Italo Calvino's Architecture of Lightness

The Utopian Imagination in an Age of Urban Crisis

Letizia Modena

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Introduction

This book recovers a lost history of interdisciplinary thought, politics, and literary philosophy in the 1960s devoted to the possibilities of urban reform. Drawing on Italo Calvino's letters, essays, book reviews, and fiction, as well as a wide range of works—primarily architectural and urban planning and design theory—circulating among his primary interlocutors, this study uses Calvino's dialogue with architectural theorists and urbanists as a case study that has much to teach us today about the possibilities for both urban life and exchanges across the arts and sciences in an increasingly globalized (and, some would say, homogenized) world.

My central argument has emerged from original research on sources that document Calvino's extended forays into public and academic discussions around the city and civic life during a period of urban crisis. His relation to architecture and urban planning, to design and spatial theory, has previously been understood as unidirectional. We know that architects and designers read, teach, and draw theoretical sustenance from Calvino's work, and his writings appear regularly on syllabi at architecture schools. We have yet to understand, however, the extent to which Calvino drew explicitly and with deep urgency upon the work of those fields he now influences. Integrating a wealth of materials available only in Italian or French, I show that *Le città invisibili* (1972; English trans., *Invisible Cities* [1974]), as well as other works of fiction and his less well-known essays and critical reviews, engage directly and deliberately with the theories, design projects, exhibitions, and critical histories devoted to revitalizing urbanism in an era renowned for its singular mixture of upheaval and optimism.

Calvino's became convinced that urban and social renewal was urgently needed and that a prerequisite for the same was a humanistic inquiry into the nature of the city itself. Hence, the birth of his most acclaimed and best-selling work of fiction, *Invisible Cities*, deliberately reminiscent of a thirteenth-century travelogue that Calvino greatly admired for its visionary charge, *Il Milione*, or *Le devisement du monde* (*The Travels of Marco Polo*).[1] In Calvino's late twentieth-century version, Marco Polo entertains an aging and melancholy Mongol emperor with tales about cities in his dominions that he has never seen. Immersed in a joyless existence, and overcome by the scale

of his empire's decline, Kublai Khan had long ago renounced hope of visiting the cities personally and charged Polo with the duty of illustrating the status of his territories. Described as a "visionary traveler," the young explorer and ambassador Polo does not report on cities that he has actually visited but instead on *invisible cities*, or urban images seen in what Calvino called the "inner city"—that is, on the screen of his imagination. Polo is effectively an architect of invisible cities, and he models for Khan and the work's readers how to become architects of their own invisible cities.

Calvino's fiction is organized around the often cantankerous, always inquisitive conversations between the storyteller from the Venetian Republic and the emperor. Within this frame, Polo describes the cities of the empire in fifty-five brief, fanciful accounts, compelling the Khan to visualize and interpret his words. Admittedly, communication between the two is often hampered by their personal and linguistic differences, and by the limits at once to representation and to human knowledge of the world. Nonetheless, their conversations convey, under eleven distinct rubrics, the realities and the potentialities of the city as the maximum expression of human civilization: "Cities and memory," "Cities and desire," "Cities and signs," "Thin cities," "Trading cities," "Cities and eyes," "Cities and names," "Cities and the dead," "Cities and the sky," "Continuous cities," and "Hidden cities."

A "book of fables" (Ravazzoli, "*Le città invisibili* di Calvino" 224), or perhaps an "encyclopedia of the Calvinian imaginary" (Barenghi, "La forma" 30), Calvino's 1972 fiction has been categorized and recategorized repeatedly. The earliest critical readings classified the work as a perfect example of intellectual detachment, that is, of a chasm that Calvino had dug between literature and ethical and social commitment (Mengaldo). That critical posture was reinforced by the novel's semiotic *fortuna* in the '70s,[2] and by subsequent critical analyses conducted through the various lenses of contemporary philosophy.[3] In addition, scholars in the burgeoning subfield of word and image studies have dedicated great attention to the novel's visuality. They alternate between explorations of the mental image and speculations about the urban icons in the novel and their possible derivations from Calvino's visual and intellectual patrimony,[4] including his proclivity for ekphrasis and the visual and plastic arts.[5]

As a travel book, *Invisible Cities* has generated various ideological analyses of its utopian undercurrents. Several critical studies have analyzed the relationship between Calvino's novel and Thomas More's *Utopia*, or other exemplars of traditional utopian discourse.[6] Other critics identify the dustlike, or infinitesimal, and noncanonical character of Calvino's utopia,[7] acknowledging his conscious efforts to abandon the traditional, rationalist conceptualization of utopia in favor of a modern, subjective utopia rooted in the aesthetic and perceptual capabilities of the individual.[8] Still other scholars single out Calvino's attempt to propose "new signs" (Bernardini Napoletano), a tenacious quest involving reason and the imagination, albeit skeptical about the prospect of a global utopian project.[9]

As a conscious parody of traditional utopia, *Invisible Cities* has generated a number of studies on the allegedly postmodern features of the book. It is a work that demonstrates "the distinct game-playing or ludic quality of the postmodern moment, with its pure, combinatorial play of language, surface and form" (Gordon 180), or even a world "designed . . . for the purpose of exploring ontological propositions" (43), as Brian MacHale defined them in *Postmodernist Fiction*.[10] Indeed, the 1972 work has at times played the role of expert witness in the literary trials of modernism and postmodernism. This role was carved out for it by John Barth's seminal essay, "The Literature of Replenishment: Postmodernist Fiction," which sparked debate about whether Calvino's 1972 novel was modern, as Barth argued, or postmodern. Such critical studies were uninterested in the urban realities of the '60s and '70s, and in Calvino's thought and works prior to the '60s that are the subject of Lucia Re's remarkable *Calvino and the Age of Neorealism*.

A minority of scholars have hinted at a purpose that transcends the ludic imaginary of postmodernism in the novel. Jeannet, for example, has recognized that Calvino's urban icons "are not empty labyrinths" ("Italo Calvino's Invisible City" 31), whereas Chessa Wright has clearly identified an edifying function in Calvino's imagination. Barenghi has pulled out a skein of realism in the novel to suggest that Calvino's exploration of the city shifts between a subjective approach (memories, feelings, hopes, dreams) and objective references to living in the modern metropolis ("Gli abbozzi" 76). Milanini too has called attention to "what is going on both within and outside the individual subject" in the work (qtd. in McLaughlin, *Italo Calvino* 109). Scattered allusions to architecture and urban planning in *Invisible Cities*, itself a "Borgesian manual of fantastic urbanism" (Donnarumma 48), may be found in essays by Re, Michael Palmore, and Luca Pocci, but the centrality of both fields to the novel has not been critically entertained, much less explained.[11] Martin McLaughlin affirms that *Invisible Cities* is "introverted" (283) because "concern for contemporary problems is typical of Calvino in the late 1950s and early 1960s, in the last phase of his realistic period, but is absent from his later writings until Palomar (1983)" ("Calvino's Library: Labyrinth or Laboratory?" 277). Elsewhere, the same renowned specialist fully senses that "*Invisible Cities* . . . is not just a postmodern game, but a serious, and beautiful, prose-poem about real problems in urban existence" (McLaughlin, *Italo Calvino* 108). His comments are revealing of the multifaceted, ambivalent nature of the work itself.

Calvino's understanding of fiction as a medium for cognitive, rational, and ethical searching has been generally acknowledged.[12] Yet, we still do not know what he set off in search of by writing his 1972 fiction, or why and how he chose the itinerary that we encounter in it. The present study offers the first sustained analysis of how the urban icons in *Invisible Cities* tackle issues related to the crisis of the contemporary city, and to the complexity

of individual and communal perceptions of and interactions with the urban environment. Moreover, the 1972 work may also be viewed as a case study in the history of urban design and planning: whereas the subtraction of weight had been a constant in the history of architecture, the revolution of forms underway in the novel's milieu was generating design structures geared toward dematerialization, or lightness. That shift away from massive structures dependent on their earthly foundations, and toward cities of the future predicated on lightness, represented a complete inversion of the classical paradigm in architecture. This study therefore contextualizes Calvino's penchant for dematerialized, gravity-defying cities by integrating them into the wider framework of his thought and of the central preoccupations of urbanists and other intellectuals in the '60s.

In that era, the Italian, French, and North American cultures of urbanism were part of any Western European intellectual's conversations and concerns, whether he or she was a novelist, a sculptor, a historian, a journalist, an architect, or a literary historian. By not systematically addressing that intellectual and social context of cross-disciplinary dialogue and contestation, an infelicitous series of critical isolationisms has arisen: the abundant critical literature on utopia in Calvino's works, for example, does not communicate with the critical literature on utopia in architecture, and neither is connected to *Invisible Cities*, *Lezioni americane* ([1988]; English trans., *Six Memos for the Next Millennium* [1988]), and Calvino's less well-known essays and critical reviews in a way that reflects the vigorous interdisciplinarity that characterized the '60s and '70s. The same is true of other signal concepts and themes tackled by scholars of Calvino—lightness, multiplicity, visibility, the ethical charge of the imagination—that are rarely if ever situated within the wider urbanistic and architectural contexts that engendered them and that Calvino's 1972 and 1988 works now influences.

Calvino's engagement with utopia and the imagination went hand in hand with his quest for *lightness*, one of the most difficult and controversial concepts in Calvino's thought and writing. A quality of literature to which he devoted an entire chapter (or "lesson") in *Six Memos*, lightness has heretofore been associated for the most part with the playfulness and self-referentiality of literary postmodernism. Calvino's penchant for lightness actually dates back to the '50s. Whether through a dematerialized and detached iconography (*ascending lightness*), or through an emphasis on light, minute, mobile elements akin to atoms (*Lucretian lightness*), many of Calvino's literary images expose the reader to a range of unexpected, even off-putting hypothetical urban constructs. On one hand, the exposure to *light* images was designed to prompt the reader to rethink prevailing notions about reality; on the other hand, Lucretian lightness became for Calvino an image-making device, or a tool to produce multiple, reversible, rearrangeable images: utopias of the *inner city*, that is, of the imagination.

In *Six Memos*, Calvino brought together the values that he thought might both prevent literature from disappearing in the next millennium and enshrine it as an incomparable and enduring fount of ethical and aesthetic principles.[13] He explains that many literary choices are "projections of desire," or actualizations of values or qualities of fiction denied by the object world, or sociohistorical contingency.[14] His most striking example is the contrast between heaviness, which emanates from empirical reality, and its desirable and diametrical opposite, lightness. The latter was present in Calvino's work since the late '50s as an antidote to the spiritual and intellectual malaise, represented through images of petrification, which thwarted a sufficient response to the post–World War II culture of political and social apathy. Stifled by an inefficacious and ideologically constrained Left, Calvino watched as the somnolent Communist Party hierarchy in Italy seconded the immobility of the Christian Democrats, as his 1957 short story "La gran bonaccia delle Antille" ("Becalmed in the Antilles") recounts.[15] During the late '50s and early '60s, then, the appearance of dynamism and prosperity (the so-called economic miracle) disguised an idleness, heaviness, and inertia that "spared no aspect of life" and defined the "spectacle of the world," as he phrased it. Indeed, "at certain moments," Calvino would later remember, "I felt that the entire world was turning into a stone" (*Six Memos* 4).[16]

It is known that the 1956 anticommunist uprising in Hungary and its bloody suppression precipitated Calvino's resignation from the Italian Communist Party and an ideological and ethical crisis within Italian Marxism more broadly. Scholars generally agree that until that point, Calvino's ideological positioning had been that of direct action. Thereafter, according to the same scholars, Calvino the political militant, the *engagé* postwar intellectual, began to rethink the parameters of the social and to increasingly distance himself from the overtly political.[17] In a 1980 interview with *La Repubblica*'s Eugenio Scalfari, Calvino himself remembered: "those events estranged me from politics, in the sense that politics has since occupied in me a much smaller space than before" ("The Summer of '56" 204). Against this backdrop, lightness (both *in* and *beyond* the literary act) represents Calvino's orientation toward the future, his position of critical elevation, extricated from the historical and social contingencies that an intellectual was charged with observing.

Unfortunately, that elevated point of view has been conflated with levity or frivolity in critical discussions. As a result, scholars have understood lightness as the death knell of Calvino's political activism (Ganeri 84), the theorization of a poetics of postmodern disillusionment.[18] On this view, fiction no longer had an ethical charge for Calvino, and the lightness of his 1957 *Il barone rampante* (*The Baron in the Trees*) marks the separation of the written world and the world of action. This school of interpretation posits a mature Calvino's skepticism toward the intellectual's ethical and social obligations and influence, citing his complete loss of faith in humanity's ability "to direct the course of things" in "Il mare dell'oggettività" ("The

Sea of the Object World" 55). Consequently, the figure of Calvino within literary studies, especially in Italy, has become a professional and personal parable of the '60s intellectual: he began his literary career by courting the muse of *engagement* (Marxism), then abandoned her in favor of the muse of apolitical detachment (Michele Serra, "Light"), and increasingly distanced himself from political activism, appearing to forsake entirely his ethical and social responsibilities as a writer. Thus lightness, when it is assumed to mean *dis*engagement, has been correlated to the characteristics usually identified with postmodern (and neo-Baroque) literature: levity, self-referentiality, linguistic virtuosity, irony, intertextuality and metatextuality, mechanisms of construction and deconstruction, and experimentalism (Ganeri; Ceserani; Chessa Wright).[19]

In the lesson on lightness found in *Six Memos*, Calvino's recourse to the Ovidian myth of Perseus and Medusa apparently supports such a correlation. Reality and heaviness, within the argument that Calvino sets out through a semiotics of the visual, are symbolized in the image of Medusa and reflected in literary and symbolic icons as in Perseus's mirror. In Ovid's original and in Calvino's recasting, Perseus is the flying hero, invisible and liberating. With the astuteness that *detachment* provides him (the filter of a mediated observation and the conquest of a point of view from on high), Perseus is able to escape the bite of paralysis and defeat the Gorgon (Bagnoli). In Calvino's chapter on lightness, Perseus incarnates the estimation of imaginative literature as primarily a trope to decipher. Nevertheless, Perseus simultaneously distills an intellectual modality in which militancy starkly contrasts with plunging oneself into the mess of current realities, thus promoting the distanced perspective and underscoring the mystifying character of any and all illusions of harmony with contingency (Calvino, "The Situation in 1978" 187).

Up to this point, it is reasonable to entertain the critical notion of a full-stop separating the before and after: an intellectual faces down History, firmly committed to political and social (and literary) activism and to throwing himself into the agora of the present, but then elevates "the present to a pleasant and airy surface," to an "exclusively linguistic" labyrinth, recovering "the value of literature as pure pleasure" (Luperini qtd. in Bertone, *Castello* 175). If one embraces this hypothesis of a Calvino in two phases, *Invisible Cities* and other notable works from the period, like the cycle of "cosmicomic" tales and works based on the use of Tarot cards,[20] are consigned to the "after" in which Calvino is an accomplished author who has given up on the possibility of intervening in history (Bonura 104–05). I sidestep this critical fracturing of Calvino, for it has resulted in a reductive vision of his fiction and nonfiction in general, and of the ethical and social contingencies of *Invisible Cities* in particular. By probing into his expressly ideological essays from the '50s and '60s, which I group under the rubric of *essays on magma*, I offer an alternative genealogy of lightness. Such essays yield a rich assortment of ethical and political images: the nub of *Six Memos* and the marrow of *Invisible Cities*.

Paramount to my recuperation of the ethical and social imbrications and implications of lightness in Calvino's fiction and nonfiction, and in other intellectuals of the period, is my recovery of the historical referents of his 1972 opus. For this purpose I point to the school of *visionary architects* (or *megastructuralists*) in France, whose formal utopias (or *spatial cities*), characterized first and foremost by their lightness, inspired Calvino's urban icons and shared his desire to recover utopia as a cognitive tool to rekindle the imagination and envision alternatives to the status quo. In this sense, architectural history merges with visual studies, and it is no coincidence that Calvino was indebted to Gyorgy Kepes's (and later Kevin Lynch's) education of vision as well as visionary design projects by Guy Rottier, Paul Maymont, and Yona Friedman.

Invisible Cities was the result of Calvino's lifelong interest in the city, civic values, and urban architecture, which is reflected in numerous works, both fictional and nonfictional. The city for Calvino was a great love and a recurrent topos (Cannon), but it was first and foremost a simple autobiographical fact. Born to Italian parents in Cuba in 1923, Calvino grew up in Sanremo, in the Liguria region, where he lived from 1925 to 1941. His work is dotted with explicit and implicit references to the geographical, morphological, and social topography of the Italian West Riviera and interior.[21] For over twenty years (1941–64) he lived in the linear, logical city of Turin.[22] In 1964 he moved to Rome, whose roofs, dormer windows, spires, and domes are recorded from the terrace of Calvino's fictional alter-ego Palomar. Not long thereafter, in 1967, he moved to Paris, the encyclopedic city of his scrutinizing strolls and wide-ranging readings, and the object of visionary architecture real and imagined, where he remained until his return to Rome in 1980 (Scarpa, "Dieci").

Calvino's lengthy residence in Paris, as well as his editorial work for Einaudi publishing house that he continued from the French capital, are of enormous significance to this study. Paris, "a city that you appropriate when you read" ("Hermit in Paris" 167), had first existed for Calvino in literature: Hugo, Zola, Proust, Baudelaire, and, most of all, Balzac whose "foundation of a mythology of the metropolis" is celebrated in "La città-romanzo in Balzac" ("Balzac's City-Novel" 779). Soon after *Invisible Cities*, in 1973, Calvino wrote a note on Paris as depicted in Balzac's *Ferragus*: "as a conditioning of every thought and word and gesture . . . , the monstrous city whose inhabitants are nothing more than the motor activities of an enormous crustacean" ("La città-romanzo" 777). Keeping up with events displayed on sidewalk newspaper stands, gazing upon Notre Dame's architectonic particulars, or reading Paris for the signs of its collective unconscious, of its dreams and its monsters, his adopted home became the city of reading par excellence, singular in its encyclopedic discourse, in its global culture. Paris would become for him the city of surrealist fantasy and nonstop exhibits, of museum collections and the debuts of leading-edge artists. It would also become the fount of grand intellectual encounters

and exchanges with structuralist semioticians (especially Roland Barthes) and the members of Oulipo (*Ouvroir de Littérature Potentielle*), of countless hours spent reading at the Bibliothèque National. His friendships with experimentalists Raymond Queneau, Georges Perec, and Francis Ponge would help Calvino to expand his ideas about the literary possibilities of science, especially the convergence of Lucretian physics and poetics.

The French capital caught the world's attention in August 1965 with the magnificence of its funeral rites for Le Corbusier, who had launched the design and construction of architectural structures on piles, or *pilotis*. To Calvino's eyes it was also one of the capitals of futuristic and daring architectural design and theory exemplified by the visionaries' spatial design projects and by dazzling architectural structures such as Renzo Piano and Richard Rogers' Pompidou National Center for Art and Culture, commissioned by the French president in 1969, and many years later, Ieoh Ming Pei's crystalline Louvre Pyramid. Paris was also, it must not be forgotten, the home of anthropologist Claude Lévi-Strauss whose observations on Brazilian, Caribbean, and Indian cities in *Tristes Tropiques* (*A World on the Wane* [1955]) privileged the city as the very definition of humanity ("la ville . . . , la chose humaine par excellence"), as architect Aldo Rossi recalled during that period.[23]

Social and temporal disparities and differences were developing new lifestyles and visual forms, incessantly modifying the urban and anthropological landscapes around Calvino, and none of this escaped the writer whose perspective, he would recall later, was always somewhat deferred: "always slightly from the outside" ("Hermit in Paris" 174). The architecture and the layout of Paris, no less than its literary and pictorial images, were to occupy Calvino for the rest of his life, even after he moved back to Rome.[24]

Doubtless Calvino's political, social, and philosophical thought was also profoundly influenced by travels and prolonged sojourns abroad that he began in the early '50s. A trip to the Soviet Union in 1952 revealed to his fascinated eyes the colors of Moscow's Red Square, Saint Basil's spectacular architecture, Baku's mosques minarets in Azerbaijan, and the magnificent vista of Saint Petersburg's Palace Square enthusiastically described in his notebooks.[25] But it was Calvino's trip to the United States at the end of that decade that was to spur his material and imaginary journeys through the modern city and leave an unmistakable mark on his thinking about urban life.[26] In 1959 he boarded a transatlantic liner headed for the U.S. In November he reached his destination, thus beginning a prolonged trek through its myriad cultural formations: "in the United States, I was seized, as never before, by a desire to know and possess fully a polymorphous and complex reality, something Other" (*Hermit in Paris* 125). He was struck by the challenging diversity of North American urban and architectural realities, which to his eyes constituted a totally new physical space for human interaction.

Beginning with the awe-inspiring New York, "the most spectacular sight that anyone can see on earth" ("American Diary" 19),[27] Calvino's journey into contemporary urban and architectural shapes is captured in notebook entries that detail his months of voracious cross-country travel. From Le Corbusier's United Nations building, "the great monument of our century" (37) and Frank Lloyd Wright's spirally building for the Guggenheim Museum[28] to the IBM factory in Poughkeepsie, "the labs, wonderful architecture, better than Olivetti, all with moveable walls" (57); from Mies van der Rohe's famous village in Detroit to the modern feel of the Longshoremen's Union headquarters in San Francisco and the "wonderful new skyscraper housing the headquarters of Zellerbach's paperworks" (77), Calvino devoured a vast array of architectural and urban forms previously unknown to him. His notes also take us on a trip through America's contradictions and ambiguities: the "vast inferno of the poor neighbourhoods" beyond Chicago's "magnificent lakeshore" (73), for example, or the poor suburban slums surrounding New Mexico's beautiful adobe architecture.

It is while traveling through the Midwest, however, that he first encounters the sort of urban decay and defacement that will increasingly appear in his fiction and nonfiction from the '60s onward. "Where is the city?" he writes in his diary entry for Cleveland. "The truth is that you can go around by car for hours and not find what should be the center" (60). In contrast, his notes about Savannah, Georgia, manifest his quest for the ideal form and meaning of the city in his times: "the most beautiful city in the United States" (117), a city of "unique urban planning, of extreme rational regularity and variety and harmony . . . , I stayed there spending the whole day going round from street to street, enjoying the forgotten pleasure of feeling a city, a city which is the expression of a civilization" (117).

In the '70s Calvino continued to read the world and to write about it, on trips to Japan, Mexico, and Iran,[29] convinced that traveling was at least good for recharging "the use of the eyes, the visual reading of the world, for a moment," as he wrote in "La vecchia signora in chimono viola" ("The Old Lady in the Purple Kimono" 566). Oftentimes it was the relationship between city and writing that engaged his attention, as "La città scritta: Epigrafi e graffiti" ("The Written City: Epigraphs and Graffiti" [1980]) attests. On other occasions, he was taken by studies on urban landscapes of the past and present or by accounts of the city's space and functions within the collective imaginary, as in a review-essay from 1981, "L'arcipelago dei luoghi immaginari" ("The Archipelago of Imaginary Places"). Relations between the city and its visual representations continually intrigued him, along with the rapport between those depictions and himself as a viewer transformed into a narrating explorer of the urban space depicted. Consider, for example, how he figuratively walks through Florence as depicted in Fabio Borbottoni's paintings in the 1982 essay, "Il silenzio e la città" ("Silence and the City"), or the ambulatory focalization of "Viaggio nelle città di de Chirico" ("Trip to de Chirico's Cities"), an essay penned for the

1982 Parisian exhibit.[30] In both, the narrative voice enters the city, defining with Calvino's customary lexical precision its layout and architectonic features, and then probes into the urban space from the inside, interrogating its dimensions, volumes, voids, immobility, melancholy, light, shadows. What emerges is the narrating observer's vigilant desire to comprehend the city, to grasp the uniqueness of its soul, and the peculiar way in which every city at once communicates with its inhabitants and resides in them. Such was the narratorial perspective adopted, also, in Calvino's 1978 theatrical fairytales "La città abbandonata" ("The Abandoned City") and "Il naufrago Valdemaro" ("Valdemaro Shipwrecked"): the travelling protagonist's quest is to scrutinize and understand the place where he has arrived.

The estranged perspective par excellence is the protagonist Marcovaldo's in tales that date from the '50s, though the complete collection, *Marcovaldo, ovvero Le stagioni in città* (*Marcovaldo, or The Seasons in the City*), was not published until 1963. Through his eyes (and feet), readers follow an itinerary of explorations and reversals of the city's logic, of the alienation of individual consciousness wrought by the psychological and practical demands of consumer society. The challenge in the '60s was precisely that of rebalancing the rapport between city and countryside, between city and territory. Calvino perceived the tremendous changes that had transformed Italian cities from the postwar period onward: intense urbanization, real estate investment and speculation, and the rise of private interest groups. "The Italy of the economic miracle," he was to later describe it, "so hasty in its superficial adoption of the most futureable aspects and in its erasure of the humble traces of the past" ("Giovanni Macchia" 1142).

The renewal of the city and of civic values was predicated on a complex learning process, according to Calvino. Urban planning had to be rooted in a humanistic (or holistic) understanding of the city, he argued in "Gli dèi della città" ("The Gods of the City" [1975]):

> Today we look at the city with new eyes, and we find before our eyes a different city, where social makeup, population density per square meter built, dialects, public and private morals, leisure activities, market inequalities, ways of getting around the lack or inefficiencies of services, of dying or surviving in the hospitals, of learning in the schools or on the street, are elements that bind together on a fluid and intricate map [that is] difficult to overhaul according to some essentialist scheme or another. (349)

Beyond an emphasis on understanding the city, the nexus of city and urban planning is common in Calvino's nonfiction and fiction: the awareness that the present carries within itself, and requires, the seed of change—of the city's tomorrow. Remaking or renewing the city by dint of the imagination is a leitmotif in his fiction and essays alike. As early as 1955 Calvino speculated that a new city, "the city in the year 2000," as he put it in the essay

"La città di domani" ("The City of Tomorrow"), would be built in Turin "atop the old porches at times covered in cobwebs" (2239). In the aforementioned *Marcovaldo* collection, McLaughlin has correctly identified a "disappearing city triptych" that reflects "a trend . . . characteristic of the later Calvino: his utopian interest in the possibility of remaking the city" ("Calvino's Visible Cities" 72). In "La città smarrita nella neve," ("The City Lost in the Snow"), "La fermata sbagliata" ("The Wrong Stop"), and "La città tutta per lui" ("The City All to Himself"), Marcovaldo is at odds with urban reality during Italy's economic miracle, and therefore remakes the city in his mind, redesigning its entire layout with only his imagination.

Intersecting with that leitmotif is another to which he alludes in "Gli dèi della città" above: the dearth of humanistic urban planning in Italy and elsewhere. In the years 1956–57, Calvino wrote *La speculazione edilizia* (*A Plunge into Real Estate*), which assails the overbuilding, or *cementificazione* (cementification), of the city that was to stretch into subsequent decades. Seeing the Ligurian Riviera being covered in cement, suffocated by defacement and formlessness, the protagonist himself begins to flip properties; but it leaves him feeling heavy and crushed, and by the end of the book he feels weighed down "as if he was carrying a corpse on his back" (*Plunge* 249). The cause of his anxiety is modernist architecture and urban planning's *cement fever*:

> It was the houses, that was it, all these new houses that were going up, apartment buildings six or eight stories high, their massive white flanks standing out like barriers propping the crumbling slope of the coast and putting out as many windows and balconies as they could toward the sea. The Riviera was gripped by a fever of cement. An apartment building here, the identical window boxes of geraniums on every balcony; there a building that had just gone up, the windows still marked with white, waiting for the Milanese families who wanted a place by the sea; a little farther on, some scaffolding, and below, the cement mixer in action and a sign advertising the local real estate office. . . . Now the bulldozers were churning up the soil . . . picks were demolishing the two-story residences, the ax was at the broad-leaved palm trees, which fell with a papery scrunch from the sky so soon to be filled by the desirable, three-room, all-convenience, sunny homes of tomorrow. (163–64)

This passage transmits Calvino's sensation of horror in the face of an unplanned urban landscape that continued to bulge and sprawl in every direction with no end (or plan) in sight. Some fifteen years later, in his 1972 novel, the city of Thekla was to be a visual interrogation of building practices: "what meaning does your construction have? . . . . What is the aim of a city under construction unless it is a city? Where is the plan you are following, the blueprint?" (*Invisible Cities* 127; see Spizzuoco).

Calvino's misgivings about the scarcity of urban planning were entangled with his ethical sense of social responsibility: the city for him was humankind's image of the world, hence the accountability that all of society shared for its fate. In "L'uomo di fronte a disegni segreti" ("Man in the Face of Secret Designs"), a brief essay published in the Italian newspaper *Corriere della Sera* (September 1975) and later republished as "Palomar and Michelangelo," Calvino's alter-ego Palomar dialogues with Michelangelo. The essay quotes from the Renaissance master's *Dialoghi romani* (*Roman Dialogues*): "everybody is, unknowingly, painting this world, either through creating and producing new forms and figures as in wearing different outfits, or *constructing and occupying space with buildings and painted houses*" (qtd. in "Palomar e Michelangelo" 1991 [my emphasis]). These words made a profound impression on the Ligurian writer: "he [Calvino's alter-ego Palomar] interprets everything that he sees in that key: *he takes responsibility for the shape [forma] of the world around him and considers himself part of this image* [i.e., the world's shape]" (1991 [my emphasis]). Vision, or the appearance of architectural and urban forms or images on the construction site of the imagination, becomes fertile ground for essaying new shapes. "I cristalli" ("The Crystals"), a short story from *Cosmicomics* (written in 1963–64), revolves around the mental projection of forms born out of the structuring power of atomism. The same generative power will come into play in *Invisible Cities*.

Passages from Calvino's 1972 novel routinely appear as aphorisms in calendars, posters, and the popular literature of inspiration and self-help, reducing the work to vague abstractions and totalizing wisdom about thinking outside the box. The shadow of postmodern literary studies has had a similarly diminishing effect on this text, rendering up an accomplished but ultimately apolitical novelistic experimentation in endless deconstructive deferrals, the shiny surfaces of play, and the ultimately rigged game of self-referentiality. This study, in contrast, details how and why Calvino's novel and nonfictional writings educate their readers in the material history of urban renewal in Italy, France, and the U.S. in the '60s as well as the multidisciplinary core of cultural life in that decade: the complex and continuous interplay among novelists and architects, science and art, literary history and the emerging field of visual studies. As a result, a handful of concepts and themes appear and reappear throughout this book in different (inter)disciplinary contexts and for overlapping purposes, just as they did in Calvino's thinking and writing on the city.

