhere."[22] For Swyngedouw, mainstream 'depoliticized' discourses mobilizing the language of resiliency and ecological 'stewardship' are, accordingly, devised to ensure that "life continues as we know it"; i.e., to provide the "ideological groundwork" required to cover up the contradictions of "capitalist eco-modernization."[23]

At a more specifically disciplinary level, the 'refreshing' of the skyscraper's image after 9/11 to make it palatable under current conditions might be described as a concrete instantiation of what Douglas Spencer characterizes as the "managerialist turn" of twenty-first century architecture.[24] Freed from its ties with a now disavowed *critical* project, contemporary architecture is, Spencer contends, "unconcerned with, even actively hostile to, changing the 'framework that determines how things work,'" and instead largely focused on "the provision of product innovation for 'the only game in town': the 'real' of capitalism."[25] In this regard, it is clear that the discourses articulated in this fashion narrate the skyscraper as a fetishistic object anchored, as it were, in an eternal present (the present of late capitalism, that is), rendering it as destined to be endlessly reproduced as a spatial dispositif devised to 'manage' crises successfully. At a still more general level, we might say that such discourses are consistent with what critic Mark Fisher defines as 'capitalist realism': "the widespread sense that not only is capitalism the only viable political and economic system, but also that it is

[21] When considering the challenges for the new generation of tall buildings, Al-Kodmany writes that "it is not only crucial to design and construct resiliently but to employ also smart technologies, green designs, and ecological principles." "Sustainability and the 21st Century Vertical City", p. 2. Cf. also Pasquale De Paola, "Toward a Redefinition of the Vertical: The Skyscraper in the Age of Algorithmic Reproduction", in J. Stuart and M. Wilson, eds., *Globalizing Architecture: Flows and Disruptions*, 102nd ACSA Annual Meeting, 2014, p. 467-475. De Paola, p. 469: "[T]he contemporary high-rise has to deal with new questions relative to performance, flexibility, and ecology, while providing fresh solutions that expand our disciplinary frontiers."

[22] Swyngedouw, "More-than-Human Constellations", p. 23.

[23] Ibid., p. 22.

[24] Cf. Douglas Spencer, "The Architecture of Managerialism: OMA, CCTV, and the post-political", in N. Lahiji, ed., *Architecture Against the Post-Political: Essays in Reclaiming the Critical Project* (Routledge, 2014, digital edition), p. 151-166.

[25] Ibid., p. 152.

now impossible even to imagine a coherent alternative to it."[26] 'Capitalist realism' is, as Fisher recognizes, a critical update of Jameson's theorization of late capitalism as both a space and a time without a future, a sort of "imprisonment in the present": both the collective and individual existential loss of any sense of historicity and of the very possibility of radical change.[27] In this seemingly inescapable loop, Jameson argues that the future itself becomes unthinkable, utterly unimaginable, constantly vanishing on the horizon.[28] Accordingly, we might say that the current function of what we have termed earlier as a mainstream or *hegemonic design narrative* is ultimately to ensure the reproduction of the skyscraper within the limits of its historically sedimented conceptualization—only this time around at a planetary-scale and at hitherto unprecedented quantities and levels of spatial and technological complexity.[29]

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[26] Mark Fisher, *Capitalist Realism: Is There Really No Alternative?* (Zero Books, 2009), p. 2. Cf. also Alison Shonkwiler & Leigh Claire La Berge, eds., *Reading Capitalist Realism* (University of Iowa Press, 2014).

[27] "Jameson… argued that the failure of the future was constitutive of a postmodern cultural scene which, as he correctly prophesied, would become dominated by pastiche and revivalism… What I'm calling capitalist realism can be subsumed under the rubric of postmodernism as theorized by Jameson… More importantly, I would want to argue that some of the processes which Jameson described and analyzed have now become so aggravated and chronic that they have gone through a change in kind." Fisher, *Capitalist Realism*, p. 7.

[28] Cf. Jameson, "Future City", in *New Left Review* 21 (June 2003), p. 65-79.

[29] **POST-2001 DISCOURSES: A Micro-Review —** As clarified earlier in Chapter Two with regard to the 1973-2000 period, mainstream design discourses after 2001 cannot be said to constitute any homogeneous group working consciously in concert either, but instead to prefigure a variegated set of approaches sharing the same ideological assumptions about the meaning and role of the skyscraper in the contemporary capitalist scenario. To add to the publications already mentioned in the preceding footnotes, see also, for example, A) Iñaki Abalos and Juan Herreros, *Tower and Office: From Modernist Theory to Contemporary Practice* (The MIT Press, 2003); B) Alejandro Zaera-Polo, *The Sniper's Log: Architectural Chronicles of Generation X* (Actar, 2012); C) MVRDV/Winy Maas, *The Vertical Village: Individual, Informal, Intense* (nai 010 Publishers, 2012); and D) Ciro Najle, *The Generic Sublime: Organizational Models for Global Architecture* (Actar, 2016). A) A&H focus primarily on the skyscraper's technological and structural constitution, providing a general account of the historical conditions that triggered the technical refinement of the type, especially in the context of North America since WWII. In their intention to address "the relation between design and *positive* knowledge; the evolution of production methods and the definition of typologies; an the evolution of high-rise systems and their symbolic representation" (4, my emphasis), they develop an approach in which tall buildings are studied primarily as technical constructs, paying less attention to questions regarding, for instance, the relationality between typological/technological mutation and the significant urban transformation of American cities after the 1970s. Instead, they prefer to filter these processes through the lens of an analysis centered on the issue of technological enhancement and optimization as such. B) In his dispersed yet interrelated writings on the contemporary skyscraper, Zaera-Polo articulates a highly pragmatic, 'post-critical' reading of the building in the early twenty-first century as "the ultimate embodiment of the intensive, expansive, and dynamic traits of modern capitalism." (p. 356) For Zaera-Polo, the contemporary skyscraper has become a fully calculated, quantified form—an optimized spatial organization carefully orchestrated so as to extract as much value from both land and floor space as possible. (p. 383-407) Design 'innovation', in this context, means tweaking, improving, rehearsing established schemes in search for tiny filaments of freedom. And so, embarked in this fragmentary approach, stripped-off of any capacity to decide, of any possibility to imagine things otherwise, the architect surrenders to external forces and forgets about understanding the design of the tall building as a complex totality—something that (according to Zaera-Polo) far from being a dead-end, opens up a "new potential" for architecture (p. 401). What counts now, he seems to suggest, is to forever perfect that which has been established as a given by a cohort of managers and technical experts: facade ratios, surface-to-volume and window-ratios, floor-plate scales, and facade-to-core-dimensions. C) Largely unconcerned with questions of critique and theoretical discourse, MVRDV's approach is thoroughly based on the 'operativity' of 'design': the variegated vertical typologies explored in their publications are mostly centered on developing a constellation of prototypical vertical organizations through which themes such as (hyper)density or the three-dimensional, large-scale volumetric dimension of the contemporary urban condition can be visualized as form. D) In his book *The Generic Sublime* (GS), architect and educator Ciro Najle attempts to construct a systematic (formal) methodology to explore the uncharted disciplinary realm beyond the ontological limits of the skyscraper—an interesting proposition indeed. Yet for Najle, "[t]he problem with twentieth-century megalomania… is not that it results in forms of organization that are too far-fetched but rather ones that are too cautious and moralistic in relation to the extraordinary forms of organization engendered by the forces of capitalism." Accordingly, for him, "[a]rchitecture must therefore seek out deeper levels of significance in the dynamics of the market, while remaining agile and fast." (p. 366) Hidden beneath the robust representational mechanics of his GS project lies, then, the assumption that the spatial potential inherent in the dynamics of capital has yet to be fully and 'creatively' exploited.

Yet, in attempting to construct a counter-(meta)narrative through the deployment of a large-scale *optics* capable of tracing the movement of the skyscraper and late capital in dialectical terms —the task of this study—, what emerges is a different kind of portrait; one in which the type's ongoing changes are not confined to a series of techno-managerial adaptations and optimizations, but rather inherently tied to the systemic transformations of capital itself as it transitions towards a new iteration of the M-C-M' historical template.

3.2—Post-2008

Grow Taller and Multiply

> The continuing penetration of capitalism—horizontally, across the world and vertically, down to the very pores of life.[30]

If, as suggested in Chapter One, the simultaneity of the crises circa 1973 and the rise of the World Trade Center in New York can be retrospectively seen as defining a threshold towards the late-capitalist world and its associated and increasingly taller and technologically complex forms of vertical architecture, the financial collapse of 2008 might be said to mark yet another significant shift in the world economy, one which may in turn be engendering a different, greatly enlarged skyscraper.[31] How important this shift is, and whether it signals the effective passage towards what after Arrighi we could term 'the long twenty-first century,' however, remains still uncertain. In any event, what is clear is that the collapse of Lehman Brothers coincided with a significant leap in the scale of the skyscraper as vertical form, as well as with its rapid multiplication across varie-

[30] Benjamin Noys, *Malign Velocities: Accelerationism and Capitalism* (Zero Books, 2014), p. 7.

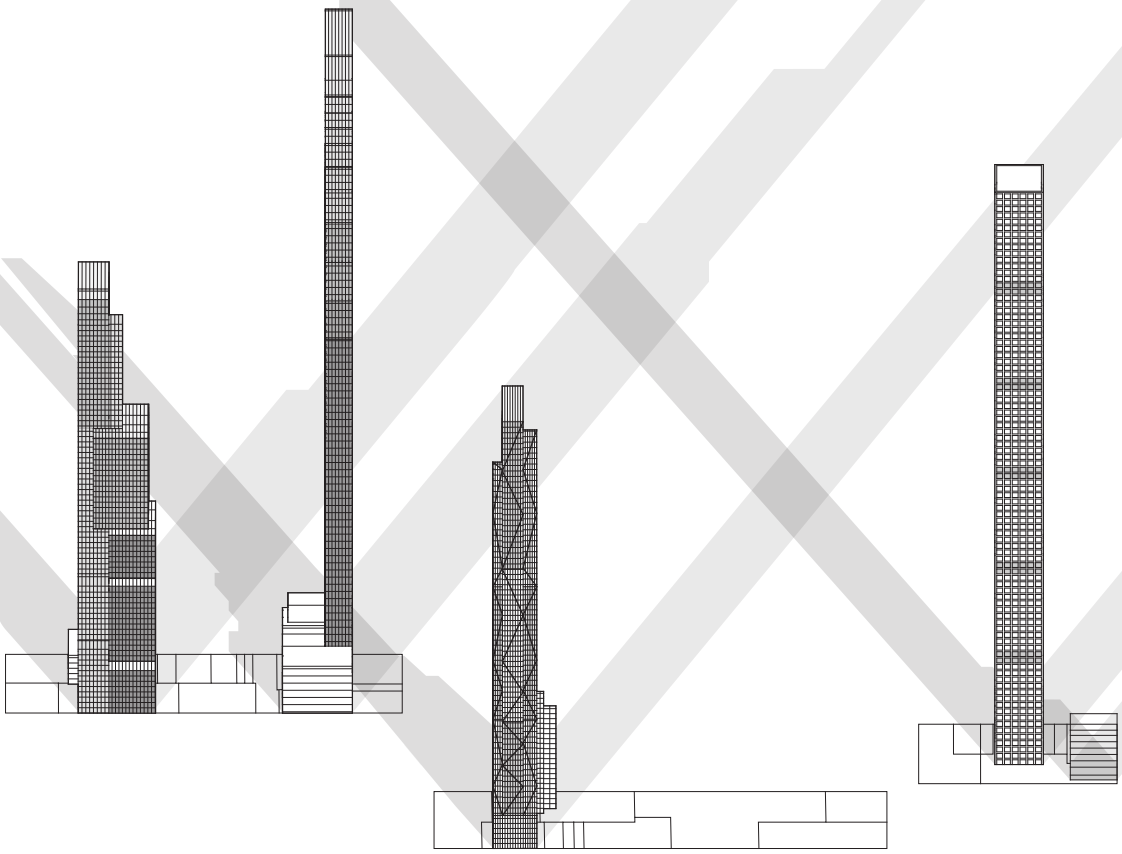
[31] For a detailed discussion on the implications of the 2008 financial crisis, see Harvey, *Madness of Economic Reason*, p. 172-206; Neil Brenner, Jamie Peck, and Nik Theodore, *Afterlives of Neoliberalism* (Civic City Cahier 4, 2013); Graeber, *Debt*, p. 361-387; Mason, *Postcapitalism*, p. 3-29.

Figure 3.1: **Shenzhen Financial Center**

Shenzhen
2008
Drawing by author

Figure 3.2: **Manhattan Super-Slender**

New York
Post-2008
Drawing by author
(ONE57, 111 West 57, 53W53, 432 Park Avenue)



gated geographies of the world, with a special concentration in Asia and the Middle East. The former can be described as a 'qualitative' change involving the augmentation of the building's height and size; while the latter process can be said to entail an unprecedented 'quantitative' change in the scale of its urban/territorial proliferation. With regard to the question of height, it bears significance that the 2008 crisis saw the rise of both the Burj Khalifa in Dubai **[Figure 3.4]** —the tallest building ever constructed, soon to be overcome[32]— and so-called ultra-tall and super-slender luxury skyscrapers in Manhattan **[Figure 3.2]** and other global cities of the world.[33] In relation to the question of geographical extension and quantitative multiplication, the crisis triggered an utterly unprecedented wave of urbanization in China,[34] which embarked on a massive spatial reorganization of its own territory through the construction of an astonishing

[32] The Jeddah Tower, located in Saudi Arabia, will shortly become the tallest building ever constructed, leaving the Burj Khalifa behind: https://www.cnn.com/style/article/jeddah-tower-saudi-arabia-new/index.html

[33] **MEGA-TALL: A Micro-Critique** — Cf. Paul Goldberger, "Too Rich, Too Thin, Too Tall?", accessible at: www.vanityfair.com, May 2014. There is, in this article, an open acknowledgement of the fact that, in the mind of developers, the city's new super-tall skyscrapers are nothing but "tradable commodities, perfect for the speculatively inclined…. the equivalent of bank safe deposit boxes in the sky that buyers can put all their valuables in and rarely visit." Yet no critique is articulated so as to illuminate to what degree (star)architects are complicit with this process, and no analysis is advanced so as to inquire to what extent design intelligence has been instrumentalized by big capital. Although Goldberger is more cautious that Willis in his assessment of so-called 'super-slender' and luxurious Manhattan skyscrapers, (see Chapter Two, esp. **footnote 44**), his view remains circumscribed to a plane of ambivalence that does not enable him to enter into a properly critical terrain. One of the most interesting critiques of Manhattan's new vertical architecture(s), in my view, is not to be found within the realm of architecture discourse as such but rather in that of Science Fiction. Within this genre, one of the most powerful cases I'm aware of is that of Kim Stanley Robinson's novel *New York 2140* (Orbit Books, 2017), where the mega-tall skyscraper is, we might say, a central 'character' of the story, caught right in-between a class-struggle intensified to levels that push the existing social order to the very verge of disintegration. Indeed, Robinson turns the mega-tall Manhattan skyscraper into an instrument of critique, tracing a parallelism between the radical enlargement of the buildings' height and the increasing levels of social inequality in a world where finance (still) reigns supreme. Profusely described in a variety of negative terms, the superscrapers are presented in the novel as "architectural fashion models, skinny, blank, featureless, owned by finance;" having "nothing to do with real life." The power of this critique lies in the web of relations that Robinson establishes with the capitalist system and its destructive (financial and urban) logics, which enables him to see these mega-tall buildings simultaneously as products of, and as spatial artifacts instrumental to, the reproduction of the irrational financial and environmental dynamics of capital itself. It is such 'dialectical approach' which, towards the end of the novel, allows Robinson to go beyond the critical register and move into the propositional one, suggesting that a transition to a post-capitalist system would entail the inherent and systemic transformation of the role and function of this form (and indeed, all forms) of architecture. In this regard, this book contains insights which —I want to suggest in the brief space of this note— could prove very valuable for any critical design attempt to rethink the skyscraper beyond the limits of its current configuration and the hegemonic rhetorics continuously reproduced by mainstream architectural discourses, which tend to understand the building as anchored in an eternal present. Indeed, by the end of the story, as the capitalist system collapses, the Manhattan mega-talls are turned into a sort of *vertical commune* fully re-appropriated by the 'people.' In other words, in *NY 2140,* the building is neither rejected nor rendered as an inviable architectural form to be discarded *tout court*, as Harvey suggests in the appendix of *Spaces of Hope* (see Chapter Two, **footnote 49**), but rather as a spatial infrastructure susceptible of being transformed *immanently*, i.e., by means of its radical re-appropriation by the collective social body. This re-appropriation entails nothing other than the building's de-commodification: the sweeping away of the logic of exchange-value multiplication that regulates its formal-spatial constitution (see Ch. 2, **footnote 57**), and the experimentation with novel forms of social life within its reconfigured inner spaces. Although this is not the place to further develop this, I end here by advancing that Robinson's mobilization of the skyscraper in his novel is itself an example of what Science Fiction scholar Carl Freedman defines as the 'estrangement-cognition-effect': the rendering visible —and thus the bringing to awareness— of hidden aspects of the present by virtue of imagining a hypothetical/alternate future that is logically connected to the current status quo via a rationally accountable link. Would it be possible to extrapolate from this and then suggest that Robinson's novel offers some lines of thought that, if further elaborated within architectural discourse, could contribute to imagine new lines of development for the late capitalist skyscraper within the context of a hypothetical post-capitalist scenario? In any case, the main aim of this would not be to arrive at any immediate 'design' application, but rather to trigger something like an 'architectural cognition-effect' within design culture itself, one that could ultimately contribute to a systemic break with the rigid *episteme* that renders the building as unchangeable—that is, as fixed within the limits of its own taken-for-granted definition. Such cognition-effect would powerfully couple a critique of the role that the 'super/mega-tall' skyscraper plays within a planet increasingly devastated by climate change, financialization, and urban inequality (key themes in Robinson's novel) with more operative or technical questions concerning design itself. See Freedman, *Critical Theory and Science Fiction* (Wesleyan University Press, 2000). Also, see below, Epilogue, **footnote 12**.