Chapter 1, "The Inner City of the Imagination: Utopia and the Ethical Charge of Fiction" offers a new genealogy of lightness that recovers its ethical dimensions as a cognitive and heuristic tool to train readers of fiction to envision alternatives to their status quo. I argue that Calvino's essays from the '60s and his 1972 fiction adumbrate a transdisciplinary lightness that is as material and architectonic as it is cognitive and utopian. Lightness played a critically forgotten role in the interdisciplinary field of utopian

studies and in the numerous studies devoted to the intricacies of visual perception, imagination, and cognition throughout that revolutionary period.

The recovery of utopia, especially the nexus of utopia, the imagination, and urban (and more broadly, social) renewal, was central to the activities of urbanists and to those of philosophers and humanists more broadly in the '60s.[31] Throughout that era Calvino was reading across the disciplines to understand the relations between utopia and the imagination, approaching utopia as a cognitive and imaginative exercise for the present rather than a futuristic fantasy.[32] *Seeing with the imagination* was crucial to defying what Calvino considered the paralyzing malaise of his times. Through his readings of figures who bridged the arts and the sciences (Lucretius, Galileo Galilei, Giordano Bruno, Giorgio de Santillana, Michel Serres, Jean Starobinski), the Ligurian author became convinced that developing the mind's ability to construct images was paramount to the expansion of individual consciousness and to the transformation of society.

The fictional Polo emerged from Calvino's long-standing interest in the ethical and social dimensions of imaginative literature. His reading of the Canadian Northrop Frye's *Anatomy of Criticism* and the utopian Charles Fourier's *Theory of the Four Movements* and *New Amorous World* became the foundation for his theory of the imagination that conferred ethical and social utility to literary images. Image making, or the visualization of invisible cities, constituted *mode utopique* (or utopian thinking) for Calvino and many of his contemporaries. The novelist's explicit engagement with theories of utopia and the imagination is illuminated in this chapter through an analysis of works by Raymond Ruyer, Herbert Marcuse, Darko Suvin, and Roland Barthes. These figures all shaped the Italian's faith in the ethical quotient of employing literature to train readers to construct a visual "logico-fantastic machine" (Calvino, "Fine Dust" 252) of their own, which would reject conventional images and allow them to create alternative vistas in the inner city of their imagination, and, later, it was hoped, in the object world.

In Chapter 2, "*Retroterra*: Urban Planners, Architects, and the City in Crisis," I sketch out the urbanistic *retroterra* (or backdrop) of his most controversial novel. The prevailing theme of that backdrop was crisis, with urbanists debating whether the city was dying or already dead, and a new generation of specialists and nonspecialists attacking the modernist paradigm in architecture and urban planning and design. This chapter unveils Calvino's dialogue with numerous figures in the education of vision, imageability, semiotics, and other lines of the urban crisis and renewal discourse: Lewis Mumford, Jane Jacobs, G. K. Koenig, Alfred Fabre-Luce, Giulio Carlo Argan, Françoise Choay, Kevin Lynch, Giorgio Simoncini, Gyorgy Kepes, Michel Ragon, Renato de Fusco, Victor Gruen, Umberto Eco, Leonardo Benevolo, Jean Fourastié, Carlo Aymonino, René Schérer, and Filiberto Menna.

Many condemned the stagnation that characterized urban design proposals in the '60s. Writers on the city, in and outside of Italy, lamented the formless, heavy, and imageless masses that had been thrown up in a frenzy of expansion and renewal. They yearned for a planning phase capable of rekindling the imagination and stimulating new urban possibilities, which might thereafter produce designs or "languages" suited to their times. Calvino's engagement with structural semiotics has not gone unnoticed by literary historians, but the latter have almost completely ignored the glaring convergence of semiotic preoccupations and theorizations in urban studies and literary studies during the late '60s and early '70s.

At the same time, and beyond the literary and philosophical debates analyzed in Chapter 1, the proponents of urban revitalization and countercultural urbanism in the United States, France, and Italy were engaged in a robust debate about the role of utopia in their contemporary political and social contexts. I discuss the theoretical contributions made by Ernesto N. Rogers, Pier Luigi Giordani, Manfredo Tafuri, Andrea Mariotti, as well as Italian radical architecture Superstudio's and Archizoom's counterutopias. Their prolonged and unconventional efforts to develop a new urban imaginary and thereby renew civic engagement offer us a window onto Calvino's lavish repertoire of urban icons in his 1972 work.

Chapter 2 thus becomes the staging ground for my reading of the novel as a fictional exploration of the laws shaping the urban-architectural phenomenon. It sets out the bases for approaching the work as a device to probe into the fabric of civic life and explore the structure of an array of microsocieties, unveiling the reasons for their urban shapes and/or the behavior of their citizens. As a new form of utopian literature, *Invisible Cities* was intended to be an impetus for original and unconventional visions of the city and society. To that end, it engaged with planners, designers, and theorists who were debunking the classical conceptualization of utopia and approaching it, instead, as an exercise in imagining lateral possibilities, or alternatives to the world as they knew it.

Chapter 3, "Memos for the City of the Next Millennium: *Invisible Cities* as Embodiment of Urban Renewal," examines *Invisible Cities* as a series of exercises of the imagination that could produce tangible effects on society, particularly by generating new urban designs according to specific qualities. I look at Calvino's attempt to counteract the sclerosis of both the imagination and urbanism through his 1972 fiction, by focusing attention on three areas:

First, I demonstrate how his urban icons embody issues related to the modern city and the individual's interaction with the built environment, thus functioning as the enactment of urban renewal. On this view, the novel models several "memos for [the city of] the next millennium": characteristics that urbanists identified as specific to the city (and absent in the suburb) and imperative to building the city of the future. These characteristics or principles—the sense of the city's reason for existence in Calvino's thought

(see "Calvino on *Invisible Cities*" 41)—included imageability (or visibility), variety (or multiplicity), and staging ground (community building and memory theater). My analysis explains how the novel's urban icons model these principles for architects, urban planners, and general readers.

Second, I fully elaborate how the novel became a site of convergence for semiotics, structural linguistics, and physics in response to calls for a new language in planning and building urban communities. In his sketches of cities, Calvino plays with the syntax of the urb in ways that architectural historians associate with the emergent postmodern aesthetic of the '60s. This rule breaking calls attention to the language of the city itself—to its legibility *qua* text—and foregrounds its building blocks or minimal units. Calvino's new language, based on the Lucretian combinatorial potential of minute entities and the circularity between *res* and *verba* (things and words, or city and text), becomes an instrument for challenging the poverty of imagination weighing upon urbanism and civic life. I emphasize that the lightness rooted in Lucretian atomism shaped semiotics and urbanism during the period. It is therefore doubly fundamental to the writing and reading of *Invisible Cities* as a contribution to urban crisis and renewal literature.

During the years immediately leading up to the work, Calvino was discussing with friends, critic Guido Neri, author Gianni Celati, cultural historian Carlo Ginzburg, and philosopher Enzo Melandri, the creation of a cultural magazine, *Alì Babà*, in order to map out a theorization of literature's aims against the backdrop of an alternative model of cognition and a new epistemology. Ginzburg is a familiar figure to literary scholars in the U.S. since the '80s by dint of New Historicism, whereas both Celati and Gabellone remain relatively unknown outside of Italy, although their thinking overlapped with the cultural historian's. Calvino's text is indebted to the *Alì Babà* circle's oral and written dialogues because the visual and conceptual emblem of their prospective magazine was the city, and because Ginzburg, Celati, and Gabellone put forth a cognitive and epistemological model rooted in fragmentation and alterity (i.e., the diverse, the otherwise, the nonlinear and peripheral). This second reason also explains, albeit from a fictional rather than a New Historicist perspective, Calvino's debts to Charles Baudelaire's prose poems, under the influence of Menna's 1968 *Profezia di una società estetica* (*Prophecy of an Aesthetic Society*), and Eugenio Montale's poetry. *Invisible Cities* reflects and refracts the era's burgeoning dissatisfaction with teleological narratives of history, utilizing both modalities of lightness to train readers to envision the world otherwise.

In Chapter 4, "Architectures of Lightness," I fully explore the novel's least realistic, most abstract, and certainly most memorable cities, which constitute what I call the *architecture of lightness*. These "thin cities," as Calvino classifies them in the book, have critically been considered as fascinating as they are fantastic. I propose a radically different interpretation of these dematerialized, gravity-defying urban icons by calling attention

to their intertextual dialogue with a provocative and controversial chapter in the history of architectural design: *visionary architecture* (especially in Paris, where Calvino was then living). The so-called visionary architects in France assailed the paralysis and creative stagnation that characterized contemporary urban planning, with even more vim and verve than historians of the city such as Jacobs and Mumford in the U.S.

The critically ignored affinities between Calvino's 1972 work and visionary architecture include the search for formal utopias, or imaginative forms *in potentia* of the future city, and debts to Lucretian atomism. The reappraisal of utopia as a cognitive tool in Italy and France—the recovery of a *mode utopique*—intersected with the pursuit of lightness in the visionary architects just as it does in the 1972 fiction. I explain why the formal utopias of the visionary architects served as palimpsests for several of Calvino's urban icons. Designs for *spatial cities* (or *megastructures* as they are now known) by Guy Rottier, Yona Friedman, Nicholas Schöffer, Paul Maymont, Walter Jonas, and others provide visual evidence of the overlappings of lightness and utopia in the novel and in the counterculture urbanism of the period.

Finally, I explore how visionary architecture was allied with the plastic arts, especially sculpture, and how Calvino conjoined urbanism and sculpture in *Invisible Cities*. Here I build upon the critical literature on the relationship between the visual and plastic arts and Calvino's nonfiction, specifically, the identification of a tendency toward ekphrasis in his writing. By his own admission, Calvino's understanding of lightness was shaped by the engineer and artist Fausto Melotti (1901-86), and several of the light cities in Calvino's novel were directly inspired by Melotti's urban imaginary. Indeed, in December 1972, Calvino gave a copy of his novel to his sculptor friend, with this dedication: "For Fausto Melotti, the thin cities and all of the others in this book, which is also yours. With great affection, Calvino" (Melotti and Pirovano 190). From the abstract sculptures of the '20s and '30s to the thread-like works of the '60s and '70s, Melotti's oeuvre developed as a progressive subtraction of weight. The disembodiment, or stripping, of an oversaturated urban reality plays a crucial role in the novel as it does in Melotti's sculptures, precisely because Calvino saw in Melotti's oeuvre the plastic rendering of his own—and the visionary architects'—concept of lightness.

I close with two caveats. First, *Invisible Cities* does not read like a typical novel: it eschews the plotline, precise beginning and ending, character development, and spatial-temporal markers traditionally associated with the novel. "Anti-novel," "collage," and "collection" are merely a sampling of the terms aired in scholarly discussions of the work's genre. However, throughout this study, I use "novel," "text," and "fiction" interchangeably, for convenience's sake. Second, I quote from the English versions of *Six Memos*, *Invisible Cities*, and his other works whenever possible. However, several texts by Calvino, and by numerous figures relevant to this study, are not available in English, or the English translation is not precise, thus translations from Italian and French are my own except where noted.

1 The Inner City of the Imagination
Utopia and the Ethical Charge of Fiction

> "Reality is like a city, and a city is made of houses, and a house is made of walls, and a wall is made of bricks, and a brick is made of granules. And a granule is in itself, it is in the brick, it is in the wall, it is in the house, it is in the city." Carlo Emilio Gadda, *Scritti vari e postumi* (752)

> "The world you want to live in . . . is not the world you see but the world you build out of what you see."
>
> Northrop Frye, *The Educated Imagination* (19)

The year after *Invisible Cities* was published, during one of Calvino's monthly trips between France and Italy, the Ligurian writer sat down with Ferdinando Camon at the Einaudi publishing house in Turin ("Colloquio con Ferdinando Camon"). In that 1973 interview and subsequently in written correspondence with Camon, the novelist's dissatisfaction with then-prevailing models of cultural critique was palpable. Marxism in particular struck him as cranky, uninspiring, perhaps exhausted. Still a wordsmith committed to the Gramscian notion that literature had a social function, that it responded to a collective need ("Colloquio" 2786), Calvino offered his understanding of imaginative literature's ethical and social potential:

> I continue to believe in the appeal to hunger, in the classes that are hungry. If I were a specialist in food production . . . , I would devote myself to issues concerning how to feed millions of people, which implies changes to the most stubborn of cultural habits. . . . But, instead, I am a specialist in imaginative and verbal material, and I dedicate myself to the hunger for written words, for stories told, for mythological figures: all stuff that is no less essential than food, as we all know. ("Colloquio" 2787)

It was so necessary, in his view, that he confided in Camon his dream of founding a literary journal aimed at "a new public that has not yet thought about the place literature might occupy among their daily necessities" ("Colloquio" 2786).

Speculations like the ones above may seem at first sight incongruous with *Invisible Cities*, yet a cursory review of Calvino's nonfiction from the 1960s confirms his preoccupation with the imagination and the ethical potential of literature in the period preceding his 1972 novel.[1] In the

1962 essay "Usi politici giusti e sbagliati della letteratura," for instance, he framed literature as one of society's principal "instruments of self-awareness" ("Right and Wrong Political Uses of Literature" 97). Beyond this, however, there was a direct relationship between literature and the shaping of ethical and aesthetic values, according to the same essay:

> But there is also, I think, another sort of influence that literature can exert, perhaps not more direct but certainly more intentional on the part of the writer. This is the ability to impose patterns of language, of vision, of imagination, of mental effort, of the correlation of facts, and *in short the creation (and by creation I mean selection and organization) of a model of values that is at the same time aesthetic and ethical, essential to any plan of action,* especially in political life. (98–99 [my emphasis])

In another essay entitled "La sfida al labirinto" ("Challenge to the Labyrinth") published the same year, he invested literature with a generative role in our representations of the object world (122).

As the decade advanced, Calvino became increasingly focused on the mutual imbrications of imagination and cognition. In 1967 he asserted that imaginative literature was valuable when "it becomes a [critique] of the world and our way of looking at the world" ("Cybernetics and Ghosts" 24): literature points out the path to freedom through which humans acquire a critical spirit (25). Literature's goal, as he articulated it in another essay from 1967, "Per chi si scrive?" ("Whom Do We Write For?"), was to start a critical dialogue about "the established scale of values and code of meanings" (82). Indeed, literature raised individual and collective reflection on the state of society to "a higher level of awareness" by sharpening the "instruments of knowledge, of foresight, of imagination, of concentration" (87). In "Il rapporto con la luna" ("Relationship with the Moon"), also from 1967, Calvino described literature as a vehicle for scrutinizing the given or the obvious, then rethinking it with the imagination, or coming to "think in a new way about many things" (227). One year later, Calvino assimilated literature to "a moral activity" insofar as literature generated, thanks to the imagination, "autonomous figures that may be used as terms of comparison with experience or with other constructions of the mind" ("Two Interviews on Science and Literature" 36).

Well before he sat down in Paris to write *Invisible Cities*, Calvino had become convinced that the writer's (and the reader's) imagination had to free itself from the weight of conventional representation and interpretation in order to devise and visualize images according to the value of *lightness*.[2] One of the most difficult and controversial concepts in Calvino's thought and writing, lightness cannot be fully appreciated when it is severed from his lifelong preoccupation with the imagination and the social role of literature. Admittedly, such an assertion calls into question the bulk of critical readings of works such as *Invisible Cities* and *If on a Winter's Night*

a Traveler. Nevertheless, an archaeology of lightness confirms that the latter was the maturation of ethical and aesthetic values born in the '50s and '60s, that is, long before the Norton Lectures that would yield *Six Memos for the Next Millennium*.[3] Analyzing those values that are at once aesthetic and ethical illuminates Calvino's thinking at the middle point—whose maximum expression is *Invisible Cities*—of a temporal arc that stretches from the preliminaries of lightness to the definitive theorization of lightness in *Six Memos*. The reappraisal of lightness presented in this chapter recovers its ethical and social imbrications, redefining it as a cognitive and heuristic tool to train readers of fiction to visualize—to develop their capacity for image making—and reimagine society (or the city) and their relationship to it.[4]

That discussion leads in turn to a more profound appreciation of the relationship between lightness and utopia in Calvino's thinking and writing, one that he shared with many of his contemporaries in French and Italian architecture and urban design (ch. 2). Calvino's profound engagement with theories of utopia, the imagination, and ethics comes to the fore in this chapter through an analysis of works by Raymond Ruyer, Herbert Marcuse, Jean Starobinski, and Roland Barthes, all of whom were discussing the ethical value of employing literature to construct a visual "logico-fantastic machine" that would reject conventional images and train readers to create their own images (Calvino, "Fine Dust" 252). This training of the imagination was intended to be coterminous with ethics because those newly critical readers would then be able to judge their own reality from a fresh perspective and possess the imaginative capital to hypothesize—to conjecture alternatives to their status quo.

Some of Calvino's most memorable light images, in fact, expose his readers to a range of unexpected urban hypotheses, whether through a disembodied or dematerialized iconography (ascending lightness) or through an emphasis on light, minute, mobile elements akin to the ancient Roman philosopher Lucretius's particles or corpuscles (Lucretian lightness).[5] Lucretius's *De rerum natura* (circa AD 100), a poem expounding the ethical and physical atomism of the Greek philosopher Epicurus (300 BC), made a profound impression on Calvino's poetic imaginary.[6] Indeed, he explicitly traced his literary creativity and his conceptualization of lightness to the physics, ethics, and poetics of *De rerum natura*. On one hand, the exposure to images of ascending or Lucretian lightness was designed to prompt readers to rethink conventional notions of society; on the other hand, Lucretian lightness in particular became for Calvino an image-making device, or a tool for readers to produce multiple, reversible, rearrangeable utopias within the "inner city" of their imagination. Under the influence of *Six Memos*, however, the vast majority of Calvino scholars have reduced lightness to the playfulness and self-referentiality of literary postmodernism. To counter this prevailing interpretation, we must ask ourselves the same question that Calvino was asking himself in the late '60s and early '70s: how could literature strive for this "inner city," or as he would later call it, this inner world of lightness?

AN ALTERNATIVE GENEALOGY OF ASCENDING LIGHTNESS

The ethical and aesthetic origins of ascending lightness as Calvino practices it in *Invisible Cities* and conceptualizes it in *Six Memos* are to be found in his expressly ideological essays from the '50s and '60s, which I call his *saggistica del magma*, or essays on magma. This group of essays integrates the champion of faith in the ethical function of literature and the theoretician of ascending lightness: Calvino's enduring *engagé* approach to society and his à la Perseus modus operandi. The writings stretch from "Il midollo del leone" ("The Lion's Marrow" [1955]) to "Non darò più fiato alle trombe" ("I Won't Sound the Trumpets Anymore" [1965]). Included in this cluster are "Natura e storia del romanzo" ("Nature and History of the Novel" [1958]), "Il mare dell'oggettività" ("The Sea of the Object World" [1959]), "Tre correnti del romanzo italiano d'oggi" ("Three Trends in the Contemporary Italian Novel" [1959]), "I beatniks e il «sistema»" ("Beatniks and the 'System'" [1962]), "La sfida al labirinto" ("Challenge to the Labyrinth" [1962]), and "L'antitesi operaia" ("The Proletarian Antithesis" [1964]). These are the most widely read of Calvino's essays in Italy, and their exhortatory and ideological intentions have been exhaustively analyzed.[7] My interest lies elsewhere: in the coherence of their figurative language—in their ensemble of metaphorical and intertextual echoes—which justifies my rubric, for it is in these essays from the '50s and '60s that I encounter the earliest images of the enemy of ascending lightness: magma, or petrification.[8]

Although vastly different circumstances interpellated each of his essays on magma, common threads run through them. To begin with, they all highlight the relationship that literature must establish with readers in order to awaken their consciousness concerning objective reality and spur them to envision alternative orders. At the same time, these essays elucidate the rapport between "individual consciousness, will, and discernment" and "the object world" ("Il mare dell'oggettività" 52). Further, they reflect Calvino's anxiety about the fate of individual consciousness, particularly the intellectual's: progressively deprived of the ability to perceive and articulate its alterity, or separation, vis-à-vis objective reality, the consciousness of the contemporary writer manifested a "supine acceptance of the world as it is" ("Natura e storia" 51). In so doing, individual consciousness had lost its position of elevation and critical detachment with respect to the object world. From 1958 onward, Calvino increasingly tapped into a geomorphological poetics to represent the relationship between individual consciousness and the world of objects, and to stake out an ethical and social sphere of influence for literature. He consistently resorted to magmatic and alluvial images such as imprisonment, sinking, flood, stickiness, stasis, immobilization, and finally, petrification (through which he would later reactivate the Medusa myth in *Six Memos*). The essay "Il mare dell'oggettività," for example, conveys reality as a sea of lava: a "flash flood" (52), a "silent

cataclysm" (53) provoke a "drowning in magma" (53); the perception that "an uninterrupted viscosity [envelops] the self and the objects [of external reality]" (54). Literature was also imperiled, according to Calvino's 1959 essay, for its "point-of-view [was] that of magma" (54).

That very same year, in *Il cavaliere inesistente* (*The Nonexistent Knight*), the hilarious squire Gurduloo exemplifies the fusion of the self with the world of objects around him, which the knight of ascending lightness Agilulf successfully dodges. "Gurduloo has gulped down a pint of salty water," the narrator tells us, "before realizing that the sea is not supposed to be inside him but he inside the sea" (*Nonexistent Knight* 110). His burlesque plunge into a pot of hot soup is the fictional correlate of an "identification with the external world, with the existential totality undifferentiated from the self" ("Il mare dell'oggettività" 54). "It is the object world that drowns the self; the volcano that spews the flow of lava . . . is the boiling crater of alterity into which the fiction writer throws himself" (54–55). "All is soup!" Gurduloo shouts from the pot, "with his hands forward as if swimming, seeing nothing but the soup covering eyes and face, 'All is soup!'" (*Nonexistent Knight* 54). Agilulf's critical detachment and elevated consciousness (which would later be conceptualized as lightness in *Six Memos*) rejects the idea of "the world being nothing but a vast shapeless mass of soup in which all things dissolved and tinged all else with itself" (54). To Gurduloo's drowning in the sea of external reality, Agilulf reacts vehemently: "why don't you make him realise that all *isn't* soup and put an end to this saraband of his?" (55). He opts for active intervention as an ethical choice: the only way to understand that all is not soup, the knight of ascending lightness affirms, is to get involved in "a clear-cut job to do" (55).

Acutely aware of the widespread magma drowning individual consciousness, Calvino urged readers of "Il mare dell'oggettività" to resist: "let us fight against an unconditional surrender to the world of objects" (55), in order to learn "the means that the object world still offers us to undertake active intervention once again . . . , which does not accept historical necessity and wishes to alter it" (55).[9] For Calvino, the "unconditional surrender to the world of objects" was tantamount to renouncing civil society and civilization. It would lead to the total deflation of the "ideal tension" that sustained human agency: the loss of faith in humanity's ability "to direct the course of things." In the language of metaphor, it meant the imminent surrender of the individual consciousness to the magma, or undifferentiated sea of objects, of the external world. In the same 1959 essay, Calvino defined this looming threat as "paralyzing" (56), thus anticipating by some three decades Medusa's harrowing petrification in *Six Memos*.

In "I beatniks e il «sistema»," Calvino lamented the barbaric landscape of mass culture. The more the pressures of cultural consumption increased, the more strongly he sensed a paralysis of the imagination and of the ethical dimension: "creative immobility," "moral tension that . . . stagnates in the marshland of our daily things-to-do" (102).[10] The social, economic,

and cultural landscape was a "labyrinth that we saw closing around us bit-by-bit," "a uniform surface," and "we too will be become part of this undifferentiatedness" (103). Two years later, in "L'antitesi operaia," class consciousness suffers the same fate as individual consciousness, as both are in a sticky tangle: "*mass culture* is a homogeneous, gelatin-like marmalade" designed to "rein in" antagonistic forces and opinions (132).

In the late '60s, when *Invisible Cities* was well underway, Calvino's poetic proclivity for geomorphological images of stagnation, stickiness, and magma underwent a gradual hardening that parallels the process of progressive calcification in the natural world. At that point, Calvino's metaphorical language referred not only to a paralysis in critical thinking and imagining, but also to the stasis of words and ideas, which he saw in thickly ideologized formulas that admitted no dialectical movement.[11] He began to employ such expressions as "the massive weight and complexity of the world have hardened around us, and they leave no loopholes" ("Fine Dust" 247), which were derived from the geological metaphor of petrification, and which denounced political and cultural immobility.[12] That hardening, or "lethal embrace of that which is solid and immobile" (*Saggi* 2: 2967), was to yield the image of Medusa familiar to readers of the chapter on lightness in *Six Memos*. It is not surprising, then, that metaphorical antecedents to petrification surfaced repeatedly in the essays on magma, along with the first images of ascending lightness—the figurative ancestors of Perseus, the other (and apposite) mythological character enshrined in that chapter on lightness. The coherence of Calvino's thinking and poetics in this area is rather stunning. Perseus and his thrust upward represent the desired relationship between the writer and the world in the twenty-first century (*Six Memos*), a prescription ubiquitous, as has been shown, in his essays from the '50s and '60s. Likewise, the symbolic nimble leap of the poet and philosopher Guido Cavalcanti, protagonist of Boccaccio's *Decameron* (vi, 9), represents the twenty-first-century writer's ethical and aesthetic need to rise above the weight of the world (*Six Memos* 17), escaping historical necessity, an analogy drawn repeatedly in the essays on magma.[13]

My genealogy of ascending lightness as an ethical and aesthetic value reconstructs it as a continuum spanning nearly three decades and including *Invisible Cities* as its middle point. By reinstating the ideological and poetic continuities between the essays on magma and *Six Memos*, we arrive at a radically different understanding of ascending lightness, which shaped the visual nuclei and the distanced or estranged perspective of *Invisible Cities*, as I demonstrate later (chs. 3 and 4). This critical revision of ascending lightness places in bold relief Calvino's idea that fleeing from the sea of the object world was crucial to preserving the alterity of the individual consciousness, that is, the self's powers of imagination and critical thinking. Ascending lightness has its roots, then, in his insistence on safeguarding at all costs "the dialectical opposition between subject and object" ("La sfida" 118), on "taking a step beyond, reacquiring historical distance, declaring oneself

different and distinct from the bubbling matter" ("Il mare dell'oggettività" 59). The "flowering of consciousness," or of "choice," was transfigured as a rising above the "human jam spread over the squalid edges of the city" as Pasolini managed to do according to Calvino, "elevating himself some centimeters above the level where the daily push-and-shove goes on uninterrupted" (59). Already in 1959, this critical detachment or ascending lightness underpinned Calvino's agenda for an ethically and socially empowering fiction: authors needed to transition from "the literature of the world of objects to the literature of consciousness" (59).[14]

The need for a cultural tool with which to train ourselves to break free from historical necessity—from the homogenizing and oppressive conventions and constraints of the external world—preoccupied Calvino in the essays on magma. Indeed, in his definition of imaginative literature as a "gnoseologico-cultural labyrinth" ("La sfida" 122), I position *Invisible Cities*, a work that both maps the complexity of reality and instills in readers the tools to envision their own elevation above the sea of the object world, the preservation of the self as distinct and different from the objects that threaten to annihilate it. Such literature should turn back, Calvino hoped in 1962, "the lack of belief in the determining power of culture" ("La sfida" 123). By training readers to imagine or envision alternatives to a given situation, the "literature of consciousness" ("Il mare dell'oggettività" 59) could not point to an exit sign, but it could suggest to them "the best positioning to find their own way out" ("La sfida" 122).

In 1971, Calvino lauded utopian literature for training readers in visionary thinking: "a total way of looking that sets us inwardly free to free ourselves outwardly" ("Controller" 222). By opposing activism to apathy, creative powers to stultifying clichés, utopian literature fosters the ascending modality of lightness exemplified in the aforementioned Cavalcanti's "vaulting on nimble legs over a tombstone," which Calvino describes as "a visual image of lightness that acquires emblematic value" (*Six Memos* 17). Fused with the image of Perseus, the vaulting of the poet-philosopher summarizes the value of ascending lightness: that is, Calvino's partiality both for disembodied, dematerialized images and for a detached and elevated point of view (Modena, "I contorni"). In another essay on utopian literature written while he was working on his 1972 novel, one affirmation in particular leaves no doubt that ascending lightness was for him an ethical and aesthetic project: "to *see* a possible different world . . . is to be filled with indignation against a world that is unjust and to reject the idea that it is the only possible one" ("Fine Dust" 248).

I have proposed that since the late '50s, Calvino believed the writer's ethical and social engagement turned on a dialectics of magma and elevation, of negation of individual consciousness and affirmation of individual consciousness, which would be theorized as a dialectics of petrification (Medusa) and lightness (Perseus) in *Six Memos*. Perseus's flight on the clouds (or the writer's ethical and social charge to raise above the level of

reality) enacts that very elevation as the clouds represent the destination and vehicle for a renewed perspective of the object world. From the late '50s to the late '80s, it is clear that Calvino affirmed the value of ascending lightness as an antidote to stasis or petrification, as a perceptual and cognitive vehicle, and as a device to guard against resignation—to restore our "strength to change the face of reality" (*Six Memos* 27).

MINIMAL TRACES AND THE ETHICS OF THE MINUTE: LUCRETIAN LIGHTNESS

In addition to the perceptual and cognitive renewal offered by ascending lightness, Calvino used natural philosophy in general and atomistic physics in particular as tools to investigate reality (Lucretian lightness).[15] By positing two modalities of one and the same lightness, I intend to preserve their differences as well as their commonalities. A fundamental parallel between *De rerum natura* and *Six Memos* foregrounds a series of oppositions—weight versus lightness, oppression versus freedom, angst versus *atarassia*—that allow us to compare Epicurus to Perseus. Whereas the latter is an emblem of the critical distance or detachment that allows us to escape the heaviness of the object world, at least in the inner city of our imagination, Epicurus is the bearer of critical reason (*ratio*) that defeats the weight of superstition (*religio*). As Lucretius put it: "When man's life lay for all to see foully grovelling upon the ground, crushed beneath the weight of Superstition . . . , the lively power of [Epicurus's] mind prevailed . . . as he traversed the immeasurable universe in thought and imagination" (bk. 1, 63–64; 72; 74). In Lucretius's metaphor, superstition weighs on humans as an immobilizing threat until it is thrown off: humans are initially crushed under the unbearable heaviness of *religio*, then they triumph thanks to knowledge. Epicurus is therefore an opponent of the weight that pins humanity to the ground, as Perseus is in his own way. To triumph over psychological angst and reach the higher state of *atarassia* (i.e., a lack of worry, a sort of lightness), humans must come to understand the nature of things. That is what Lucretius set out to teach us in *De rerum natura*.

Cosmicomics, written between 1963–64, brings together the two modalities of Calvino's lightness in several of its visual nuclei. In "Quanto scommettiamo?" ("How Much Shall We Bet?"), for instance, the protagonist Qfwfq nostagically recalls the time when its external living space was not saturated and magmatic, but instead differentiated and fluid: "And I think how beautiful it was then, through that void, . . . whereas now events come flowing down without interruption, like cement being poured, one column next to the other, one within the other . . . , a doughy mass of events without form or direction, which surrounds, submerges, crushes all reasoning" (*Cosmicomics* 93). To describe such a state of lightness, Calvino turned to

the image of a universe composed of "isolated corpuscles" that were "surrounded by emptiness" (*Cosmicomics* 92). On one of those bygone days Qfwfq had ventured a guess: "You want to bet we're heading for atoms today?" (*Cosmicomics* 85).

The hope for a renewed alliance between science and literature, which had progressively grown apart in the nineteenth century, was a constant of Calvino's thinking and writing. However, beginning in the second half of the '60s (when pessimism about the atomic age became widespread), the impact of scientific discoveries and scientific models on the imagination, and on the social and political imaginary, became indispensable for him to reconsider the object world.[16] Looking back on that period, he would later state that he had been searching for a "new avenue" to explore in order to "change our image of the world" and to nourish "visions in which all heaviness disappears" (*Six Memos* 8). The storehouse through which he was rummaging for indissoluble images of lightness was located precisely in the territory of the sciences, especially atomism.

Just as the temporal arc of ascending lightness is taller and wider than scholars of *Invisible Cities* and *Six Memos* have acknowledged, so too Lucretian lightness in Calvino's fiction and nonfiction predated by some thirty years his salute to Lucretius in *Six Memos*. As early as 1957, when he was working as an editor at Einaudi, he entertained the idea of translating *De rerum natura*.[17] A decade later, in an anthology for middle-school students coauthored by Calvino, *La lettura* (*Reading* [1969]), he translated a passage taken from Lucretius's poem.[18] Since at least the '60s, Calvino moved in circles of artists, philosophers, writers, and other intellectuals for whom science and natural philosophy in general and atomism in particular served perceptual, cognitive, and epistemological aims. The tenets of Lucretian physics would be repurposed by Calvino after his own reading of Lucretius and under the influence of a diverse range of figures: Galileo Galilei, Edgar Allan Poe, Francis Ponge, Ilya Prigogine, Isabelle Stengers, Michel Serres, Primo Levi, Ruggero Pierantoni, Pietro Redondi, Hans Blumenberg, Raymond Queneau, Georges Perec, Paul Klee, Carlo Emilio Gadda, and modern commentators of Ovid.[19]

In a 1985 interview with Paul Fournel, Calvino proclaimed that his two *livres de chevet* were Lucretius's *De rerum natura* and Ovid's *Metamorphoses*.[20] "I would like that everything I wrote would derive from one or the other," he revealed, "or from both" (qtd. in Fournel 17). Simply put, *Invisible Cities* cannot be fully appreciated without acknowledging how profoundly Lucretius's moral and physical atomism permeated Calvino's thinking and writing, just as it shaped the theories and design projects of his Italian and French contemporaries in architecture and urban planning. The quest for a new language in both urbanism and literature in the '60s turned to atomism because semiotics (and its counterpart, structural linguistics) and Lucretian physics operate according to the same underlying principles.

In *De rerum natura*, the order of the universe (*naturae ratio*) is based upon the Epicurean principle that nothing can arise from nothing (bk. 1, 150). All things originate from fixed seeds, or "first bodies" (*corpora prima*; bk.1, 171), which Epicurus called *atoms*. Such seeds are the everlasting matter that holds each thing together more or less tightly. It takes different forces to dissolve the contexture of these unions, but nothing can destroy the first elements (bk. 1, 244–47).[21] Lucretius employs the technical lexicon of Epicurean physics, *concilio* (composition/combination of bits of prime matter) and its opposite, *discidium* (decomposition/separation of prime matter): "no visible object utterly passes away, since nature makes up again one thing from another, and does not permit anything to be born unless aided by another's death" (bk. 1, 262–64). The indivisibility (*simplicitas*) of the atom, and its indestructibility (*aeternitas*) guarantee Nature's continuous regeneration (bk. 1, 548–50): the first-beginnings set limits to destruction; they survive the corrosion of the object world. Lucretius's insistence on a continuous, universal rottening, falling apart, fracturing, decaying of all things permeates his entire poem, but it is counterbalanced by the resilience and the endurance of the minute, light, and everlasting atom.[22]

Beyond arguing for the indestructibility and the indivisibility of the first-beginnings, Lucretius argued for their absolute compactness (*soliditas*). Like the imperceptible substance coming off a ring through wear and tear, however, atoms are invisible to the naked eye. Out there, moving from thing to thing, as experience and induction reveal, these corpuscles or minimal units of prime matter remain imperceptible: "nature," Lucretius concluded, "works by means of bodies unseen" (bk. 1, 328). Lucretius, I am convinced, inspired Calvino to resort to a lexicon of invisibility so very rich in associations that he made the urban icons invisible in his 1972 novel. "Lucretius set out to write the poem of physical matter," Calvino would later write, "but he warns us at the outset that this matter is made up of invisible particles" (*Six Memos* 8). It was Lucretius's natural philosophy, moreover, that confirmed for the novelist the human imagination's prominent role in perception, cognition, and the forging of an epistemology rooted in the nature of things. It takes an *animi iniectus*, Lucretius wrote, an act of intuitive apprehension, a mental projection to become conscious of the invisible (bk. 2, 740). Corporeal, dustlike, eminently light, the invisible is the secret logic of the atomistic universe, relentlessly driven by the passage of this substance from one form into another, an incessant combinatorial motion. The imagination reasons about the object world, triggering an inner or mental visualization, which is the leap necessary to conceive of that which is invisible.[23]

Reflecting on the characteristics explained thus far, the Lucretian lightness of Calvino's images becomes more legible when the nexus between physics and ethics in Lucretian atomism is taken into account. In *Six Memos*, Calvino marshals numerous literary examples in which small, light, and oftentimes fragile traces assert their endurance against a backdrop of atrocities, heaviness, and petrification, interweaving indirect references to

atomism as he goes. Calvino posited that the apparent compacted heaviness of the world was actually a compound of weightless, mobile corpuscles or particles. From this vantage, which is of great importance to *Invisible Cities*, lightness is the outcome of a perceptual and cognitive *coincidentia oppositorum*, of a convergence of two clashing images from which there emerges a sign, however small and fragile, of an endurable thinness. This resistance of the minute element, for which Calvino found theoretical sustenance in Lucretian physics, dates back to the essays on magma in which he wrote urgently of the need to awaken the individual consciousness, and of literature's ethical and social dimensions.

From those same years, Eugenio Montale's poetry stands out as a decisive influence on Calvino's Lucretian modality of lightness, as the novelist would later acknowledge in *Six Memos*.[24] As was already seen, the entire cluster of magma essays is anchored in metaphors of imprisonment, immobility, and loss of form such as floods, viscosity, volcanic flow, sclerosis, etc. Such figurative language is not at all removed from Montale's analogical one. As early as 1959, the fiction writer acknowledged that in his youth he had drawn his most incisive lesson in ideological and ethical stoicism from the poet.[25] Montale was the poet of both the "evil that gnaws the world" and the irruption of grace that takes readers beyond the imprisoning walls of their existence: both pessimism (imprinted in Calvino's essays on magma in which flood and lava threaten to drown individual consciousness and paralyze human choice) and "the act of will, the Bergsonian *élan vital* that allows us to nullify the determinism by which we're hemmed in" (Villoresi 123).[26] Offered this Montalian dual emphasis, Calvino chooses to emphasize, in *Invisible Cities* and *Six Memos*, images of ethical and social energy, of miraculous survival.[27]

Among the various aspects that Calvino admired in Montale's poetry, one of the most relevant was the poet's ability to inlay in a hellish scenario what Calvino defined in atomistic terms as "the subtlest of elements" (*Six Memos* 6), or the faintest traces of hope. Montale's 1953 "Piccolo testamento" ("Little Testament"), for example, is an "apocalyptic vision" (*Six Memos* 6) of the destruction hanging over Western civilization in the tense ideological and military climate of the Cold War.[28] Nonetheless, the poem offers readers a fleeting hope, an intermittent spark of introspection and liberation devoid of all religious or ideological dogma. Montale achieved this contrast by uniting the image of "a fearful, hellish monster, a Lucifer with pitch-black wings who descends upon the cities of the West" with the image of "minute, luminous tracings": a mother-of-pearl trace of a snail, some emery dust from crushed glass and *cipria* (face powder) (*Six Memos* 6). Calvino divines a quality of resistance, of survival, in these images of Lucretian lightness, "placed in the foreground and set in contrast to dark catastrophe" (*Six Memos* 6). Each of these light images is the objective correlate of a thought that, however slight, "flashes in the night / of my mind's skull" ("Little Testament" vv. 1–2).[29]

Knitting together that Montalian legacy and Calvino's lesson on lightness in *Six Memos* makes evident Calvino's conviction that light literary images—those dotted by "most tenuous traces" (*Six Memos* 6)—have the power to convey an ethics of nonresignation and elevated political and social awareness. Lightness is, in other words, Calvino's ethical and social proposal of nonsurrender. The "luminous tracings" mark a fragile way out, detecting a discontinuity in an otherwise homogeneous and invincible compactness and heaviness of prime (and existential) matter. "It's the sign of another orbit—follow it," reads Montale's "Arsenio" (v. 12). This is the tiny crack, slender opening, or barely perceptible loophole signaled in Calvino's lesson on lightness as he emphasizes the moral value of thin and light literary icons. To pursue and find such small traces requires that readers learn how to see (and interpret) anew. Conversely, the reading of light literary images educates the imagination of readers to visually break up the petrification, perceive its heterogeneity, and recognize its instantiations of levity, of unexpected grace.

The "subtlest of elements," thanks to their material thinness, are actually more resilient than heavy and massive structures. The minute visible trace serves as a springboard to a mental representation of the invisible. It is the visual sign of an alternative to be imagined from subtle elements that reach readers through the literary word. Lucretius founded the mental representation of the invisible, for example, the motion of atoms, on a sensible representation manifest to the eyes (in this case, particles of dust floating in a sunbeam). Analogously, then, it becomes possible to glance the invisible and thus infer the possibility of an alternative to the status quo. Lucretius spoke of "vestigia quaerere" (bk. 4, 705): "searching for the traces." The search for such a minimal trace, exemplified poetically for Calvino in Montale's "Piccolo testamento," would become through *Invisible Cities* a literary rendering of the new cognitive and epistemological model that Calvino was testing out between 1969 and 1972 with some of his most relevant interlocutors—Carlo Ginzburg, Gianni Celati, and others discussed later (ch. 3).

Moreover, Lucretian physics made an impression on Calvino's thinking about the natural and social worlds in other ways, at it did many of the urban planners, architects, and artists discussed in this study. For instance, by his own admission Calvino's densimetric perception of the material world, or the dialectics between void and rarefaction on one hand and compactness and density on the other, consciously informed several of the tales in *Cosmicomics*, *The Nonexistent Knight*, and other writings.[30] "[Lucretius] is the poet of physical concreteness," Calvino writes in *Six Memos*, "but the first thing he tells us is that emptiness [the void] is just as concrete as solid bodies" (8). In contrast to those who explained movement by denying the existence of the void (Plato, Aristotle) Lucretius affirmed the alternating of matter and void (*De rerum natura* bk.1, 420–23). Void is everywhere, between one thing and another, and within each and every thing; it is the space in which motion occurs and therefore the basis of all variety. If matter

were packed into a solid mass, any and all movement would be impossible, and the natural and social worlds would remain as inert as stone (bk.1, 341–45). Void allows differentiation within the continuous flux of matter. It has, in other words, a vital, generative presence: it defies petrification and implies variety or multiplicity, a concept fundamental to Calvino's thinking about the cosmos, the city of the future, and literature.

Paramount to my understanding of *Invisible Cities* is the spectacular variety of all things theorized and versified by Lucretius. In fact, much of *De rerum natura* is dedicated to celebrating the multiplicity not only of the natural world but of every single thing in it, for several disparate atoms combine to make each thing a unique object (*unicum*). Calvino dedicated an entire lesson in *Six Memos* to multiplicity, and both *Invisible Cities* and *Collezione di sabbia* (*Collection of Sand* [1984]) demonstrate his encyclopedic bent—his ambition to represent on the written page the tremendous variety of the object world.[31] The Lucretian concept of variety (or multiplicity) relied on yet another principle that would prove to be of enormous significance to Calvino's combinatorial praxis: nature's fundamental characteristic is motion. Either free and disengaged from every mass or woven into a composite substance, atoms are incessantly agitated by movement. Infinite matter roams throughout infinite space, *ab aeterno* and *in aeternum*. Generation and corruption turn on a continual exchange of atoms.[32] Void and motion are therefore the basis of Calvino's Lucretian lightness. "Lucretius' chief concern," Calvino wrote in a passage brimming with self-revelation, "is to prevent the weight of matter from crushing us" (*Six Memos* 8–9). At the very base of *De rerum natura* lay the Roman poet's conviction that only by accepting the presence of the void, and therefore admitting the infinite and unexpected possibilities of the atom, would humans be able to get out from under the existential freight of superstition (bk. 1, 341–42). For Lucretius as for Ovid, Calvino stated, "knowledge of the world becomes dissolution of it compactness"; it leads towards a perception of "all that is infinitely minute, light and mobile" (*Six Memos* 8–9).

The value of Lucretian lightness as a vehicle for variety and motion, and therefore an antidote to inertia and paralysis, is evident also in the Galilean roots of Calvino's allusions to Medusa, which reconfirm the rapprochement of science and literature in Calvino's thought. His reactivation of the Medusa myth in "Il libro della natura in Galileo" ("The Book of Nature in Galileo" [1985]) and *Six Memos* was derived from Galileo's *Dialogo sopra i due massimi sistemi del mondo* (*Dialogue Concerning the Two Chief World Systems*),[33] in which the natural philosopher delivered a "eulogy of the Earth as something subject to alteration, mutation and generation" (Calvino, "Book of Nature" 87). Calvino singled out a particular passage: "'I consider that the Earth is most noble and admirable precisely because of the many different ways it endlessly changes, mutates and evolves'" (Galileo qtd. in Calvino, "Book of Nature" 88). Galileo feared a petrified, sterile Earth incapable of mobility: "Useless body in the universe, paralysed by

inertia, and in short superfluous and unnatural . . . , a dead creature" (Galileo qtd. in Calvino, "Book of Nature" 88). He "evoke[d] with terror the image of an Earth made of solid jasper or crystal, an incorruptible Earth, as though it had been petrified by Medusa" (Calvino, "Book of Nature" 87).

Reading Galileo's praise of the Earth's minimal variation or constant change, Calvino commented: "if one puts Galileo's passage about the alphabet of the book of Nature alongside this eulogy of the small changes and mutations of the Earth, one can see that the real opposition is between mobility and immobility, and it is against that image of the inalterability of Nature that Galileo campaigns, conjuring up the nightmare of the Gorgon" (88). Calvino would later convey Galileo's "nightmare" through the metaphor of paralysis in the essays on magma and through the reactivation of the Medusa myth in "Book of Nature" and *Six Memos*. Here Calvino's friendship with a Roman professor living in the United States becomes particularly relevant to my interpretation of both Lucretian and ascending modalities of lightness in *Invisible Cities*. Giorgio de Santillana (1901–74) was a historian of science at the Massachusetts Institute of Technology where he wrote one of his many pathbreaking studies, *The Crime of Galileo* (1955, repub. in 1962). In a 1985 critical review of Santillana's *Fato antico e fato moderno*, Calvino mentions *Processo a Galileo* (*The Crime of Galileo*) and numerous other works by Santillana published in Italian in the 1960s, as well as his conferences in Europe during the same period. The novelist's friendship and written correspondence with Santillana dated back to at least 1960, according to *Six Memos*.[34] Of particular appeal to Calvino was the historian's appreciation of the relations between literature and science: in his accounts, Santillana "has given ample space to myth ('the first scientific language') and to the literary imagination" ("Fato antico" 2087). On this score it is of great interest that an intensely Lucretian passage from Galileo's *Dialogue* appears in *Crime of Galileo*, which directs Medusa's curse toward fearful philosophers of nature in the schools:

> These men who so extol incorruptibility, inalterability, and so on, speak thus, I believe, out of the great desire they have to live long and for fear of death, not considering that, if men had been immortal, they would not have had to come into the world. These people deserve to meet with a Medusa's head that would transform them into statues of diamond and jade, so that they might become more perfect than they are. (qtd. in Santillana 72–73).

Not coincidentally, I would suggest, Calvino quotes the very same passage in his 1985 essay on Galileo (88).

Throughout *Crime of Galileo*, Santillana draws parallels between the twentieth-century West and its control or tyranny over the individual consciousness and Galileo's trial and punishment. The discoverer's mind had

to fly away from the object world, from convention, blind faith, and the status quo, as did his writing:

> It is an inhuman wrench for the mind to tear itself loose from the instinctive world of the senses around us, so 'full of a number of things,' . . . and to uncover instead everywhere the mysterious realization of abstract laws . . . where the lonely intellect has to feel its way with new instruments of rigorous analysis. . . . When the time for expression comes again, the quiet prose of the physicist will rise of itself to compelling heights. (157)

It is almost certain that the philosopher of science at MIT exercised a considerable influence on Calvino's conjoining of the natural and social worlds in his conceptualization of ascending lightness.[35] However, as stated earlier, the two modalities of lightness cannot be severed completely, and Santillana's admiration for Galileo (as a philosopher-humanist and as a stylist) almost certainly shaped Calvino's Lucretian lightness, as well.

In view of Calvino's proclivity for Lucretius and Galileo and his translation of atomistic principles into literary ones, it should not surprise anyone that he derived the tools to read and write the world from natural philosophy.[36] In Lucretius's poem itself, of course, the qualities of things (*res*) perfectly coincide with the qualities of words (*verba*). Just as the variety of things can be explained by the disparate clumpings or combinations of atoms, so too the variety of combinations of letters gives rise to the variety of words. The Lucretian analogy between the formation of *verba* and of *res* is possible thanks to the identical nature of the minimum constituents of linguistic and natural order, which are reversible. The *elementum* (the term that Lucretius adopted both for the atom and for the letter) is the original constituent of all existing things as well as of the alphabet. Just like different combinations of elements form "sky, sea, earth, rivers, sun" (bk.1, 820), so *elementa* in different orders form different words (bk.1, 817–27). The same "producers of the real" differentiate cosmos and text (Dionigi qtd. in Lucretius 28).[37] Even *De rerum natura*'s poetics is based on the fundamentals of physical atomism: the poem is composed of repetitions with variations, changes, concepts reiterated in different aggregates, suggesting not only that the structure of language and the structure of reality are to be seen as correlated, but also that the narrative/argumentative mode is in correlation with nature's combinatorial methods (Dionigi qtd. in Lucretius 9–10).

That Lucretius's poetics and physics operate according to the same logic shaped Calvino's Lucretian lightness in *Invisible Cities*, as well as his thinking on the relationship between writing and reality:

> All 'realities' and 'fantasies' can take on form only by means of writing, in which outwardness and innerness, the world and I, experience and fantasy, appear composed of the same verbal material. The polymorphic

> visions of the eyes and the spirit are contained in uniform lines of small or capital letters, periods, commas, parentheses—pages of signs, packed as closely together as grains of sand, representing the many-colored spectacle of the world on a surface that is always the same and always different, like dunes shifted by the desert wind. (*Six Memos* 99)

Moreover, Calvino explicitly refers to the atomistic foundations of letters and words—"writing as a metaphor of the powder-fine substance of the world"—in his chapter on lightness (*Six Memos* 26). Indeed, the Lucretian parallel between natural and linguistic elements, or minimal units, was already fundamental to Calvino's views on urbanism and on literature by the late '60s, which in great part explains why *Invisible Cities* is the novel in which the object world (*res*) and the written world (*verba*) most explicitly and self-consciously overlap and even substitute each other (ch. 3).[38]

For a writer who looked to natural philosophy and modern science for indissoluble images of lightness, there was still another tenet of Lucretian physics that held a special attraction: the visual and perceptual theory of *simulacra* (Lucretius bk. 4).[39] Visual perception takes place thanks to the influx of *simulacra* into sensorial organs: these thin veils of atomic structures preserve the properties of the objects from which they come, but detach from the objects and enter the organ prepared to receive them. Emanating from solid bodies, such *simulacra* were, as Epicurus had stated, very different from sensible things by virtue of their thinness.[40] Lacking the heaviness of the body from which they break off, these membranes are "thin semblances . . . , outlines of shapes and of finest texture which flit about everywhere" (bk. 4, 85, 87–88). They can travel any conceivable distance at an unimaginable speed, yet they "cannot be seen" except in the mind (bk. 4, 89).[41] This theory is crucial to the nexus between lightness and the imagination in *Invisible Cities*, as the title itself reveals, and the so-called "filigree cities" in his 1972 novel are *simulacra*-like. More broadly, Lucretius's theory of *simulacra* interacts productively with Calvino's long-held conviction that literature impacts the imagination, and thus the thoughts, of readers.

When discussing the formation of visual *simulacra*, Lucretius inserted a digression on thought or cognition, which I consider central to Calvino's thinking on perception, the imagination, and literature. By thought, Lucretius meant a mental picture or visualization, for ἰδέα in Greek meant "image" (Dionigi 382). According to Lucretius, visualization is made possible by *simulacra* that are even thinner than the ones received by the human eye. Indeed, the *simulacra* that enter through our eyes are of various kinds. Some are of the sort that continuously detach from objects; others spontaneously form in the air; still others, thanks to their supreme lightness and mobility, come into contact with the equally light and fast matter of the *animus* (Lucretius bk. 4, 131–32). Lucretius describes the process in a passage of the utmost conceptual and figurative levity, describing these

filigree simulacra as "moving about in many ways and in all directions," and observing that they "easily unite in the air when they meet, being like spider's web or leaf of gold" (bk. 4, 724–27). With their wispy texture, "these penetrate through the interstices of the body, and awaken the thin substance of the mind within, and assail the sense" (bk. 4, 722–31).

In the mind, then, filigree atomic structures constantly break up and regroup to form combinatories of elements drawn from different *simulacra*. This convergence of combinatorial process and lightness would strongly resonate with the author of *Invisible Cities*. For Lucretius, this convergence was what allowed human thought to visualize images that had no referential counterparts; for Calvino, this would become the basis of his concept of a mental "autonomous logico-fantastic machine," the results of which could transcend the representations derived directly from external reality.[42] Calvino charged literature with the task of building out this mental machinery—that is, the powers of the imagination and visualization—in readers, so that they might become capable of resisting the images of heaviness and stasis dominating the "sea of the object world."

THE COMBINATORY METHOD, MAKER OF LIGHTNESS

In his 1967 essay "Cibernetica e fantasmi" ("Cybernetics and Ghosts"), Calvino addressed combinatory (rooted in the centuries-old *ars combinatoria*) and its potential relevance to literary creation: "the relations between the combinatory game and the unconscious within artistic creativity are at the center of an aesthetic theory among the most convincing currently in circulation" ("Cibernetica" 220). A year before Calvino's "Cibernetica," it should be remembered, Gérald Genette, who had explicitly compared the alphabet to the table of periodic elements, brought to the fore Jorge Luis Borges's liaison between atomistic combinations and literary works in "L'utopie littéraire" (126). The Italian author underscored the possibility that out of countless combinations of words one might suddenly emerge with "an unexpected meaning" that the writer would not have reached consciously ("Cybernetics" 21). This semantic discontinuity, or breaking up, paralleled for Calvino and many of his contemporaries the atomistic approach to the material world: "the world in its various aspects is increasingly looked upon as discrete rather than continuous" ("Cybernetics" 8). Two years later, in "La macchina spasmodica" (1969), Calvino emphasized the importance of reducing complexity to minimal and mobile units inserted in a combinatorial play: a method that, conveyed by literature, allowed "us to enter into the endless intricate world of the possible" ("Macchina" 253) and produce a combination significant for society and for the individual at a particular historical moment ("Cybernetics" 22).[43]

As Calvino observed in "Usi politici giusti e sbagliati": "the cultural hinterland of Italian literature was undergoing a complete change. Linguistics,

information theory, the sociology of the mass media, ethnology and anthropology, the structural study of myths, semiology, a new use of psychoanalysis, a new use of Marxism: all these became instruments habitually employed to dismantle any literary object and break it down into its component parts" ("Right and Wrong Political Uses of Literature" 92). Russian formalism, French structuralism, and semiotics all grew out of the logic of discontinuity that was shared by combinatory and Lucretian physics alike. As Calvino observed shortly before turning to *Invisible Cities*, that logic consisted in reducing an immense variety to a combination of certain finite quantities. By the late '60s, then, Calvino had already developed his combinatorial, scientifically grounded conception of reality. Moreover, he had transposed the atomistic principles of composition and decomposition into literary praxis: through the variation, combination, serialization, and exclusion of elements, narrative inserts the homogenizing object world into a rush of generative clusters of signifiers, continuously giving rise to new words, ideas, and images.

It was precisely in that context that another tenet of Lucretian physics, a swerve or deviation of atoms (*clinamen*; Lucretius bk. 2, 216–24), became central to Calvino's description of cities in his 1972 novel.[44] According to both Epicurus and Lucretius, in nature one little atom is able to break out of its vertical downward trajectory and deviate ever so slightly from the straight course. It then hits another atom and triggers a chain reaction of corpuscles hitting and bouncing off each other, which causes them to bunch together and create new masses. The concept of *clinamen* greatly appealed to Calvino (and had seduced a youthful Karl Marx) because it implies the possibility to swerve from determinism and introduce human agency into the course of events.[45] Psychological as well as physical movements are strictly material according to *De rerum natura*. The impulse of motion forms inside the will (*animus*), which is composed of atoms and which directs the mind (*anima*). Thus, in order to swerve from implacable necessity, a mental *clinamen* must first occur, which thereafter translates into the physical impulse of motion and the physical swerve (Meadows 31–32, 76).

Calvino explicitly remarked on the convergence of physics and ethics in this tenet of atomism in an analysis of how Isaac Newton's science populated the imaginary of eighteenth-century fiction writers: "even when laying down the rigorous mechanical laws that determine every event, [Lucretius] feels the need to allow atoms to make unpredictable deviations from the straight line, thereby ensuring freedom both to atoms and to human beings" (*Six Memos* 9). By the same token, Calvino was unflinchingly convinced that the proliferation of weight-defying images during the eighteenth century (ingenious ways to reach the moon, for example, or figures suspended in air) was directly connected to Newton's laws of attraction and gravity. "One might say," Calvino writes, "that in Newton's theories, what most strikes the literary imagination is not the conditioning of everything and everyone by the inevitability of its own weight, but rather the balance of

forces that enables heavenly bodies to float in space" (*Six Memos* 23). It was, precisely and paradoxically, that rigorously material and scientific enchainment that provoked the imagination of artists and authors to defy Newton's laws, searching about for ways to escape the decree of fate, as it were. Calvino's embrace of the *clinamen* and gravity-defying literary images can help us to grasp the challenge that several of the urban icons in his 1972 novel (as well as urban design projects from Italy and France) posed to architectural and urban-planning paradigms and conventions in an age of urban crisis, and the love that postmodern architects profess for *Invisible Cities* today. His is an iconography that depicts inventive ways to swerve from the inflexible laws of nature and culture.

By the late '60s, then, Calvino's hope for the individual consciousness to rise above external reality was already explicitly linked to the combinatory literary process and its potential to provide readers and writers a sort of literary *clinamen*. The association between *clinamen* and creativity implied the analogy between a deviation of atoms from the vertical, nongenerative trajectory and a significant combinatorial composition or massing. Thus Calvino also developed the idea of writing as a sort of *clinamen*, an idea that included both the micro-combinatory operating within a literary work and the macro-combinatory inhering in the history of literature with each work constituting a minimal unit.[46] When literature operated as a *clinamen* (when it provoked unexpected meanings), it bore the marks of ascending and Lucretian lightness. It freed itself, in fact, of a weight, of the uncritical ballast that weighs down literature when it merely rubberstamps (crystallizes or petrifies) what already exists ("Cybernetics" 23–24).[47]

In this regard, it is of great importance to recall Calvino's admiration for the French poet and philosopher of science Michel Serres, "author of *Hermes: Literature, Science, Philosophy* [*Hermès ou la communication*], interpreter of Leibniz and Lucretius" (Calvino, "Ilya" 2043). Roughly a decade after Calvino's "Cibernetica," Serres identified the *clinamen* as the generator of the difference or discontinuity necessary to interrupt the invariable chain of iteration, sterility, determinism, and sameness (or identity), in *La Naissance de la physique dans le texte de Lucrèce: Fleuves et turbulences* (1977). The *clinamen* wrought change, or a breaking up of "the reign of the same," for "the repetitive is redundance . . . [a]nd identity [i.e., sameness] is death" (*Hermes* 100). Homogeneity or continuity led to a poverty of being so dire that Serres pronounced: "*The Same is Non-Being*" (100).[48] In the *clinamen*, Serres saw "the first evolution toward something other than the same" (100).