[34] Cf. Wade Shepard, *Ghost Cities of China* (Zed Books, 2015). The book abounds in observations on and details of the role that skyscrapers play in China's vast, ongoing process of urbanization.

amount of urban megaprojects, including thousands of skyscrapers, in turn followed by what David Harvey calls the 'spectacular urbanization' of the Gulf States, in a process that reverberated during the post-2008 period in both North America and Europe as well.[35] This is overall consistent with Arrighi's schema, who towards the end of *The Long Twentieth Century* posited that "for what concerns the material expansion of the capitalist world-economy, East Asian capitalism has already come to occupy a leading position."[36] In effect: while on one side, the height of the building has been almost tripled since 9/11, on the other, the number of skyscrapers in existence throughout the world has increased to the point that now 67% of their total global amount is located in Asian soil. **[See Figure 3.3]** These two processes can be seen as a double movement of *vertical* architectural enlargement and *horizontal* urban extension, or, alternatively, as two interrelated spatial logics: one of *verticalization* of the skyscraper as singular object; the other of *cloning*, or of its generic replication in large quantities. These two tendencies —the first qualitative, the second quantitative— in turn can be said to entail two distinct *surface appearances* of the twenty-first century skyscraper: as a *singular* object of architecture, and as a *generic* one.[37] While the former operates primarily as a symbol of contemporary capitalist power, the latter is to be grasped primarily as an artifact instrumental in processes of capitalist urbanization. Or, to put in another way, the formal constitution of the contemporary skyscraper is split into two main functions: a concentrated ideological role expressed through a systematic (and symbolic) increase in height, and an expansive/spatial one manifest in the relentless aggregation of skyscraper-forms across increasingly extended urban landscapes. This is consistent with the definition extrapolated from Harvey's and Jameson's critique in Chapter Two, for while the singular skyscraper can be conceptualized as a self-contained, vertically enlarged iconic machine, the generic skyscraper operates primarily as a framework of accumulation to be quasi-mechanically replicated across vast portions of urban space.

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[35] "It was not only China that sought to emulate this history of existing crises [such as that experienced by the US after the WWII] by construct[ing] projects and filling them with things. Turkey, for example, went through the same kind of expansion in its urbanisation… Every city [there] witnessed a building boom. As a result, Turkey was hardly affected by the crash of 2008… [and] had the second highest growth rate after China in the post-2008 period… Spectacular urbanisation in the Gulf States also absorbed a lot of surplus capital, though in this case it was imported immigrant labour that was involved. In major urban centres in North America and Europe, property markets quickly revived after 2009 but mainly for high-end housing projects for the affluent. New York City and London soon were experiencing property revivals in high-end construction in the midst of a chronic absence of any investment in affordable housing for the less well off… Many of these high-end buildings are not lived in. Walk the streets of New York and see how many lights are on at night in those spectacular condos for the affluent soaring high into the night sky. *The buildings are simply investment vehicles not only for the ultra-rich but for anyone who has some spare cash to save.*" Harvey. *Marx, Capital, and the Madness of Economic Reason*, p. 188-189, my emphasis.

[36] Arrighi, *The Long Twentieth Century*, p. 350.

[37] Cf. the discussion on the WTC in Chapter One.

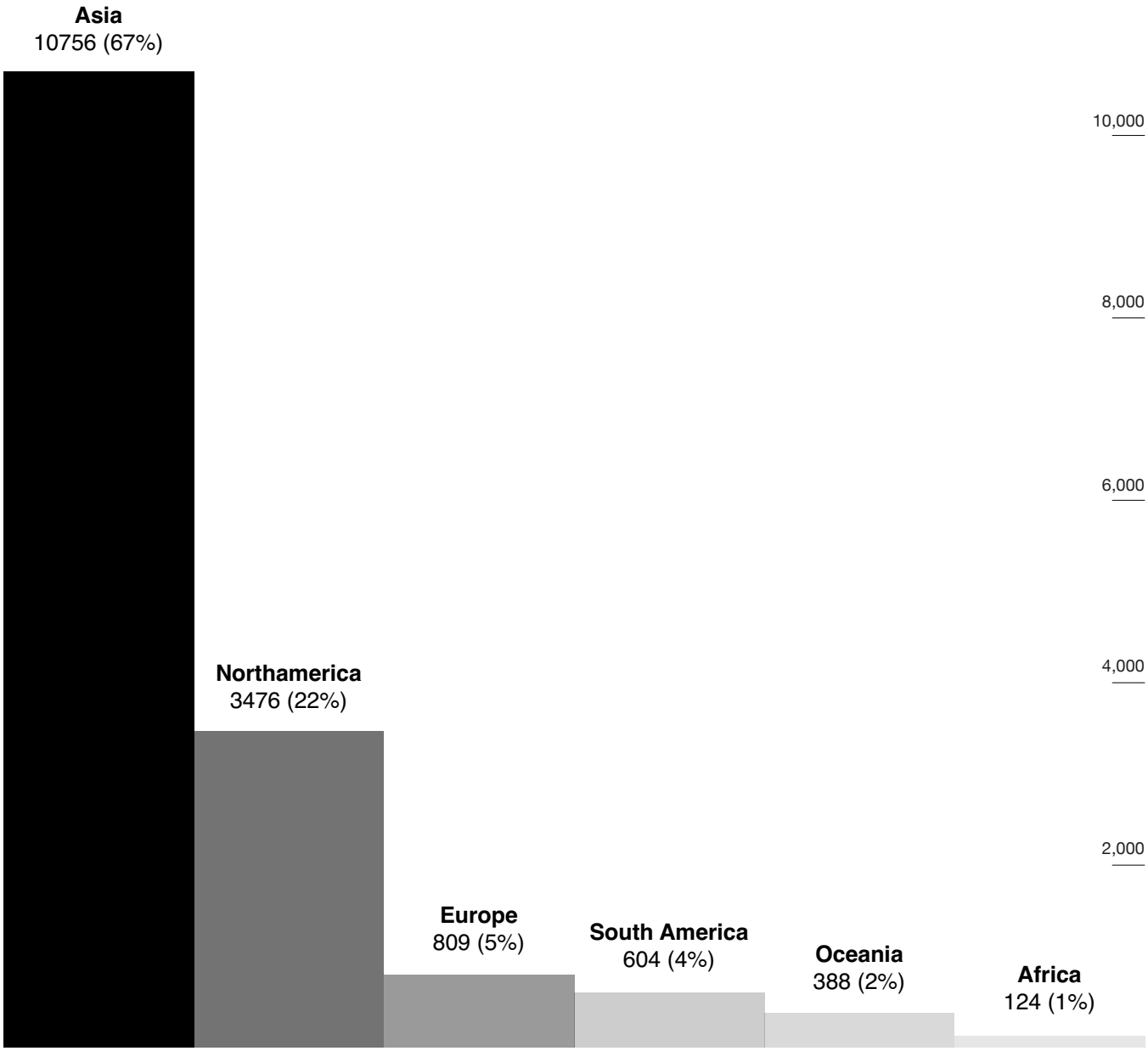


Figure 3.3: **Number of Skyscrapers in the World (21st century)**

Buildings +150m tall
Source: Council on Tall Cities and Urban Habitat
Diagram by author

The Singular Skyscraper and the Late Capitalist Imaginary

> Someone once said that it is easier to imagine the end of the world than to imagine the end of capitalism. We can now revise that and witness the attempt to imagine capitalism by way of imagining the end of the world… But I think it would be better to characterize all this in terms of History, a History that we cannot imagine except as ending, and whose future seems to be nothing but a monotonous repetition of what is already here.[38]

The notion of the singular skyscraper is generally in accordance with Tafuri's (and Jameson's) conceptualization of the building as an "exceptional event"—a 'symbolic form' which is a mere reflection "of the structures on which [its] productive universe is based, which rejects any specific reference and asserts its own autonomy as an image."[39] Yet, at the same time, as we will see below, the visual autonomy of this image coexist with its less visible embeddedness into the infrastructural materiality of the urban fields in which the building finds itself located.

Scholar Maria Kaika's has recently articulated a critique of the skyscraper in which Tafuri's idea is significantly enriched and expanded.[40] Focusing her analysis on the case of London's current (and dramatically altered) skyline, Kaika argues that the contemporary 'super-tall' skyscraper is to be grasped as an expression of what she terms *autistic architecture*: a "new type of architecture [that] does not engage with the city that surrounds it, and demonstrates a 'pathological self-absorption and preoccupation with the self to the exclusion of the outside world.'"[41] This is the main overlapping with Tafuri's initial hypothesis of the skyscraper as a 'self-contained machine' ('autistic' is indeed a different way of conveying the same meaning) in increasing opposition to the city that hosts it. Kaika's analysis does not only reposition this insight in the context of the early twenty-first century, but expands it in new directions as well. For the imbrication

[38] Jameson, "Future City", p. 76.

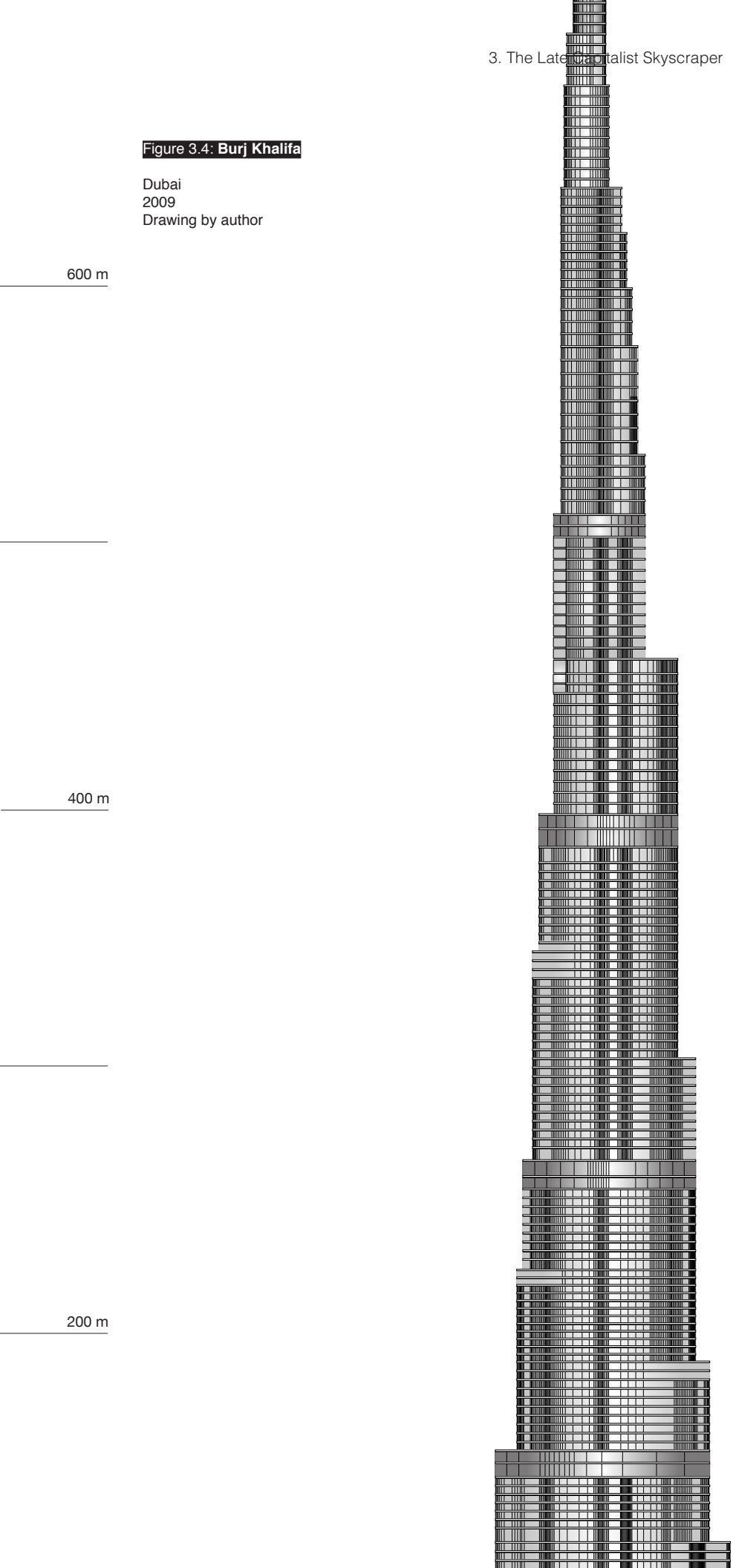
[39] Tafuri, "The Disenchanted Mountain", p. 405.

[40] Maria Kaika, "Autistic Architecture: The Fall of the Icon and the Rise of the Serial Object of Architecture", in *Society and Space* 29 (2011), p. 968-992.

[41] Ibid., p. 977.

Figure 3.4: **Burj Khalifa**

Dubai
2009
Drawing by author



of the autistic skyscraper within a hyper-communicated and networked global market economy makes things much more complicated than Tafuri could have anticipated in the early 1970s. The main function of the autistic skyscraper is, she argues, ideological indeed: to institute nothing other than a "new radical imaginary."[42] In other words, to express in architectural form the "new set of symbolic values" —flexibility of production, a footloose relation to place, instability in labor relations, new modes of interaction with media and information, the need for a dynamic and changeable formal identity that fits the volatile fluctuations of the 'market'— of (what we earlier, referring to Sklair's expression, described as) the 'transnational capitalist class.'[43] For Kaika, this imaginary "narrates" flexible accumulation as natural, inscribing in space the logic of the "new relation between capital and place" that emerges in the post-1970s period, which in her account acquires a particularly acute expression in the current century. Yet, in light of the discussion above regarding the alignment of contemporary architecture with what Fisher terms 'capitalist realism', I think it is perhaps more appropriate to characterize the ideological function of these 'singular' skyscrapers as that of symbolizing what we might term a *late capitalist imaginary*—i.e., the creation of a socio-cultural-spatial order in which the very sense of futurity is foreclosed in favor of an eternal present that is then expressed (or, as Kaika puts it, *instituted*) in urban space.[44] In this regard, the skylines of global megacities have to be seen as the symbolic fulfillment of capital's expansionist logic, reinforced and celebrated regardless of its social and environmental consequences.[45] Any "shock of the new," as represented by whimsical, ever-taller and formally complex sky-

[42] Building upon Cornelius Castoriadis' work, Kaika differentiates between an 'actual' and a 'radical' imaginary. While an actual imaginary entails the "ability of a society to produce images and symbols to express an already constituted collected identity", a radical imaginary signals the "ability of a society to institute new images and symbols for something that does not exist yet, something that is still in the making." (p. 971) In other words, the play between these two concepts suggests that "a society is not just defined by its symbols; it also produces the symbols it needs to perpetuate itself through time." Importantly, a "new radical imaginary becomes imperative during moments of change, as it provides the symbols that will act both as signifiers of the new order, and as means of constituting this new order as real and 'natural.'" (p. 972) Architecture, as Zizek proposes, can work as a means of constituting this "symbolic authority as real, a means of teaching society what to desire and how to desire it." In other words, architecture as a totem, a "performative entity for constituting new authority or new social relations as real or naturalised."

[43] Indeed, Kaika mobilizes Sklair's concept as well. Ibid., p. 975.

[44] **IMAGINARY —** This definition is indeed based on and adapted from both Kaika's 'radical imaginary' and Reinhold Martin's 'financial imaginary.' As Martin puts it —building upon Castoriadis, Benedict Anderson and Arjun Appadurai— "all imaginaries belong to the realm of social practice." In that sense, what he calls 'financial imaginaries" has then to be understood as "sociocultural constructions through which circulate other sociocultural constructions, including 'money', 'credit', and 'trust'." And in this process, as we already saw in earlier discussions of Martin's work (Chapter One), the very aesthetic materiality of architecture becomes the spatial medium through which such sociocultural constructions acquire 'concreteness'. See Martin, "Financial Imaginaries", in *The Urban Apparatus: Mediapolitics and the City*. What I add to this is Jameson's and Fisher's conception of late capitalism as a period in which the future itself appears as foreclosed, as stated earlier on in this Chapter. See above, 'A Techno-Managerial Dispositif'.