Four years after the publication of Serres' *Naissance de la physique dans le texte de Lucrèce*, Calvino would use the Lucretian *clinamen* as a metaphor for creativity, the fertile ground attained by deviating from the known, in a 1981 contribution to Oulipo's *Atlas de littérature potentielle* (Calvino, *Romanzi e Racconti* 3: 1242). The same year, moreover, Georges Perec's comments on the concept of literary *clinamen* were published. Perec, a

friend of Calvino's for many years, maintained that a literary work always needed a *clinamen*, that is, an infraction of the rules, to vitalize writing as well as reading: "the *clinamen* responds to the desire to prevent the system from closing in on itself, to create a breach within it" (Bertelli qtd. in Perec, "*Entretiens*" 11). Perec cited the example of Paul Klee (Perec, "*Entretien*" 202), one of Calvino's favorite artists, whom he defined as "the ideal of free invention" (Calvino, "Furti ad arte" 1806). Klee affirmed in 1956 that creative freedom should be based on a "deviation with respect to the basic norms of construction" (*La Pensée créatrice* 71). In this sense *Invisible Cities* constitutes an incentive to swerve from conventional literary and urban design. Inserted into a rigid, suffocating system (architectonic or literary), the *clinamen* shatters its immobility, dissolves its petrification.

Since the late '60s, then, Calvino saw in the tenet of Epicurean and Lucretian atomism a metaphor for the deviation of literature from the passive ratification of the existing order to a new literature conveying critical thinking to society: this is the "road to freedom opened up by literature" ("Cybernetics" 24). This path to liberty open to imaginative literature is directly related to Calvino's thinking on utopia and the imagination. It is embodied in *Invisible Cities*, whose conjectural logic dynamizes urban studies by refusing "to see things and say things the way they have been seen and said until now" ("Cybernetics" 23–24).

A MENTAL EXERCISE ON LATERAL POSSIBILITIES: *MODE UTOPIQUE* AND LIGHTNESS

In 1967 Calvino moved to Paris, and in the French capital he witnessed the general strike of May 1968. Meanwhile, the student movement at Italian universities unfolded between 1967 and 1968, spreading thereafter to the labor sector and society at large, leading up to the so-called "hot autumn" of 1969 (Ginsborg, ch. 9). Although the student movement in Italy was marked mainly by its rejection of authority and its embrace of the Marxist struggle, it should not be forgotten that radical architecture and urban planning were also thoroughly studied and debated at prestigious schools of architecture, like in Venice (Ginsborg 306). During that brief stint of social agitation and countercultural euphoria, Calvino sketched a social utopia in a novel that was to remain unfinished.[49]

Although it is tempting to conclude that the prominence of Marxist thought in those tumultuous months rekindled his interest in utopia, for quite some time already Calvino had been reading across the disciplines to understand the relations between utopia and the imagination, approaching utopia as a visual and cognitive exercise for the present rather than a fantastic speculation about the future. His interest in utopian projections and representations actually dates back to the period in which he confronted his own ideas about utopia with those expressed in *The Manifesto of the*

Communist Party (1848). Under the rubric of "Critical-Utopian Socialism and Communism," Marx and Engels discuss the systems of Saint-Simon, Fourier, and Owen, and dismiss them useless fantastic scenarios that impede progressive historical development. "For years," Calvino would later explain, "I felt it was a serious lacuna that Marx refused to predict what socialist society would be like; it took me a long time to understand that this was a principle inherent in his method" ("Fine Dust" 250). The Marxist "'Do Not Enter' sign on the road to utopian projects," as Calvino labelled it, was intended to prevent escapism and a dispersion of revolutionary energy. Later, after the socialist society came into being, it was supposed to block out all visualizations of a society different than the existing revolutionary one.[50] At the end of the '60s, Calvino reflected on the need to challenge the mind with visible utopian projections and attributed a "lust for prefiguration that we have been carrying with us for ages" ("Fine Dust" 251) to that Marxist denial.

It was no coincidence, then, that an interest in revisiting utopia pervaded French culture in the '60s, as if they could not resign themselves to abandoning it. "Now that the outlook for capitalist culture revolves around an image of catastrophe," Calvino wrote, "concentrating all its fantasies on it (the foreseeing, preventing, or administering of catastrophe), this is when we choose to revisit utopia. But why? And in what frame of mind?" ("Fine Dust" 251). An earnest attempt to answer these questions might begin by scrutinizing Calvino's speculative panorama in the late '60s and early '70s, paying particular attention to the melding of utopia, the imagination, and literature. In numerous essays Calvino addresses, implicitly or explicitly, the ethical value of literature and of the imagination and, more pointedly, the utopian potential of literary images. There are nonetheless two privileged sites in which the ethical charge of imaginative literature crosses over into utopia: the first is Calvino's "La letteratura come proiezione del desiderio" ("Literature as Projection of Desire"), a critical review of Northrop Frye's *Anatomy of Criticism* that Calvino wrote in 1969. The second is a triptych, written between 1971 and 1973, inspired by the 1971 Italian translation (suggested and supervised by Calvino himself) of *Théorie des quatre mouvements* (*Theory of the Four Movements* [1808]) and *Le nouveau monde amoureux* (*New Amorous World* [1816]) by the French utopian Charles Fourier. During the period between 1969 and 1973 Calvino's reading of Frye and Fourier made him speculate on the interplay of the imaginative faculty, ethics, and utopia, and to forge a validation for fictional literature that would prove crucial to *Invisible Cities*.[51]

In the late '60s, when Calvino was living in France and occasionally visiting Italy, Fourier's thought experienced a revival in Paris (Cappello 231). *New Amorous World* was published in 1967, and his oeuvre was published in twelve volumes between 1966 and 1968. A bizarre and ingenious spirit, Fourier was a cutting critic not only of his time's social structures but also, and it matters most to us, of its mental structures. One of the

most influential readers of Fourier was Raymond Queneau, who had published in 1955 his "Dialectique hégélienne et séries de Fourier" in which he argued that Fourier had influenced the development of Marx and Engels's dialectical materialism (Cappello 237). Queneau's study triggered a wave of critical reinterpretations of the utopia known as *Theory of the Four Movements* by influential figures including the French semiotician Roland Barthes.[52] Calvino was thoroughly familiar with these studies and loved André Breton's *Ode à Charles Fourier* (1945). He was also keenly aware that the rediscovery of Fourier affected not only artists and authors but also architects, and like many of these, Calvino viewed Le Corbusier's *La cité radieuse* as an attempt to embody the phalanx.

He therefore enthusiastically supervised Einaudi's 1971 translation, *Teoria dei quattro movimenti, Il nuovo mondo amoroso, e scritti sul lavoro l'educazione, l'architettura nella società d'Armonia*, and fired off "Per Fourier" ("For Fourier"), a trio of essays intended to introduce Italian readers to Fourier's thought. The first, "Per Fourier, 1: La società amorosa" ("On Fourier, I: Brief Introduction to the Society of Love" [1971]), announced in *L'espresso* the publication of *Teoria dei quattro movimenti*. The second and longer essay, "Per Fourier. 2. L'ordinatore dei desideri" ("On Fourier, II: The Controller of Desires" [1971]), introduced the Einaudi edition, and for my purposes it is crucial to restore the meaning of *ordinatore* lost in English translation: the French *ordinateur*, a cybernetic system (or combinatory machine) to sort any number of combinations. The third and final essay, "Per Fourier, 3: Commiato: L'utopia pulviscolare" ("On Fourier, III: Envoi: A Utopia of Fine Dust" [1973]), was published just after *Invisible Cities*, as the opening entry (then entitled "Quale utopia?" ["Which Utopia?"]) in *Almanacco Bompiani 1974* (*Bompiani Almanac for 1974*), a volume dedicated to *Utopia rivisitata* (*Utopia Revisited*). In this last essay, Calvino recalls: "in the years around '68, I took it into my head to read Fourier, and to read him as one reads a poet, a novelist, or a moralist—that is, to lay one's hands on a system of moral fantasy" ("Fine Dust" 254).

Fourier had invented a "multicolored, multiform world," according to Calvino, who was then working on *Orlando furioso* and thus reminded readers that Fourier was considered "the Ariosto of utopians" in his own day ("Controller" 220). It was almost certainly Fourier who provided the immediate inspiration for the formal and epistemological structures of *Invisible Cities* and, more broadly, Calvino's reinterpretation of the discourse on utopia, for the French utopian opened the Italian author's imagination and reasoning to new possibilities for imaginative literature. Fourier's goal in 1808 was to counteract the "political ignorance of the Civilized Man" (*Theory* 3) by removing "humanity's philosophical cataracts" (276), thus sharpening the individual's ability to envision political and social alternatives. Such an endeavor implied exploring possible human relationships beyond the limitations and obstacles of contemporary civilization, which allowed only a regimented series of passions. To give expression to all of

passion's potentialities, Fourier freely created a harmonic world based on a process of combinatorial play and motion comparable to atomistic physics, in which minimal units join together thanks to motion and void.[53] The process echoes that through which Calvino expresses and simulates different urban experiences, human relationships, and desires in *Invisible Cities*, whose narrator seems to want to obtain, like Fourier, "the greatest number of effects with the least number of resources" (*Théorie* 31).

Analogously, through Fourier, Calvino began to reflect on the dialectics of unity and multiplicity. Although Fourier's combinatory of passions converged in a whole, he chose to make of this totality "the source of the multiple," as Maurice Blanchot wrote in a study that Calvino read (8). As such, it continuously generates subdividing paths rather than yielding a synthesis. In *Invisible Cities*, the dialectics of unity and multiplicity is immediately legible in the unity of the theme (the city) and the kaleidoscopic fragmentation of urban icons, on one hand, and on the other, in the rapport between the assumed and tacit ideal city (Venice) and the multiplied *simulacra* through which Polo attempts to grasp it.[54] That Fourierian dialectics was the culmination of Calvino's lifelong cognitive and literary preoccupations.

Calvino's trio of Fourier essays reveals how and why he derived from the French philosopher a convincing justification for literature. First and foremost, the novelist heralded Fourier's decision to elaborate a *working* theory for a new harmonic world that rejected all claims to the hegemonic and the normative. Thereafter, Calvino drew attention to the fact that, in Fourier's oscillation between the concrete or practical and the ethereal or abstract, he availed himself of *literary* devices to ensure that his utopian projection would not be flattened into a literal reading. Fourier preserved an imaginative contrivance in order to verify possibilities and potentialities, for example, whether or not it was possible to imagine a society where everyone was free and all desires were fulfilled. Calvino recognized how fundamental this training of the imagination was to individual and social consciousness, even claiming that he had come to recognize the ethical and social utility of fiction—the individual awareness and public good served by imaginative literature—by reading Fourier's utopian philosophy as fiction.[55] Drawing from Fourier's insistence on visualization, Calvino began to think about utopia as a heuristic mental mechanism to postulate alternatives, to oppose the sterility of a cataract-like vision.[56] He began to conceptualize a contemporary relevance for utopia, not as the representation of a liberated, ideal society, but instead as an instrument to feed the mind images (or *phantasmata*; "Fine Dust" 252). "Fourier's work," observed Calvino, has "ceased to be read as a handbook for the foundation of a new society, while continuing to function as a test of our ability to think and 'see' the freedom of all and sundry, to give meaning and stringency to limitless satisfaction of our desires" ("Controller" 243).

Equally significant, Calvino's re-visioning and rethinking of utopia went hand-in-hand with his quest for lightness. He established a link between

the creation of mental images and lightness in literature insofar as developing the "inner city" (see "Fine Dust" 252), or mental world, of the imagination would enable readers to overcome the heaviness of referentiality, or the object world they lived in everyday. As he wrote in *Le Monde* in 1970, while wholly occupied with his work on the *Invisible Cities*, lightness and the imaginative faculty were inextricably linked, as phantasy and the fantastic "imply a detachment, a *levitation*, the acceptance of a different logic based on objects and connections other than those of everyday life or the dominant literary conventions" ("Definitions of Territories: Fantasy" 72 [emphasis mine]).

Within this context, *Invisible Cities* should be viewed as a selection of mental exercises to develop in readers a healthy propensity for visualization, following on the Fourierian (and later, Marcusian) formulation of *écart absolu*, a deviation that corresponds to the atomistic *clinamen* and is translated as "absolute rejection," "absolute divergence," or "absolute separation" in *Theory of the Four Movements*. Voicing discomfort with early industrial society in 1835, Fourier had called for a utopian method based on *écart absolu*: the wholesale rejection of political, social, and moral conventions, assumptions, and theories. The tried and true could never lead to any useful discoveries.[57] Fourier's methodological concept was to significantly impact French culture during Calvino's residence in Paris. Indeed, in December 1965, André Breton called his last exhibit, the eleventh Exposition International de Surréalisme at the Galerie L'Oeil in Paris, *Écart Absolu*, under the aegis of Fourier.[58] In the same period Roland Barthes expressed how Fourier's rule of invention was one and only one: to address the "absolute new . . . in order to preach what Opinion holds to be *impossible*" ("Fourier" 88). Similarly, Calvino appropriated Fourier's method of the *écart absolu* and applied it to the imaginative faculty while voicing his repugnance for "the unlivable situation of the present" ("Literature as Projection" 52). In Paris, the city that he would later define as the city of "surrealist vision," unique in its "particular way of appreciating the power of images" ("Hermit in Paris" 173), he wrote: "the autonomous logico-fantastic machine is something I like insofar as (and if) it serves some real need: the need to enlarge the sphere of what we can imagine and to introduce into our limited range of choices 'absolute rejection' by means of a world thought out in all details according to other values and other relationships" ("Fine Dust" 252).[59]

Calvino insinuates relationships between Fourier, *écart absolu,* and ascending and Lucretian modalities of lightness that are best approached by turning briefly to other Fourierian strands of utopian thought in Calvino's milieu that were to shape *Invisible Cites*. Raymond Ruyer delved into the possibilities of a contemporary role for utopia in one of the most influential French studies, *L'utopie et les utopies* (1950). Ruyer defined *mode utopique* (roughly, "utopian mentality" or "utopian method") as a "mental exercise on lateral possibilities" (9), an intellectual and spiritual training that he considered very valuable from the educational point of view (114) (Fig. 1.1). In

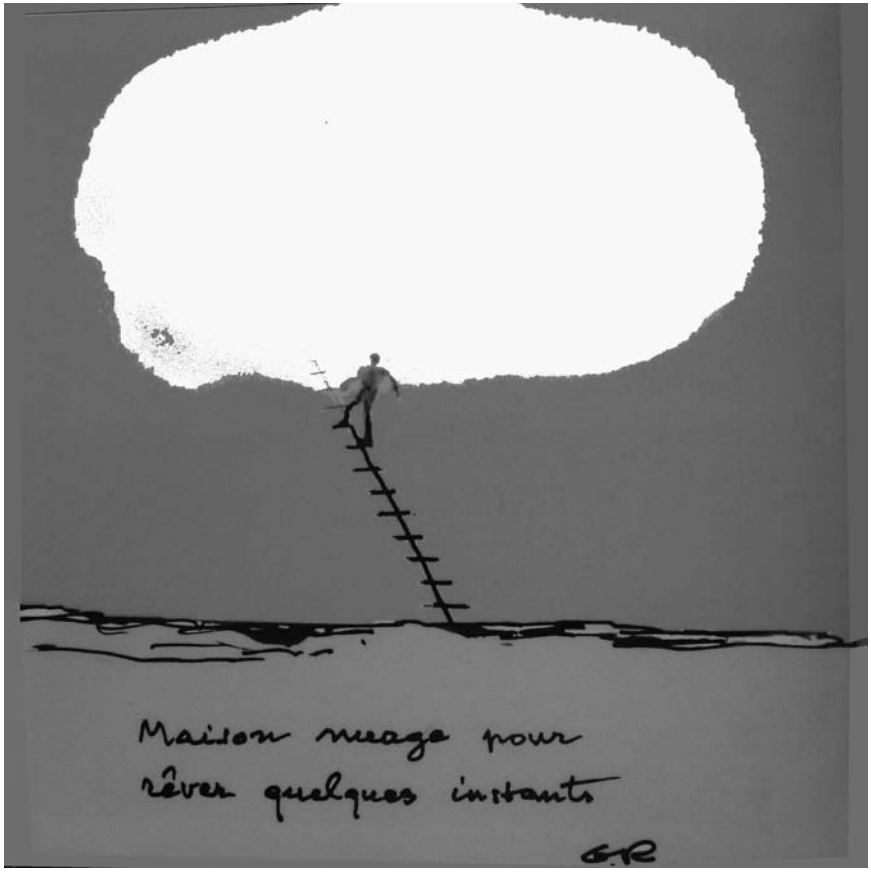

Figure 1.1 Guy Rottier, *Rêver* (*Daydreaming*). Courtesy of Guy Rottier.

the chapter "Valeur Positive de l'Utopie," he associated *mode utopique* and what I call ascending lightness, the latter understood as a distancing from the petrifying heaviness of contingent reality to expose the "mechanism of things and institutions" (124). The utopian exercise or mentality "will create the necessary distance between the free man and tyrannical massiveness of the present" (124), words that strongly echo Lucretius's own in *De rerum natura*. Ruyer emphasized that *mode utopique* freed the individual consciousness to soar above magmatic reality, as Calvino would have put it, and to challenge the idea of absolute necessity: "a free people is one who can still imagine something other than what is" (124). In so doing, the French philosopher defended the inestimable value of the "creative imagination," which grants an individual a privileged vantage for critique (124). It is the cognitive perspective made possible by distance—the very *su un altro piano*, or "on another plane," that Calvino was to theorize in *Six Memos*.

Functioning along the lines of *mode utopique*, the intellect comprehends reality more deeply, yet more *lightly*: "to comprehend a fact, an event, is to fly over it without being absorbed by it, without implicitly considering it an absolute, immutable. It is to see the lateral possibilities" (Ruyer 9). It is, from Calvino's perspective, to not become Gurduloo.

Ruyer injected into French utopianism the concept of the utopian mentality as "mental experimentation" (13): a procedure that atomizes reality and changes all the minimal parts that can be changed, highlighting the prime elements. This mental exercise involves a "rupturing of the customary combinations" (17) and thereby denies each and every "arbitrary connection" (19). Ruyer's concept of utopia as a fractioning and combinatorial mental method, a severing of conventional links in order to attain unusual combinations or masses, takes us back to Lucretian lightness. By exposing the arbitrariness of reality, the utopian exercise on lateral possibilities offers grounds for both imaginative invention and critical engagement. Ruyer's *mode utopique* distinctly overlaps with Calvino's concept of ascending lightness in the essays on magma, that is, developing the individual's critical awareness of reality and capacity for envisioning political and social alternatives, and with the Lucretian lightness of "the autonomous logico-fantastic machine" from his third essay on Fourier ("Fine Dust" 252).

Herbert Marcuse (1898–1979), one of the leading radical theorists and political activists of the '60s and '70s in both the United States and Europe, was fundamental to that period's conceptualization of the imagination as an instrument of consciousness raising. Einaudi, for which Calvino was working while he lived in Paris, published Italian translations of Marcuse's major works throughout the '60s.[60] Marcuse's ethical configuration of the imagination reverberated throughout the countercultural movement. The 1968 student movement in France, for instance, asserted the conjectural power of the imagination to transcend the poverty of existence and radically transform society. In a vein by now familiar to us, Marcuse argued that the "great refusal" was the only possible way to escape the paralyzing status quo and to understand latent individual and social potentialities. Moving away from the scientific inflexibility of orthodox Marxism, Marcuse embraced Fourier's reflections on utopia and promoted the idea of the dynamic imagination as a productive force to challenge conformity and unidimensionality and to visualize alternatives that had not yet been realized. What was the role of art in all this? Art was the revolutionary weapon that provided a new *language*, Marcuse argued, rooted in the idea of the imagination as a cognitive faculty capable of unfixing social and political institutions.[61]

Marcuse's *Eros and Civilization* (1955) achieved critical and popular acclaim in America and Europe in the '60s. In it he set forth a relationship between art and utopia that impinges directly on the cultural milieu in which Calvino was living and writing, and one that is analogous to Calvino's thinking on the "prison of representations" ("Fine Dust" 249). Just as it was for Calvino, utopia for Marcuse consisted in the mind's ability to imagine lateral

possibilities to a Medusa-like reality. The imagination was paramount insofar as it preserved traces and images of freedom ostracized within the object world. "In its refusal to accept as final the limitations imposed upon freedom and happiness by the reality principle, in its refusal to forget what can *be*, lies the critical function of phantasy" (*Eros and Civilization* 135).

Marcuse rescued the concept of utopia from its classical meaning and revitalized its function in contemporary times in *An Essay on Liberation* (1969), translated by Einaudi the very same year. Utopia should not be intended as a "no place" devoid of historicity, "but rather that which is blocked from coming about by the power of the established societies" (4). He envisaged "utopian possibilities . . . in the technical and technological forces of advanced capitalism and socialism" (4). With Calvino he approached visualized alternatives to the status quo as a valid form of political thought. For both, art was the medium through which the power of the imagination was expressed. While Calvino posited utopia as a mental strength or an inner city, Marcuse hoped for a transformation "in the infrastructure of man (itself a dimension of the infrastructure of society)" (*Essay on Liberation* 19). This precondition would develop an "imagination free to project and design the forms of a human universe without exploitation and toil" (*Essay on Liberation* 19), setting up the passage "from Marx to Fourier" (22).

Ruyer's and Marcuse's respective philosophical speculations hint at the broader countercultural context for the nexus of utopia, imagination, and literature that preoccupied Calvino during the years leading to *Invisible Cities*. As was explained earlier, utopia was urgently relevant for Calvino insofar as it could provide "images of fantasy" ("Fine Dust" 249) to the human mind or set in motion the individual's "autonomous logico-fantastic machine." Images generated by the latter made it possible "to suggest another code, another syntax, another vocabulary, by means of which to give shape to the world of your desires" ("Fine Dust" 249). This assertion uncannily echoes, a decade later, in the definition of the intellectual's ethical charge: "to help us forget that which we recall too well: ideas given to us, words given to us, images given to us, which stop us from seeing and thinking and saying the new" (Calvino qtd. in Belpoliti, *L'occhio di Calvino* 220).[62] Through *Invisible Cities*, Calvino exposes the imagination of his readers to a more generous range of hypothetical forms and constructions.[63]

Central to that enterprise was the critical reappraisal of Fourier that did not disprize his visionary agenda but, instead, found his unconventional envisionings pressingly relevant to a society in crisis.[64] Calvino credited the French utopian with having developed a great combinatorial mechanism and framed his futuristic world of Harmony as an electronic machine, or cybernetic system, to generate and sort combinations of desires ("Controller" 231). Fascinated by Fourier's "alliance of the marvelous with arithmetic," Calvino suggested a modern variation in "the alliance of Eros with cybernetics" ("Controller" 232), consonant with his conviction that the

combinatory of fiction was the cogwheel of efforts to cross the boundaries of what is seen, thought, and said, to open up a space for projections of new forms, images, and institutions. As was seen earlier, Calvino's thinking on the imagination, the combinatorial process, and the contemporary relevance of utopia owed much to the *clinamen*-like function of Fourier's *Écart Absolu*. This philosophical dodge was the insurrectional gesture of Fourier's utopian project (Malécot 112).

Along the same lines, Calvino became enchanted with Jean Starobinski's "L'empire de l'imaginaire," a chapter in *La relation critique* (1970), which he was to define as the "most exhaustive, comprehensive, and clear history of the idea of the imagination" that he had ever read (*Six Memos* 87). Starobinski's work was a reassessment of Renaissance philosopher Giordano Bruno's theory of mnemonics, specifically his conceptualization of the imagination as the fount of the mind's infinite ideas (*La relation* 185; Calvino, *Six Memos* 88, 91). Starobinski's chapter title was especially resonant in those years during which Calvino was crafting his fictional intervention in architecture and urban planning and design by generating the "orginal forms" and "invisible cities" of Kublai Kahn's empire.[65] Starobinski's work was one of the readings that most contributed to shaping Calvino's faith in the cognitive and ethical imperatives of the imagination, to judge from the lesson on visibility in *Six Memos* (87–92). Another figure of great influence was Frances Yates, whose *Giordano Bruno and the Hermetic Tradition* (1964?) and *The Art of Memory* (1966?) were translated into Italian in 1969 and 1972, respectively.[66] Under the spell of Yates and Starobinski, Calvino further developed his theorization of the imagination "as a repertory of what is potential, what is hypothetical, of what does not exist and has never existed, and perhaps will never exist but might have existed" (*Six Memos* 91).

Starobinski's and Yates's respective works confirmed for Calvino what he had been ruminating on since at least 1964: Bruno's discoveries about the imagination's centrality to cognition and his atomistic speculations about incessant transformation and the multiplicity of worlds. Bruno's model of the cosmos was an inspiration for *Cosmicomiche* (1965), according to Calvino,[67] because of its Lucretian tinges: the Renaissance humanist posited an innumerable variety of forms composed of matter and void, undergoing continuous transformation. According to Bruno's theory of the imagination, the individual's imaginative soul (*spiritus phantasticus*) received planetary influences through *vis imaginativa*, an imaginative power that served as a connective tissue between the universe (macrocosm) and the individual (microcosm). Hence, as Starobinski's "L'empire de l'imaginaire" pointed out, the imagination's centrality to all epistemological models, its cognitive, spiritual, and therapeutic functions, and its profound relevance to metaphysics.

Bruno's model of the imagination was instrumental to Calvino's conviction that exposure to imaginative literature—specifically, fictional images—could be a cornerstone of a pedagogy of the imagination. "Images must be lively, active, striking," Bruno advised in *De imaginum, signorum*

et idearum compositione, "charged with emotional affects so that they may pass through the doors of the storehouse of memory" (qtd. in Yates, *Art of Memory* 286).[68] The possibility of activating the *imaginatio*, prodding the mind to visualize unusual forms or ideas, captivated the novelist, who admired Bruno's definition of the imaginative soul as "a world or a gulf, never saturable, of forms and images" (*Six Memos* 91). For this imaginative procedure to take place, however, the mind had to be confronted with *significant* images, according to the philosopher, and here exposure to imaginative literature becomes paramount for Calvino's conjoining of the imagination, utopia, and literature. By elaborating on Bruno's understanding of the imaginative soul, Calvino was able to conceive of imaginative literature as a cognitive and epistemological exercise that explores new forms, one that turns upon an associative and dissociative combinatorial search:

> I believe that to draw on this gulf of potential multiplicity is indispensable to any form of knowledge. The poet's mind, and at a few decisive moments the mind of the scientist, works according to a process of association of images that is the quickest way to link and to choose between the infinite forms of the possible and the impossible. The imagination is a kind of electronic machine [*ordinateur* or *ordinatore*] that takes account of all possible combinations and chooses the ones that are appropriate to a particular purpose, or are simply the most interesting, pleasing or amusing. (*Six Memos* 91)

As such a combinatory machine, Starobinski argued in "L'empire de l'imaginaire," human imagination is much more than the power to evoke images stemming from the world of direct perception: it is the originator of forms or worlds, following the generative and destructive processes of atomistic physics. Such a perceptual and cognitive faculty tracks the Lucretian combinatory process that undergirds Calvino's conceptualization of utopia as a mental strength or inner city. Starobinski translated this very same concept into words that must have appealed to Calvino, affirming that the imagination was "the origin of the infinite fertility of human thought" (185) and therefore "enables human action" (174). Further, and in a Fourierian vein, Starobinski averred that "it's a power of refusal [*pouvoir d'écart*], thanks to which we are able to envision things distant and to distance ourselves from present realities" (174).

CONSTRUCTING THE INNER CITY OF THE IMAGINATION: DESIRE, VISUALIZATION, LITERATURE

Having looked at the philosophies and models of the imagination that influenced Calvino in the late '60s and early '70s, we are now better prepared to grasp Calvino's intertwining of ethical and utopian tensions and potentialities

in the urban icons of *Invisible Cities*. "To *see* a possible different world," Calvino wrote, "that is already made and in operation is to be filled with indignation against a world that is unjust and to reject the idea that it is the only possible one" ("Fine Dust" 248). Calvino maintained his faith in the visual training offered by utopia, and he emphasized the visual contributions of the "logico-fantastic machine" to the mind, a visual and visualizable quality that abstract theory lacked. Within this framework, the visualization of alternative societies was a process every bit as necessary as "'scientific' political thought" ("Fine Dust" 249). In other words, political and social utopias or visionary projections—images of alternatives ways of living—were just as powerful as political and social theorizing, or philosophizing:

> There still comes a moment when we have to ask ourselves whether that step ahead toward the scientific method has not had its losses as well—which is to say, whether along with all the paper scenarios for utopia we have not lost something invaluable. Utopia conceived of its aim, a regenerated world—and indeed, saw it—in terms of its outward results: a city, a way of living together, a whole body of ways of behaving; whereas the scientific theory was to be conceived—and, indeed, stated—in terms of philosophical discourse, abstract and a lot harder to verify. The materialism of the visionaries has far more body to it than that of the philosophers. ("Fine Dust" 249–50)

In the very same period, it is worth noting, Roland Barthes proposed a similar comparison between utopia and political science in his essay on Fourier, proclaiming the superiority of images to theory: "perhaps the *imagination of detail* is what specifically defines Utopia (opposed to political science); this would be logical, since detail is fantasmatic and thereby achieves the very pleasure of Desire" ("Fourier" 105).

The notion of utopia as a speaking picture, to which Calvino returned, is at the origins of the genre. As early as 1595, Sir Philip Sidney emphasized the value of utopia by coupling it, in *Defence of Poesie*, with poetry (both were "speaking pictures") and ranking "them both above philosophy and history as more persuasive . . . than a weighty philosophical argument" (Manuel and Manuel 2). For his part, Calvino established an affinity between the work of poets and that of utopians, in "Controller" when he remarked that Eugen Dühring's nineteenth-century disparagement of Fourier as a "social alchemist" should in the late twentieth century be considered a "happy metaphor" ("Controller" 234). Alchemical experiments to which Fourier's utopianism was derisively compared in fact consisted primarily in the art of transformation, Calvino pointed out: "as such, it establishes a relationship of affinity with the work of artists and poets, in their manipulation of linguistic and mythical material in the hope of managing by their means to 'change life'" (234). Calvino hinted at the work of poets as an alchemical task, as a transformation of the

object world, in his fiction from the '60s and '70s constructed around the use of tarot cards, in which alchemy, inner metamorphosis, and transformation of (literary) matter are combined.[69] With *Invisible Cities*, Calvino chose to take part in contemporary political, social, and aesthetic controversies through visual architectural and urban design proposals rather than theoretical or abstract interventions.

In that period of urban, and more broadly, social upheaval, while searching about for a form of aesthetic and ethical commitment, Calvino came across a text that was to become a classic of literary criticism in North America: the Canadian Northrop Frye's *Anatomy of Criticism* (1957). In his critical review of *Anatomy of Criticism* entitled "La letteratura come proiezione del desiderio" ("Literature as Projection of Desire" [1969]), Calvino was particularly struck by Frye's section "Essay on Ethical Criticism: Theory of Symbols," in which archetype is engaged as "a typical or recurring image" (*Anatomy* 99). In his critical review, Calvino expressed his fascination for the city as organizing metaphor, or *archetype*, a motif that was to have enormous implications for the novel he was then writing. Yet, there are other ways in which Frye's work impacted the narrator's novel, hitherto neglected by Calvino's scholars. Frye approached fiction (or "poetry," as he called it, following Aristotle) as "one of the techniques of civilization" (*Anatomy* 99). His definition of fictional literature as a "social fact and a mode of communication" (99) was to be of great interest to Calvino, as it showed him the way to insert literature "into the context of human activity" ("Literature as Projection" 51). This was, as the Italian put it in his critical review, a concern "still dear to [Calvino's] heart" (51). Indeed, as an activity with ethical and social ramifications for human civilization, literature effectively gained social agency through Frye's formulation.

The significance of Frye's delineation of literature as a form of ethical and social commitment to Calvino's fictional intervention in the urban crisis shall be discussed later (ch. 3). Here I wish to pause on the relationship between *civilization*, or what Frye defined in his renowned study as "the process of making a total human form out of nature," and what impelled it: *desire*, or "the energy that leads human society to develop its own form" (*Anatomy* 105). Calvino quoted this definition in his review-essay ("Literature as Projection" 50), and it was to become a concept of great urgency in his 1972 novel. Poetry is a verbal hypothesis, in its social aspect, of the "vision of the goal of work and the forms of desire" (*Anatomy* 106). Work is the efficient cause of civilization, and just as work projects a desired form onto nature, so imaginative literature too in its social and ethical aspects is an efficient cause of civilization, that is, it is part of the "process of making a total human form out of nature" (*Anatomy* 105). Not only do these words remind us of Calvino's own, in the interview with Camon cited earlier, but they are also underscored in Calvino's review-essay in which he claims to have recognized the true

value of Fyre's book, and more broadly of imaginative literature, by reading this very passage ("Literature as Projection" 51).

Nonetheless, it must be acknowledged that Calvino extrapolated from Frye's "desire" a stridently utopian component that Frye had never intended, one that served as a support for the Italian's own excursions into the utopian potential of imaginative literature. "Desire," Calvino wrote in his critical review, "in literature finds forms that enable it to project itself beyond the obstacles met on its way, . . . based as it is on the unlivable situation of the present and the drive toward the concept of a desirable society" ("Literature as Projection" 52). Fiction, in the archetypal territory of dreams, "tries to illustrate the fulfillment of desire" as well as all repugnant obstructions to its fulfillment, according to Frye (*Anatomy* 105–06). However, in this dialectics of desire and reality, of fulfillment and repugnance, Calvino bent the Canadian critic's words to supply his own ethical and social contingencies. Whereas Frye had referred to the desire for "fertility and victory" (*Anatomy* 106), Calvino wrote in his review of a "desirable society" ("Literature as Projection" 52). Frye had expressed repugnance for "drought and enemies" (*Anatomy* 106), whereas Calvino expressed repugnance for the "unlivable situation of the present," then "repugnance in opposition to the framework of existing institutions" ("Literature as Projection" 53). The reviewer's own poetic license twisted Frye's literary and archetypal anatomy into a social and political anatomy, injecting a vigorously utopian element into Frye's dialectics of dream and reality. In sum, he read Frye's categories metaphorically when it suited him and applied them to the pressing urban and social crisis of his own day.

Having acknowledged this elegant sleight of hand, we now arrive at a vastly different reading of the utopian contours of the novel Calvino was working on at the time he reviewed Frye's *Anatomy of Criticism*: an interpretation that connects the reflections matured through his reading of Frye to those he absorbed from Fourier's utopian projections. Indeed, I find a striking parallel between Calvino's speculations on the imagination and utopia in his Fourier essays, Frye's emphasis on the value of literature and the imagination in *The Educated Imagination* (1964), and the Canadian's explicit statements on utopia in "Varieties of Literary Utopias" (1965).

In 1971, Calvino wrote of the best way of "*using* utopia" ("Controller" 221), or making it relevant to contemporary culture. He concluded that even the most unfeasible utopian model was meritorious insofar as it continued to exercise its power of uncompromising opposition to reality. Its foremost redeeming value lay in its recalcitrant nature: utopia remained "*inflexible* to all conciliation, radically opposed not only to the world around us but also to the inner conditioning that governs our attribution of values" (222). As long as the concept of utopia preserved "our ability to desire a different kind of life, and our very way of looking at the world" (222), it had to be regarded "as a total way of looking that sets us inwardly free to free ourselves outwardly" (222). Utopia for Calvino was something to think *with*,

not just something to think *about*. Similarly, Frye had lamented the "paralysis of utopian thought and imagination" in his 1965 essay on fictional versions of utopia ("Varieties" 29). It was time to recognize once again, he inveighed, "the real strength and importance of the utopian imagination, both for literature and for life" (31). The Italian and the Canadian agreed, then, about the critical reactivation of utopia, and just as Calvino cautioned against valuing utopia primarily as a description of a future society, so Frye asserted: "utopian thought is imaginative, with its roots in literature, and the literary imagination is less concerned with achieving ends than with *visualizing possibilities*" ("Varieties" 31 [my emphasis]). Frye deemed "utopian thinking" ("Varieties" 31) beneficial for present day society, because it entailed an invaluable "effort at social imagination" and it trained readers to identify the constructed nature of social forms (32).

Yet, perhaps the most striking similarity between Frye's and Calvino's respective speculations concerns the ideal place of utopia. For Calvino, utopia was "a total representation" that "frees us inside to make us capable of freeing ourselves outside" ("Per Fourier, 2: L'ordinatore" 281).[71] Frye's thought coincided with Calvino's, as the Canadian qualified utopia as an *internal strength*, and Calvino designated it as an inner city, or imaginative conjectural tool that increased the person's perception and consciousness of reality, and of alternatives to reality. The legacy of Plato can scarcely be overstated here. Referring to Plato's *Republic* (bk. 9, 319-20), Frye reminds his readers: "the Republic exists in the present, not in the future. It is not a dream to be realized in practice; it is *an informing power in the mind*" (34 [my emphasis]). As Frye puts it, "it is good discipline to enter [utopian thinking] occasionally" (36), as it "clarifies [one's] standards and values" (36). Calvino's thinking on utopia was itself informed by Plato's *Republic*: "Utopia" should be approached "not as a city that can be founded by us but that can found itself in us, build itself brick by brick in our ability to imagine it, to think it out to the ultimate degree; a city that claims to inhabit us, not to be inhabited" ("Fine Dust" 252). The very fact that material attempts to achieve Fourierian societies of Harmony had inevitably failed was irrefutable evidence, for Calvino, that *mode utopique* was about visualization and cognitive exercises, not material results. Enlarging "the sphere of what we can imagine" was a social necessity for Calvino, and imaginative literature should develop in readers a utopian mentality, which shifted the attainment of utopia from the public sphere to the private. This meant emphasizing the constructive rather than the descriptive aspect of utopia. Frye's pronouncement on utopian literature confirmed this: he endorsed Plato's idea that utopia should be "an element in the liberal education of the individual free man, permitting him a greater liberty of mental perspective than he had before" ("Varieties" 37).

In 1964 Frye linked the paralysis of the utopian imagination to the dearth of formal education in the humanities, which created an imaginative deficiency in citizens (*Educated Imagination*). He lauded the pedagogic potential of images in a passage that brings to light still another affinity between

the Italian novelist and the Canadian literary and cultural critic. As was observed earlier, Frye asserted that visions of utopia permitted "greater liberty of mental perspective" ("Varieties" 37) and aided in "visualizing possibilities" (31). Here it should be added that such a power inhered not exclusively in images of utopia, for Frye, but in literary images overall. Frye goes back to the idea that desire motivates civilization because it is desire that, in the "dialectic between necessity and freedom" (*Educated Imagination* 20), functions as a creative force in shaping the environment: "desire to bring a social human form into existence: cities, . . . , civilization" (22). "So we begin to see where the imagination belongs in the scheme of human affairs," the critic writes, "it's the power of constructing possible models of human experience" (23). On this ground, according to Frye, humanistic and scientific cultures converged, for the imagination was the capacity to create a "mental construct, a model of a possible way of interpreting experience" (23). This was fundamental in the sciences for practical reasons because "without a constructive power in the mind to make models of experience, get hunches and follow them out, play freely around with hypotheses, and so forth, no scientist could get anywhere" ("Varieties" 95).

A few months after publishing his review-essay "Literature as Projection," Calvino wrote a letter to Mario Boselli dated October 1969 (*Lettere 1940–1985* 1061–62), which bears witness to his belief that literature should operate as projection beyond the obstacles met in what he considered an unlivable and repugnant present. Confronting the impossibility of direct participation in such a society, Calvino articulated the belief that the most viable contemporary form of literature had to narrow the distance between the humanities and the sciences, be based on conjectural projections, and serve as a tool for developing the individual imagination and consciousness. It is a posture wholly in keeping with Frye's, and one that implied a creative building of theoretical models or, as Calvino put it, autonomous logico-fantastic machines. The ethical and social aim of constructing invisible models of alternative societies was, he wrote Boselli, that of making visible "the stress points in empirical reality, that is, *those in which the operations of history can find a breach through which to advance*" (*Lettere* 1062). Later, Calvino's unstinting ethical and social *engagement* emerged again in a letter he wrote to Falaschi dated 4 November 1972, revealing the novelist's perduring insistence that there were possible exits, through fiction and through the imagination, from the negativity of neocapitalism (*Lettere* 1180–81). In 1973, clearly discomfited by the interviewer Camon's accusation that *Invisible Cities* was riddled with negativity and counter-Enlightment thinking, Calvino restated his faith in "the use of a formalized, deductive, structural model," which he considered "a necessary operative instrument, whether as a scheme of the present or as a projection of the future (or utopia or prophecy) to oppose to the present" ("Colloquio" 2796). This was the only *ideological* discourse that Calvino could still believe in, for it literally centered on the generation of *ideas* through *logic* ("Colloquio" 2777).[71]

As Calvino developed the concept of utopia as an inner city or Fryean inner strength, he continued to write *Invisible Cities*, itself a logico-fantastic machine generating micro urban models where logic both serves image making and provokes a renewed vision of city life. The ethical and social contours of the imagination that Calvino elaborated in those years have gradually come to the foreground in this chapter. It remains to be seen Barthes's sustained influence on Calvino during that period helped to shape his thinking on utopia, the imagination, and literature.

THE THERAPEUTIC BENEFITS OF IMAGE MAKING

In *Six Memos,* Calvino introduced the example of Ignatius de Loyola's 1548 *Spiritual Exercises (Exercitia Spiritualia*) in his chapter on visibility (83–86). It was probably to Barthes's essay "Loyola" (1971) and his lengthy preface to the 1972 French edition, *Exercises spirituels* (1972), that Calvino owed his long-standing interest in the enormously influential handbook by the founder of the Jesuits now known as St. Ignatius.[72] Loyola's work, by nature pedagogic, inspired Barthes and Calvino to buttress their belief in literature as the irreplaceable provider of *exercitia* for the imagination. Just as Loyola had aimed for the retreatant's spiritual overhaul through a systematic method of *mental transformative exercises* based on the power of imagining, so Barthes and Calvino deemed a training in making images out of nothing a tool to develop potentially transformative abilities that would raise the individual's ethical and social awareness.

Barthes's and Calvino's respective debts to Loyola stemmed from his emphasis on the production of mental visualizations. In the prelude to each exercise, the founder of the Jesuit Order and their curriculum (*ratio studiorum*) instructed readers to concentrate on visualizing the composition of place, on "seeing with the imagination" the physical location of the scene contemplated (*Spiritual Exercises* 23). Loyola's most salient contribution to Barthes's and Calvino's respective theories of the imagination was the Renaissance idea that the retreatants' mental fabrication of images was vital to their spiritual awareness and to their perceptual and cognitive development.[73] Published in 1971, precisely when Calvino was immersed in writing *Invisible Cities*, Barthes's "Loyola" (*Sade, Fourier, Loyola* 38–75) distinguished between the imaginary—or a reservoir of images—and the imagination (49). Loyola's reservoir, "the network of images [he] spontaneously draws upon," was skeletal (49–50). His imagination, on the contrary, was powerful and "exhaustively cultivated" (51). Barthes defined the Ignatian imagination in the "wholly active meaning it can have in Latin," as the energy enabling the fabrication of a new language, or the faculty that generates the new (51).

On Barthes's view, Loyola's images resulted from the parceling out of the whole into its constituent parts, a division into fragments containable

within a frame. At the same time, Calvino was parceling out the urban whole into discontinuous but contiguous minimal units in *Invisible Cities*: each a miniscule "composition seeing the place," as Loyola prescribed (*Spiritual Exercises* 23), or a "visual composition of the place," as Calvino interpreted Loyola (*Six Memos* 84). The semiotician approached Loyola's images as *views*, "in the sense this word has in graphic art (View of Naples, View from the Pont-au-Change, etc.)" ("Loyola" 56). What made Loyola's "language of 'views'" (56) particularly effective was that such units of imaginary perception were "caught up simultaneously in a difference and a contiguity (of the narrative type) . . . captured in a narrative sequence," like "successive illustrations of a novel" (54–55). By hitching each view to a logic of rupture, Loyola established a semiotic code, Barthes contended: "Ignatius has linked the image to an order of discontinuity, he has articulated imitation, and he has thus made the image [itself] a linguistic unit, the element of a code" (56). That code was based upon a deliberate procedure of perceptual discernment or judgment (*discretio*, an oft-used term in *Spiritual Exercises*) that distinguished and separated differences and that was lushly illustrated in eighteenth-century editions of Loyola's manual. Now the direct and indirect influences of Loyola on *Invisible Cities* can be appreciated, first in the series of vistas (or *vedute*) in the novel, then in the *discretio* that identifies and segregates individual units within the continuum of urban matter.[74]

The affinities and sharings between Calvino and Barthes are unmistakable when Calvino's views on the imagination are juxtaposed with Barthes's observations on Loyola. The French semiotician focused on what he called Loyola's creation of phantasmatic *tableau vivants*: visual renditions of abstract concepts ("invisible" concepts, Loyola called them) in concrete, material scenes (Barthes in Loyola, *Exercises spirituels* 36). Calvino, in the chapter on visibility in *Six Memos*, refers explicitly to the *Spiritual Exercises* as a lesson in how to create icastic representations (83–86). Like Barthes, Calvino highly esteemed Loyola's revolutionary efforts to break free from the abstraction of language and establish the image as the principle tool of meditation, ascribing to inner vision the primacy of perception (Barthes qtd. in Loyola, *Exercises spirituels* 42). Barthes spoke in this case of an "orthodoxy of the imagination," where the image is the new minimal unit of the language that Loyola builds (Barthes qtd. in Loyola, *Exercises spirituels* 40). The creation of *phantasmata* thus becomes the alphabet of the penitent's inner vision (or the reader's inner city). Loyola's form of visual meditation enables the practitioner to experience, identify, and judge specific spiritual experiences, thereby acquiring perceptual, cognitive, and decision-making skills (Heelan qtd. in De Nicolás xiii).

In Loyola's *Spiritual Exercises*, the art of "bringing to memory" is a tool to instruct the intellect. At the most immediate level it ensures concentration: the retreatant builds detailed visions in his mind "so that the intellect, without meandering, may reason with concentration" (64). At a deeper

level, however, such a tool allows the individual to subjectively and cognitively reinterpret (through the act of building images) sensorial perceptions, sins, souls in hell, angels singing, etc., therein performing a "radical hermeneutical act . . . born from a sheer power of imagining" (De Nicolás 40–41). On the same wavelength, and echoing Barthes's observations above, Calvino wrote in *Six Memos*: "what I think distinguishes Loyola's procedure, even with regard to the forms of devotion of his own time, *is the shift from the word to the visual image as a way of attaining knowledge of the most profound meaning*" (86 [emphasis mine]).

In "Loyola," Barthes compared Loyola, or the spiritual director, to a doctor who tries to develop the retreatant's ability to manipulate phantasmata, in particular to a psychotherapist who tries to inject images into the hypotonic and arid mind of the patient. Barthes qualified a dearth of images as a symptom of a sickness that made those afflicted incapable of producing phantasmata, and he called for exercises to stimulate the production of images in therapeutic terms. Barthes mentioned explicitly *Psychosomatic Research: Seven Clinical Cases* (1971), by Pierre Marty, Michel M`Uzan, and Christian David, which in turn made Calvino reflect on the relationship between imaginative scarcity and pathology, and reconfirmed his formulation of the imagination as a force capable of confronting the most intractable individual and social problems of a frenzied era.

Psychosomatic Research showcased what was then an emerging discipline, psychotherapy, as it recounted the cases of patients beset with psychosomatic illnesses. Mannoni's foundational study, *Clefs pour l'imaginaire ou l'autre scène* (1969), had already sparked great interest in psychoanalytic theory in Italy through its 1972 translation *La funzione dell'immaginario* (*The Function of the Imaginary*). In contrast, *Psychosomatic Research* was a collection of clinical dialogues between therapists and patients that underscored the health benefits of representational or visualization activities, the absence of which triggers pathological conditions: the seven patients were incapable of seeing images in their minds, incapable "of inventing, of manipulating material, of sorting it out" (Marty et al. 148). The three psychotherapists insisted on the "poverty" and "precariousness" of the "intellectual and phantasmatic tools of the patient" (24), thereby establishing a causal relationship between mental activity and disturbed somatic activity. Asked about their oniric and visualizing activities, the seven patients demonstrated a lack of energy, reached an impasse, and eventually crashed altogether, experiencing what the doctors termed a "disintegration" or "debacle" (27) caused by the scarcity of their "representational activities" (28). When the therapist pressed one of the patients to produce visual associations, the patient fell into a state of "petrification," "stupor," and "non-responsiveness" (27). *Psychosomatic Research* deemed it fundamental to stimulate "representational activities" (33) in the patients, so they would become conscious of the situation that had triggered the pathology and begin to heal. It was therefore essential that the

therapist adopt a pedagogical attitude or posture that (like Loyola's) would train patients in the exercise of image making. Calvino and Barthes must have been intrigued by the descriptions of each psychotherapist's efforts to bring images to the surface in their patients, to remove their "phantasmatic inhibition," or capacity for making mental pictures and visualizing situations (187n36).

Calvino's reading of Loyola, Barthes, and works on the imagination or image making during his French residence prompted him to link together Fourier's insistence on the visibility (or visualizability) of utopia, Frye's observations about utopia and the imagination, and the ethical and social ramifications of developing the individual's inner city, or what Barthes called the "capacity for phantasy manipulation" ("Loyola" 69). This clustering is often reflected in the intensely visual nature of his 1972 novel, whose descriptions foster image making. Of course, the act of reading itself triggers the imaginative process that produces visual images out of words. But the novel goes beyond that, exceedingly effective at triggering visualization in readers, in what Calvino called in his chapter on visibility the "'mental cinema' of the imagination,'" where images are projected "before our mind's eye" (*Six Memos* 83), compelling readers "to paint frescoes crowded with figures on the walls of [the] mind" (86).[75]

The readings analyzed in this chapter and others discussed later (ch. 2) made Calvino sensitive to the dangers of imaginative entropy, the stagnant effects of the individual inability to produce phantasmata. Visibility, the "American lesson" (*lezione americana*) from the '80s that owes the most to the authors discussed here, came out of this context. The risk of imaginative emptiness became to Calvino's eyes even more severe as the years went by, and society became more and more dominated by the media and the "unending rainfall of images" (*Six Memos* 57). "What will be the future of the individual imagination in what is usually called the 'civilization of the image'? Will the power of evoking images of things that are *not there* continue to develop in a human race increasingly inundated by a flood of prefabricated images?" (*Six Memos* 91). For Calvino, the problem since the late '60s was the widespread leveling or homogenization of images in the mind of each individual, where no image could stand out with clarity and visibility. In what he called the "rubbish dump" of memory (*Six Memos* 92), all capacity to generate the new, "the power of evoking images of things that are *not there*" (91), of "bringing visions into focus with our eyes shut, of bringing forth forms and colors from the lines of black letters on a white page, and in fact of *thinking* in terms of images" (92), was imperiled. To remedy this malady Calvino advocated *visibility* as a desirable characteristic of fiction, endorsing "some possible *pedagogy of the imagination* that would accustom us *to control our own inner vision without suffocating it or letting it fall*" (92 [emphasis mine]).

He diagnosed a pathology (the plague of images, a concept that became, after his reading of *Psychosomatic Research*, more than metaphorical) and

prescribed a therapy. The therapy of course relied on literary means, as he indicated in his chapter on exactitude: "what interests me are the possibilities of health," he wrote. "Literature, and perhaps literature alone, can create the antibodies to fight this plague" (*Six Memos* 56). Both healing and preventive, the power of image making is the therapeutically sound means offered by imaginative literature: "thinking in terms of images," as through the icons offered in *Invisible Cities*, was for him (and, he hoped, for his readers in 1972) a matter of "daydreaming *within* the pictures" (*Six Memos* 94), of practicing images crystallized into "a *well-defined, memorable, and self-sufficient form, the icastic form*" (*Six Memos* 92 [emphasis mine]). In this heuristic itinerary, readers and Kublai Khan are guided by the traveler Marco Polo, who has constructed his inner city of the imagination and who exercises inner vision (ch. 3).

In this sense, the convergence of utopia, ethics, and the imagination developed in Calvino and other authors, artists, and philosophers of the period the belief in the utopian mentality as a tool to be employed for pedagogical goals. As Ruyer incisively phrased it: "the utopianist can be a thinking guide . . . helping [us] to comprehend and to foment the spirit of invention and initiative" (118). One of the most important documents in support of Calvino's conjoining of utopia, the imagination, and literature in those years is the 1973 interview with Camon. The novelist's fascination with the conceptual knot between utopia and the imagination, which he had been turning over in his mind for many years as he read Fourier and Frye, emerged in that interview, along with his profound disappointment that his efforts to rehabilitate Fourier's utopianism had not had the desired impact on the Italian intellectual establishment ("Colloquio" 2792). When Camon inferred that the utopian, ethical, and social dimensions of Calvino's fiction had exhausted themselves over the years, the author vehemently contested the charge by invoking what had motivated his trio of essays on Fourier:

> I wanted it to be my contribution to the mix of ideas from that time. It's a work that I carried inside of me for at least five years. I wanted this author, this world, *this mode of making the brain work*, different from all the others, to enter into the Italian circuit of ideas, into the patrimony of influences that are behind politics as well as literature, as a point of reference if nothing else, so that people would know that you can think *this* way and not just *that* way. But it didn't happen. The chosen experts made me understand that it was better for me to keep away from their territory, and the literary establishment didn't even take notice. ("Colloquio" 2792)

He further pointed out that *mode utopique* was a training of the imagination that heightened ethical and social awareness, a way of thinking and being that had transformative potential for the individual and for society:

> It was also because my attitude towards Fourier wasn't easy to define. I wasn't looking to him for practical advice, but for training in ethics and the ways of the imagination. I read him as an author of fiction, but you could say I read every author that way, looking for new possibilities for the workings of reason and the imagination, *and only after this training has been engraved upon our mental patterns, could it also influence our practice*, though we don't know how. . . . I believe that the relationship between the written world and the world of actions must travel a long road; it must prove its capacity to crystallize the diverse materials that it has accrued over time. *And that's how not only philosophers but also poets change the world*. I don't know of any more direct relationships, or anyhow I don't believe in them. ("Colloquio" 2792–93 [my emphasis])

One year after the publication of *Invisible Cities*, then, Calvino's expectations for imaginative literature and for himself as an author were unequivocally ethical and social. The acquisition of a new modality of imagining might eventually translate into social praxis. The written world and the object world might enter into a dialogue: imaginative literature could actively participate in changing the world. *Nihil potest homo intelligere sine phantasmata*.[76]

2 *Retroterra*
Urban Planners, Architects, and the City in Crisis

> "During this period [the late '60s], there was amazing vitality in the exchanges between different cultural fields, which is almost unimaginable today, when each discipline has slipped neatly back into its own little box. Architecture, the history of architecture, and architectural ideology played a greater cultural role . . . " Alberto Asor Rosa, "Manfredo Tafuri, or, Humanism Revisited" (29)

"What is the city today, for us? I believe that I have written something like a last love poem addressed to the city, at a time when it is becoming increasingly difficult to live there." These were among Calvino's remarks about *Invisible Cities* written during "a period of crisis in urban life" already signaled by a torrent of nonfiction and fiction prophesying disasters in the near future. Born of that crisis gripping "the unlivable cities we know," the novel was designed to intervene in the conversations and debates about the modern city. Although acknowledging both the proliferation of the megalopolis (the "unending, undifferentiated city which is steadily covering the surface of the earth") and the possibility of total urban paralysis, he refused to be glum: "there are already numerous books which prophesy catastrophes and apocalypses: to write another would be superfluous, and anyway it would be contrary to my temperament."[1]

Calvino's own words confirm that *Invisible Cities* explores much more than the ontological and epistemological propositions that are identified with postmodern fiction. The novel was engaged in an explicit and implicit dialogue with the theories, projects, expositions, and critical histories devoted to revitalizing urbanism and renewing city life and civic engagement in an era revered for its singular mixture of upheaval and optimism. Calvino hinted at the urbanistic *retroterra*, or backdrop, to the novel on numerous occasions. Reconstructing that *retroterra* clarifies the implicit and explicit relations between his 1972 work and the popular and academic discourse on the city in his times. This *retroterra*, moreover, explains why his novel is still taught at most North American schools of art and architecture and why it is revered by urbanists at large, unaware though they are of Calvino's extensive borrowings from their multidisciplinary field.

A considerable chunk of that *retroterra* surveys the roots of the counterculture in urban planning and design in the '60s and early '70s: the birth of what has been called "the new paradigm of thinking." The latter stemmed from a shifting worldview and signaled the beginning of urbanism's

protracted engagement with the natural and material sciences (especially complexity and chaos theories), which was to fully bloom in what we today know as postmodernism (Jencks 1). Intimately related to that new paradigm was the semiotic turn taken in the '60s by fields other than linguistics and literature. Structural semiotics was pivotal to reshaping the critical conversations in architecture and urban planning and design. Calvino's engagement with semiotics has not gone unnoticed by literary historians, but the latter have almost completely ignored the glaring convergence of semiotic preoccupations and theorizations in urban studies and literary studies during the late '60s and early '70s. As arguably his most socially engaged novel, *Invisible Cities* represents the quest for a new language to oppose to modernism's alienating reductiveness.[2]

During the '60s, the future of the city was the object of a varied and vigorous debate because the city of the present was deemed incapable of meeting the demands of a society in rapid expansion. Governmental task forces, civic associations, and professional urbanists alike were engaged in protracted, sometimes heated discussions about urban revitalization (Fig. 2.1). The enormous quantitative growth of the urban and industrial system profoundly altered the makeup of individual nations and the world order more broadly, as the industrial economy and urban model of living politically and economically dominated even those countries and regions that were predominantly rural and unindustrialized. In Italy, economic growth caused heavy immigration from the South to the North and rapid urbanization, which spelled real estate speculation and hastily built

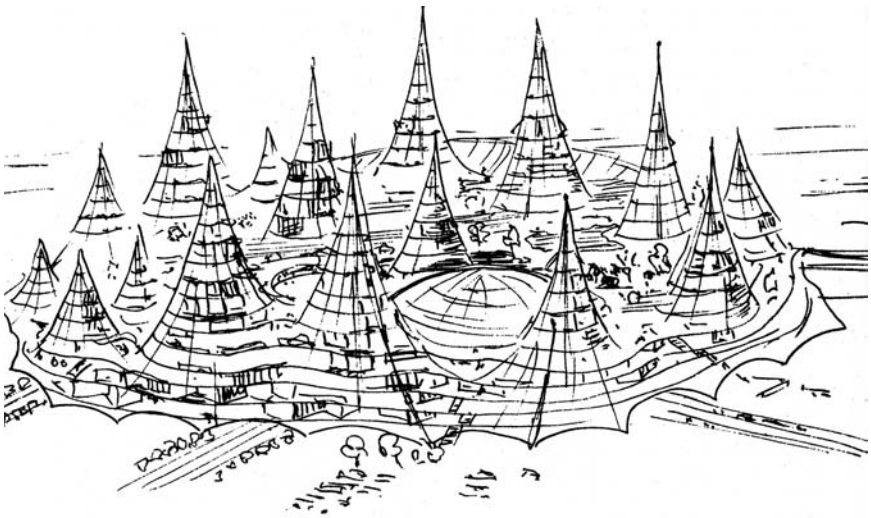

Figure 2.1 Otto Frei, *Petite ville de l'avenir* (*Small City of the Future*), 1960. In *Histoire mondiale de l'architecture et de l'urbanisme modernes*.

apartment buildings. Not only did the economic and social conditions of the majority of Italy's population change, but urban development in the Western mode was changing the architectural face of the Italian city as they knew it.[3] Some of the buildings directly associated with that era of transformation and technical development, and with the urban crisis itself, were shopping centers, hotels, garages, retail chains, office parks, and housing developments.[4]

The call for a new understanding of the city swept over architecture as well as urban planning in Italy.[5] In 1966 there appeared three foundational studies of architectural theory and history, two in Italy and one in the United States: Aldo Rossi's *L'architettura della città* (*The Architecture of the City*), Vittorio Gregotti's *Il territorio dell'architettura* (*The Territory of Architecture*), and Robert Venturi's *Complexity and Contradiction in Architecture*. All three were the result of the era's constant attention to the urban crisis, which spurred an entire generation of architects to seek out new coordinates for architecture after the exhaustion of modernism. Both Gregotti and Rossi criticized the modernist movement's theories of the city. Rossi's work in particular was translated into several languages and became a key reference for all who were drawn to the emerging paradigm in architecture and to fostering a closer relationship between urban analysis and architectural planning. Venturi's complexity theory has been correlated to postmodern literary theory because his projects amplified some architectural elements and displaced others—playing with scale, shuffling forms, combining discordant styles and contrasting codes. The ideas he expressed would influence postmodern architectural thinking for several decades (Oliva 1; Jencks 1–3, 9–24).