[45] "The competition among both developers and architects in different cities to build the tallest building in the world is not merely a question of egotism; it is the logical, symbolic fulfillment of the organicist myth of unlimited growth: the tallest tree in the unsustainable forests of expansionist capital." Martin, "Financial Imaginaries."

DAMAC
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JENNIFER LOPEZ
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scrapers, is then, as Swyngedouw argues in his own critique of Tafuri's pessimistic claims about the function of architecture within capitalist society, but a "fantasmic support" of power structures devised so as to make sure that "nothing really changes."[46]

Another fundamental difference between Kaika's and Tafuri's analysis is that for the former the 'narrativization' of these values plays out not only at the scale of these buildings' specific location, but fundamentally at that of an intangible *informational* economy: for although physically anchored to particular, concrete urban environments, 'autistic' skyscrapers operate on a much more abstract plane as branding objects that circulate worldwide through media, disseminating the values of the system in smooth images and hyperrealist renderings alike. 'Autistic', thus, is not solely to be interpreted as the building's indifference to its local context, but also as a removal from the 'real': for it is not entirely necessary that the building is already materialized to perform its ideological function effectively; indeed, its 'ritualization' as symbol of elite power is not 'performative' as in the case of 'old' modernist icons —embedded as these were in social and cultural processes of legitimation— but 'abstract', i.e., constructed through the 'phantasmic seduction' of media reproduction and market rhetorics, which grant it the label of 'real' urban presences even before the skyscraper is erected.[47] The singularity of the building, expressed by both its notorious height and formal 'playfulness' is thus not a response to the cities in which it happens to be located,

[46] "We do know, even before Tafuri systematized this, that architecture, of necessity, provides a fantasmic support for the status quo to make sure that nothing really changes despite recurrent appeals to the 'shock of the new.'" Swyngedouw, "On the Impossibility of an Emancipatory Architecture: The Deadlock of Critical Theory, Insurgent Architects, and the Beginning of Politics", in Nadir Lahiji, ed., *Can Architecture Be an Emancipatory Project? Dialogues on the Left* (Zero Books, 2016). p. 48-68.

[47] "Media rhetoric and representational practices have become central performative moments in conferring agency upon contemporary buildings. Through enigmatic articles and star architectural critics' orations, the public is asked to do with architecture today what Pascal suggested doing with religion: "even if you do not believe, kneel down, act as if you believed, and belief will come upon you". Even if the next skyscraper to be erected in London's or New York's skyline does not relate to anything that Londoners or New Yorkers can identify with, the city's public is nevertheless bombarded by so many expert opinions on its significance, sublime design, and aesthetic value, that when it is finally erected, all that's left to do is `kneel down' and admire it, hoping that the subsequent ritualisation of the building into the city's everyday life might justify this belief." Kaika, "Autistic Architecture", p. 983.

but a necessity for its individualization and recognizability on a global stage[48]—any "display of architectural style and experimentation," thence, has to be explained in these terms.[49]

Material Embeddedness

> On [Hudson Yards'] artificial ground, even the soil is engineered.[50]

We see then that Kaika's 'autistic' skyscraper is centrally characterized by an operation of symbolic negation of the urban field out of which the building emerges; of its alienation from life on the ground. But just as in the case of Tafuri, this assumption has to be problematized. For while it is certainly true that at a symbolic level these buildings negate the city, on a purely material plane they can simultaneously be said to be fundamentally dependent on the latter's complex infrastructural grids.[51] As geographer Donald McNeill writes, the 'iconic'

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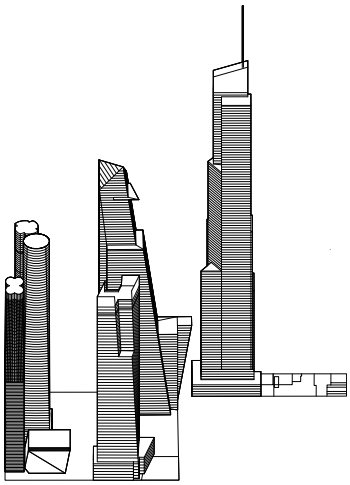
[48] **HYPERBUILDING I**—Cf. Aihwa Ong, "Hyperbuilding: Spectacle, Speculation, and the Hyperspace of Sovereignty, in A. Roy, A. Ong, eds., *Worlding Cities: Asian Experiments and the Art of Being Global* (Wiley-Blackwell, 2011), p. 205-226. Ong's is a theorization in some respects aligned with that of Kaika, but overall much more detached from properly architectural questions. She borrows the expression 'hyperbuilding' from Rem Koolhaas and, altering its original meaning, mobilizes the term as both a noun and a verb. As a noun, hyperbuilding operates as a single physical landmark which stages sovereign power in great cities, (or cities "aspiring to greatness"), positioning them at a 'global stage.' As a verb, hyperbuilding means "an intense process of building to project urban profiles." Hyperbuilding, then, is portrayed as a password involving big scale, big investment, and big spectacle—an extra-large architectural object caught amid circuits of cultural and informational flows. As such, it entails the production of not only tall but also visually spectacular buildings working in tandem within the context of global cities to raise their status in the world scenario while at the same time turning them into cosmopolitan epicenters attracting international capital. 'Hyperbuilding', for Ong, is primarily and fundamentally "about the world aspirations of the state." (p. 224) But what about massive vertical structures in whose construction the state is not directly or primarily involved? To circumscribe the concept only to the sphere of state action would appear as ultimately reductive, as it closes the door to a more nuanced understanding of the complex role that large-scale vertical architecture plays at multiple urban scales and in different political contexts. Although there are indeed overlaps with Kaika's analysis, I find the latter much more nuanced in its articulation of architectural discourse, design culture, and a critique of political economy. I return to the question of 'hyperbuilding' in the Appendix, section B.

[49] In this regard, Kaika makes clear that the 'autistic skyscraper' embodies not only the autistic subjectivity of the elites that own it, but also, crucially, presupposes the existence of an equally autistic architect-subject. For the designer-author behind this new form of vertical architecture is more preoccupied with "the way [sic] his building will be projected against the city's skyline than [with] the way the building will engage with the city" itself. (p. 978) The trendy skyline proliferating globally and positioning cities in the international stage, hence, is but the byproduct of this alien and alienating design logic—a pure fetish, of which the architect is its 'writer/scripter', while the urban dweller can only be its passive 'viewer/admirer'. Kaika, "Autistic Architecture", p. 978.

[50] Shannon Mattern, "Instrumental City: The View From Hudson Yards, circa 2019", in *Places Journal*, April 2016, PDF downloaded from website (www.placesjournal.org), p. 1-23. Quote from p. 5.

[51] "Imagine grabbing Manhattan by the Empire State Building and pulling the entire island up by its roots. Imagine shaking it. Imagine millions of wires and hundreds and thousands of cables freeing themselves from the great hunks of rock and tons of musty and polluted dirt. Imagine a sewer system and a set of water lines three times as long as the Hudson River. Picture mysterious little vaults just beneath the crust of the sidewalk, a sweaty grid of steam pipes 103 miles long ... rusty old gas lines that could be wrapped twenty-three times around Manhattan." Excerpt from Robert Sullivan's introduction to Harry Granick's book *Underneath New York* (1947), cited in Stephen Graham and Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition* (Routledge, 2000), p. 19-20. Needless to say, this has always been the case with the skyscraper, as this quote makes clear. My point is that, in the contemporary scenario, given the complexity and extension of urban systems, the relations and interdependences between the building and the invisible infrastructures running beneath the ground have become much more difficult to cognitively map and trace, as Mattern's article suggests.



contemporary skyscraper might appear to have "tiny footplates" only when considered in isolation as an aesthetic object or cultural artifact. Yet an analysis of its "hidden roots" discloses that its "aggregate impact on the city or metropolitan form [is] huge," as the building is indeed embedded within the "premium infrastructural networks" of the urban itself, whose technological sophistication has been greatly improved in the age of 'big data' and 'smart urbanism.'[52] Take the example of Hudson Yards in New York, "the largest private real-estate development in the United States history and the test ground for the world's most ambitious experiment in 'smart city' urbanism," as media scholar Shannon Mattern describes it.[53] While from Kaika's perspective this development can be said to fit within the category of 'autistic' —in fact, Mattern defines it as an '*island* of oligarchs' (↑) (my emphasis) —, effectively attempting to institute the imaginary of the "city as luxury product," a reading more akin to the infrastructural materiality of the urban would reveal that, disguised beneath the entrepreneurial rhetorics presenting the project as "open and transparent" lies the rather more obscured and complex integration of this 'island' into a rhizomatic imbroglio of infrastructural forms and systems of "pervasive surveillance" and control with ramifications that go well beyond the limits of the building's site.[54] While at the level of ideological signification it may be possible to present the relation with the city as 'broken' —as both Tafuri and Kaika do—, from the vantage point of the relationship between the building and the urban networks and systems in which it is ingrained, this assertion must be relativized. It is in this sense that I prefer to mobilize the term 'singular' rather than to stick to Kaika's 'autistic', for the former still conveys the 'exceptional' character of the skyscraper as symbolic object (a 'totem,' in Kaika's vocabulary) while at the same time leaving the door open for a consideration of the object's singularity as 'embedded' within (rather than 'removed' or 'alienated' from) the

[52] McNeill, "Skyscraper Geography", p. 44.

[53] Mattern, "Instrumental City", p. 1.

[54] "To understand what Hudson Yards portends for smart cities and smart urban citizens *around the world*, it its crucial that we examine the ground on which this experiment is taking place… (…) Circuits are *the new topology of this terrain*, once dominated by tunnels and tracks." Ibid., p. 2; 4; my emphasis.

infrastructural materiality of the urban itself.[55] As a singular object of architecture, then, the contemporary skyscraper both symbolizes the imaginary of late capital(ism) while simultaneously hiding its material inscription within the infrastructures of the urban field out of which it emerges, and upon which it depends. While at the symbolic level the link with the 'public life' of the city is effectively one of negation and disavowal, on the material/infrastructural level it is one of thorough integration and amalgamation.

The Generic Skyscraper and Emerging Landscapes of Urbanization

> Between 1900 and 1999, the United States consumed, according to a US Geological Survey, 4,500 million tons of cement. Between 2011 and 2013, China consumed nearly 45 percent more cement than the United States had consumed in the whole of the preceding century. That magnitude of spreading cement around is unprecedented. Those of us who live in the United States have seen plenty of cement used over our lifetimes. But what has happened to China is extraordinary. And you can just imagine what some of the environmental, political, and social consequences might be. So the question I want to ask is: Why did this happen?[56] **[See Figure 3.5]**

The explosion of Chinese urbanization over the course of the last decade has given rise to entire new vertical landscapes irrigated with skyscraper-forms. Although a portion of these skyscrapers-forms corresponds to what we just outlined as *singular skyscrapers* (the Shanghai Financial Tower, the Hong Kong's ICC, and the like), the majority of these buildings are rather more consistent with what Sklair calls 'typical' forms—that is to say, generic copies of their more well-known and recognizable (singular) counterparts.[57] Indeed, in contemporary China, very tall buildings are increasingly ubiquitous and come in a variegated set of

[55] Mattern describes Hudson Yards in a manner consistent with the way I define the 'singular skyscraper', as she brings together the question of economic power, the symbolic construction of spatial imaginaries, and the embeddedness of the building complex into extended infrastructural networks: "Hudson Yards is thus marked by intersections: merging infrastructures, political economic interests, operational logics… and urban imaginaries." Ibid., p. 6.

[56] David Harvey, *Abstract From the Concrete* (Sternberg Press, Harvard GSD, 2016), p. 1.

[57] See Sklair, *The Icon Project*, especially Chapter 2: "Two Types of Iconic Architecture". My characterization of singular and generic skyscrapers resembles in some respects Sklair's proposition of 'unique' and 'typical' icons, but differs in some others. While Sklair contends that both kinds of icon are mobilized by the transnational capitalist class to promote their ideological message, in my account this ideological function is primarily performed by the 'singular skyscraper'. The generic skyscraper's main purpose, on the other hand, is predominantly that of being an instrument of urbanization deployed in mass to produce space in large quantities.

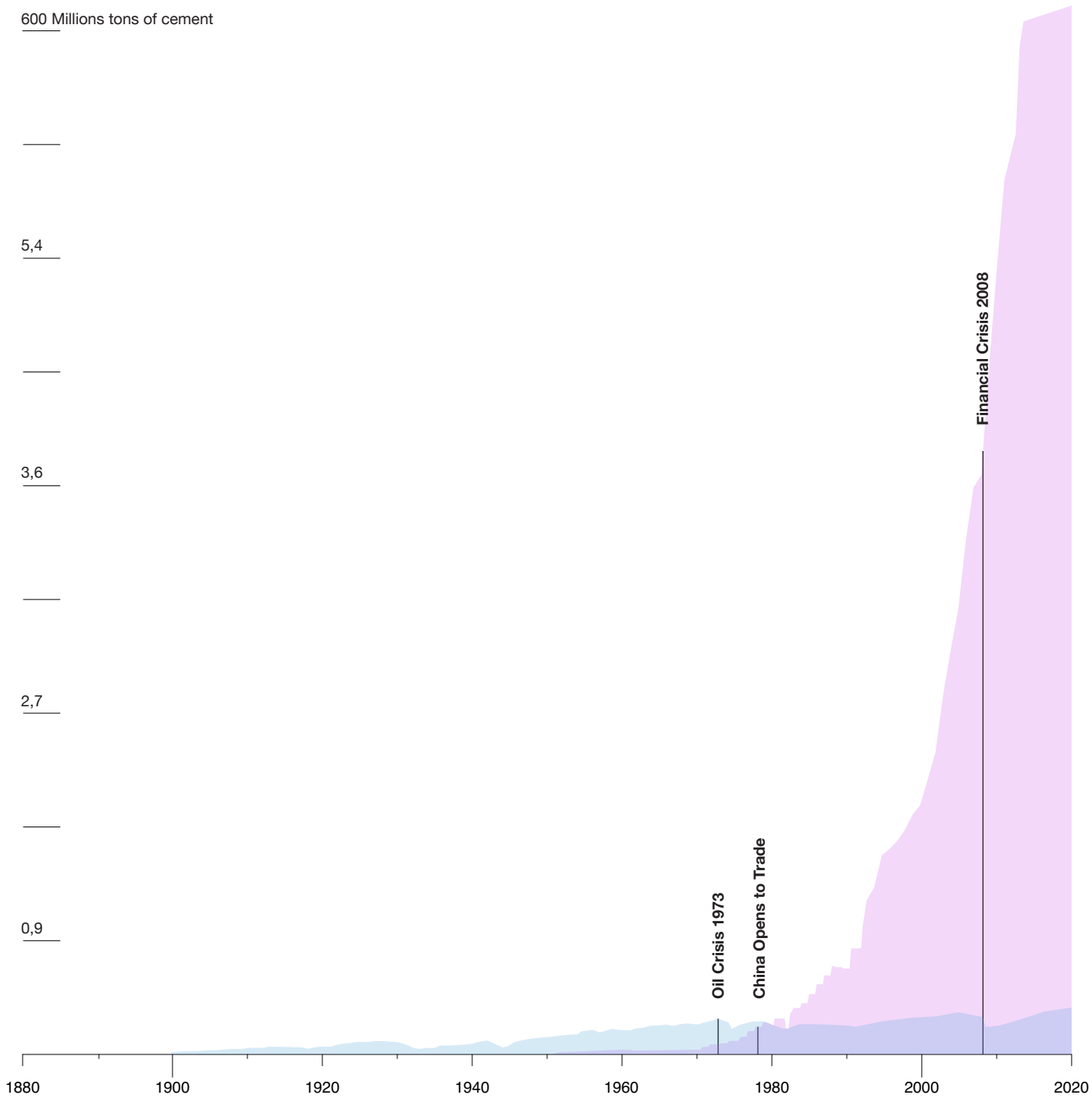


Figure 3.5: **Cement Consumption US 1900-2000 / CHINA 2011-13**

Between the years 1900 and 1999, the United States (represented in light blue) consumed 4,500 million tons of cement. More than a century later, between 2011 and 2013, China (represented in light pink) consumed 6,500 million tons of cement. This means that in the space of two years, the latter consumed almost 45 per cent more cement than the latter did throghout the whole twentieth century.

Source: National Geographic
Diagram by author

surface appearances, from the super-tall, corporate skyscrapers of Beijing or Hong Kong to the insipid towers of the country's wrongly called 'ghost cities'.[58] As Harvey articulates in his analysis of Chinese urbanization, the 'phenomenal performance' entailed in this radical mutation of the Chinese landscape is the "effect [of solving] the overaccumulation problem [prompted by the 2008 financial crisis] through urbanization and investments in the built environment," just as it was the case in the 1950s and 1960s in the United States;[59] that is to say, the period immediately preceding the construction of the World Trade Center in New York, which we have taken as the point of departure for this study. Essentially, in 2008 the Chinese "did much the same as the United States had done after World War II, but they did it much more quickly and at a far higher rate." To keep the comparison, if urbanization in the US during the 1960s gave rise to what we saw Mumford calling 'vertical anti-cities', China's post-2008 urbanization process is producing a new *urban colossus*—an utterly unprecedented morphology of the urban, with fast-verticalizing cities growing in formerly 'non-urban' sites and territories, for which there is still no proper name. **[**See **Figure 3.6]** For to associate these still nascent urban entities with the word 'city' (even in terms of negation, as Mumford does) might be simply inadequate. Is a 130-million-people-agglomeration, punctuated by thousands of skyscraper-forms over a vast artificial landscape, a 'city'?[60] Any opposition between an urban 'inside' and 'outside' no longer seems to maintain here; we are left with a sort of *vertical urban interior* from which there seems to be no beginning nor end.[61] In this regard, we might pose that 2008 signals a change of scale in the urban process, which seems to corroborate Arrighi's schema of the spatiotemporal cycles of capital as entailing not only the displacement but also the spatial and geographical enlargement of its spatial epicenters as well.[62] Such enlargement, in turn —at least since the

[58] "A ghost town is a place that has become economically defunct, a location whose population and business base drops to ineffectual numbers. In other words, it is a place that has died. What China has is the opposite of ghost towns; it has new cities that have yet to come to life – and most of them are still in the process of being built." Shepard, *Ghost Cities of China*, p. 39.

[59] [T]he 1950s and 1960s were, in many respects, the golden years of capital accumulation in the United States." Harvey, *Abstract From the Concrete*, p. 33.

[60] "The Chinese are proposing to create a city of something like 130 million people—equivalent to the population of the United Kingdom and France combined… In fact what is being proposed is not a city in the conventional sense… [but] the hyper-rationalization of space relations." Harvey, *Abstract From the Concrete*, p. 71.

[61] "It's very important to make clear that although we use the words for this business [he refers here to Asian cities such as Tokyo] of inside and outside, what's novel about the new [urban] situation is that the opposition no longer maintains… These are macrocosmos. They are definitely felt to be insides… [T]his all has to be understood on the enormous scale of the urban totality, just as much as on that of the building." Fredric Jameson, "Interview with Michael Speaks", in Buchanan, ed., *Jameson on Jameson*, p. 128.

[62] "[In Arrighi's account], the emergence of capitalism is mapped and charted by a systematic displacement and enlargement of its centers." Jameson, *The Ancient and the Postmoderns*, p. 231.

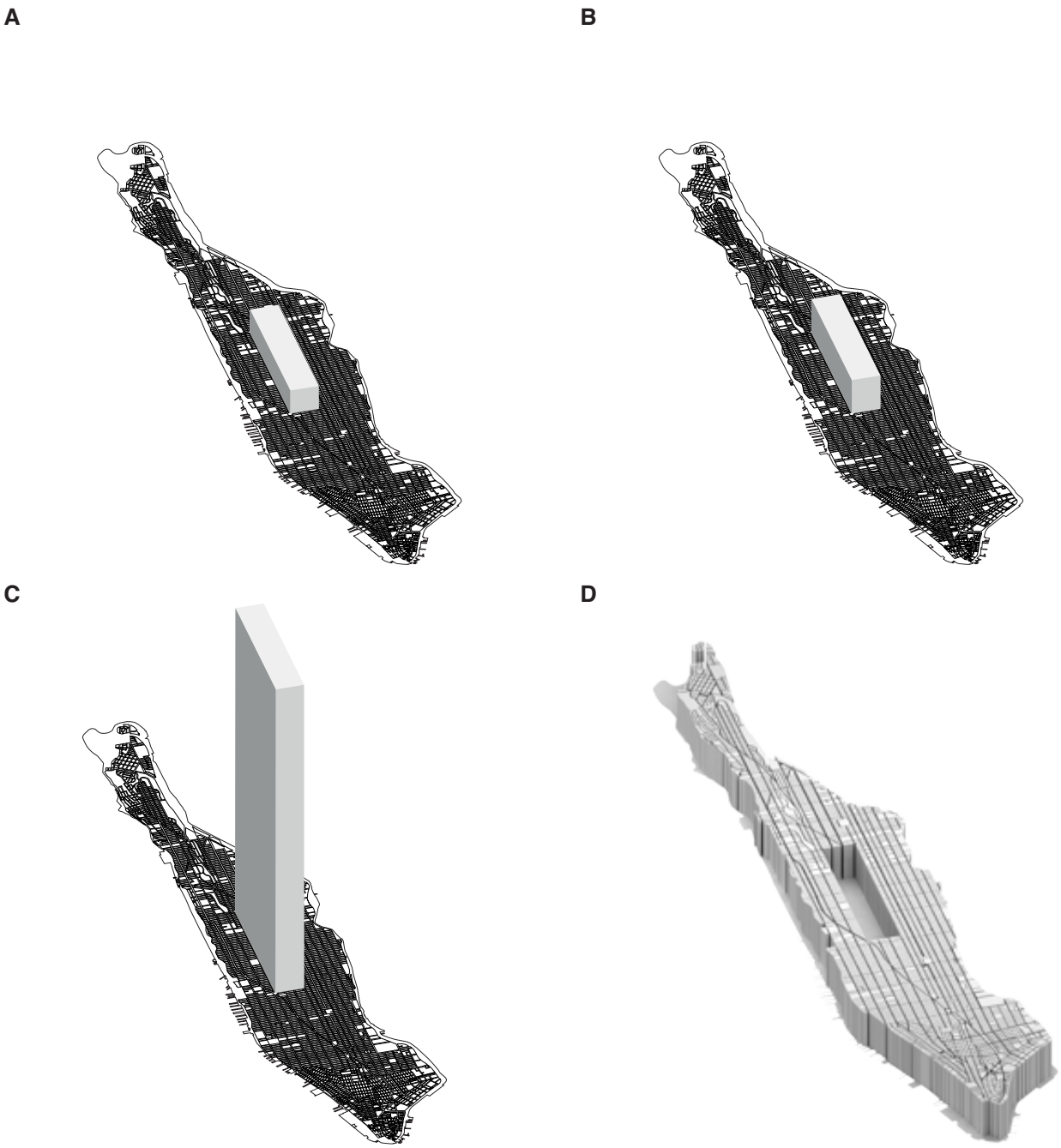


Figure 3.6: **Visualization Cement Consumption US / CHINA**

A: US — Cement: with the 4,500 million tons of cement produced in the United States between 1900 and 1999, a solid concrete block covering the area of Central Park and reaching **790 meters of height** could be built.

B: China — Cement: with the 6,500 million tons of cement produced in China between 2011 and 2013, a solid concrete block covering the area of Central Park and reaching **1140 meters of height** could be built.

C: China — Reinforced Concrete: with the 54,000 million tons of reinforced concrete between 2011 and 2013, a solid concrete block covering the area of Central Park and reaching **9500 meters of height** could be built.

D: "Chinese Manhattan": with the 6,500 million tons of cement produced in China between 2011 and 2013, 54 billion tons of reinforced concrete could be obtained. With this mass, a hypothetical Manhattan, with solid blocks reaching **1050 meters of height**, could be built in three years.

Drawings by Mariano Gomez Luque and Daniel Ibañez

onset of the 'long twentieth century' onwards— seems to imply a systematic verticalization of the urban.[63] If the previous century can be described, as literary scholar Ruth Mackay proposes, as 'the age of verticality,'[64] then the current one —particularly since 2008— seems to configure a rather more complex and expansive kind of verticality, both concentrated and extended, and deployed at completely new spatial scales.

"Nestle everywhere, settle everywhere, establish connections everywhere"

> The skyscraper looks as if it will be the final, definitive typology. It has swallowed everything else. It can exist anywhere: in a rice field or downtown – it makes no difference anymore.[65]

[63] If we compare Hong Kong with New York City, we can get a picture of this process: while —at the moment of writing— the latter has 773 skyscrapers, the former doubles it with 1,403. Statistic taken from www.emporis.com/statistics/most-skyscraper-cities-worldwide. Accessed on March 3, 2019.

[64] **VERTICALITY** — Cf. Mackay, *Waiting for the Sky to Fall*. Tracing the effects that 9/11 had on 'American narrative', Mackay's surveys the complex representations of vertical space in a set of literary discourses articulated during the twentieth century and extended into the early twenty-first one—a span of time that she terms "the age of verticality." She argues that (extreme) verticality —a novel dimension of both concrete and psychological space— was originally perceived and conceptualized as such just as the closing of the horizontal frontier of exploration during the late nineteenth century was followed by the opening of a new, "vertical" frontier triggered by the irruption of skyscrapers, aviation, and large-scale mining. And it is precisely this tangential attention to skyscrapers which makes this study interesting, for what it attempts to do is not to provide a history of concrete tall buildings or flying technological artifacts, but to delineate the very spatial dimension, the vertical field in which they are positioned. Indeed, for Mackay, although verticality denotes the "erection of buildings and structures extending into the sky" as much as the "dynamics of tunneling into the earth," (p. 4) these two processes appear as *abstract* tendencies when collapsed onto a single plane of spatial activity. When set in this plane and in relation with other spatial artifacts and processes, both skyscraper and mine signal vectors of possibility for verticality to unfold not only upward or downward, but in many other directions, for the ways in which verticality "draws its force are, importantly, multidirectional." (p. 4) In other words, verticality here appears to index the general, "expansive" spatial framework in which concrete spatial developments take place; the space of possibility for the latter to emerge. Skyscrapers and mines, then, constitute concrete spatial arrangements contained within such abstract plane, coexisting in tension with each other and the multiplicity of spatial arrangements deployed around them. Mackay's primary focus is, we might say, on *verticality* as a condition of contemporary social as well as psychological life, and not on the *vertical* quality of the objects and artifacts inscribed in it. Yet, and despite these important insights, Mackay only occasionally connects the opening of the vertical frontier, and thus the advent of the 'age of verticality', with the dynamics of capital—the real force, I would submit, behind the instrumentalization of space that she attempts to map. For it is the vertiginous technological dynamism that capital sets in motion which triggered the emergence of machines such as the aircraft and the skyscraper; it is the relentless pursuit of profit which drives the never-ending drilling into the earth to extract its hidden resources; and it is the violence inherent in capital's abstraction, its ruthless exacerbation of alienation, which generates the feelings of existential disorientation manifested at different points across the vertical axis traversing the deeply layered built environment Mackay is concerned with describing. The value of inquiring into the question of 'verticality' lies, I would argue, on the interrogation of the causes, conditions, developments, and forces that make the existence of this kind of ever-expansive architecture possible in the first place. Verticality, if seen in this light, would then emerge as a fundamental tendency of the capitalist urban field in which such planetary architecture is inscribed. *Verticality*, thus, not only as the designation of a new frontier of human intervention on earth's space, but also as one of the key abstract spatial logics in which capital manifests itself at this particular stage of its spatiotemporal evolution. See below, Appendix, section A.

[65] Rem Koolhaas, "The Generic City", in Koolhaas and Bruce Mau, *SMLXL* (The Monacelli Press, 1995), p. 1253.

In this sense, it is clear that the verticality of Manhattan, arguably "the capital of the twentieth century,"[66] is being superseded by a different and fast growing constellation of vertical urban formations emerging across the extended landscapes of China and the Middle East.[67] **[Figure 3.7]** What matters here is not so much the *singularity* of individual skyscrapers —which as Rem Koolhaas' incisive analysis in *Delirious New York* suggested, was simultaneously enabled and exacerbated by the logic of the Manhattan grid itself— but rather the very aggregation and hybridization of *formulaic* skyscrapers across an extended urban landscape that does not appear to have clear boundaries. The defining spatial type of this bewildering urban formation is indeed that of the generic skyscraper-form, which is deployed by the forces of urbanization in myriad ways: concentrated to create density (as in the case of Hong Kong), dispersed to extend the urban fabric (as in the case of so-called 'ghost cities'), and differentially or homogeneously aggregated to distribute and accommodate different kinds of programs beyond the traditional functions of the type as a 'locus of business'.[68] In this regard, what I call 'generic skyscraper' resembles more what architect and scholar Keller Easterling terms 'spatial formulas' than a properly architectural typology: a fully techno-managerial form that does not intend to produce singularity but pure reproducibility, and therefore is thoroughly functional to the proliferation of capital's abstract space as such—that space that, as Henri Lefebvre advanced, 'dissolves' and 'incorporates' all differences.[69] Multiplied at a fast pace across new landscapes of capitalist urbanization, this generic skyscraper is not so much 'designed' but rather endlessly optimized by economic formulas and abstract im-

[66] Cf. Kenneth Goldsmith, *New York: Capital of the Twentieth Century* (Verso, 2016). See especially Part 1, section F: "Architecture", p. 60-90.

[67] Cf. Stephen Graham, "Vertical Noir", in *City* (2016) 20:3, 389-406. In this article, concerned with the relations between science fiction representations of vertical urban space and emerging and 'fast-verticalizing cities' in China and the Middle East, Graham suggests that their vertical architecture entails a radical exacerbation (perhaps even a systemic distortion) of the spatiality characteristic of cities like New York. Both what Graham, building upon artist Sophia Al-Maria, calls 'Gulf futurism', as well as Chinese intensely volumetric cities, entail a cocktail of 'hyper-consumption, hyper-elitism and hyper-reality' that of course, find their spatial correlation in a hyper-vertical architecture of a scale unknown in the Western world.

[68] As advanced in Chapter One, **footnote 53**, the contemporary skyscraper —both in their singular and generic surface appearances— has expanded its function beyond that of office space originally set by Sullivan as its exclusive program. Indeed, skyscrapers now house within their envelope not only floor area for 'business transactions' but also residential space, in a gradient mixed with a variety of programs in-between. In his book *Vertical: The City from Satellite to Bunkers* (Verso, 2016), Stephen Graham describes this process of 'cooptation' of functions beyond office space in the case of both what I call here generic and singular skyscrapers alike. With respect to the former, Graham contends that, especially "beyond the cores of older global cities", skyscrapers have expanded their functions to "bend commercial, residential, and leisure uses." (p. 159) In relation to what I call here 'singular skyscrapers', Graham reminds that the Burj Khalifa itself is a residential tower with more than 700 apartments. On p. 373, footnote 21, he writes that "it must be remembered, of course, that the Burj houses hotels, offices and restaurants as well as apartments. Apartments take up the bulk of the tower."

[69] Abstract space… dissolves and incorporates such former 'subjects' as the village and the town… it sets itself up as the space of power, which will (or at any rate may) eventually lead to its own dissolution on account of conflicts (contradictions) arising within it… [In this space], history is experienced as nostalgia, and nature as regret—as a horizon fast disappearing behind us." Henri Lefebvre, *The Production of Space* (Wiley-Blackwell, 1992), p. 50-51.

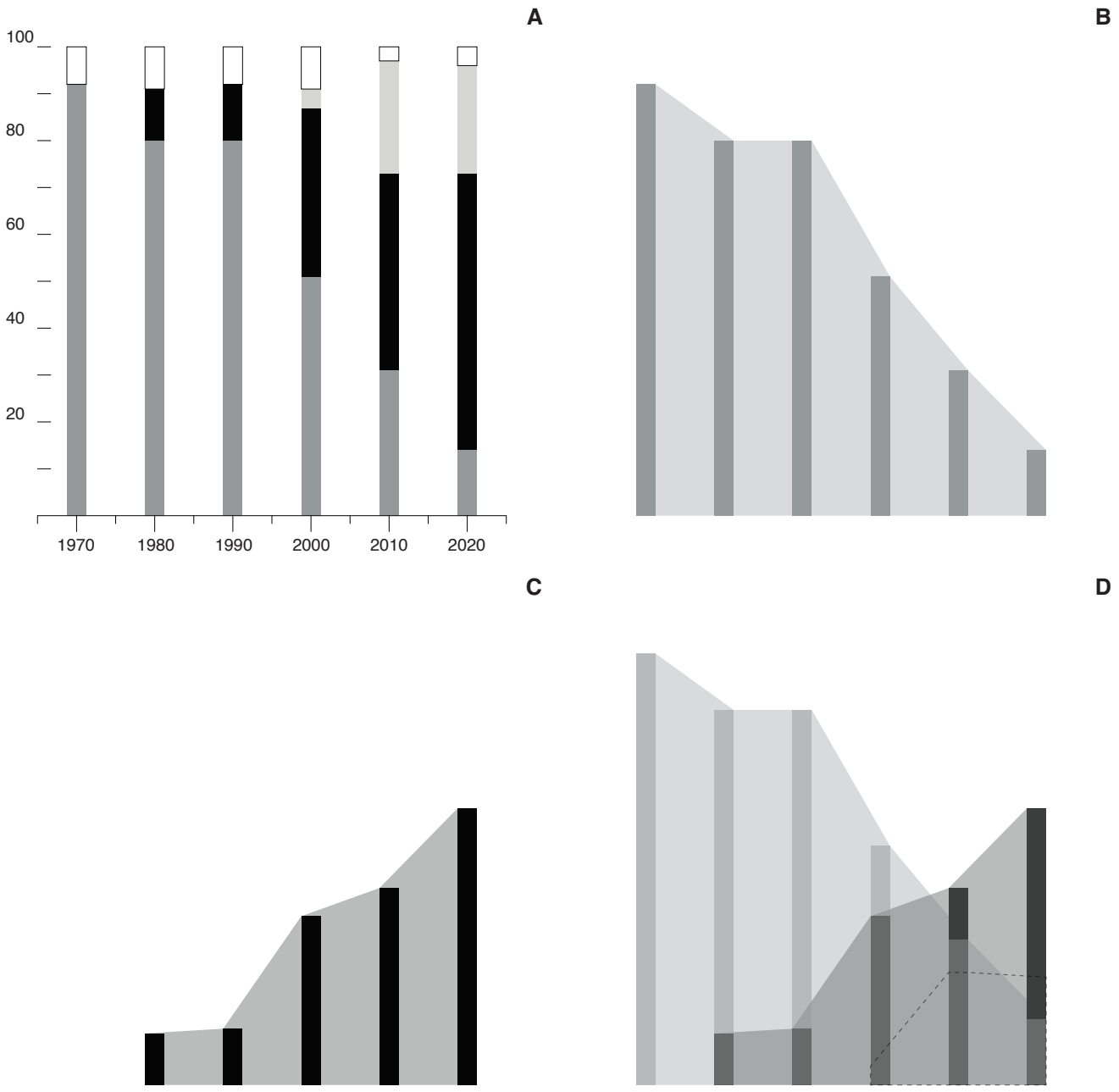


Figure 3.7: **US Verticality vs. Asian Verticality, 1970-2020**

Black: China; **Dark grey:** USA; **Light grey:** Middle East; Outline: Other

A: Diagram displaying the composition of the 100 tallest buildings in the world per geographical region from 1970 until the present. US architectural verticalitity is taken over by China during the first decade of the current century, although this tendency had started to manifest itself most notably during the 1990s.
B: US vertical performance 1970-2020
C: China vertical performance 1980-2020
D: Overimposition (Middle East in dotted lines)

Source: Council on Tall Buildings and Cities
Diagram by author

peratives of profitability.[70] More an 'automatic form' than a traditional architectural typology, the generic skyscraper's main value resides in its capacity to proliferate across a wide spectrum of contexts and socio-spatial conditions, and to absorb a variety of programs within its envelope. It is in this sense then, that it can be said to belong more to the category of a spatial instrument of capitalist urbanization than to that of a singularly crafted, or designed, architectural object.