Like architects, city planners called for a more complex urbanism in the '60s, and a handful of studies examining high-density urban environments exercised an enormous influence on the various disciplines of urban studies, even in Italy. Jane Jacobs's revolutionary *Death and Life of Great American Cities* (1961), for example, was published in Italian translation by Einaudi in 1969. Jacobs envisioned an organic urbanism that presaged by some forty years contemporary urban theory's interactions with the life and material sciences (Jencks 1; Shaviro). In the same year there appeared French and Italian translations of Peter Hall's *The World Cities* (first published in 1966). These and other studies brought to light the spirited international dialogue—often carried out in translation—about urban planning and design theory inspired by social realities in the United States, whose urban and social ills (sprawl, alienation, congestion, suburbs, and exurbs) were viewed as the future of Italy's cities.[6]

Amidst so many critical speculations about the urban future, Giorgio Simoncini's 1970 *Il futuro e la città: Urbanistica e problemi di previsione urbana* (*The Future and the City: Urban Studies and Problems in Urban Planning*) stands out. The result of a debate held in Rome on 29 November 1968, Simoncini's study underscored the changing realities to which urban

planners should adapt by using a thoroughly interdisciplinary approach, one that would reach beyond the concept of form in order to include technical, social, economic, and political needs in urban design discussions. *Il futuro e la città* reveals the increasingly futuristic orientation of the physical and social sciences, charged as it was with anxieties and expectations surrounding the mythical year 2000. Urban planning was not immune from this widespread interest in prediction and planning: to the contrary, the discourse of urban planning was expanding to become an important subfield. Simoncini's views were in harmony with those expressed in two revealing forecasts for the coming millennium: Jean Fourastié's *Les 40.000 heures* (*Forty-Thousand Hours* [1965]) and Herman Kahn and Antony J. Wiener' s *The Year 2000* (1967). In both, the authors coolly affirmed that urban planning needed to become a central focus of specialists, politicians, and everyday citizens so that society would be better-equipped to usher in the new millennium.

Lewis Mumford revitalized urbanism in both France and Italy as translations of *The Story of Utopias* (1922, 1962), *The Culture of Cities* (1938), *The City in History* (1961), and *The Urban Prospect* (1968) became readily available and widely disseminated in the '60s, when Calvino was living in Paris and travelling regularly to his native country. In Italy, Mumford's moralistic and feisty analysis of the city and of utopia invested him with authority even among nonspecialists, transforming him into a legendary opinion-maker. *Urban Prospect* resonated with those involved in urban renewal in Italy because his historical synthesis—his vision of the city as a determining factor in human development—was unprecedented. It shaped the thinking of an entire generation of architects and urban planners. The city was the center of maximum energy and culture, for the North American historian; it was organicity, it was a sense of connectedness. It was through Mumford, primarily, that the concept of the city as "the social and physical space where human creativity finds its maximum potential for expression" became enshrined not only in Italian culture but in Western culture more broadly.[7]

Calvino, thanks to his editorial work at Einaudi and to his friendship with architectural historian Joseph Rykwert,[8] became fully immersed in that intellectual and cultural context, and alert to the numerous publications on the past, present, and future of the city. Between the late '60s and early '70s, Einaudi allotted a large amount of its resources to publications on the city, architecture, and utopia, including numerous works by the renowned Italian architect and theorist Bruno Zevi.[9] It is not at all surprising, then, that Calvino would characterize *Invisible Cities* as not evocative of an abstract or atemporal idea of the city but, rather, as directly reflective of the material or historical city: "I feel that the idea of the city which the book conjures up is not outside time" ("Calvino on *Invisible Cities*" 40). He left us an unequivocal declaration of his intention to insert the text into then-contemporary discussions in urbanism:

> I have heard from a number of friends in town planning that the book touches on some of the questions that they are faced with in their work; and this is no coincidence, as the *retroterra* from which the book springs is the same as theirs. And it is not only towards the end of the book that the "big number" metropolis appears; for even the pieces which seem to evoke ancient cities only make sense insofar as they have been thought out and written with the city of today in mind. ("Calvino on *Invisible Cities*" 40)

By painting in broad strokes that culture of crisis it becomes explicit how and why his contribution stemmed from and reinvigorated those ongoing debates. Two supporting beams in particular allow us to reconstruct the relations between Calvino and the urban planning experts: first, Gianni Celati's reminiscences about his years of closest friendship with Calvino (Barenghi and Belpoliti); second, Calvino's own bibliographical trail that is traceable thanks to a note in the original Italian essay ("Per Fourier, 2: L'ordinatore dei desideri" 281n1) that was not translated in the English version, "On Fourier, II: The Controller of Desires."

During the period of gestation of *Invisible Cities*, Celati and Calvino were cultivating a multilayered exchange of ideas and projects, nourished through written correspondence and personal visits when Calvino would return to Italy from Paris. From this period of feverish intellectual and social change, Celati recalls a wide array of books that the two friends were reading, debating, and recommending to each other: "all of these books looked like a cave of Ali Baba's where by daring to sneak into it we had discovered inestimable riches that were enough to keep us happy for a lifetime" (Celati qtd. in Barenghi and Belpoliti 316–17). Among their "various disordered readings" were a host of studies on urbanism, utopian thought, and visual perception (Celati qtd. in Barenghi and Belpoliti 316). Titles on the modern city included Mumford's *City in History*, Jacobs's *Death and Life of Great American Cities*, and Françoise Choay's 1965 *L'urbanisme, utopies et réalités* (*Urbanism, Utopias, and Realities*).[10] The latter is an anthology of paramount importance to *Invisible Cities*. Calvino would later qualify Choay's study as "extremely useful" and recommend its publication to Einaudi, resulting in the 1973 Italian translation, *La città: Utopie e realtà* (Calvino, "Per Fourier, 2: L'ordinatore," 281n1). Their readings also included Kevin Lynch's *The Image of the City* (1960), required reading for urban planners in Italy after its 1964 Italian translation, and the 1972 anthology *Human Identity in the Urban Environment*. To these encounters in the intellectual caldron of Ali Baba's cave we must add histories of modern urbanism that Calvino would later declare that he had read while preparing his introduction to Fourier's *Theory of the Four Movements* and *New Amorous World*: studies by Leonardo Benevolo and Carlo Aymonino that detail Fourier's city as well as the utopian projects of his followers, and Austrian-American architect Victor Gruen's 1964 *The Heart of Our Cities:*

Urban Crisis: Diagnosis and Cure. Another manifesto, Filiberto Menna's 1968 *Profezia d'una società estetica* (*Prophecy of an Aesthetic Society*), which explores "the nexuses between utopia, modern art, and urbanism," would take on a foundational role in the *inventio* of *Invisible Cities*. René Schérer's *Fourier ou la contestation globale* (1970) was also among his readings from this period (Calvino, "Per Fourier, 2: L'ordinatore," 281n1).

This was the ensemble to which Calvino wished to add his own voice; this was the urban imaginary into which he inserted his most famous novel as part of an interdisciplinary and intertextual dialogue. He was intervening in what he defined, in the last of his trio of essays on Fourier from 1973, as a utopian "field of energy." He was proposing a "creative equivalent of utopia . . . in our own age" and at the same time dialoguing with others who were forging a new academic and public discourse around the modern city in an era of rapid industrialization and increasing urban stress (Calvino, "Fine Dust" 246). Keenly aware of the ethical and social imperatives of urban renewal, of the need to discover new forms of urban living that might make the city livable once more, Calvino chose to theorize and demonstrate in novelistic form his concept of utopia as a perceptual and cognitive therapy for the imagination that could enable his readers (or travelers) to envision alternatives to existing urban forms and social conventions.

UTOPIA REVISITED: REIMAGINING THE PRESENT AND FUTURE URBAN ENVIRONMENT

Calvino highlighted how the rediscovery of Charles Fourier in his time was not limited to poets and fiction writers, but also involved architects and urban planners because Fourier was seen as a "precursor of town planning" ("Controller" 221). Indeed, at the end of the '60s and the beginning of the '70s those who were the most insistent that utopian thought was still relevant, and were mapping out its political and social applications, were architectural theorists and urban planners. It is impossible to exaggerate their contributions to the critical examination and reinterpretation of utopian thought. Nearly all of them were in agreement about the scarcity of original ideas in the planning and design of the city of the future, and about the chronic pervasiveness of what Zevi defined as an "alarming *sclerosis of the imagination*" (qtd. in Mariotti 89 [my emphasis]). Thus their search for utopia became what many characterized as a dialectics of models-to-be-surpassed and new creative ideas. In this vein, architects and city planners (especially the so-called *visionary architects* discussed in ch. 4 of this study) favored a "de-mystification" of the city in order to "come back to the city in the most unencumbered and original way," freed from the demands of business monopolies, politicians, and developers (Mariotti 96). Today utopia is primarily imagined as an aesthetic project. However, in the '60s and

'70s, utopia was a question of engagement, that is, an ethical and social stance or commitment.

As Italian architectural theorists and urban planners were appraising the legacy of utopian thinking, they strove to assess the potential significance of utopia to their political and social contexts.[11] In 1965, the architect Manfredo Tafuri gave a lecture at the congress of the National Town Planning Institute, "La nuova dimensione urbana e la funzione dell'utopia" ("The New Urban Dimension and the Function of Utopia"), which cast doubt on utopia's value to urbanists. L. M. Boschini's "Utopia come ipotesi di lavoro" ("Utopia as a Working Hypothesis"), which came out in the May 1966 issue of *Casabella*, contrasted his pessimism. Academic and professional discussions about the role of utopia within urban planning and architecture established a range for utopia that spanned from the collective to the revolutionary, reaching its apogee in the 1969 architectural exhibition and meeting in Turin "Utopia and/or Revolution," centered around the same theme. Whereas several architects and urban planners sided with Marcuse's rehabilitation of utopia as a way to combat capitalism, others shared with Tafuri's pivotal 1969 essay, "Towards a Critique of Architectonic Ideology," the idea of utopia as an instrument complicit with capitalism.[12]

Two publications that same year entertained the recovery of utopia as a transformative instrument of social policy. The first was Mumford's *A Story of Utopia*, finally translated into Italian in 1969, which shaped the second: Pier Luigi Giordani's *Il futuro dell'utopia* (*The Future of Utopia* [1969]). Like Calvino's essays on Fourier, Giordani's study attributed the era's "renewed interest in utopia" (both spatial and social) to the deficiencies of postindustrial society, while speculating about contemporary applications of utopia and utopian thinking (1). The Italian utopian thinker believed that his compatriots' fascination with utopia stemmed from the synthesis of widely circulating works by Karl Mannheim, Ruyer, and Mumford: *Ideology and Utopia* (1936, translated into Italian in 1957), *L'utopie et les utopies* (*Utopia and Utopias* [1950]), and *A Story of Utopias*, respectively.

Il futuro dell'utopia offered readers an analytical survey of visual representations of utopian cities—Filarete's Sforzinda, More's Amaurote, Furttenbach's city on an island, and Cabet's Icaria, among others. Giordani singled out works on visual perception and the imagination by two urbanists who were among Calvino's invisible interlocutors during the writing of his novel: Kevin Lynch's *L'immagine della città* (*The Image of the City* [1966]) and "La struttura della metropoli" ("The Structure of the Metropolis"), an essay in *La metropoli del futuro* (*The Metropolis of the Future* [1966]); and Gyorgy Kepes's *Language of Vision* (1944) and *The New Landscape in Art and Science* (1956). Moreover, Giordani presented "the future of utopia" to an Italian-speaking audience through eye-catching designs by Yona Friedman, Nicolas Schöffer, Archigram, Paul Maymont, and other architects and artists (see ch. 4). Chapter after chapter, Giordani's richly illustrated

volume conveyed his underlying belief that utopia as a critical concept was far from obsolete, and that forging a new dialectics of social utopia and spatial utopia would make possible "previously unheard-of interpretations of form" (Giordani 4), a notion that conceptually intersects with Calvino's "lust for prefiguration" (Calvino, "On Fourier, III: A Utopia" 251).

All of this activity around utopia, the imagination, and visual perception was happening precisely when *Invisible Cities* was at an embryonic stage. Though eager to entertain and produce visions of the city of the future, Calvino was wary of relegating his era's renewed interest in utopia to the various disciplines and subfields involved in urban planning and design:

> In our yesterday of the postwar years, the premises for revisiting utopia rose from the same grounds on which city planning was setting itself up as a pilot discipline that would give technical, aesthetic, and social form to the theatre of our lives. After all the setbacks that faith in rational projection and prediction has suffered since then, after so many good intentions have been blunted against the wall of the inertia of vested interests and conditioned behavior, after the networks of so many urban projects have seen their mesh torn asunder by fish that were just too big for them, and now that the outlook for capitalist culture revolves around an image of catastrophe . . . , this is when we choose to revisit utopia. But why? And in what frame of mind? ("On Fourier, III: A Utopia" 251)

Here we may pose the very same question and respond by surveying the frame of mind that was then orienting the rehabilitation of utopia as a critical construct and social instrument. In architecture and urban planning and design as a whole, the attempts to critically repossess utopia shared three fundamental characteristics: first, the idea that utopia, by going beyond ascertainable reality, makes it possible for people to observe their reality in a defamiliarized way; second, the recognition that the imagination as well as logic are fundamental to the process of exploring possibilities; and third, the awareness of utopia's vigorously dynamic character—of the dialectics of utopia and topia (i.e., the existing order).

With respect to the first characteristic, theorists of urban planning and architects in this period frequently refer to the formal concept of visionary utopia disseminated through French architectural theorist Michel Ragon's works. By insisting that utopia calls into question reality, Giordani claimed, "it breaks down the scheme of conventional values"; it "contains a force both destructive and transformative . . . "—"a dynamic and breaking force" (7). Thus, utopia as a critical concept preserves its social function of decalcification, or the antithesis of petrification, as Giordani argued: "it makes progress possible by breaking down belief in the *status quo* and in the forever nature of conventional ethical and political structures, [and] it translates intellectual faith into the possibility of creating a space for

an emblematic model of society, for a 'life of substitution'" (8). Similarly, Mumford had set out in *The Story of Utopias* to investigate the "positive contributions of utopian thought" (6) and singled out utopia's defamiliarizing capacity and social relevance: "for no society is fully awake either to its inherent nature or to its natural prospects, if it ignores the fact that there are many alternatives to the path it is actually following, and many conceivable and possible goals besides those which are immediately visible" (7–8). It was that very function and capacity, made known to Mumford's Italian readers in 1969, that the Italian utopian theorist Mazzoleni came to identify as "the development of a critical capacity and of social creativity" (6).

Regarding the second characteristic of utopia as a critical construct and social instrument in the '60s and early '70s, it should be recalled that these theorists located the very foundation of utopia in the combinatory process sustained by the imagination and logic. Furthermore, they recognized in the utopian exercise the same hypothetico-deductive method found in the sciences. This second characteristic was to have enormous implications for Calvino's 1972 work, as will be seen later (ch. 3).

Mumford branded classical utopia "dictatorial," "inflexible," apt to suffocate creativity and change (*Story of Utopia* 4), and other utopian theorists shared his distaste (Mazzoleni; Mannheim; Ruyer; Giordani; Berneri). Because the hallowed versions of utopia appeared monolithic and immobile, the third characteristic of utopian thinking and theorizing was its adherence to an ostensibly nonauthoritarian interpretation made possible by the dialectics of no-place and the status quo—of utopia and topia. As Jean Baudrillard affirmed in a 1967 essay published in *Utopie*, the French magazine of countercultural urbanism: "The existing order is a *topos*. Criticism and analysis of this topos permits the elaboration of *utopia*; the definition and situation of utopia, the criticism of utopia and the updating of its means of realization . . . " ("Dialectical Utopia" 31).

In this period there developed a predilection for a utopia of the present: utopia not as a prefiguration of or a result in the future but, instead, as a thrust of the present. Just as Calvino conceptualized utopia as an inner strength, so Mumford wrote, "we will not seek for utopia on a distant historic horizon in future, still less on the moon or on a remote planet. *We shall find it in our own souls, and in the earth beneath our feet*" (*Story of Utopia* 10 [my emphasis]). That utopia of the present drifted toward Ernst Bloch's concept of utopia in *Das Prinzip Hoffnung* (*The Principle of Hope* [1953-59]), as a concrete hope lying in the present, a *tending towards* the possibility of being different and becoming better that emphasizes the utopian function of the imagination. The tardy translation of Bloch's *Principle of Hope* perhaps delayed the direct influence of his thought, which was not fully felt in European intellectual circles until the '80s and early '90s. Already in the '60s, however, several voices in Italy were striving to transcend the traditional Marxian approaches to culture and ideology by reclaiming the utopian imagination.

Andrea Mariotti's "Utopia as a Negative Dialectic" (*Italian Architecture 1965–1970*) was originally written for the Second Itinerant Triennial Exhibition of Contemporary Italian Architecture, but it has since been read as a testimony to that revolutionary era in architectural history and theory. Mariotti criticized the negative attitude toward utopia expressed in the Marxist manifesto and argued instead for a constructive reading of utopia. What should be embraced as instrumental to "the difficult process of regeneration in a democratic society" (61) had, on the contrary, been dismissed as an alienating, fantastic concept. He framed urban utopia as an instrument for social freedom that would break through Nietzsche's notion of eternal return, or coercion to social repetition and convention, to elaborate new cultural models. The similarity to Calvino's thinking is striking: like the urbanist Mariotti, the novelist and essayist explicitly referred to Nietzsche as he asserted the ethical value of lightness as a tool to free ourselves from the eternal present and to conjecture ontological possibilities that elude the weight of necessity (Modena, "I contorni," ch. 1). Mariotti and his group envisioned "a concrete fight against the strategy of homogenization and cultural mummification that the class in power is carrying out" (Mariotti 66). Just as the novelist would later enter into the dialogue around the meaning of utopia for contemporary society, so these theorists of architecture were asking in earnest, "what game can Utopia play in this context?" (66)

Mariotti repeatedly referred to Mannheim's *Ideology and Utopia*: "it is from him that springs that stream of Western culture in which Utopia passes from an impossible prefiguration to possible prefiguration. It transmits a tension without which philosophical thought would fall prey to involution and stagnation" (Mariotti 68). T. W. Adorno's 1966 *Negative Dialektik* (Italian trans., 1970), also echoes through the architectural designer's understanding of utopia, whose subversive potential can surface only when it is conceived as the wholesale negation of the city rather than as an optimistic updating of the existing situation. Harnessed to a negative dialectic, such an urban utopia can burrow "deep into the behaviour, the acts and human relationships" (Mariotti 69). As a source of inspiration against cultural and societal paralysis, Mariotti theorized utopia as "the negation of a ready-made reality" (68). Through this use of the utopia concept, an urban culture would be able to develop its "creative and liberating functions" (68). Hence, "Utopia as a negative dialectic, that is, as a contradiction experienced within itself and against itself," according to the Italian architectural theorist (68). Negating the city as Mariotti and his contemporaries knew it, would actually work "in favour of architecture" (69), he argued, by pulling fresh ideas into the planning of urban environments: "thus, not a Utopia which coagulates into formulae or final images, but an intermediate, dynamic, negative element, which is seen as an alternative, opening new vistas in the various scales of intervention. Urban Utopia, in this connotation strongly critical [i.e., negative], nullifies both any theory of the impossible and any need for realization" (70).

On one hand, and out of sheer frustration with existing models, a group of architects and urbanists working in France produced utopian designs that were radically provocative from the conceptual and visual points of view. Indeed, their contributions constituted one of the most daring, forward-looking chapters in the history of architecture and urban planning and design. Their era is now celebrated as "the age of megastructures," which at that time were often discussed under the rubric of *visionary architecture* or *visionary urbanism*.[13] A megastructure was a total urban-design solution that consisted of a highly technological, extendible structural framework frequently constructed of modular units, containing a whole city: in it architects could encase smaller units such as houses, inhabitable cells, offices, and so forth, all of which could be installed and uninstalled to meet the changing needs of the population (Banham 9). Among the most creative and audacious designers working in this fascinating subfield of urban design were Friedman, Rottier, Jonas, Maymont, and Schöffer. Most of their design proposals never made it off paper, but their dissemination on paper guaranteed an even greater circulation of their megastructural utopias, traversing temporal and geographic borders, than if they had actually been built.

On the other hand, and in dialogue with the megastructural utopias, there was the now-heralded work of other architectural designers who preferred counterutopia to utopia as their instrument of social critique and crisis response. Among those who saw in architecture the possibility and the responsibility to act upon the real were two Italian groups: Archizoom Associati (mainly Andrea Branzi) and Superstudio (mainly Adolfo Natalini). These two Florentine architectural firms became the heart and soul of Italian *architettura radicale*, or radical architecture, as Germano Celant dubbed it.[14] Archizoom and Superstudio were uncompromising avant-garde architects who were highly regarded on the international scene for their striking counterutopias. They were thoroughly committed to architecture as a mode of social and political engagement, and some of the most influential Italian architectural journals from the era (e.g., *Domus* and *Casabella*) lavished attention upon both design firms.

In their 1972 manifesto, Archizoom Associates announced that the city, or "urban phenomenon," was the weakest point in the entire industrial system. Once the center of progress and *civitas*, it had become the most backward and frenzied sector of capitalist society. Perhaps it had outlived its purpose, perhaps one needed to be thinking of posturban history. "The problem, then, is no longer that of creating a metropolis which is more humane and better organized, but rather that of understanding the objective laws which control the shaping of the urban-architectural phenomenon, demystifying the complex ideology which surrounds the discussion and conditions the form it takes" (Archizoom Associates 157-58). The most audacious design projects of Superstudio, too, were charged with ironic overtones; they were acts of social critique unrealizable as architectural

projects. The radical architects of Superstudio called their method *demonstratio per absurdum*. *Continuous Monument*, presented at the Triennial for Art and Architecture in Graz, Austria (1969), was one of such demonstrations: it called for an architectural monument composed of inhabitable cells that would cover the entire circumference of the world like an extended Great Wall of China. Another famous project, *No-Stop City* (1970), was an assembly-line of cities that radical architect Adolfo Natalini (designer of *Continuous Monument*) defined as a *critical utopia*: a model for understanding the various phenomena structuring the city and capitalistic society more broadly. In *No-Stop City*, he recalls, "a utopia of quality was to be replaced by a utopia of quantity" (Natalini 185).

Analogously, *Twelve Ideal Cities* used a negative utopia (or anti-city) to demystify the closed field of city building, point up its shortcomings, and inject new ideas into the specialized language complex—a goal that Calvino shared. "Manifestly didactic," Superstudio's social activism made use of rhetorical expedients to "broaden the discussion about architecture," or even "annihilate the discipline of architecture by using 'popular' means of illustration and consumer literature" (Natalini 186). *Twelve Ideal Cities* was, then, in the words of the same architect, "a Model of total urbanization [in which] twelve utopias were used as intellectual catalysts in a process of liberation from all 'archimanias'" (186). Radical architecture's counterutopias were paradoxical critiques born to provoke, not to be built. Through their critical-distancing effect, they challenged the positivism and technological ambitions of progress-oriented megastructures or visionary utopias.[15]

For radical architects, counterutopias or dystopias like *No-Stop City* and *Continuous Monument* already existed. Through demonstrations *per absurdum*, they aimed to make evident the crisis besetting urban planning and architectural design and its adverse effects on city residents. Their projects gave "an explicit form to an invisible reality: inventing or imagining a world that is already there" (Superstudio qtd. in Rouillard, "'Radical' Architecture" 125–26): the world of congestion and saturation, of real estate speculation, building frenzy, touristic exploitation, of standardization and anonymity in the all-pervasive apartment buildings of the '60s.[16] "This cynicism," architect Bernard Tschumi has observed, "made it a very fertile ground to try to restate what architecture was about" (qtd. in Rouillard, "'Radical' Architecture" 133n5). The circularity of ideas and methods of protest that characterized the architectural and literary worlds surface swiftly as Rouillard speculates that Tschumi may have been influenced by Calvino's "powerful 'metaphorical descriptions'" in *Invisible Cities*, and that the latter, in turn, was perhaps inspired by Superstudio's *Ideal Cities*, as Superstudio had submitted the book manuscript to Einaudi in 1970 ("'Radical' Architecture" 128) where Calvino was working as an editor. Both radical architecture's projects and Calvino's most critically acclaimed novel carried out "a territorial enlargement of the architectural imaginary" (Koolhaas qtd. in Rouillard, "'Radical' Architecture" 128).

"Now we are working on projects that concentrate our forces on the definition of architecture as imagination," proclaimed Superstudio in 1969 (qtd. in Rouillard, "'Radical' Architecture" 122). In surveying architectural and urbanistic discussions from the '60s, it becomes evident that critical assessments of utopia, whether negative (e.g., Tafuri) or positive (e.g., L. M. Boschini), were often focused on conceptualizing utopia in relation to the imagination and visual perception in Italy. A fervent exchange of ideas about the role of the imagination in architecture and architectural education sprang from a 1962 editorial by Ernest Rogers that appeared in *Casabella*. He insisted that schools of architecture had to become more ethically relevant to modern society by promoting "the use of criticism and imagination, which are the foundation of architectural research" (Rogers qtd. in Mariotti 71). For Rogers, utopia was a formidable instrument to reach this end—a true method of vision. Like Calvino's essays on Fourier and on the relevance of Fourier's thought to contemporary culture, Mariotti's endorsement of Rogers's manifesto underscored the dialectics of utopia and topia, of the power to act upon the real: "the point is to activate the concept of Utopia: to think in concrete fashion of a better society" (Mariotti 72).[17]

In his 1965 *Utopia della realtà* (*Utopia of Reality*), Rogers conceptualized in a *utopia of possibility*, or *utopia of reality*. For university students who were in training to become architects, Rogers modeled how to move beyond the restrictions of everyday reality, to imagine possibilities that might be implemented once those restrictions no longer existed. The school of architecture for Rogers, like imaginative literature for Calvino, should act "as a generator [that is] critical of present experiences," he explained (*Utopia* 14). It should be a creative medium through which students are trained to critically distance themselves from "the reality of contingency" (*Utopia* 23). The similarities between the architect Rogers and the novelist Calvino likely stemmed from the fact that the former's methodology was anchored in a Fourier-like *écart absolu*: one ought to reject each and every "intellectual or moralistic prejudice . . . " (16).

Both Rogers's polemical study and his earlier editorial in *Casabella* triggered a wide array of responses, for he was displaying some contradictions of Italian society in full economic boom and reflecting directly on the political and social underpinnings, and possibilities, of architecture and the architectural profession. In 1966, for instance, the architect Rossi accused functionalism of being "naïve" in that it "oversimplifies reality and humiliates fantasy and liberty especially when it is used either as a compositional tool—as is commonly the case in our schools—or as a standard zoning practice" (*Architecture of the City* 167). He was intent upon destroying altogether the modernist credo regarding continuity of form, function, and structure via "utopia and the rediscovery of the imagination's and the technological sector's potential" (Rossi qtd. in Locci 18).

Like architects and city planners, artists in the '60s felt themselves drawn to utopian cities (Mariotti 76). At the 33rd Biennial Exposition in Venice

titled "Earnest and Jest," artists presented several utopian architectural design projects. Architectural theorist Emilio Garroni's observations about the Biennial lay bare the mixture of playfulness and seriousness—of levity and gravity—at the core of urbanistic explorations of utopia. In the wake of those architects who were probing into a new dimension, many artists identified a creative force in utopian cities that might dissolve the impasse that had arisen in contemporary art. Garroni recognized the positive and crucial role of the imagination in their approach, discerning in the works on display at the Biennial a "world of possibility"; "fascinating 'monsters' of the new figuration" (Garroni qtd. in Mariotti 77). Underscoring the functional and plausible dimensions of utopian art and architecture, he affirmed that their dialogic code was not about formal experimentation for its own sake but, rather, existential wide openness: "in these open cities, in these artificial landscapes, in these ever-self-renewing structures, that which appears merely as a game, a structural experiment, a gratuitous invention, could instead build the coherent image, practical but also intellectual, of a way of life and of a concept of the world" (Garroni qtd. in Mariotti 77).

When the conference "Utopia and/or Revolution" was held at the Turin Polytechnic in April 1969, the meeting attracted major international figures who were producing imaginative designs and theories of utopia, including Paolo Soleri, Friedman, and Archigram. The utopian hope of transforming society through design, as Robert Fishman has put it, generated enormous academic and public interest in the late '60s and early '70s. Studies on architectural design and utopia from that period are haunted by a specter:

> Each is possessed by a vision of revolution—political, technological, cultural—which seemed uniquely plausible in the late 1960s when all these works were begun . . . . They preserve not only the spirit of May 1968 in Paris (or August 1968 in Chicago), but also the exhilarating confidence that high technology had finally made poverty, toil, and ugliness obsolete. These historical investigations, therefore, were not undertaken in an atmosphere of detached curiosity. They embody the conviction that the utopian tradition in architecture will soon be transformed from a minor diversion to a central inspiration for the new society about to be built. (Fishman 153)

THE EYE AND THE CITY: THE RENEWAL OF VISUAL PERCEPTION OF THE URBAN ENVIRONMENT

By retracing here the relations between Calvino, urbanism, and utopian thought in the '60s, it will be possible later (chs. 3 and 4) to demonstrate his familiarity not only with the Italian schools of architectural history, theory, and design, but also with trends beyond Italy by dint of his editorial post at Einaudi. The ideas of a handful of international figures greatly pressed on the

panorama of speculations in those years. The theories issuing from urbanists Gyorgy Kepes (1906–2001) and Kevin Lynch centered on the individual's relationship to his or her urban environment—which is to say, on experiencing and imagining the city. Kepes's education of vision and Lynch's mental imaging of the city would prove pivotal to Calvino's 1972 work.