Skyscraper-Series

> All the elements are there from the start. The only thing we need to do is transpose them, permute them, play with them in different ways, and we've made architecture. Only the transposition itself is automatic, a bit like an automatic writing of the world or the city would be. We can imagine whole cities built on this principle.[71]

The contemporary skyscraper is therefore embodied by two surface appearances articulating the poles of a spectrum of differential instantiations running on one side from the uniqueness of the singular object of architecture to the replicability of the generic on the other.[72] It is in this regard that it can be described, following Jean Baudrillard, as a 'serial form'.[73] For Baudrillard, late capitalism's mode of production differs from pre-industrial eras, fundamentally, in its capacity to recreate in a mass-produced object—the 'Series'—the features of the 'singular object'—the 'Model.' Although still recognizable, under this stage of capitalist

[70] Keller Easterling: "We no longer build cities by accumulating singular masterpiece buildings. Instead the most prevalent formula replicates Shenzhen or Dubai anywhere in the world with a drumbeat of generic skyscrapers." *Extrastatecraft*, p. 12. Cf. also Easterling, *The Action Is the Form* (Strelka Press, 2012), p. 19-22, where the proliferation of generic skyscrapers is described as giving rise to what she defines as the "skyscraper-morphology of cities."

[71] Jean Baudrillard, *The Singular Objects of Architecture*, p. 49.

[72] I should clarify that such singular and generic surface appearances are not to be seen as embodied *always* in 'pure form', nor as proliferating in contexts independent from each other, although, as suggested, there are instances in which the differences are clear and explicit. In this regard, I mobilize them primarily as conceptual categories defining the two poles of a gradient of concrete formal instantiations differentially deployed within the unevenly developed landscapes of the contemporary capitalist world; and if I have addressed them separately here, that does not entail that a more explicitly relational analysis cannot be undertaken. Cities such as Tokyo or Honk Kong offer indeed the chance to pursue a study of the interplays between singular and generic skyscrapers within the same urban space.

[73] See Jean Baudrillard, *The System of Objects* (Verso, 2005), p. 147-168. I want to clarify here that Kaika does suggest the idea of thinking about the contemporary skyscraper as a serial form; yet she does not push that concept forward, mentioning it only in passing in "Autistic Architecture," p. 982, and suggesting that such categorization applies to recognizable (singular) tall buildings alone, such as the ones that populate London's financial downtown. In other words, the notion of 'generic' skyscraper is not present in Kaika's text. Another important precedent mobilizing Baudrillard's notion of 'series' is Tahl Kaminer's book *Architecture, Crisis and Resuscitation*, where he examines the role of architecture during the postmodern period (and up until the first decade of this century) as 'serial objects.' He establishes a parallelism between the effect of the repetition of singular, apparently unique building forms, and that generated by mass-produced commodities as analyzed by Baudrillard, in a case that is similar to Kaika's yet extended so as to include building-forms in general.

development, the distinction between one and the other is, however, neither absolute nor always completely clear, as "the model is continually diffused into the series."[74] Indeed, what I have termed as singular and generic skyscrapers are — in their deployment through global capitalist space— currently being hybridized by processes of urbanization to the point that the transition from one extreme of this process to the other is subject to significant degrees of differentiation. This mixed gradient of singular and generic forms is most notable in both contemporary Asian agglomerations and urban landscapes (although not solely circumscribed to them): when we look at cities as diverse as Shanghai, Zhengdong, Jing Jin, Beijing, or Tokyo, with their remarkable number of skyscrapers proliferating over vast portions of urban (and formerly non-urban) land, alternatively anonymous and recognizable in their forms, we see such seemingly endless differentiation enacted in real geographical settings, in concrete social spaces, and at unprecedented scales.[75] In their deployment as serial form, the contemporary skyscraper cuts across concentrated megacities and emerging and extended territorial agglomerations alike. As such, then, it is caught in what Neil Brenner defines as urbanization's "two dialectically intertwined moments" of concentration and extension.[76] Meanwhile, the "dense metabolic exchanges" between these two instantiations of the urban process, as political geographer Martin Arboleda argues, remain hidden out of sight.[77] In this—and with the important caveat that we are rehearsing the framework in purely abstract terms, and therefore operating schematically—something of the phantasmagoria of capital is brought to the surface, with the singular skyscraper symbolizing

[74] Baudrillard, *The System of Objects*, p. 150.

[75] Not far behind the distinction between the singular and the generic skyscraper lies the perennial issue of class struggle: "The series," Baudrillard says, "offers the immense majority of people a restricted range of choices, while a tiny minority enjoy access to the model and its infinite nuances… For the majority a set of code values; for the minority endless invention. We are thus indeed clearly dealing with class status and class relations." Ibid., p. 161.

[76] See Brenner, *Implosions / Explosions*, p. 194-197.

[77] Cf. Arboleda, "In the Nature of the Non-City." Arboleda describes this logic of invisibility between the metabolic exchanges of big agglomerations and operational non-city spaces with the expression "world-ecological uncanny."

the exclusive world of megacities and financial epicenters that characterize concentrated agglomerations, and the generic one metonymically standing for the extended and still embryonic environments that characterize the unevenly developed and heterogeneous landscapes of an increasingly urbanized planet. The spectrum running from singular to generic skyscrapers, then, entails a relationship between the seen and the unseen, the corporeal and the ghostly. For the very occultation of production that the singular skyscraper hides beneath its shiny and fetishistic surface appearance is then incarnated in the eerie territorial formations crystallized after the cloning of its generic counterpart.[78]

Dialectical Framework

> The failure of realized utopias of spatial form can just as reasonably be attributed to the processes mobilized to materialize them as to failures of spatial form *per se*. This, as Tafuri so cogently argues, is what makes an architectural utopianism under present conditions such an utter impossibility.[79]

After these excursuses, we return to where we began. When compared to the hegemonic conceptualization springing from mainstream architectural discourses outlined at the onset of this text, the reading of the skyscraper as *serial form* can be said to differ from them in two important ways. First, by reading the status of the building as split into two surface appearances, deployed simultaneously within the highly 'visible' stages of global cities and the less 'distinct' (or more generic) vertical fields of urbanization, the fetishization of the building as an optimized aesthetic-technological marvel —that is to say, as a reified object to be universally circulated regardless of any critical consideration of both the geographical conditions in which it is to be implanted, and of the socio-spatial dynamics that such implantation in turn triggers— is unveiled and exposed as such. In other words, what the reading of the skyscraper as singular-and-generic introduces is a correlation between the physical form of the building and the un-

[78] "[t]he mine-as-skyscraper has materialized in today's financial districts, which are nothing less than inverted minescapes reaching up from the staked claims of downtown real estate." Gray Brechin, *Imperial San Francisco*, p. 70. I am grateful to Martín Arboleda for bringing this reference to my attention. Cf. also the discussion on Brechin's notion of 'mine-as-skyscraper' in Graham, *Vertical*, p. 369-373.

[79] David Harvey, *Spaces of Hope*, p. 173.

evenly developed spatialities that crystallize after the circulation of capital itself. From this perspective, thus, the contemporary skyscraper is not to be grasped as a "fine-tuned architecture"[80] representing technological optimization or ecological resilience, but instead capital's "ability to jump landscapes in a systematic way" and, in so doing, "[to produce] space in its own image."[81] Second, the parallelism between capital's crises of accumulation over the last four decades and the upscaling of processes of verticalization and cloning of the skyscraper suggests that the very forces driving the mutations of this serial form (its becoming-taller as much as its 'success' as a globally reproduced architecture) cannot be explained by mobilizing solely a (design) language focused exclusively on formal shifts, but instead by reading the object as something like a dynamic architectural *formation*[82] (↘) evolving together with capital itself. Both the building's increase in height and its large-scale proliferation are then expressions (the first manifest at the level of the object itself, the later at the level of its spatial field of influence) of capital's logic for endless accumulation[83] and urban/geographical expansion. What an understanding of the skyscraper as serial form provides us with, thus, is a lens through which to think form dialectically, that is, both in its symbolic/cultural and urban/spatial dimensions—as much as it suggests a relational, dynamic framework with which to challenge the conceptualization of the building as anchored in an eternal present, to see it instead as an object open to systemic

[80] Höweler, *Skyscraper*, p. 9.

[81] Neil Smith, *Uneven Development*, p. 198; 7, respectively.

[82] **FORMATION** — Architect and scholar Kiel Moe has embarked in such endeavor in his provocative book *Empire, State & Building* (Actar, 2017), in which he maps the material history and the planetary geographies involved in the construction of the Empire State Building in New York City. Moe polemically contends that the discipline of architecture still conceives of 'building' as an "isolated object-instance" instead of as "a set of linked, systemic processes of urbanization and civilization." (p. 19) Moreover, an understanding of building-as-process, Moe claims, entails a shift from an over-preoccupation with form towards a consideration of buildings as "real, material, but incorporeal" *formations* — that is, as objects that are in a constant process of becoming, as they are the result of material and immaterial exchanges with broader socio-environmental contexts before, during, and after their construction is finished. In other words, and opposed to the concept of form —which emphasizes the objectual nature of a building— the notion of *formation* allows us to grasp the form/process dialectic in rather more direct terms; that is, to read *building* as a social relation rather than as a bounded, fetishistic entity. Moe: "Without a clear understanding of formation, how we will ever understand anything more about architecture's perennial preoccupation with form? To think about building in movement means accepting the 'paradox' that there is an incorporeal dimension of building—real, material, but incorporeal." (p. 21)

[83] As explored more in detail in Chapter Two, especially through the lens of Harvey's reading of Canary Wharf and the notion of 'verticality for accumulation's sake.' See also below, Appendix, part A.

transformation. Against the reading of form as a 'nominal essence' that mainstream architectural discourse articulates, what this dialectical approach attempts to construct is a mode of interpretation in which such form can be seen simultaneously as a 'constitutive essence,' that is, as a socio-spatial process.[84] What is being proposed here is an interpretive scheme that is consistent with "the continued forward-motion of capital, its associated crisis-tendencies and contradictions, and the struggles and oppositional impulses it [generates] across the variegated landscapes of the world economy."[85]

3.3—Circa 2019

The Late Capitalist Skyscraper

> [T]he skyscraper has not been refined, but corrupted; the promise it once held —an organization of excessive difference, the installation of surprise as a guiding principle— has been negated by repetitive banality… Major architectural firms are prolonging the life of a type that has not been invested with new thinking or ambition since the World Trade Center's completion in 197[3].[86]

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[84] For an elaboration of the distinction between 'nominal essences' (centered on 'form') and 'constitutive essences (driven by 'process'), see Brenner, "Theses on Urbanization", thesis 5.

[85] Brenner, *Critique of Urbanization: Selected Essays* (Birkhäuser, 2017), p. 35.

[86] **HYPERBUILDING II —** Rem Koolhaas, "Kill the Skyscraper", *Content* (Taschen, 2004), p. 473. Indeed, the post-1970s skyscraper is, for Koolhaas, a soulless, boring, dull caricature of what it used to be. (See, also in *Content*, "White Brief Against Filth: The Waning Power of New York," p. 236-239). Rather than a vehicle for the experimentation with (once) exciting metropolitan forms of life, it has become a machine for the reproduction of the same—the 'same' being, in this case, the replication of real estate value that this 'machine' is expected, in all cases, to perform. As the building's mechanistic principle has taken over and exhausted its potential, its formal and structural logics stagnated: solely driven by the ambition of sheer multiplication, the skyscraper's increase in height has become inversely proportional to its interest as an architectural typology. According to Koolhaas, this is expressed in the repetition ad-absurdum of two equally lethargic models: the "tower as tube" and the "tower as pyramid." (See "Togok: Slim is Beautiful", *Content*, p. 440-447) In the case of the former, "the taller, the deeper its plan, the further removed its floor space from daylight"; while in the case of the latter, "the taller, the broader its base, the vast majority of its accommodation in its dark lower half, [and] an elitist fraction at the top." (p. 443) The aspiration to go beyond these two limitations lies at the core of what would become Koolhaas' 'hyperbuilding' model, which embodies both his critique of the skyscraper and a radically different alternative to it. (See "Hyperbuilding," *Content*, p. 420-425) By liberating the skyscraper from its 'single' form as a simple extrusion of the plot, the building ceases to be a 'unitary' and becomes a heterogeneous, multiple (urban) form, "towers floating in space without touching the earth"—"a skyscraper with a light touch." (p. 443) Koolhaas' 'hyperbuilding', then, emerges as a rejection of the spatial model epitomized by the skyscraper; as a rupture with the latter's relentless unidirectional verticality in favor of a multi-vectorial one. At the same time, one might also pose that there is a certain continuity, for the hyperbuiding entails the complex array of skyscraper-forms in space, linked and hybridized at manifold angles, dissociated from a single plot. What seems to be at play here, in any case, is an expansive verticality, a sort of Jamesonian hyperspace in which oblique and horizontal planes intersect at various points and in myriad ways. What this short review of Koolhaas' hyperbuilding' shows is the important distance between his original conceptualization of this kind of 'hyper-object' and the interpretation that Aiwha Ong makes of it, as described above, **footnote 48.** See also below, Appendix, part B, where I attempt to sketch a connection between Koolhaas' 'hyperbuilding' and Jameson's 'hyperspace' in a manner distinct from that articulated by Ong.

It is only at this point, after the brief discussion of the singular and generic surface appearances of the twenty-first century 'tall building,' and synthesizing observations from previous Chapters, that we are in a position to articulate a definition of our object of study in this book, which we might now more properly rename as the *late capitalist skyscraper*.[87] To recall, we started by reading the World Trade Center —posited by Tafuri in the early 1970s as epitomizing the emergence of a new kind of 'super-skyscraper'— as situated on a critical spatiotemporal threshold signaling the rise of what Jameson calls 'late capitalism'. As such, the Twin Towers crystallized at the very moment of transition to a new, globalized world, of which financialization and urbanization can be said to represent two of its 'great markers,' something that the WTC presciently and simultaneously embodied in both its character as the symbol —as Model— of a global financial empire and in its nature as a 'cloned' architecture —as Series—, susceptible of being replicated in large quantities across a variety of socio-spatial conditions and geographical contexts. The post-1973 period then marks the rise of the late capitalist skyscraper, and signals the starting point of the process of 'becoming-global' of the type—a process that would be greatly intensified by the end of the twentieth century, when new combinations of finance capital and land speculation would further exacerbate the nature of the building as a ruthless framework of accumulation while at the same time engendering a new aesthetic through which the abstraction of such processes was to be reflected in material form.[88] An increasingly enlarged (aesthetic) machine of accumulation embodying the logic of verticality for accumulation's sake, the skyscraper would come then not only to "represent or 'mirror' late capitalism as its cultural equivalent," but rather to express its growing abstraction in concrete terms, encoding and 'grounding' it into the ma-

[87] **LATE CAPITALIST SKYSCRAPER —** To my knowledge, this is a mode of conceptualizing that has not been pursued in the various (post-1973) literatures on the skyscraper. There are, to be sure, other accounts that read it critically as an inherently capitalist species of architecture, but they don't deploy the Marxist framework of reference I mobilize here. For one important case, I highlight the work on 'Organization Studies' by scholar Martin Parker, whose critique of the skyscraper as a spatial embodiment of capitalism has proven influential for this investigation. For Parker, skyscrapers are not solely symbols of modern organizational logics, but they are themselves "forms of economic organizing." The very term 'organization', for him, works as a bridge "between culturalist and economic representations," and can be understood as both a noun and a verb. As a noun, it operates as a cultural symbol; as a verb, however, it denotes a "capitalist project." While the former is charged with 'meaning' (a meaning, it should be added, that condenses the symbolic 'values' of the capitalist system), the latter entails a "logic which gathers together people and materials into a temporary arrangement which generates [economic] value." 'Organization', thus, is for Parker a term that is supposed to mediate between these two dimensions—that is, the cultural and the economic. In this, we see a certain parallelism with my own characterization of the late capitalist skyscraper as both a form and a spatial process, at once singular aesthetic machine and generic framework of accumulation. Yet, there are also important differences: in Parker's approach there is no particular attention to design culture, nor any interest in the *problematique* of periodization vis-à-vis the systemic transformations of capital. Apart from the already cited "Vertical Capitalism: Skyscrapers and Organization", see also Parker, "Skyscrapers: The City and the Megacity", in *Theory, Culture & Society*, Vol. 31:7/8 (2014), p. 267-271, and Parker, "Skyscrapers Show Capitalism at Its Worst—and Its Most Sublime", article published on www.TheEpochTimes.com, August 7, 2014. For an approach analogue to mine (and also explicitly based on the work of Fredric Jameson), but operating on the level of cultural critique and in relation to the museum as type, see Rosalind Krauss, "The Cultural Logic of the Late Capitalist Museum", in *October* 54 (Autumn, 1990), p. 3-17.

[88] "Look at these mirrored corners and you are looking at the materiality of flexible accumulation." Martin, *Utopia's Ghost*, p. 105.

teriality of the urban itself.[89] The destruction of the WTC in 2001 (paradoxically) marks the shift towards a radical revival of 'skyscraper-design,' while at the same time signaling the entrance to a different world, one in which the triumphalist rhetorics of capitalist globalization would be severely contradicted by the unfolding of manifold (environmental, geopolitical, economic) crises. In this context, the late capitalist skyscraper would be subjected to systematic urban proliferation —effectively displacing its former North American geographical epicenter towards the Eastern world— as well as to formal enlargement and technological optimization. Caught in the planetary movements of urban concentration and extension, the late capitalist skyscraper effectively becomes at this point a globally deployed *serial form* whose surface appearances are split in that of a singular and a generic object. The reproduction of the former in megacities and financial districts —in whose 'premium infrastructural networks' the building finds itself embedded— is key in instituting the *late capitalist imaginary*, a socio-cultural-spatial order through which the system's eroded sense of historicity, its recursive ideology of 'no alternative,' and the new symbolic values of capitalist elite power are expressed and enacted by a radically verticalized architecture that, despite its recurrent appeal to formal and technological innovation, is devised to ensure that "nothing really changes." Meanwhile, the cloning of the latter across emergent urban landscapes and concentrated agglomerations entails the universalization of the late capitalist skyscraper as a ubiquitous, quasi-automatic form of architecture suited to accommodate various programs and functions, and as a formulaic spatial artifact instrumental in broader processes of urban expansion.

To return now to the starting point of this investigation, that is, to Tafuri's diagnosis of the late twentieth century skyscraper, it is clear that, contrary to its American predecessor, the late capitalist skyscraper cannot be grasped (only) through the lens of its relation with the contemporary (mega)city, but must be instead critically considered vis-à-vis a much larger, totalizing spatial field. For, after the concise (and non-exhaustive, partial) review of the interrelated global financial and urban processes outlined here, it seems evident that the late capitalist world is fundamentally "oriented towards totalization—that is, the planetary extension of the commodity form, no matter what the social, political or envi-

[89] "We must read [the] urban artifacts [of late capitalism] not only as tangible, material evidence of the abstraction of modern life generated in the economic sphere, but also as abstraction itself." Martin, "Financial Imaginaries", *The Urban Apparatus*.

ronmental consequences."[90] Just as such totalizing processes are "global (generalized), hierarchical and fragmented,"[91] so are the spatial forms that it engenders. Hence, the differential functions and formal features of the late capitalist skyscraper cannot be understood without embedding it within this totalizing 'context of context,' which, as Jameson remarks, is never "visible as such, but only in its symptoms."[92]

Finally, regarding the speculative question about the *possible future trajectories* of this architectural form within the current century and its associated cycle and modalities of accumulation —a question whose detailed examination lies beyond the limits of this investigation [but see below, Epilogue]— the essential premises of Tafuri's critique would seem to hold still valid. For any illusion to grasp such ongoing process of transformation —and the vertical forms emerging from it— by means of the language of design alone will be as "useless [as] to propose purely architectural alternatives" to them.[93]

[90] Brenner, *Critique of Urbanization*, p. 282.

[91] Ibid..

[92] **TOTALITY —** "No one had ever seen that totality, nor is capitalism ever visible as such, but only in its symptoms. This means that every attempt to construct a model of capitalism—for this is now what representation means in this context—will be a mixture of success and failure: some features will be foregrounded, others neglected or even misrepresented. Every representation is partial, and I would also stress the fact that every possible representation is a combination of diverse and heterogeneous modes of construction or expression, wholly different types of articulation that cannot but, incommensurable with each other, remain a mixture of approaches that signals the multiple perspectives from which one must approach such a totality and none of which exhaust it. This very incommensurability is the reason for being of the dialectic itself." Fredric Jameson, *Representing* Capital: *A Reading of Volume One* (Verso, 2014), p. 6.

[93] Tafuri, *Architecture and Utopia*, p. 181.

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Dubai circa 2015

Metamorphoses

4: Appendix

Mode of Production

This mode of production—is it still even capitalist or something worse?[1]

What if, as theorist McKenzie Wark proposes, what we are witnessing in the first decades of the twenty-first century is the transmutation of capitalism into something worse? If we stick to the correlation between the logic of late capital and the post-1973 skyscraper we have been attempting to map, what this would entail is (presumably) the metamorphosis of the late capitalist skyscraper into a different species of building, one for which the concepts and meanings socially constructed to theorize and define this historically specific form of architecture would not necessarily apply, or which would at least need to be significantly re-configured. To put this in more concrete terms, I split it in two questions: A) How far can the singular late capitalist skyscraper be expanded and enlarged to accommodate the new scales of accumulation demanded by capital's spiraling move towards 'bad infinity' before the concept itself becomes inadequate to describe such an object?[2] What kind of socio-spatial and environmental dynamics would the reproduction of this 'new species' engender? And likewise, B) How saturated can the urban world be with generic late capitalist skyscrapers before the very physiognomy and scale of what we call urban form is distorted beyond recognition?

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[1] McKenzie Wark, *Molecular Red: Theory for the Anthropocene* (Verso, 2015), p. 220.

[2] "Hegel talked about the difference between what he called a 'bad infinity' and a 'good infinity.' A good infinity is something that continues to reproduce itself over time forever. A circle is a mathematical depiction of the good infinity. It's when the circle becomes a spiral that problems start. Things spiral out of control. Capital is spiraling out of control… The metaphor of spiraling out of control is something that is very meaningful to what is happening globally and locally." Harvey, *Abstract From the Concrete*, p. 113; 115. For a discussion of the 'Marxist sublime' and the unbounded nature of the money-form, see Terry Eagleton, *The Ideology of the Aesthetic* (Blackwell, 1991), p. 196-233.

A
Becoming-Taller

> "C]apital is characterized by a movement toward boundless expansion… The dream implied by the capital form is one of utter boundlessness, a fantasy of freedom as the complete liberation from matter, from nature. This 'dream of capital' is becoming the nightmare of that from which it strives to free itself—the planet and its inhabitants.[3]

In one of his last books, *The Futurism of the Instant*[4] (2010), Paul Virilio critically addresses the question of the twenty-first century skyscraper's radical increase in height. In so doing, Virilio constructs an allegorical account in which the socio-spatial and environmental consequences of mobilizing this form of architecture as a spatial medium for capital accumulation are pushed to an extreme so as to reveal the absurdity behind such logic. Discarding labels such as 'super-' and 'mega-tall' altogether, he proposes the neologism "Very High Building"[5] (VHB) as a metaphor through which to convey the radical changes that the object we have called late capitalist skyscraper would undergo in the hypothetical scenario he portraits. Virilio's compelling narrative then performs two operations: on the one hand it locates the source of the VHB's tendency to grow taller in the drive of capital to endlessly accumulate,[6] establishing a correlation between the building's verticality and capital's frontier movement;[7] while on the other hand, it articulates a semi-fictional portrait in which —were the conditions that make pos-

[3] Moishe Postone, *Time, Labor and Social Domination: A Reinterpretation of Marx's Critical Theory* (Cambridge University Press, 1993), p. 383.

[4] Paul Virilio, *The Futurism of the Instant: Stop-Eject* (Polity Press, 2010). Subsequent references are externalized in quotations when necessary.

[5] "Nautical, aeronautical and shortly astronomical 'bulk carrier' — or Very High Building?" Ibid., p. 37.

[6] Virilio poses, as we shall shortly see, that the VHB is becoming a technological device instrumentalized by the elites for two purposes: to 'remove' themselves from the increasingly complex socio-ecological dynamics of the public ground, and as a vehicle for leaving the planet altogether in search for new horizons of profit. For, as he writes, "the Earth, already too small for Progress and for short-term profit, all of a sudden becomes too cramped for our future projects, *the expansion of the instant wiping out the beginning every bit as much as the end*, the geophysical finiteness of the life-giving star." Ibid., p. 84, emphasis in original.

[7] In reading Virilio's account in this way, I'm not suggesting, however, that vertical space is the only frontier of contemporary capital, but that the main driver behind the late capitalist skyscraper's tendency to become taller is indeed the pursuit of accumulation for accumulation's sake. In this regard, Virilio's metaphorical text suggests that the VHB is in the process of becoming a 'mobile' medium through which new spatial frontiers beyond earth itself can be explored in the search for profit. In this, his critique is consistent with Neil Smith's analysis of capital's production of space. For, as Smith writes, in a striking passage, "No part of the earth's surface, the atmosphere, the oceans, the geological substratum, or the biological superstratum are immune from transformation by capital… Where nature does survive pristine, miles below the surface of the earth or light years beyond it, it does so only because as yet it is inaccessible." Smith, *Uneven Development*, p. 79; 81.

sible its existence today to be deepened and exacerbated in time— such logic of *verticality for accumulation's sake* would eventually result into the emergence of a fundamentally different kind of building, *a building yet to come.* Indeed, Virilio describes the VHB as a *transitional* kind of building, a "static" capsule whose trajectory points towards *becoming-mobile*—a provisionally terrestrial architecture whose ultimate aim is to leave earth altogether in favor of new horizons for (a select, exclusive fraction of) humanity.[8] The rationale behind this otherwise ancient human ambition —to reach out to the stars, that is— is not driven by benign dreams about the evolution of the species, he poses, but by the imperatives and consequences of endless capital accumulation.[9] In its relentless pursuit of new vertical frontiers, the VHB's main aim is to fully alienate itself from the urban environments in which it is anchored —and from whose infrastructures it still depends— and is completely indifferent to what happens at the level of the public ground.[10] Until this *sine-qua-non* condition, this still inescapable attachment to the earth, can be finally superseded through the irruption of a new technology, the VHB will remain a 'static vehicle'— forcibly partaking in the terrestrial but inevitably tending towards the extraterrestrial. Constantly augmenting its height, the main function of this building-receptacle (or "bulk") is to transport its privileged dwellers to a new level, an altogether new spatial realm: the sky, the ultimate "exotic location."[11] This upper, atmospheric space is the dreamed destination of those who, by means of their socioeconomic status, can dissociate themselves from the mass of an impoverished global population, secluding themselves above, in an extra-terrestrial "heaven of wealth," as the young Marx

[8] "Ecotourism, for a future aerial tourism—no one knows what we're doing *falling upside down* suddenly for an ideal ultracity where the *automotrice à grande vitesse* (AGV) elevator, a lift using a high-speed electric railcar, will replace the weekend car, in a flight to the zenith aimed at a middle class who just can't afford to sign up for the great *space tourism* enjoyed by the well-heeled." Virilio, *The Futurism of the Instant*, p. 53-54.

[9] "Faced with the geographysical limits of the finite world, we need to put information in perspective if we are going to understand, at last, that if the Earth has become too small for Progress, it is also too small for short-term profit, as today's economic crash amply demonstrates." Ibid., p. 75-76.

[10] "After intensive 'above-ground' agriculture, the culture and art of the vertical street are indeed very much at issue, with this loss of identity that is not as much national as societal, in which *cooped-up high-rise exclusion* rounds off the exclusion of distant urban outskirts, now abandoned." Ibid., p. 56.

[11] The VHB, "that static vehicle of cooped-up 'above-ground' elevation is also, and every bit as much, a carrier, a surrogate mother for others, in a 'procreative tourism' that is getting bigger all the time in exotic locations." Ibid., p. 38. Later on, on p. 54, Virilio writes that "turning the sky into the most beautiful place on Earth" is the goal of what he calls 'exurbanism at altitude."

would have it.[12] Armed with the latest, most advanced technology available, the VHB aims at transitioning into a *fantastic elevator* of sorts, the very spatial medium through which the global elites can leave the Real world —and its already ongoing socio-ecological catastrophe— behind.[13] Inscribed within the lineage of technological breakthroughs that, in the course of the last two centuries, made possible an unprecedented degree of mobility —the *"révolution de l'emport"* introduced by the automobile, the airplane and the elevator— the proliferation of the VHB is giving rise, Virilio argues, to a radically verticalized urban entity: the *ultracity*. Read historically, the emergence of the ultracity signals a new threshold in the process of subjugation of the lower social classes by the elites: from the industrial to the post-fordist city, and from the information-city to the future (extraterrestrial?) one, what we see in each iteration is the massive imprisonment of the poor within the harsh conditions of life on an increasingly decimated, ecologically devastated ground —a dark below—, and the insulation of the elites in aerial space—a luminous above.[14] The trajectory set up by the model of the ultracity would culminate, if this logic is to be consistent, in the inhabitation of a cosmic realm, either in an outer space 'colony' or in a surrogate 'super-Earth'—an 'ultraworld.'[15] The ultracity, then, is the product of the creative destruction of capital, what coagulates after its irrational spiral-like movement upwards. Its origins are to be found in the expansive industrial cities of the nineteenth century, whose new circulatory infrastructures extended beyond the limits of its old, now obliterated fortified boundaries, and in the postwar urban reconstructions of the

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[12] **HEAVEN OF WEALTH —** "We have said above that man is regressing to the *cave dwelling*, etc.—but that he is regressing to it in an estranged, malignant form. The savage in his cave—a natural element which freely offers itself for his use and protection—feels himself no more a stranger, or rather feels himself to be just as much at home as a *fish* in water. But the cellar-dwelling of the poor man is a hostile dwelling, "an alien, restraining power which only gives itself up to him in so far as he gives up to it his blood and sweat"—a dwelling which he cannot look upon as his own home where he might at last exclaim, "Here I am at home," but where instead he finds himself in *someone else's* house, in the house of a *stranger* who daily lies in wait for him and throws him out if he does not pay his rent. Similarly, he is also aware of the contrast in quality between his dwelling and a human dwelling—a residence in that *other* world, the heaven of wealth." Karl Marx, *The Economic and Philosophic Manuscripts of 1844* (Prometheus Books, digital edition), "The Meaning of Human Requirements Where There Is Private Property and Under Socialism", no page indexed.

[13] "Traversing the fantasy of the elites means recognising that the social and ecological catastrophe that is announced everyday as tomorrow's threat is not a promise, not something to come, but is already the Real of the present." Erik Swyngedouw, *Designing the Post-Political City and the Insurgent Polis* (Civic City Cahiers 5, Bedford Press, 2013, digital edition), no page indexed.

[14] "In the nineteenth century, the railways destroyed fortified city enclosures even more surely than any long-range artillery; in the twentieth century, air raids razed the cities even more thoroughly than the barbarians. How, then, in the twenty-first century, can we shut our eyes to the fact that this is where the origins of the ultracity lie? The insecurity of the territories of the old geopolitics is part and parcel of this metropolitics, in which climate threats mean that the sky now prevails over the ground, the soil, and even over the exhausted subsoil, to the benefit of a stateless humanity, doomed to the transhumance of 'extremophile' vitality." Virilio, *The Futurism of the Instant*, p. 57-58.