In the wake of World War II, the artistic and political sectors in the United States initiated an intricate debate about a new way of seeing; an elaborate and multihued reflection on the urban environment as a site of aesthetic experience and its relationship to human psychology, quality of life, and social welfare. Centered on a cluster of key texts engendered by Gestalt psychology, the debate sparked great interest in the phenomenology of the urban setting and in the potential of art and architecture to revitalize the imagination of city dwellers, thus enhancing their perception of the urban environment.[18] A principal voice in that debate was Kepes, the Hungarian theorist and artist whose books on visual studies and the urban setting were widely read in the U.S. and Europe throughout the '60s and '70s. Kepes had moved to the U.S. in 1937. Like Santillana, the historian of science at MIT whom Calvino occasionally visited and whose works he read assiduously, Kepes lived among European expatriates in the Greater Boston area. He taught at MIT, first in the School of Architecture and Planning, then in the Center of Advanced Visual Studies, which he founded and which became especially active in the late '60s.

Kepes's thought was disseminated in English in Italy in the '60s. In 1970, his essay "Note sull'espressione e la comunicazione nel paesaggio urbano" ("Notes on Expression and Communication in the Urban Landscape") was included in the collection *Il futuro della metropoli* (*The Future of the Metropolis*) prefaced by architect Giancarlo de Carlo, who deemed Kepes's the most stimulating essay in the book with respect to understanding the generation of urban forms. Kepes's *Language of Vision* (1944) appeared in Italian translation (*Il linguaggio della visione*) in 1971. In France at least six translations of his works were published between 1967 and 1968: *Education de la vision* (1967); *La structure dans les arts et dans les sciences* (1967); *Module, proportion, symétrie, rythme* (1968); *Signe, image, symbole* (1968); *Nature et art du mouvement* (1968); and *L'objet créé* (1968). In both of Calvino's homes, then, Kepes enjoyed a following among intellectuals, which explains why he figured in Ali Baba's cave of books, as Celati called it.

It is not difficult to visualize the links between Kepes's thought and Calvino's philosophy of vision and the imagination. Two facets of the Hungarian's work on vision and the city are especially relevant to the *retroterra* of *Invisible Cities*. First, Kepes ardently promoted the need to cultivate imaginative and visual abilities in humans. Second, he rooted his work in the search for a renewed visual perception of the *urban environment*, studying how vision and motion were interlaced in the images of modern cityscapes. Kepes strove to recreate a meaningful relationship between

individuals and their urban environment, believing that the city had lost its ability to create in its inhabitants a true sense of belonging.

Like Calvino in *Six Memos*, Kepes reflected on the new image of the world made possible by science and technology, which were revealing subnuclear particles, pulsars, DNA, and inorganic crystals. He integrated art and technology to create sensorial (especially visual) urban experiences that might make residents more aware of their own imprisonment (as Calvino would later phrase it) in an urban environment that had lost its vitality. Kepes linked the poverty of the urban experience to the poverty of the human imagination. His guiding purpose, therefore, was to regenerate the imagination through the visual show, believing that the use of colors and luminous projections could play a relevant role, as exemplified by Fernand Léger's urban design projects. Léger, a painter and sculptor who originally trained as an architect, was greatly admired by Calvino.

In his *Language of Vision*, a foundational phenomenological study of the environment, Kepes argued for a visual reeducation that would teach city dwellers how perception works and how to unlearn ordinary ways of seeing in order to see anew (Hayakawa 9–10). This was not, according to Kepes, a primarily aesthetic project: it was, rather, a thorough rethinking and retraining of the ways of seeing that was needed to get beyond the cliché images in which human representations of the world had become trapped. Two decades later, in his 1965 *Education of Vision*, he approached visual thinking as a cognitive activity, arguing that only "imaginative power of creative vision" (Kepes, Introd., *Education of Vision* ii) could heal the formlessness of contemporary life. That imaginative power was damaged, underfed, and impoverished, imprisoned in a spiral of self-destruction that could be counteracted only by reeducating human vision to reclaim lost sensibilities.[19]

Motivated by a strong ethical charge, Kepes's works cast a long shadow over the intellectual horizon of the period. After enjoying fourteen reprints in the United States and becoming required reading for Italian urbanism in the '60s, *Language of Vision* was finally translated into Italian in 1971, strikingly echoing some of Calvino's speculations on the formlessness of present life. Kepes explained that his era was experiencing a chaos that had dulled and even decimated the human imagination and visual perception (12–13). He recognized in the language of vision an ethical and activist dimension that would prove to be similar to Calvino's own, calling for "the dynamic idioms of the visual imagery to mobilize the creative imagination for positive social action, and direct it toward positive social goals" (14). Along the same lines as the Italian novelist, albeit more explicitly, the Hungarian urbanist recognized the fundamental role played by artists and intellectuals in developing a new language of vision or way of seeing and sharing it with the public: "we see as the painters, sculptors, architects, photographers, advertising designers teach us to see. The social value of the representational image is, therefore, that it may give us education for a new standard of vision" (67).

In Italy, Kepes's work on enhancing the visual perception of the city came to have even greater resonance due to his installation of *The City by Night,* an exhibit on environmental art for the 14th Triennial International Exposition of Modern Decorative and Industrial Arts and Architecture held at the Palazzo dell'Arte in Milan (30 May to 28 July 1968). The theme of the 14th triennial was "The Great Number," under which fell the issues linked to the explosive and uncontrolled growth of contemporary society as was seen earlier (ch. 2). Ironically, *The City by Night* originally had been scheduled to open in the spring of 1968 but was damaged in the student protests sweeping Italy in the preceding months (Guenzi). Kepes's installation consisted of a gallery of architectonic wings and pierced false ceiling designed to intermittently project lights and images illuminated from inside. Accompanying this urban vision was a sequence of recorded urban sounds coming as if at random from stereo speakers placed on the sides of the gallery (Nicolin 3). *The City by Night* aimed to reeducate people about the effects of light on the urban environment and to recharge urban theory by recharging the urban imaginary.

Kepes's reflections on reimagining or re-visioning the city derived in part from his association with Lynch at the Harvard Joint Center for Urban Studies, which had been founded in 1959 to bring together scholars from MIT and Harvard who were working on urban problems and solutions. In 1964 there appeared *L'immagine della città*, the first Italian translation of Lynch's 1960 *The Image of the City*, in which he acknowledged his intellectual debts to Kepes, whose conceptualizations of the imagination and vision in urban environments had shaped his own study. *L'immagine della città* was a resounding success in Italy, where it would be cited repeatedly in proposals for urban redevelopment, and in France, where it appeared in translation five years after the Italian translation.

From the moment of its publication, *Image of the City* became required reading for urban planners. A book about the look of cities and the meaning of urban landscape as an artistic object "to be seen, to be remembered, and to delight in" (v), the study was to correlate closely with Calvino's emphasis on the role of the imagination, as well as with his effort towards *visibility* in his 1972 work. The American urbanist scrutinized the mental image that citizens hold of a city and concentrated on the quality of this image: how clear, legible, recognizable is it? In Calvino's words, several years later: how *visible* is it? As architect Gian Carlo Guarda put it in his introduction to the Italian translation, *L'immagine della città*, urban forms play a life-shaping role: an urban environment that can be visualized helps people get where they need to go, avoiding the annoyance and dangers of disorientation, and thereby helps them to establish a secure emotional relationship with the outside world (Lynch 16). Lynch offered an analogy with the legibility of a printed page: just like a legible page "can be visually grasped as a related pattern of recognizable symbols," so a "legible city would be one whose

districts or landmarks or pathways are easily identifiable and are easily grouped into an over-all pattern" (3). It was crucial to analyze the city as it was perceived by residents because their possession of a mental image of the city made them feel less emotionally lost. In order to foster this mental picture, the city setting must have sharp, distinctive, legible images that not only offer security but also might heighten the depth and intensity of daily life in the visual chaos of the modern city (3–5). Such images constituted the language of the urban environment that, when "visually well put forth, . . . can also have strong expressive meaning" (5).

Lynch's insistence that the urban resident be trained to participate in the perception and creation of urban images in order to interact meaningfully with the city sheds light on Marco Polo's relationship with the object world in the novel, and is wholly consonant with the value that Calvino assigned to the imagination. Several aspects of Lynch's conceptualization of the urban resident in relation to the physical world deserve comment as they can increase our understanding of Calvino's intentions.

First, the image that Lynch's ideal city-dwellers seek and that Calvino was to recreate in his novel, is not "a final but an open-ended order, capable of continuous further development" that will allow "the individual to continue to investigate and organize reality" (6–9). Lynch viewed the process of visualization or creating mental images of the city like the creation of a drawing, in a section entitled "Building the Image." In a city's image, as in images on a page, there should be blank spaces where residents and visitors can continue the sketch on their own. Every drawing requires first the recognition of an object as a distinct or separable entity distinct from the continuum, and such an entity must hold practical or emotional meaning for the observer (8–9). A process of identification of the city's single units—a process that discerns discontinuity within the continuous—is what Calvino was to install within his most acclaimed and popular novel, in which a city's total image is refracted in a profusion of single units, each highly icastic. Lynch, one of his main influences, was pointing out in the mid '60s the *parts* that play a role in the formation of mental images of the city, rather than the whole: an artificial fragmentation of "a continuous field," as he put it (67). (The similarities to Barthes' emphasis on image-making are obvious).

Another aspect of Lynch's work that would resonate in *Invisible Cities* is his analytical attention to the variety of ways in which a city can be perceived by different observers, and by the same observer under different circumstances. The mental image of a city varies according to the individual observer's personal memories, associations, background, temperament, and occupation; the scale of the area observed; the vantage point; the time of year or of day. Lynch therefore speaks of the *shifting image*: "rather than a single comprehensive image for the entire environment, there seemed to be sets of images, which more or less overlapped and interrelated" (85). If the goal of urban planners should be that of creating continuity between

different images of the city (according to Lynch), Calvino chose to emphasize the disparity among various mental images for ontological and heuristic purposes. This deliberate fragmentation or perceptual fluidity, in Calvino and in Lynch, was shaped by "secular shifts in the physical reality around [them]" (Lynch 86) that change the city and the perception of the city through time.

Urban planners should be trained to build highly imageable cities, Lynch insisted. He defined imageability as

> that quality in a physical object which gives it a high probability of evoking a strong image in any given observer. It is that shape, color, or arrangement which facilitates the making of vividly identified, powerfully structured, highly useful mental images of the environment. It might also be called legibility, or perhaps visibility in a heightened sense, where objects are not only able to be seen, but are presented sharply and intensely to the senses. (Lynch 9–10)

Although city planners should begin to design imageable urban environments, Lynch was adamant that a "retraining of the perceiver" was equally urgent. He underlined the necessity of acquiring cognitive ability—of becoming able to recognize and give meaning—and, most of all, of an acute vision able to distinguish new images amongst the habitual ones. To improve the quality of the image in the mind, "*training the observer*, by *teaching him to look* at his city, to observe its manifold forms and how they mesh with one another" was of signal importance (117 [my emphasis]). This perceptual learning, he argued, would enable urban residents to critically interpret scenes by recognizing hidden or camouflaged aspects not immediately visible (11–12). In a passage that was to be of great and obvious consequence for Calvino's novel, Lynch wrote: "we must *learn to see the hidden forms* in the vast sprawl of our cities. . . . Our thesis is that we are now able to develop our image of the environment by operation on the external physical shape as well as by an internal learning process. Indeed, the complexity of our environment now compels us to do so" (12 [my emphasis]).

Lynch revealed his debts to Kepes as he detailed an education of vision that should draw from various disciplines in order to change the city and the world:

> In the development of the image, *education in seeing* will be quite as important as the *reshaping of what is seen*. Indeed, they together form a circular, or hopefully a spiral, process: *visual education impelling the citizen to act upon his visual world, and this action causing him to see even more acutely*. A highly developed art of urban design is linked to the *creation of a critical and attentive audience. If art and audience grow together*, then our cities will be a source of daily enjoyment to millions of their inhabitants. (120 [my emphasis])

The ethical and social value of imaginative literature that Calvino set down in the essays analyzed earlier (ch. 1) distinctly overlaps with this insistence on "training to see," or *educazione a vedere* (*L'immagine della città* 134), and on cultivating a "critical and attentive audience." Perhaps it was not by accident that Lynch himself appears to stray into fiction, after hinting at the anthropological roots of the need for imageability. The urban theorist refers to a figure who meshes with Calvino's essay on *visibility* in *Six Memos* and its emphasis on training the imagination to produce bright, exact, vivid images:

> Our environmental image is still a fundamental part of our equipment for living, but for most people it is probably much less vivid and particular today. In a recent story of fantasy ["Shoddy Lands"], C. S. Lewis imagines that he has entered someone's else mind, and is moving about in her image of the outside world. There is a gray light, but nothing that could be called a sky. There are vague, dingy green shapes, blob-like, without anatomy that he peers at and finally identifies as Shoddy Trees. There is soft stuff underneath, of a dull grassy color but without separate blades. The closer he looks, the more vague and smudged it all becomes. (124)

THE MORTAL CITY AND THE ENDURING CITY: CRITIQUING CONTEMPORARY URBANISM

One segment of the literature about the future of the city exhibited a patently apocalyptic tone that was to greatly influence Calvino's *Invisible Cities*. The state of modern cities was assimilated to the reductive ideology of the times, which were seen as quickly precipitating into catastrophe. From several scholars in urban studies there emerged the idea of the city as a fundamental factor in human development. Precisely because it was seen as a manifestation of human culture, the city was viewed as the material expression of the malaise weighing on human society caused by profit, waste, expansion for expansion's sake, and a mechanization that had obscured the true meaning of life.

The city had exploded beyond its container, physically and ideologically enslaved to self-destructive mechanisms both economic and technological: "the final damage may be irretrievable," Mumford glumly stated in *City in History* (559). The result of his era's death-oriented culture was "total dismemberment and dehumanization in a lifeless, featureless void" (559). In "California and Human Horizon" (an essay in *Urban Prospect*), Mumford checked off various "explosions" that were threatening the earth, from nuclear catastrophe to the population boom, freeway expansion, recreational development, and the suburban spread (4). He lamented the tragic shortcomings of a capitalist ideology that had failed to create a spiritually and socially stimulating environment, working instead toward a homogenizing nothingness: "that of creating more and more featureless landscape,

populated by more and more featureless people" (4). Like Calvino would later lament in *Six Memos*, Mumford in the '60s mourned the death of the city, which signified a poverty of existence that threatened civilization itself: "disorder, blight, dingy mediocrity, screaming neon-lighted vulgarity are spreading everywhere, producing, as I said, an empty life, filled with false vitality expressed in occasional outbreaks of violence and lust" (5). If Pompeii was the city of death, it was somehow more authentic than "the seemingly live [American] cities that we are living in" (Mumford, *Urban Prospect* 5).

The discourse in urban planning and architecture kept hammering on the modern city's uncontrolled growth, traffic congestion, and demographic unwieldiness. Serge Chermayeff and Christopher Alexander sounded the alarm from the very first pages of their 1963 *Community and Privacy: Toward a New Architecture of Humanism* (written in 1962):

> The human population of the world and its productive capacity are reaching dimensions that defy the individual imagination. Today billions of people are demanding accommodations of all kinds, moving at ever greater speeds, communicating over vast distances in no time at all, and urbanizing at astonishing densities. The sudden extension of quantities alone has produced disorientation, confusion, terror, and anarchy. . . . Man has not yet developed a strategy for organizing huge quantities although he has perfected techniques for computing them. . . . And not only is the advance in population and technology bound to continue, but economists and scientists declare that it will do so with increasing acceleration. On the evidence, one may reasonably anticipate still greater chaos. (35)

In anguished tones that today make "futuristic" and "far-fetched" synonyms, a spate of popular works alerted the public to the prospect of a galloping increase in the world's population. Alfred Fabre-Luce described the six billion people forecast for the year 2000 as ferocious competitors who would die of suffocation by 2026, when the world's population would reach twenty-five billion, in *Six milliards d'insects* (*Men or Insects?* [1962]). Ragon entitled a section on the population explosion "The Numbers Nightmare," in his 1968 *La cité de l'an 2000* (*The City in the Year 2000*), gripped by the very real fear that the earth would soon be crushed under the weight of its inhabitants (117). Leading voices in Italian urbanism were hardly more reassuring. Simoncini enumerated the drawbacks of extreme population density in *Il futuro e la città*, echoing anthropologist Edward Hall, who had recounted scientific experiments with rats forced to live in overcrowded conditions in *The Hidden Dimension* (1966). The resulting psychological stress had produced in them a harrowing series of behavioral disorders that were not unlike those found in inhabitants of overcrowded cities.

Those who were forging the most radical criticism of contemporary urban life believed like Mumford that the modern city, or megalopolis, was on the verge of becoming a necropolis (Ventura, "Mumford e il suo 'idolum'" 48).[20] There was a growing consensus that the city as they had known it was dying—suffering from a terminal illness that had to be battled with extreme measures. Mumford himself repeatedly associated the modern city with disease (*City in History* 543, 532). Erwin Gutkind was even more pessimistic in *The Twilight of Cities*: the city was already dead. A vast array of urbanists sounded the alarm about the defacement of the urban landscape, as cities were steadily overwhelmed by unplanned or underplanned development and the spread of undifferentiated, featureless suburbs. Their writings reflected a readily observable urban reality, and their dire warnings about increasing civic disengagement and social disintegration (Mumford, *Urban Prospect* 81–82) mirrored those of social commentators in the period. What was killing urban communities was repeated over and over: the growth of standardized, monotonous areas deficient "in psychological stimulus of any kind" (87). Paradoxically, rapid urbanization was considered to be effacing the city, leaving in its stead various types of *anti-city* (especially the megalopolis) that were characterized by standardization, anonymity, and de-individualization (hence Mumford's "Disappearing City").

To the risks of defacement and effacement, historians and theorists of the city added the formlessness of new urban developments. Indeed, formal ungainliness was one of the most extensively cited perils in those years, often linking up with aerial shots that contrasted vertical and horizontal spaces:

> Circle over London, Buenos Aires, Chicago, Sydney, in an airplane or view the cities schematically by means of an urban map and block plan. What is the shape of the city and how does it define itself? The original container has completely disappeared . . . as the eye stretches toward the hazy periphery one can pluck out no definite shapes except those formed by nature: one beholds rather a continuous shapeless mass. . . . The shapelessness of the whole is reflected in the individual part, and the nearer the center, the less as a rule can the smaller parts be distinguished. (*City in History* 543)

It was bitterly acknowledged that the amorphous build-out of the contemporary city had destroyed its formal integrity, or identity as a city, and now prevented the human eye, mental and physical, from taking in a whole image of it (*City in History* 543). Sensitive to this issue, Calvino himself grieved over that numbing sameness, a lethal homogeneity that Serres had rejected in his *Hermes: Literature, Science, Philosophy*, as was seen earlier (ch.1): "cities are turning into one single city," the novelist decried, "a single endless city where the differences which once characterized each of them are disappearing" (*Hermit in Paris* 169).

Critics who were diagnosing the urban crisis in Calvino's times on the whole concurred that the anti-city negated complexity, or interconnectedness, as well as diversity and memorability. According to Lynch, the fact that the physical scene was indistinguishable was due to the very low imageability of modern urban environments and contributed greatly to the absence of meaningful interaction between the city and its residents (31). In contrast, as Chermayeff and Alexander remarked in *Community and Privacy: Toward a New Architecture of Humanism*, ancient cities were well-defined wholes readily identifiable to their residents: "an urban environment of this kind is deeply felt; the inhabitants subconsciously respond to specific visual experiences with a sense of belonging, identification, and affection" (55).

In other North American studies on the topic that became required reading for Italian urbanists, Jersey City and Los Angeles were repeatedly invoked. As for the latter, Lynch reported that when subjects in his surveys were asked to describe or symbolize the city as a whole, they used the same words over and over: "spread-out," "spacious," "formless," "without centers." Los Angeles seemed particularly difficult to envision as a whole: "said one subject: 'It's as if you were going somewhere for a long time, and when you got there you discovered there was nothing there, after all'" (Lynch 40–41). This catalogue of images of blob and chaos, like radical architecture's parodying counterutopias and visionary architecture's spatial utopias, was to exercise an enormous influence on *Invisible Cities*. Calvino himself, after all, had labeled Los Angeles "the impossible city" in his essay "American Diary" (90), overcome by its dimensions. It was "as long as if the area between Milan and Turin were just one single city stretching north as far as Como and south as far as Vercelli" (89); "a source of despair" (90) for the youthful author who sensed that to the Californian megalopolis's "lack of form there corresponds a lack of soul" (90).

Looking especially but not exclusively at America's largest cities, many scholars in urban planning and design feared that the modern forms of urban growth were annihilating the syntax and semantics of urban life, from the architectural and social points of view (*Urban Prospect* 110). They criticized modernist urban and architectural design for being based on abstract ideas (mainly the fruits of rationalism, behaviorism, and pragmatism) and for accepting without question Le Corbusier's tenet that sun, open space, and green space were the mainstays of urbanism (Jencks 9). On this reading, the modernist credo had produced alienating, impersonal, and out-of-scale urban designs and realities. Already in the '40s, younger members of the International Congress of Modern Architecture (Congrès Internationaux d'Architecture Moderne, or CIAM, founded in 1928 as a platform for the modernist movement) began to criticize its rationalist urban doctrine that divided the city into four isolated functions: living, working, recreation, and circulation. By the late '50s, there was an increasing awareness among architects and urban planners in general of the complexity of

human society and the interconnectedness of city functions. This prompted many to reintroduce the idea of community into urban planning and construction (Colquhoun 218).[21]

The absence of a well-defined idea (or *visible* image) of the city was the root cause of urban decay, which could not be remedied by urban renewal and redevelopment proposals derived from clichés or outmoded models (*Urban Prospect* 114). That absence of a multidimensional image of the city in late twentieth-century urban planning was due to a research gap: according to Mumford, "the true values, functions and purposes of modern culture" had not been studied by urbanists (*Urban Prospect* 115). Hence, they had no clear idea of why the city existed before they sat down to design and build structures or neighborhoods or business districts, as Mumford railed:

> Elizabeth Close's satiric commentary on 'Design by Chance,' published in the May 1962 number of the *Journal of the American Institute of Architects*, is too close to reality to be funny. If a chimpanzee, a psychotic, and a museum-qualified painter are equally capable of achieving a 'modern' painting, the forces that are now vomiting the wreckage of the city over the landscape are doubtless sufficient to produce the 'modern' form of the city—formless by intention. (143)

Clear insight into the nature of the city was one of the priorities to which historians and sociologists, together with architects and urban planners, attached the utmost importance. Although the city was diagnosed with a terminal illness, hopes for a cure were pinned to new design models that would be informed by the criteria emerging from empirical, resident-based research on the city. Obsolete urban design criteria would have to be abandoned, for they were ignorant of the complexities of modern cities and inevitably produced stereotypical solutions that did not improve urban living (Guarda in Lynch 13). It was widely acknowledged that specialists in urban planning (professors of architecture or urban planning and design, practicing architects and city planners) needed "a therapeutic injection of dynamic ideas" (Mumford, *Urban Prospect* 139), and that fresh thinking had to come also from generalists like cultural historians and theorists (208-26).

Two women, the American Jacobs and the French cultural historian Choay, were among the most insistent in declaring that an awareness of the true function and purpose of the city was needed to defeat simplistic and worn-out ideas. Jacobs faulted the principles and aims that had shaped modern city planning because they had ignored "how the city itself works" (7). "The pseudoscience of city rebuilding and planning, years of learning and a plethora of subtle and complicated dogma have arisen on a foundation of nonsense," she accused, deriding urban planners and designers who knew nothing about the real world (13). Choay's 1965 *L'urbanisme, utopies et réalités* (*Urbanism, Utopias, and Realities*),

one of the titles in Ali Baba's cave mentioned by Celati, carved itself a distinct niche within contemporary writing on the city. Like her faithful reader Calvino, Choay addressed the future of the city by reconstructing its raison d'être. Urban planners and architects should no longer conceive of the city primarily in an abstract and aesthetic mode, but rather, base it on the perceptions of its residents, bringing into relief the set of existential, practical, and emotional relations that linked them to their city (Choay 72).

Choay exercised an enormous influence on Calvino's ideas about urbanism because she exposed him to a variety of authors and works (Frank Lloyd Wright's 1932 *The Disappearing City*, Jacobs, Mumford, Kepes, Lynch, Fourier), and she articulated a seductive rapport between the two poles of utopia and reality (or topia) precisely when he was working intensely on his Fourier essays and the Einaudi edition. Choay's unabashedly practical orientation is visible in her analysis of proposals by thinkers who developed "a reflection that unfolds within the imaginary . . . ; the reflection is located within the sphere of utopia" (15). Like many urbanists in Italy, Choay emphasized the practical side of utopian thinking: "contrary to Marx, [Karl] Mannheim has insisted on the active character of utopia within his opposition to the social *status quo*, and on its disintegrating [or smashing] role" (15n3).

Smashing through, or at least challenging, the uniformity, effacement, and standardization of urban environments was held by many cultural historians and specialists to be one of urbanism's most urgent goals. When confronted with the urban crisis of the '60s, luminaries in urban planning and design singled out one city as an enduring counterexample: Italy's Venice. For Lynch, Venice was an exemplum of a highly imageable environment, and not coincidentally it would become the backdrop to Calvino's *Invisible Cities*. Venice, Lynch insisted, responds to the human need for "[distinguishable] identity and structure" in the contemporary world, which is marked more and more by a "complex, shifting urban environment" (10). Venice also fascinated Le Corbusier, who in 1965 developed a vast never-realized hospital project for Venice, "on stilts, hovering over the water" (Maruhn 46), and Friedman, whose 1969 design project swerved away from the apparent destiny of the city and its residents (De la Fuente). What enthralled Le Corbusier about Venice was "the clear separation between natural waterways and artificial pedestrian paths, as well as . . . the economy of this division and the resulting synergy in the urban plan" (Maruhn 46). Venice also enjoyed a privileged placement in Mumford's oeuvre: it exhibited the "ideal components of the medieval urban structure" (*City in History* 321) and enormous vitality (*Urban Prospect* 199). Choay, one of Calvino's favorite scholars of urbanism, also upheld their predilection for Venice.[22]

The layout of this Italian city was prized due to its principal icastic traffic way (the Canal Grande), its division into *sestrieri*, sections that

reproduce the city in miniature and offer the maximum potential for human encounters and interaction, and the fact that everything is within walking distance of its center. Whereas "golden Venice" was, at the close of the Middle Ages, the city that towered above all others in Europe due to its handsomeness and wealth (Mumford, *City in History* 321), modern urbanism's biggest mistake was its failure to imitate Venice's layout, which had universal applications. That very error should prod contemporary urban planners to come up with some means of assessing and imitating the various contributions that Venice had made to the art of city building. Venice's organization by neighborhoods and precincts should be recovered in the new urban form as a basic cellular planning unit. Most significantly, Venice's layout was not a static design frozen in time and absolute, but rather, open to change and unified in spite of its complex ordering (321-22).

Venice as the enduring city, then, but also as a utopia of the present. In a striking section, Mumford associates and compares Venice with Amaurote, the capital of Sir Thomas More's *Utopia*. Amaurote, it is well known, is one of fifty-four cities of Utopia and occupies the center. Mumford saw the island of Utopia as a clear-cut example of late medieval *thought*, and the island of Venice as the apex of medieval *practice* (*City in History* 327–28). What dazzled Mumford was the avant-garde nature of Venice's forms, and while he praised Amaurote's civic constitution and organization, he nonetheless accused More of having fallen short when it came to physically embodying those social principles: his images were frozen into the forms of his late-medieval era (326). More's was a failure of the medieval urban imaginary. In design terms he failed to offer more than an uninspiring sameness:

> "He who knows one of the cities," [Thomas More] observes, "will know them all, so exactly alike are they, except where the nature of the ground prevents." The same language, the same manners, customs, laws. The same similarity in appearance: no variety in urban form. No variety in costume: no variety in color. This was the new note: the note of standardization, regimentation, and collective control: Quaker drab or prison drab. Is this Eutopia—the 'good place'? . . . What caused him to look upon the absence of variety and choice as in any sense an ideal requirement? (327)

Venice (like the 1972 text in which it figures so centrally) poses a challenge to and defeats this very sentiment of joyless regimentation in Amaurote, according to Mumford, so that if More's imaginary city is the *social* city of the future, the medieval Venice more boldly and clearly prefigures the *physical* city of the future (326). In an era of urban crisis, Venice came to figure prominently in the revolutionary, sometimes bizarre, urban renewal solutions and design proposals that I detail later (chs. 3 and 4) .

"KNOWLEDGE OF THE EMPIRE WAS HIDDEN," OR, WHAT IS THE CITY?

Invisible Cities offers a kaleidoscopic refraction of tentative and partial answers to the main question posed by the theorists and historians of urbanism in the period: what is the city? Hardly by chance, the novel opens with the very same question as Mumford's *City in History*: "what is the city? How did it come into existence? What processes does it further: what functions does it perform: what purposes does it fulfill?" (3). To rethink the nature of the city was to *hear*, amidst its unlivability, *invisible words*, Kublai claims in his dialogue with Polo:

> At times I feel your voice is reaching me from far away, while I am prisoner of a gaudy and unlivable present, where all forms of human society have reached an extreme of their cycle and there is no imagining what new forms they may assume. And I hear, from your voice, the invisible reasons which make cities live, through which perhaps, once dead, they will come to life again. (*Invisible Cities* 135–36)

Shifting between the verbal and the visual, *Invisible Cities* explores the nature and value of the city vis-à-vis the insufficiencies and dangers of the decaying urban order placed in relief by scholars and practitioners of urban studies. "Prisoner of a gaudy and unlivable present," facing the impasse of the social imagination—"there is no imagining what new forms [human society] may assume" (135–36)—the visionary traveler Polo sets off on a journey of (re)discovery of the reasons why cities exist, a journey of interrogating contemporary urban forms. "What need or command or desire," he wonders upon arriving, "drove Zenobia's founders to give the city this form"? (35) (Fig. 2.2). Whether explicitly (as in this example from Zenobia) or implicitly, the novel provokes readers to question the historic, civic, and existential rationales for each city's design form. Countering the claim that his 1972 work was dour, Calvino affirmed in his 1973 interview with Camon: "It's a book that asks questions about the city (about society) with an awareness of the gravity of the situation—a gravity that would be criminal to downplay—and with a stubborn insistence on seeing things clearly, on not settling for any standard image whatsoever, on starting the dialogue all over again from the beginning" ("Colloquio " 2790).