[15] "The original town is giving way to the *ultracity* produced by an exurbanism that is not so much metropolitan as omnipolitan, and this anticipates the not far-off colonial exodus to the *ultraworld* of a distant planet, some super-Earth likely to see the 'ecological footprint' of an unnatural progress grow to twice or three times its current size in an all-out exploitation of the reserves of the exoplanet in question." Ibid., 36-37.

twentieth century, built over the blank canvas of the tabula rasa. In the twentieth-first century, however, the scale of destruction and environmental degradation triggered by capital's expansion reaches a new, unprecedented level: it's not only the city, but the entire surface of the planet which is in danger, turned into a domain rife with famine, contamination, and socio-spatial degradation. It is from these conditions that the elites' increasingly desperate quest for an 'ultraworld' emerges. The VHB is, then, the architectural model of the ultracity, which in turn is the urban model of an ultraworld yet to be built. Implicit in this sequence is the assumption that the earth's scale, and that of its vertical architecture, are ultimately too insignificant to cope with the spatial demands contained within the exponential logic of compound growth. In other words, the planet itself may prove too small when considered vis-à-vis capital's imperative of endless expansion. In order to understand how the logic of compound growth works, David Harvey writes, we have to consider "the enormous expansions in physical infrastructures, in urbanisation, in workforces, in consumption and in production capacities that have occurred since the 1970s until now." But this is nothing compared with what is next, he warns, since these developments "will have to be dwarfed into insignificance over the coming generation if the compound rate of capital accumulation is to be maintained."[16] It is precisely this irrationality which Virilio captures with his allegorical tale,[17] in which both the VHB and the urban form projected after its image, the ultracity —we can read here, the late capitalist skyscraper and the urban form its reproduction engenders— are but transitional spatial stages towards a future beyond this planet, one in which, as Moishe Postone eloquently puts it, capital can realize its "dream of utter boundlessness."

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[16] David Harvey, *Seventeen Contradictions and the End of Capitalism* (Oxford University Press, 2014), p. 228-229.

[17] **COMPOUND-GROWTH URBANISM** — There is an important precedent for Virilio's speculative text: H. G. Wells' classic sci-fi novel *The Sleeper Awakes* (Penguin Classics, 2005 [1910]), which tells the story of Graham, 'The Sleeper', a late nineteenth-century Londoner who remained mysteriously asleep for 203 years and awakes in the year 2100, when the world is ruled by the 'White Council', a board of 12 Trustees holding power in his name. During the century he was asleep, the little money he had during his days has, as per the magic of compound interest, multiplied greatly, making him the "Master of the World." Here, Wells makes the same correlation I attempt to pursue in this book: namely, that there is a systemic link between the dynamics of capital accumulation and the evolution of vertical architecture. Wells: "[t]he future in [The Sleeper Awakes] was essentially an exaggeration of contemporary tendencies: higher buildings, bigger towns, wickeder capitalists and labour more downtrodden than ever and more desperate. Everything was bigger, quicker and more crowded; there was more and more flying and the wildest financial speculation. It was our contemporary world in a state of highly inflamed distension." (Wells, cited in TSA's Introduction to the Penguin's edition.) Indeed, what the story depicts is the *structural urban form* that corresponds to a world modeled after the imperative of endless compound growth: a highly layered spatial order, expressed in ultra-verticalized form, in which mega-tall buildings, designed to provide elites with a luminous existence in a dream-like atmospheric realm, are plugged to (or rather, fed by) an infrastructural matrix of labor—the dark, inferno-like 'underworld' of the poor that makes the very existence of its counterpart, a kind of 'ultraworld', possible. These are the only two spatial layers visible in the urban landscape of *The Sleeper Awakes*. Projecting the spatiality of a world projected after the image of the mystifying principle of compound rate, Wells presents the reader with the schematic silhouette, the logical spatial conclusion of the axiom of *accumulation for accumulation's sake*. The extreme polarization of wealth and poverty would reach such levels that all socio-spatial gradients in-between would eventually disappear, leaving us with a binary urban configuration. The seesaw movement of capital from developed to underdeveloped space has been here radically simplified and reduced to its most abstract expression: on one extreme, pure, unrestrained accumulation of wealth in vertical form —*verticality for accumulation's sake*—; on the other, a vast proliferation of poverty, misery and inhuman labor conditions across a largely horizontal and invisibilized landscape.

B
Becoming-Multiple

> [T]he [capitalist] machine is constantly breaking down, repairing itself not by solving its local problems but by mutation onto larger and larger scales, its past always punctually forgotten; its nested futures irrelevant to the point of the quantum leap.[18]

At the time of its formulation in the late 1980s, Fredric Jameson's notion of 'hyperspace' was more a speculation about a spatial transformation that was still in its incipient stages than a critical concept through which to describe the actual morphological configurations of late capitalist space at that particular historical moment.[19] Jameson famously argued then that hyperspace— a mutation triggered by the pervasive deployment of late capital and its associated techno-managerial apparatus at a global scale— "stands as something like an imperative to grow new organs, to expand our sensorium and our body to some new, yet unimaginable, perhaps ultimately impossible, dimensions." This space, he continued, transcended the capacities of the individual human body to locate itself, "to organize its immediate surroundings perceptually, and cognitively to map its position in a mappable external world." Hyperspace, in other words, represented an "alarming disjunction point" between the body and the built environment. While Jameson wrote these lines as a result of his experience in John Portman's Bonaventura Hotel in Los Angeles, it is now clear that they apply more to early twenty-first century's vertical architecture than to the kind of building that Portman's hotel represents. For it is self-evident that this last is but a miniature when compared with the kinds of architectural development taking place in contemporary cities like Tokyo or Shanghai.[20]

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[18] Jameson, *Representing Capital,* p. 7.

[19] Cf. Jameson, *Postmodernism, or the Cultural Logic of Late Capitalism*, p. 37-44. Jameson's speculative concept has been closely examined by many critics. See, for examples relevant to this study, the critique by Mike Davis, "Urban Renaissance and the Spirit of Postmodernism", in *New Left Review* (1985), Vol. 0 (151), p. 106-113; also Arrighi's comments in *The Long Twentieth Century*, p. 81-82. For an overview of its various ramifications in architectural discourse, see Charles Rice, *Interior Urbanism: Architecture, John Portman and Downtown America* (Bloomsbury, 2016), p. 20-24. For an examination of the concept vis-à-vis questions regarding urban design, see Albert Pope, *Ladders* (Princeton Architectural Press, 2015), p. 129-141.

[20] For a more extended elaboration of the question of the enlargement of the individual building's scale, apart from the already cited interview in *Jameson on Jameson* (p. 123-133), see Jameson, *The Seeds of Time* (Columbia University Press, 1994), p. 145-159.

Indeed, recent discourses in urban geography have introduced the notion of 'volumetric urbanism' to convey the emergence of a new scale of urban space triggered by the high-concentration of vertical architectural forms and their entanglement with infrastructural technologies both beneath and above the level of the public ground.[21] This is certainly an architecture, as Jameson presciently proposed, which seems to be 'growing new organs.' As urban scholar Stephen Graham puts it, what we are witnessing is "a *three-dimensional* field that extends from deep subterranean space to several hundred meters above the ground."[22] What this entails, then, is the merger of vertical architectural forms in both aerial and underground space as they get further enmeshed with systems of transportation, sky-bridges, sky-lobbies, urban escalators, and the like. This infrastructural imbrication of tall buildings with both the rhizomatic systems running beneath the ground surface and the circulation networks of a radically verticalized urban space in turn mixes and reshuffles manifold programs and activities, accommodating within a heterogeneous and "ever more grandiose" envelope "housing,

[21] **VOLUME** — Cf. Eyal Weizman, *Hollow Land: Israel's Architecture of Occupation* (Verso, 2012); Stuart Elden, "Secure the Volume: Vertical Geopolitics and the Depth of Power", in *Political Geography* (2013) Vol. 34, p. 35-51; Andrew Harris, "Vertical Urbanisms: Opening Up Geographies of the Three-dimensional City", in *Progress in Human Geography* (2015) Vol. 39(5), p. 601-620; also Graham, *Vertical*, p. 220-243. What Eyal Weizman (one of the 'key' thinkers of vertical and volumetric space) calls "the politics of verticality" has to be read as a concept through which borders and territorial limits are seen as complex volumetric spaces defined by a matrix of infrastructural systems, socio-political struggles, historical conflicts, and spatial technologies—an expansive domain "cut apart and enclosed by its many barriers, gutted by underground tunnels, threaded together by overpasses and bombed from its militarized skies." (p. 15) Buildings, in Weizman's account, are consequently not contemplated individually, nor considered in their singularity, but rather as socially-mediated components of this larger, multidirectional vertical landscape. The geopolitical, 'volumetric' dimension forcefully introduced by Weizman's work is what defines the gravitational center of geographer and political theorist Stuart Elden's analysis of verticality. He asks: "How does thinking about volume —heights and depth instead of surfaces, three dimensions instead of areas— change how we think about the politics of space?" In dissecting the question of verticality, Elden's main intention is not only to challenge "flat", bi-dimensional theorizations of the space of the world, but also, at the same time, to problematize the unidirectionality generally associated —in architecture as much as elsewhere— to what we might call the vertical spatial axis. Tracing a genealogy of thought around verticality that includes figures such as Peter Sloterdijk —with his philosophical analysis of 'spheres'— and Paul Virilio —with his investigations of the 'oblique'—, Elden intends to construct a critical agenda in which geo-power, geo-politics, and geo-metrics come to be seen through the lens of the multi-vectorial realm of vertical space. As he writes: "thinking merely straight up and down may blind us to different angles of approach, and the function of the oblique. Only by thinking through all of these aspects can we reflect more profoundly on the politics, metrics and power of volume." (p. 49) Building upon Weizman's framework while also expanding it, urban scholar Stephen Graham reads verticality as a vast spatial domain thoroughly traversed by global power and political dynamics. Indeed, he contends that verticality entails not only notions of above and below, "excavations deep into subterranean spaces for fuel and resources" as much as "skyscrapers that rise into the urban skies" (p. 5) at increasingly larger, more gigantic scales, but also —and fundamentally— manifold struggles over the right to the city, resources, security, privacy, mobility, food, water, and social justice, all of them inscribed within, and unfolding through, "vertical geographies of power." (p. 6) Graham's critique of architecture concurs with that articulated in this study: within the literature on very tall buildings, he argues, the 'metaphysics' of verticality tend to focus almost exclusively on the aesthetic of skyscrapers as individual objects. What these approaches miss, Graham claims, is that contemporary verticality is not solely embodied in specific spatial artifacts and buildings, but is constructed in a rather multilayered, stratified manner, through the manufacturing of an urban ground that is increasingly raised up, to the point that "in many [contemporary] verticalising cities, indeed, it is less and less clear [in] what 'ground' level we might actually be." (p. 9) Geographer Andrew Harris's study of verticality, while indebted to the lineage described here, entails an attempt to go beyond the contours delineated by the above frameworks. He sees the work on the subject developed by Weizman, Elden and Graham as primarily concerned with questions of "security, secession and control." For Harris, this is one of many possible lines of inquiry, for "there are a myriad of additional conceptual wellsprings, methodological approaches, and geographical and historical perspectives that can be pursued in exploring the 'vertical qualities of contemporary processes of urbanization.'" (p. 602) It is against this mode of interpretation that he brings to the foreground the concept of 'vertical urbanisms', in itself an effort to "open up geographical imaginations that critically attend to the topographical and topologic complexity of the 'three-dimensional city.'" (p. 602) What the notion of 'vertical urbanisms' proposes is a careful attention to the different, specific contexts in which urban verticality manifests itself (in other words, he is saying here that Weizman's model is not universal), an emphasis on the relevance of ethnographic work "to complement theoretical efforts" and explore the dynamics of daily life within actually existing vertical architectures, and the consideration of how multiple 'models' of urban verticality (both built and unbuilt, real and imaginary) intertwine and retrofit each other. See my own position on the question of verticality and vertical architecture as briefly stated in the Epilogue.

[22] Graham, *Vertical*, p. 234, my emphasis.

hotels, retail, leisure, sports and offices."[23] Such fusion of vertical buildings is defining a new vertical urban interiority of sorts —Graham describes them as "privately controlled and surveilled archipelagos"— which, severed from the street level, render this last, both metaphorically as well as physically, as a "lower-status environment populated by those excluded" from access to this higher realm.[24]

The concept of the singular, recognizable skyscraper does not apply in this case. Instead, we might pose that this new, composite architectural entity is more the outcome of an amalgamation of generic vertical skyscraper-forms which, connected in manifold ways with urban infrastructures of mobility and transportation, come to undermine 'traditional,' unidirectional verticality in favor of an expansive and multi-vectorial one. As Jameson has suggested somewhere else, it is indeed the "enormous scale of the urban totality," with its "bewildering, infinite, endless series of built things," which is engendering this new species of vertical building. "It would seem that in this new endless textual fabric," he adds, "neither of these [buildings] has any meaning anymore, and this is why, I suppose, one should think in terms rather of enclaves."[25] Yet, it would seem more appropriate, if we are to think about the nature of this nascent urban space as an actual instantiation of his earlier formulation of *hyper-space*, to consider this radically verticalized and stretching new hybrid built form in terms of a *hyper-building*: a still-in-the process of becoming extra-large, multilayered vertical envelope assembled by polymorphous buildings-and-infrastructural elements, protruding in various directions, and enclosing within itself several 'grounds,' both beneath and above the so-called public level.[26] This hyperbuilding —which cannot, in any sense, be 'separated' from the urban substance out of which it emerges— is, then, not a clearly defined object, perhaps not even an 'architectural building' in any traditional sense.[27] Thence, the very concept of 'skyscraper' might cease apply to it.

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[23] Ibid., p. 237.

[24] Ibid., p. 227.

[25] Jameson, *Jameson on Jameson*, p. 124.

[26] This interpretation of 'hyperbuilding' builds upon that of Koolhaas briefly discussed in Chapter Three, **footnote 86**, and proposes an alternative connection with Jameson's 'hyperspace' than that advanced by Aihwa Ong (Chapter Three, **footnote 48**).

[27] Cf. Benjamin Bratton, *The Stack: On Software and Sovereignty* (The MIT Press, 2015), p. 176-183. Bratton, p. 182: "[T]here is no expansion or any a single building envelope that can actually accomplish what is asked of [big projects today]: 'architecture' is perhaps the wrong metaphor for architectural thinking and experimentation to lean on."

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In both of these accounts there is, to be sure, an interplay between, on the one hand, a critique of spatial-architectural conditions in their process of becoming, and, on the other, a speculative narrative regarding their possible trajectories of development. Whether these two arising forms of verticality —the first greatly exacerbating the building's height; the second crystallizing after its large-scale urban deployment— will come to relegate the late capitalist skyscraper as a mere transitional stage towards a whole new species of architecture, or whether they will be instead thwarted by the demise of the system itself remains, as Arrighi concluded, yet to be seen.

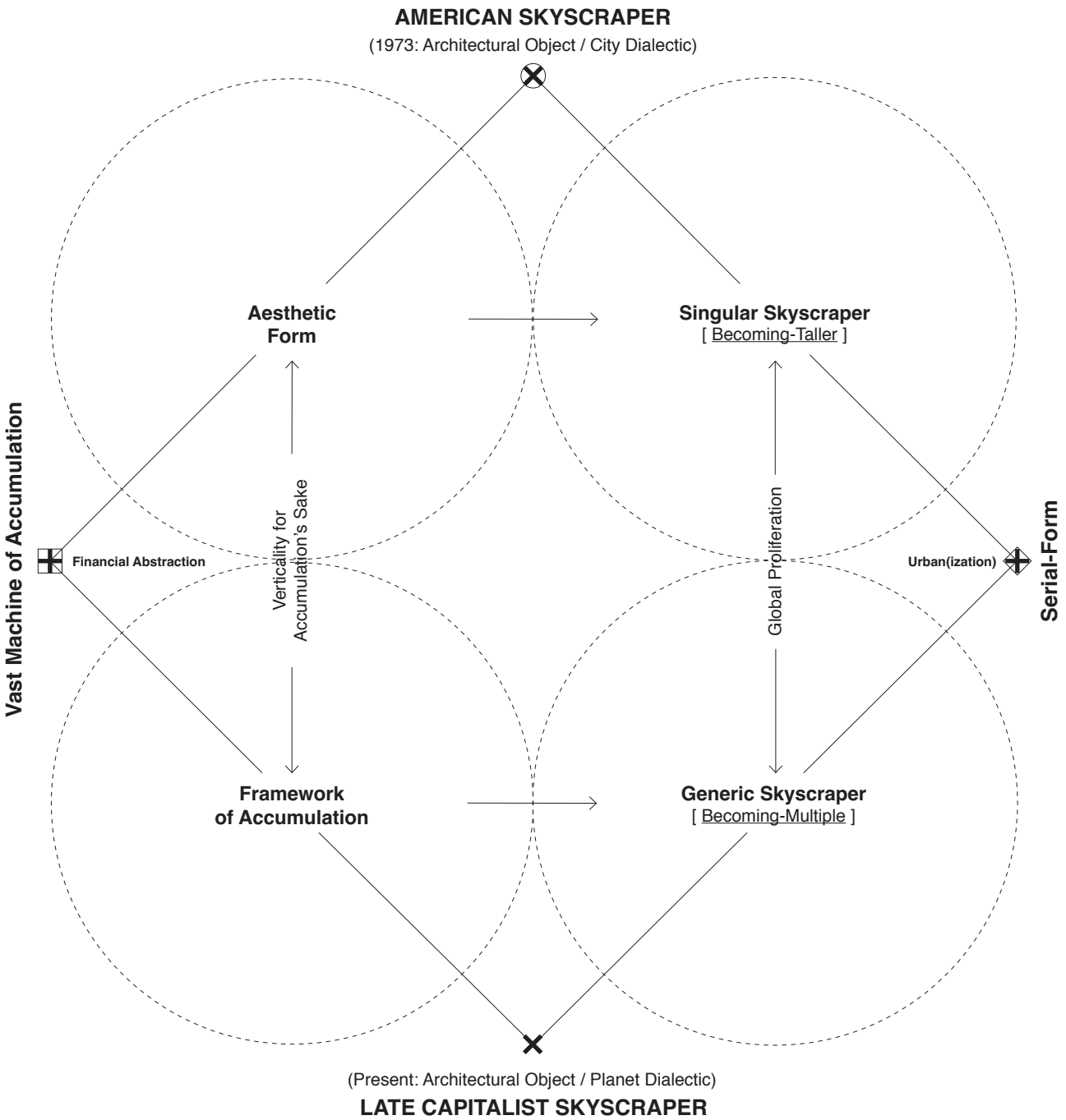

Figure 4.1: **General Diagram Chapters 1-3 + Appendix**

⊗ **Chapter 1**
⊞ **Chapter 2**
✚ **Chapter 3**

[Underlined]: Appendix: **Metamorphoses**

Verticalarchitecture?

Epilogue

The main goal of this book has been to construct an alternative *metanarrative* about the contemporary skyscraper, one which attempts to problematize the naturalized architectural language mobilized by 'mainstream' or 'hegemonic' design discourses to conceptualize the type—and in so doing, to challenge its assumed, taken-for-granted meaning and definition by reading the building's form vis-à-vis (late) capital's abstract and totalizing processes. The construction of this metanarrative has taken as its symbolic moment of departure the year 1973, a turning point in the historical evolution of capital, and a *threshold* in the trajectory of the skyscraper ever since its birth during the period of 'financial expansion' that marked the beginning of the 'long twentieth century.' Building upon the insights of a constellation of critical readings, and mobilizing a set of neo-Marxist discursive formations as theoretical lens, the main task of this investigation has been to construct a different kind of lexicon through which to open up other avenues of thought about this form of architecture. The very definition of the object under analysis here as *late capitalist skyscraper* is then to be considered as one minor —and perhaps provisional, as suggested in the Appendix—step in this direction.[1]

However, given the complex entanglements of the building with the fast-mutating, planetary-scale spatial processes of twentieth-first century capitalism, this conceptualization —still anchored on the architectural object as a unit of analysis— must of necessity be complemented with a larger, more comprehensive research agenda. In other words, in order to push forward the endeavor initiated and only diagrammatically outlined in (the three layers of) the metanarrative advanced here, new questions should be undoubtedly included. To mention just a few among these: How is the status of this form of architecture to be critically dissected vis-à-vis a planet traversed by socio-ecological disaster and *capitalocenic* dynamics?[2] How does the ever-increasing proliferation of both singular and generic skyscrapers contribute to deepen the systemic crisis of housing under capitalism; and how does the reproduction of this form of architecture further exacerbate logics of residential alienation, social injustice, and urban inequality?[3] In what ways are the (capitalist) design and urban ideologies instrumental in the legitimation, propagation, and optimization of the late capitalist skyscraper, infused and animated by racialized, heteropatriarchal, sexist, neocolonial, and biopolitical projects of socio-spatial transformation?[4]

The equation becomes ever more complex if one takes into account the unfolding and still-embryonic metamorphoses of the late capitalist skyscraper. Indeed: if, as discussed in the Appendix, the ongoing transition towards a new cycle of accumulation seems to be engendering new logics and forms of architectural verticality —logics and forms which appear to defy traditional architectural vocabularies and conceptual boundaries— then it is clear that, in engaging with such critical inquiries, new categories of analysis should be delineated, and alternative cognitive maps should be constructed. Entering into a speculative terrain, we might think of a concept that enables us to grasp an ever-expansive vertical spatial field in which socio-spatial/urban processes and increasingly hybridized architectural forms are entangled—a vertical kind of architecture *in-formation* which might also be considered, in its unprecedented scale and complexity, as historically specific to the twenty-first century capitalist world.

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Just as Hilberseimer's *metropolisarchitecture* was meant to capture "a new type of architecture with its own forms and laws" generated by the dynamics of capital during the early long twentieth century,[5] *verticalarchitecture* could be mobilized so as to perform the same critical operation at the beginning of the (long?) twenty-first one. As Tafuri himself posed, what was at stake in Hilberseimer's work was the very ambition of going beyond a design logic centered on architectural objects to get instead immersed into the economic processes that underpin the development of architecture itself.[6] Similarly, and at the same time differently, *verticalarchitecture* could be understood not as a disavowal of the architectural object as such, but as an attempt to move past the exclusive focus on the late capitalist skyscraper as a monad to address its ongoing mutations into larger and more complex vertical spatial formations vis-à-vis new logics and dynamics of capital accumulation and its associated cultural, social, and ecological implications across a wide spectrum of cities, landscapes and territories.[7] Consequently, and in contradistinction to Hilb's formulation, the background of analysis would not any longer be circumscribed to that of the 'metropolis' and the 'economy' alone, but must rather be considered vis-à-vis the scale of the (capitalist) *planet* itself and its associated and totalizing processes of financial abstraction, urban space production, and capitalocenic environmental transformation. Moreover, if

the neologism is to be mobilized critically, it would have to challenge, and construct an alternative to, the rhetorics of capitalist *globalization* that have pervaded the analysis and representations of vertical architectural forms sedimented by mainstream design discourses during the last four decades.

***

The notion of 'planetarity,' scholars Amy Elias and Christian Moraru argue, emerges in the current context as a "new structure of awareness" prompted by a "fast-expanding series of cultural formations" in transition towards a new way of understanding the complexity of the contemporary world.[8] Such new awareness of the fragility of a planet traversed by crises, while emerging in parallel to (and partially overlapping with) the all-encompassing unfolding of capitalist rationality as a process of *globalization*, is nevertheless configured —conceptually/theoretically as much as politically— as an alternative project, one moving in a different (perhaps even opposite) direction.[9] 'Planetarity,' in its attempt to fuse Western and non-Western modernization paths, seeks to transcend them both to constitute itself as an emerging worldview and a new form of critical discursivity.[10] The 'planetary turn,' thence, is articulated as a critical alternative (at once a theoretical and terminological 'substitute') to the 'global' capitalist paradigm, which has failed to grasp the manifold socio-spatial consequences, as much as the political, cultural, and ethical implications, of an interconnected world.[11]

Conceived as 'planetary' rather than as 'global,' *verticalarchitecture* can then become a concept with the potential to both articulate a critique of the architectural avatars of capitalist globalization (and their ongoing transformations), and to explore alternatives to them by speculating about *other* possible very tall / hyper-buildings, vertical cities, and 'volumetric' urban formations. In other words, it can be mobilized simultaneously in a critical and a speculative direction, defining a terrain where architectural theory and design imagination might coexist and retrofit each other in dialectical fashion.[12] Seen in this light, *verticalarchitecture* can be at once a way of naming the increasingly verticalized urban spatialities of the world, and a mode of designating a counter-project to them. In this regard, if *verticalarchitecture* seems to suggest not only that architectural forms as such are parsed more finely (and considered vis-à-vis larger, wide-ranging planetary processes), but also that critique and (design) speculation are understood dialectical-

ly, it does so with the goal of being both more accurate and *imaginative* in our assessments of the current status of architecture within that "unrepresentable totality" (Jameson's recurrent phrase) that is late capitalism, and at the same time more *critical* in constructing alternative spatial imaginaries to it. In relation to that general, collective disciplinary project, this small book is but a limited and incomplete exploratory foray.

Notes

[1] "It would be a mistake to think that received grammar is the best vehicle for expressing radical views, given the constraints that grammar imposes upon thought, indeed, upon the thinkable itself… [There is a] difficulty of the 'I' to express itself through the language that is available to it. For this 'I' that you read is in part a consequence of the grammar that governs the availability of persons in language." Judith Butler, *Gender Trouble* (Routledge, 2008 [1990]), p. xix; xxvi, respectively. Extrapolating from this, what I mean to convey is that the deployment of a specific language or vocabulary, in this case about the skyscraper as architectural object, has important implications for the way(s) in which this object can be thought, conceptualized, and ultimately, designed.

[2] This is indeed a complex theme which opens up the possibility for architectural theory to engage with other forms of critical discourse. So-called 'Cli-Fi' (climate fiction), an emergent genre of science fiction, might indeed offer a powerful avenue of thought, as Andreas Malm proposes in his recent book *The Progress of this Storm: Nature and Society in a Warming World* (Verso, 2018), p 11; 131-132. Within this genre, the most powerful case I'm aware of is that of Kim Stanley Robinson's novel *New York 2140*. See Chapter Three, **footnote 33**.

[3] Cf. David Madden, Peter Marcuse, *In Defense of Housing: The Politics of Crisis* (Verso, 2016). Madden and Marcuse contend that the 'hyper-commodification' of housing inevitably leads to what they call 'residential alienation', a condition significantly exacerbated by the post-2008 development of super-tall, luxurious residential skyscrapers, or, as they call them, "money congealed in tower form." See p. 38-39. David Harvey, on his part, describes 'universal alienation' as one of the three 'dangerous contradictions of capital'. See Harvey, *Seventeen Contradictions*, p. 264-281.

[4] Cf. Dolores Hayden, "Skyscraper Seduction/Skyscraper Rape", *Heresies* 1 (May 1977), p. 108-115; "The Female 'Souls of the Skyscraper'", and "The Skyscraper, Gender, and Mental Life: Sophie Treadwell's Play *Machinal* of 1928", in Roberta Moudry, *The American Skyscraper: Cultural Histories* (Cambridge University Press, 2005), p. 63-82; 234-254, respectively; Adrienne Brown, *The Black Skyscraper: Architecture and the Perception of Race* (Johns Hopkins University Press, 2017).

[5] Cf. Ludwig Hilberseimer, "Metropolisarchitecture", in Richard Anderson, ed., *Metropolisarchitecture and Selected Essays*, p. 264-280.

[6] Tafuri saw an approach such as that articulated by Hilberseimer's *High-Rise City* project (1924) as a counterforce of sorts to what he otherwise considered the deceiving 'ideology of design': a reproducible (vertical) urban field —the city— in which buildings are not aesthetic objects but abstractions that index processes of capital circulation and accumulation as they move through and unfold in space. To consider buildings 'singularly' or 'individually', Tafuri argued, fulfills the role (whether its proponents are aware of

this or not) of rendering new cycles of capitalist urbanization legitimate, both culturally and socially, while on a structural, quasi-invisible level, industrial exploitation and land speculation proceeds apace. Hilberseimer's rejection of the object as the exclusive unit of architectural thought and praxis was, in Tafuri's eyes, a way to move past the design of singularities and instead inquire into the very political-economic processes that hinge upon the production of the capitalist metropolis. See Tafuri, "'Radical' Architecture and the City", in *Architecture and Utopia*, p. 104-124. For a comprehensive review of Hilberseimer's body of work, and in particular his conceptualization of 'the vertical architectural dimension', see Anderson's introduction to his edited volume *Metropolisarchitecture and Selected Essays*, "An End to Speculation", p. 17-81. For a more recent reinterpretation of Hilberseimer's work vis-à-vis the complex urban, economic, and ecological processes of the 'post-fordist' planetary landscape, see Charles Waldheim, *Landscape as Urbanism: A General Theory* (Princeton University Press, 2016), p. 124-137.

7 This approach would follow David Harvey's concept of 'dialectical utopianism': i.e., the critical consideration of the logics underpinning the design and development of architectural forms vis-à-vis the dynamic nature of socio-spatial processes. This is not a rejection of the architectural object as such, as in the case of Tafuri, but rather an engagement with its 'spatiotemporal' dimensions. Harvey's radical ideas about architecture, as articulated in his most imaginative book, *Spaces of Hope*, remain indeed largely unexplored within architectural and design culture. For a detailed elaboration on the notion of 'dialectical utopianism', see this thought-provoking volume, especially Part 3: "The Utopian Moment", and Part 4: "Conversation on the Plurality of Alternatives." For a recent and nuanced reading of Tafuri's theorization of the relation between the architectural object and 'global' processes, see Roi Salgueiro-Barrio, "Micro, Partial, Parallel, (In)Visible", in D. Daou and P. Perez-Ramos, New Geographies 8: *Island* (Harvard University Press, 2017), p. 194-203.

8 Amy Elias and Christian Muraru, *The Planetary Turn: Relationality and Geoaesthetics in the Twenty-First Century* (Northwestern University Press, 2015), p. xi-xxxvii.

9 Ibid., p. xii-xx. Cf. also Gayatri C. Spivak, *Death of a Discipline* (Columbia University Press, 2003), p. 71-102. "The planet", Spivak proposes, "should overwrite the globe", for 'globalization' is nothing but the "imposition of the same system of exchange everywhere", the replication of a "grillwork of electronic capital" (p. 72) that denies the 'alterity' and bodily reality of the *planet*. In light of the "financialization of the globe" (p. 85), then, the notion of 'planetarity' seeks to effectively "displace" (p. 97) globalization in favor of the construction of a different kind of world. Rosi Braidotti, on her part, proposes to think the 'planetary' as a process of "becoming-earth" in which humans and non-human agents coexist; as a dimension bringing together "issues of environmental and social sustainability to the fore, with special emphasis on ecology and the climate change issue." She adds: "The earth or planetary dimension of the environmental issue is indeed not a concern like any other. It is rather the issue that is immanent to all others, in so far as the earth is our middle and common ground." See Braidotti, *The Posthuman*, p. 67; 81; 163-173.

10 Elias and Muraru, *The Planetary Turn*, p. xi-xii.

11 Perhaps even more important for the prospects of studying the emerging spatialities of an increasingly verticalized urban world is the theoretical framework articulated by Neil Brenner and Christian Schmid on 'planetary urbanization.' The main reference here is Brenner's edited volume *Implosions / Explosions*. The notion of the 'planetary' mobilized by these authors is aligned with Henri Lefebvre's work on the 'planetarization of the urban'. More recently, however, Brenner has highlighted the need to complement and extend this approach by engaging with "alternative understandings of the planetary derived from other traditions of literary, political, cultural, spatial, and ecological theory that speak, for instance, to questions of citizenship, politics, sovereignty, coloniality, world ecology, environmentality, the anthropocene, the capitalocene, the posthuman , the nonhuman, tech-

nonature, geoculture, and *altermondialité*." See Brenner, "Debating Planetary Urbanization: For an Engaged Pluralism", in *Society and Space* 36:3 (2018), p. 570-590.

[12] What I'm tentatively suggesting (for future development) in these concluding remarks is something like a 'critical-speculative' (C-S) *dialectical* architectural design method, one that would take into account, as suggested in footnote 7 above, Harvey's concept of 'dialectical utopianism.' The notion of 'design speculation' has indeed become increasingly fashionable in recent times. See, for example, Keller Easterling, *Medium Design* (Strelka Press, 2018), Benjamin Bratton, "On Speculative Design" (Dismagazine, 2016) and "The New Normal" (Strelka Press, 2017), Beatriz Colomina and Mark Wigley, *Are We Human? Notes on an Archaeology of Design* (Lars Müller, 2017), Anthony Dunne and Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming* (The MIT Press, 2013). All of these approaches, although different from each other, share a certain optimism about 'design' as such, and attempt to expand its boundaries beyond the properly architectural. What I diagrammatically advance here under the rubric of *verticalarchitecture*, however, would consider *architectural* design as its gravitational center, and would entail both a critique of capitalist spatial forms (largely absent in the aforementioned cases) and the more speculative endeavor of imagining possible architectures for a post-capitalist future. As the world capitalist system continues to expand and ramify to the point that there seems to be no escape from it, critical architectural and spatial theory should creatively engage with forms of speculative and utopian thought in an explicit attempt to seek alternatives to the current spatial order. As both Jameson (see his *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions,* Verso, 2005) and Carl Freedman (*Critical Theory and Science Fiction*, p. 181-200) have remarked, science fiction (SF) —understood as a discursive modality of the dialectic— offers a fertile terrain to explore new modes of articulation between the critical and the utopian registers, for it is a discursive formation uniquely endowed with the capacity to capture undetectable aspects (impossible "for the realistic eye to see") of that "unrepresentable totality" that is late capitalism. (See also Jameson, *The Ancient and the Postmoderns*, p. 221-237.) In this regard, the intersections between various strands of C-S theory (including architecture discourse) and SF could prove particularly fruitful in the development of the *verticalarchitecture* project, provided that both critique and speculative thought are seen dialectically, or, as Freedman contends, as the "mirror-image of each other."

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