Kublai's journey of discovery, though not immune to phases of frustration, stems from a deep desire for "knowledge of the empire" (*Invisible Cities* 122): a remedy for the ignorance and impoverishment of the urban imaginary decried by major figures in urbanism. In the dialogues between Polo and Khan there is a manifest tendency towards disembodiment, a striving toward the "essential landscapes" (122) that they reach by communicating across a chessboard: "contemplating these essential landscapes, Kublai reflected on the invisible order that sustains cities, on the rules that

decreed how they rise, take shape and prosper, adapting themselves to the seasons, and then how they sadden and fall in ruins" (122). This declaration readily functions as a synopsis of Mumford's *City in History*. Indeed, Calvino's text (as a whole and in the tormented history of cities like Clarice) guides its readers to discover the reasons for the growth and the decline

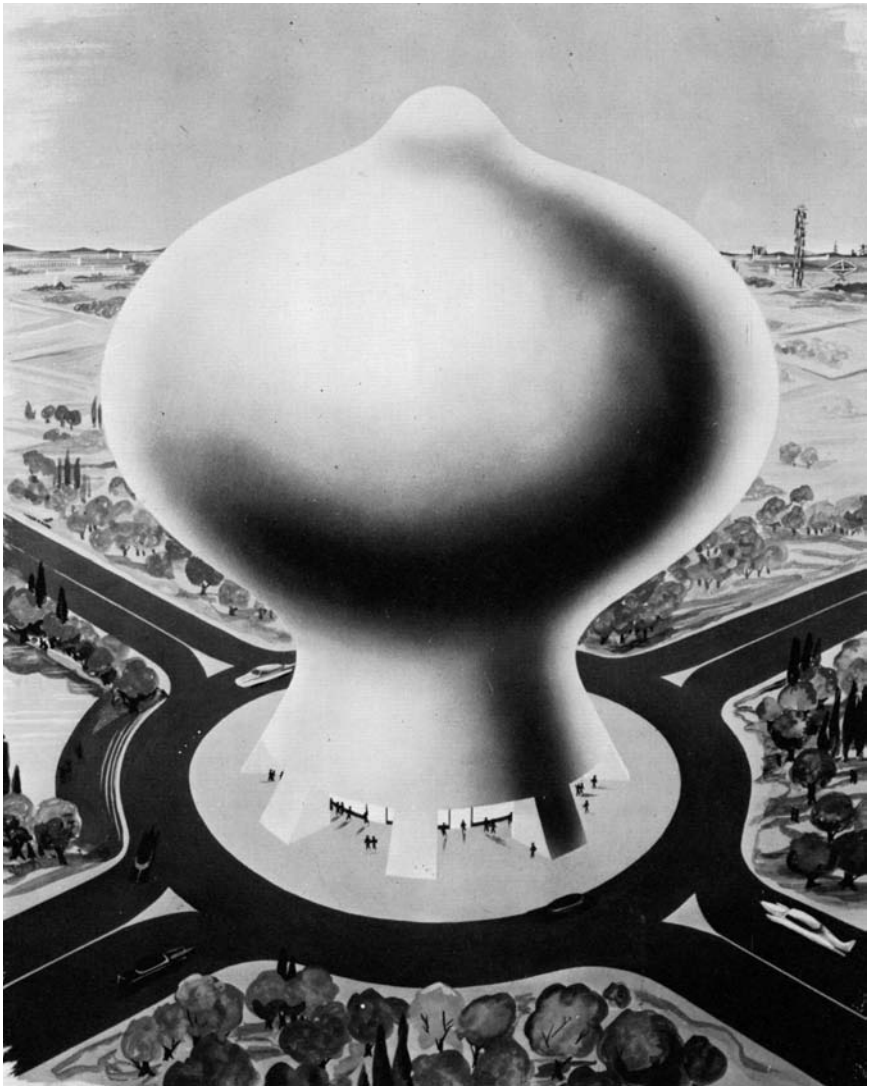

Figure 2.2 Nicolas Schöffer, *Centre de loisirs sexuels* (*Center for Sexual Diversions*). In Michel Ragon, *La cité de l'an 2000*. Courtesy of Éditeur Casterman.

of the city, fostering awareness of the nature of the city as a living, and therefore changing and changeable, organism.

When we read *Invisible Cities* as an exploration of the meaning of the city, the first thing that stands out is that Polo and Khan ask themselves and each other about the urban environment. They try to comprehend the city through a variety of approximations and contradictions. They investigate it and interpret it, fully involving themselves, and thereby the novel's readers, in a series of exegetic urban exercises. Led on a journey into the metaphorical imagination, travellers/readers/residents are drawn into an analogico-associative process that brings to the surface hidden meanings in the psychological relationship between subject and environment and in the various levels of the city (Chessa Wright 163). This probing into the meaning and nature of the city is made possible by Polo and Khan's heuristic interaction, which models Kepes's educated vision: a renewed visual perception of the urban environment that would multiply the connective tissues between the city and its residents. They enact the qualities of image making that urban planners, designers, architects, and residents must learn to see and preserve in a healthy city. Ultimately, they exhort readers to attentively discern differences and to identify the positive though submerged in their everyday metropolitan hell. Here the desire to see and to understand the true nature of the city takes a linguistic turn, for urbanism and literary studies alike were crying out for a new language.

One of the predominant characteristics of countercultural urbanism was the application of structural semiotics to fundamental problems in planning and design. This period marked the beginning of the postmodern relationships between city and writing, between city and text, and of literature as an investigative key into both. Before semiotics was institutionalized as theory, and specifically *literary* theory, in the U.S. academe, it was central to the discourse in urban studies in Western Europe. Architecture had its own language, stipulated G. K. Koenig in his 1964 *Analisi del linguaggio architettonico* (*Analyses of Architectonic Language*), as did the city, as did the world. A year later, in a study of paramount importance to the gestation of Calvino's novel, Choay argued that both city and writing must be read as sign systems:

> Urbanism has misunderstood this reality, misunderstanding for the very same reason the nature of the city. The essential contribution made by the critique of urbanism had been precisely that of bringing to the surface the multiplicity of levels in the urban environment. One may conclude, nonetheless, that it still has not discovered how to fully and explicitly integrate them into a global semiological system at once open and unifying. (78)

The idea of such a sign system for the city, Choay recalled, had emerged already in the pages of Victor Hugo's *Notre-Dame de Paris*, in which he

had explicitly compared architecture to writing and cities to books (78). She relied in part on Roland Barthes's *Le degré zéro de l'écriture* (1953), which was a guiding text for Calvino also, in order to read the city as a text using the semiotic terms *langue* and *parole*. Each city was an expression of a particular *parole* yet remained part of the broader signifying system, or *langue*, which was the domain of specialists. Urbanism's pressing problem lay in the fact that the old way of designing cities had become a dead language, Choay argued: the obsolete residue of various social changes ranging from the transformation of technologies of production and transportation and leisure to population growth (78–79).

Scrutinizing the city with semiotic tools, she observed that the dead technical language adopted for the city's writing/construction was characterized in its signifiers by a lexicographical poverty ("interchangeable units must be able to assume diverse meanings") and a rudimentary syntax "that proceeds through the juxtaposition of nouns without resorting to linking elements; for example, green space itself becomes a noun despite the fact that it should have a coordinating function" (79). Under these circumstances, Choay concluded, it was not surprising that messages transmitted by the technical language were few and far between; that city life had become an imperative and authoritarian language that refused to allow residents to participate in the conversation. Just as Jacobs had lambasted modernist planning and design for not paying attention to people who actually lived and worked in cities, Choay complained that "the urban planner's monologue or harangue, the inhabitant is forced to listen to without ever comprehending" (80).

In 1966, the 8th International Course on High Culture held in Venice, "The Phenomenon 'City' in the Life and Culture of Today," was devoted to the same theme. On that occasion, Giulio Carlo Argan cast a semiotic glance at the city as he compared urban function to the linear, or *syntagmatic*, level of linguistic analysis, and spatial perception of the city to the associative or *paradigmatic* level (De Fusco 164). The Italian architect Renato de Fusco aired ideas similar to those of Choay and Argan, as well as his own discoveries, in *Architettura come mass medium: Note per una semiologia architettonica* (*Architecture as Mass Medium: Notes Toward an Architectural Semiotics*), a radical 1967 study integrating semiotics and design theory.[23] Clearly visible in the culture of architectural design was what the architectural theorist described as "an on-going linguistic crisis, both cause and effect of the chasm between architecture and society" (5). Whereas Choay complained that the technical language of contemporary urbanism did not participate in the global structure of a society or community, De Fusco suggested that urban design and architecture had become mass media and they spoke a dead language void of all semantic content: consequently, they fulfilled their functions without saying or meaning anything (De Fusco 6).

How could one dare to replace this dead language maintained by tradition with a living, updated language shared by all? How could one broaden the

field of signifiers of this impoverished technical language designed by a small group of specialists in construction, engineering, and architecture? In perfect harmony with the American Jacobs's ideas, Choay affirmed: "the urbanist must stop conceiving of the urban conglomeration exclusively in terms of models and functionalism. It is necessary to stop the perpetuation of stale formulas that transform discourse into object, *by defining sets of relationships, by creating supple structures—a pre-syntax open to still-unconstituted meanings*" (81 [my emphasis]). The initial spadework that the French urbanist proposed consisted in elaborating an urban language that was absent, one that would bring to the surface "the common links between different semiological systems tied to the urban center . . . so that the language of the city would form a nexus with the other signifying systems" (81).[24]

De Fusco's focus was on architecture's meaning, on what and how architecture—and, according to Choay, Jacobs, and others, the city at large—communicates. He aimed to resemanticize a language that had lost sociocultural value in order to arrive at a code through which the public could participate in the signifying systems of architecture and city design.[25] De Fusco was convinced that the world should be seen as a sign system, and that the sign entailed two fundamental relationships beyond the internal relationship of signifier and signified. A syntagmatic relationship existed between the sign and adjacent signs in a given structure; a paradigmatic relationship existed between the sign and the various mnemonic associations and other signs belonging to different structures (De Fusco 161). He recalled with satisfaction that the linguistic structuralists Saussure and Barthes had drawn analogies between language and architecture in order to exemplify these two types of relations, and from this distinction he derived his own response to the linguistic crisis in architecture and urbanism more broadly: "the attempt to look for a *new* systematic [paradigmatic] order is justifiable because, as has been said, the existence of an associative method—notwithstanding the oscillations of taste—continues to be paramount in the signifying process" (163).

It was not by chance that Calvino became intrigued by the new concept of the city as the place of complex relations based on a specific sign system. Around the same time as Choay's and De Fusco's contributions to forging a multidisciplinary urban semiotics, Barthes's *Elementi di semiologia* (*Elements of Semiology*) appeared in an Italian translation published by Einaudi (1966), where Calvino was an editor. One year earlier, the French edition of Saussure's *Cours de linguistique générale* (*Course in General Linguistics*) had been published for the first time. In addition, Umberto Eco's 1962 *Opera aperta* (*Open Work*), and his second book on semiotics, the 1968 *La struttura assente* (*The Absent Structure*), were required reading in Italy and France. Furthermore, Calvino attended the semiotics workshops conducted by Barthes at École des Hautes Études in 1968 and came into contact with Greimas and others in Urbino. Thus Calvino's interest in the communicative nature and potential of the city was not primarily an aesthetic matter or literary experimentation.

Rather, he was looking for a new model of cognition, fully aware that his socially engaged colleagues in urbanism were working toward a new language that might bridge the gap between the real world and the world of architecture and urban planning and design. His aim was the elaboration of enigmatic and multivalent signifiers[26] that might transcend—without denying—the epistemological and ontological concerns usually associated with postmodern fiction, in order to play a socially active role in resolving the urban crisis of his times. Throughout *Invisible Cities*, Calvino challenges the rationalist and technical pretenses of contemporary urbanism and highlights the necessity of building, consciously and deliberately, a new language. That was the only way to expose traditional urbanism's trick that "makes urban structures appear before us as if granted by nature," in Choay's phrasing. Once made conscious of "the system's artificiality," urban residents would be forced "to engage with the system in a relationship of the second-degree" (82).

This second-degree relationship neatly characterizes the ascending and Lucretian lightness of Calvino's text, which nudges the individual and social consciousness of readers towards a renewed vision of the contemporary city and a rethinking of the city of the future, in a mode accessible to city planners, architects, and residents alike. Like Choay's anthology of nineteenth- and twentieth-century urban models, *Invisible Cities* aimed at raising awareness (Choay 82) and educating people in 1972 to re-vision and reimagine the urban environments *outside* of the text. The city models of nineteenth-century "pre-urbanists," Choay claimed, could be of great value in her own time of urban crisis because of their epistemological significance, their being rooted in social critique, and most of all, their naïve trust in the imagination. Developed before city planning became a scientific, or technical, field, those pre-urbanistic models betrayed an enormous and sincere faith in the human imagination (25). This is fundamental to understanding the 1972 work in which Calvino similarly constructs functioning urban mechanisms that play a role within the urban imaginary, thereby vindicating the role of the intellectual during the pre-technical phase of urbanism, the nineteenth century, when the discourse on the city involved historians, economists, and politicians, not just teams of specialists.

Though devoid of Mumford's missionary tones in a work intended to rescue the dehumanized "Post-Historic Man" (*City in History* 4), Calvino's text is nonetheless committed to discovering the anthropological and sociological reasons why humans first gathered into groups and founded cities. Developing an awareness of these reasons was, he was convinced, the first step in overcoming the urban crisis of his age. Through the human presence in the cities (*Polo flâneur* and the inhabitants), and the further semanticization of readers, Calvino set out to investigate the nature of the city by thinking about urban forms in terms of meaning, or of the city as a signifying system: "the desire of my Marco Polo is to find the hidden reasons which bring men to live in cities: reasons which remain valid over and

above any and every urban crisis. A city is a combination of many things: memory, desires, *signs of a language*" ("Calvino on *Invisible Cities*" 41 [my emphasis]). Calvino also inserted two series, "La città e i segni" ("Cities and signs") and "La città e il nome" ("Cities and names"), that impinge directly on semiotics (Fig. 2.3).[27]

Calvino created minimal representations of the spirit of each city that Polo visits in his mind and that readers may explore, verify, and manipulate

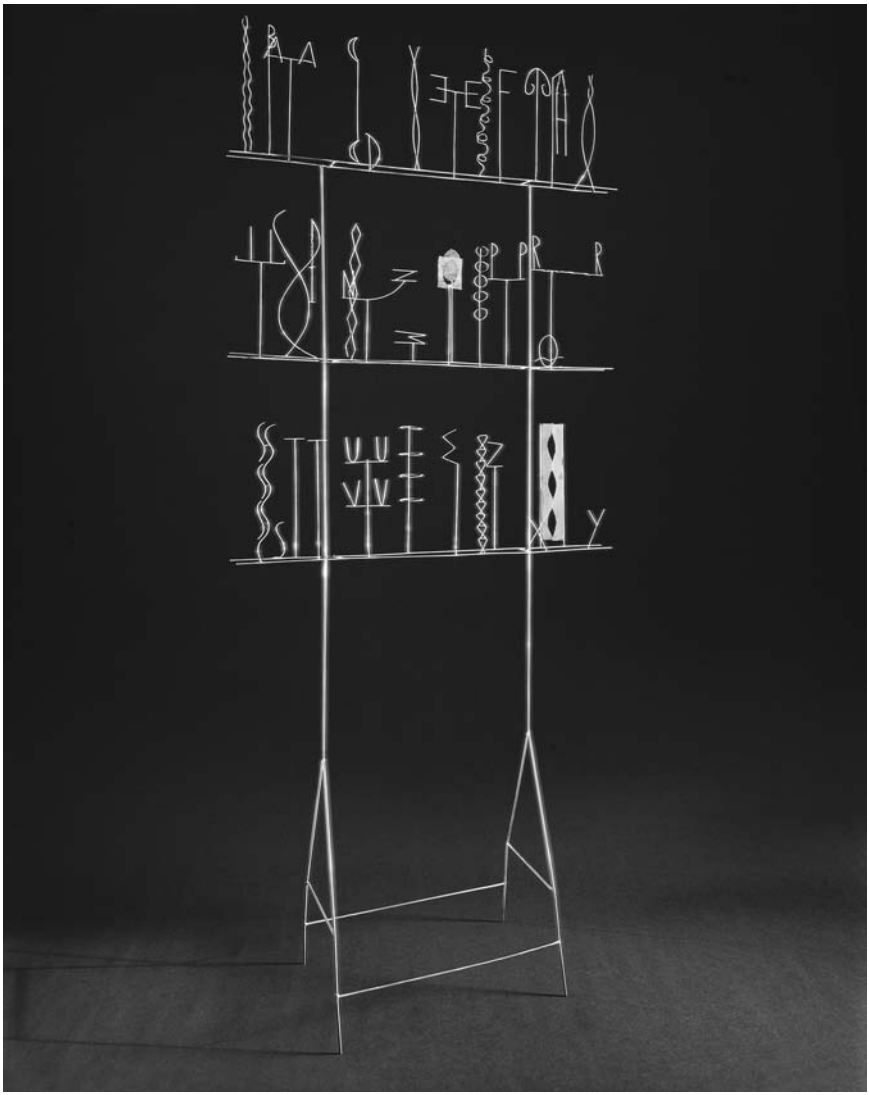

Figure 2.3 Fausto Melotti, *Alfabeto* (*Alphabet*), 1971. Courtesy of Archivio Fausto Melotti.

in their own imagination. Through the interaction of these urban models, the sign system elaborated in the text confronts what urbanists had identified as modernism's worst fault—that it had become a code devoid of references to the other semiotic codes that make up the social universe. Just like postmodern architecture turned its back on modernism's credo in hopes of producing a more humanly meaningful and enjoyable physical space, so Calvino partook in enriching the formal and metaphorical syntax of urbanism to make the city outside of the novel more meaningful and more identifiable to residents and visitors. Through his 1972 fiction he reintegrated the individual into urban planning and design, in harmony with not only Choay but also Mumford, Lynch, Jacobs, and Kepes. They all shared the conviction that a city's plan should not come from the compass but from the people: city residents should become the urban planner's or architect's interlocutors.

In an essay published a few years after *Invisible Cities*, "Gli dèi della città," Calvino would reiterate the need to understand the city as a living organism that was susceptible to prudent interventions. In the face of Italian cities that for decades had absorbed "the urbanization of enormous masses without any planning for their arrival," and in "an era in which the influence of particular interests, transparent or hidden, has corrupted every sensible development project," he affirmed that "it [was] necessary to start by understanding, first, how a city is made, and, second, how it can be re-made" (349). Beginning in the '70s, architects themselves began to actively reconcile the codes of architects and users through what has become known as *participatory design*, and Calvino's text was perfectly in line with that trend.

Invisible Cities should no longer be seen, then, as a primarily aesthetic attempt at postmodern literary experimentation, but instead, as a deliberate foray into public and professional discussions around the city and civic life during a full-blown crisis.[28] Confident that imaginative literature could legitimately intervene in society, Calvino positioned his work to foster urban renewal on the individual and social levels; to advance the rethinking and re-visioning of how a city is written, designed, and built. To judge from his popularity among students and practitioners of architecture and urban studies, Calvino continues to lend much to the very disciplines that formed the *retroterra* of his most ethically and socially dimensioned fiction.

3 Memos for the City of the Next Millennium

Invisible Cities as Embodiment of Urban Renewal

> "In 1969 Hollein petrified Copenhagen beneath a magma of concrete from which spires and bell towers emerged. Archizoom fractured Bologna with a fault line sketching out 'abstract' diagonals that would later figure in Daniel Libeskind's *Line of Fire* project for Berlin, and framed the Florentine Duomo within the gigantic cube of a Residential Edifice. Superstudio inundated Florence beneath the water of a touristic lake." Dominique Rouillard, "'Radical' Architecture" (127)

It has already been established that learning to see anew—the education of vision and the imagination—was a central preoccupation of intellectuals in the '60s. Urbanists in particular insisted that a renewed visual perception of the urban environment on the part of planners and architects, that is, the reshaping of what city residents see, was paramount to urban renewal. The urban studies and architectural literatures expressed that urgent search for a new language to revitalize their era's paralyzed imagination. It remains to be seen how *Invisible Cities* dialogues with and contributes to that discourse on vision, imagination, and social change. Concretely, how does Calvino's novel confront the frequently expressed challenge to retrain the imaginative faculty in the ways of utopian thinking? How, in other words, does it model a renewed vision for the city dweller while at the same time fostering new ideas for the architect and urban planner? The answers lie in the critical recovery of *Invisible Cities* as a space of experimentation that invites readers to engage with imaginary (or *invisible*) urban centers as a means to reflect on and reimagine (or see anew) the city outside of the novel and their relationship to it.

As a device to probe into the fabric of civic life, Polo's projection of images of cities interrogates the structures of a vast array of microsocieties, unveiling the reasons for their forms and for the behaviors of their residents. These urban emblems draw our eye and imagination toward underappreciated aspects of the city and city life, placing in bold relief the constructible and destructible nature of social habits and urban structures alike.

Calvino's urban icons resonate with the philosophical questions surveyed in Polo's conversations with Khan at the same time that they transform the classical utopia into a question-producing mechanism. Following on

Calvino's conviction that his contemporaries needed to understand "how the city is made" and "how it can be remade," two pressing questions come to the fore: what qualities must be preserved in a city that is being built or renovated? What qualities are foregrounded through the imaginary urban environments in his 1972 novel? In what follows, the qualities or characteristics of cities that are conducive to utopian thinking provide answers to these questions. As instruments for generating still-unconstituted meanings, Calvino's images of cities enact Kepes's agenda to "unlearn the terms in which we ordinarily see" (*Language of Vision* 10).

Invisible Cities offers readers an education in seeing founded upon a new language that communicates the building blocks of utopian thinking. These were the two modalities of lightness, ascending and Lucretian, that served as the visual and cognitive grammar of image making, of the *mode utopique* that would, it was then hoped, defeat urban poverty and other social ills by defeating the poverty of the imagination. Rejecting outright the city as it was would reinvigorate urban architecture and design, it was hoped, by injecting fresh ideas into the planning process. Seen in this light, *Invisible Cities* trains readers to view both city and human society from the critical vantage point of ascending lightness, intended primarily as a detachment or a levitation.[1] This modality of lightness aimed to facilitate the consciousness raising necessary for a renewed vision of the contemporary city and for a rethinking of the city of the future in a mode accessible to city planners, architects, and residents alike.

Early on, scholars of *Invisible Cities* commented on the author's recourse to *ostranenie*, or defamiliarization, which thwarts visual and cognitive automatism by dislodging the object (the city) from the usual habits of perception. "Only through foreign eyes and ears could the empire manifest its existence to Kublai" (21), the novel tells us. As an effect of ascending lightness, *ostranenie* in *Invisible Cities* rejects the conventions of architecture and urban planning and enables readers to recognize their wholly arbitrary nature: logical reversals baffle and surprise their expectations, making passivity and linear reading impossible.[2] Diomira is the first city and makes this point unmistakably clear: the conventional description of the city is quickly interrupted to make room for the unexpected: "all these beauties will already be familiar to the visitor . . . , but the special quality of this city [is] . . . " (7). In semiotic terms, Calvino's descriptions of cities make readers frequently experience spatial ambiguities or syntactic violations that call attention to the medium of construction itself, thereby foregrounding architectural elements. Zenobia, for instance, is supported by high pilings, though it sits on dry land. Octavia is built on a void and its edifices hang down instead of rising up. Armilla stymies our most basic assumptions about architecture in that its buildings lack ceilings, floors, walls: "against the sky a lavabo's white stands out, or a bathtub" (49). It is hardly happenstance that this very same phenomenon in architecture today is associated with the postmodern, concretized in its deliberate flaunting of

"the rules for combining the various words of door, window, wall, ceiling and so forth" (Jencks 41).

In keeping with those urbanists who were reflecting on the multiple perspectives that cities and monuments should allow the viewer,[3] spatial perspectives vary as the novel alternates the parameters of the distance and place from which the object is observed: the city is seen from inside or outside, from afar or close up, from the plains, desert, mountains, or sea. Despina, for instance, changes entirely to the eyes of the observer depending on whether the traveler comes from the sea or from the desert. Irene is seen from the hills looking down, but the narration explains that nobody would recognize it if it were seen from inside. As seen from the inside, the city (or reality) is a "trap" that suppresses creativity (*Invisible Cities* 46). Zobeide, meanwhile, is a suffocating skein with "no avenue of escape" (46) precisely because its planners strove to parrot the topography of its inhabitants' desires in the layout of its streets, walls, arcades, and stairways.[4]

Ascending lightness, or a defamiliarizing and distancing approach to urban matters, involves also the choice of observed objects. The gaze that readers follow in *Invisible Cities* circumvents traditional modalities of looking at cities by overlooking its monumental features, inviting us to focus instead on smaller and usually marginal things, apparently so insignificant as to be rendered invisible to common perception: window sills and manhole covers in Zemrude (66); antennas and skylights in Olinda (129); the market in Euphemia (36); the copper clock, barbershop's awning, and melon vendor's kiosk in Zora (15); the variety of pavements in Phyllis.[5] Ascending lightness, then, resides in the distance between the point of observation and the plane of referential reality. Decentralizing the gaze, Calvino pilots readers to see the city from unusual and multiple perspectives, at once exposing the relativity of each and activating Lucretian lightness, which turns on the atomistic speck of dust, on the mental and material liberation of fragmentation and void. A crucial and critically underestimated dimension of the novel is precisely its heuristic itinerary: readers must train their imagination in the *mode utopique* using the language of Lucretian lightness.

Since the publication of Mengaldo's "L'arco e le pietre," *Invisible Cities* has often been approached as a narrative stage for the irreconcilable conflict between the need for rational control and a social reality composed of aleatory, interchangeable data. Under that optic, the novel embodies reason's strenuous and ultimately unsuccessful struggle against irrational chaos: a failure that offered no escape hatch other than utopia. What is proposed here, instead, is Calvino's intentional appropriation of the fragmentary, discontinuous, and combinatory nature of reality. On this reading, utopia should not be seen as an escape, but as a perceptual and cognitive methodology; his atomistic ensemble of polyvalent urban nuclei not as a failing, but as a strategy to defy the calcified imagination that was hampering urban renewal in the late '60s and early '70s. In Barthes's *Saggi Critici* (*Critical Essays* [1966]), an Einaudi compilation of two of his works, the

French critic contended that an author's political and social commitment resided in his or her structural choices: "to be a writer means to believe that the content somehow depends on the form, and that by elaborating and modifying the structures of the form one ends up producing a certain understanding of things, an original take on reality—in short, a new meaning" (235). This is what Calvino sets out to do in his 1972 work.

In a vein reminiscent of Barthes's lesson on Loyola, Calvino builds a syntagmatically discontinuous macrostructure as a propaedeutic device for the imagination.[6] Much more than a wink to postmodern aesthetics, the fragmentary structure of the work indicates the novelist's transposition of physical atomism to the written page: the seal of macrotextual Lucretian lightness. The Lucretian arrangement of Calvino's text obeys the logic of compounding and disaggregation inherent in all of nature, according to *De rerum natura*. At the macrostructural level, each urban icon is the minimal unit of a larger urban substance (city). The system of creation and dissolution of urban matter (city) submits the literary as well as the urban artifact to the natural indestructibility of matter, warrantor of an unyielding regenerative process. The storytelling gravitates around the metamorphosis of dismembered cities, whose components unremittingly unite and disjoin in unstable compounds. Likewise correlated to Lucretian lightness are the novel's dialectics of matter and void (where void is represented by the blank sections among the narrative fragments) and its mimesis of motion: fragmentation, multiplication, mirror images, and reversals reveal an intense agitation and transformation of prime matter.[7]

The fragmentation of the urban whole, isolating principles around which to engender entire cities, was the organizing device of Superstudio's *Twelve Ideal Cities*, as was seen earlier (ch. 2). Twenty years before the publication of *Invisible Cities*, Calvino had already employed the device of the *specialized city*, that is, the urb revolving entirely around one activity or facet or way of living through which the author issues a political and social thesis.[8] In his 1972 fiction he went a step further. Building with mosaic tesserae, Calvino's diegetic atomism crumbles the whole, or, to be precise, creates the impression that the whole is a mass of minute chips or shards.[9] This parceling out of urban matter into minimal units, or into small compositions "seeing the place" (in the Ignatian turn of phrase analyzed in ch. 1), enhances the reader's conceptual imagination in two ways. On one hand, the process divides and contains the issues to discuss in circumscribed frames, indicating that the totality is reducible to minimal, interacting units.[10] On the other hand, the defamiliarizing nature of the urban emblems makes them more detectable within the continuum of the reader's field of vision and instills in her a sensible and intellectual *discretio*, that is, the capacity to perceive differences that breaks down heaviness into minute, mobile components, which constitutes the very foundation of seeing anew.[11] As Calvino wrote in "Gli dèi della città," to truly see a city it is critical "to reject all that obstructs our vision of it [and] then it is necessary for us to simplify, reduce it to the essential" (346).[12]

Subtraction, monofunctionality, and atomization accordingly have cognitive dimensions that transcend postmodern play: "contemplating these essential landscapes," we read in the novel, "Kublai reflected on the invisible order that sustains cities" (*Invisible Cities* 122). Lucretian lightness thus fosters visual contemplation as a propaedeutics of the imagination, an exercise in image-making capable of conveying the principles of utopian thinking. On this reading, Calvino's text was intended as a heuristic itinerary that would lead the reader to (re)discover the meaning of the city and civic life.[13]

SEEING THE CITY ANEW: VISIBILITY AND VARIETY RECONSIDERED

Much has been written about the relationship between word and image in Calvino's 1972 work, which represents perhaps the apogee of his "visual writing style."[14] The cities are emblematic, each enhanced by "the space that remained around it, a void not filled with words" (*Invisible Cities* 38). The discovery of each city's special quality or defining characteristic requires a mental tabula rasa akin to the desert from which the traveler often arrives to the cities. It is a joy to reach Isidora after wandering in the "wild regions" (8), or Dorothea, which evokes desire for the man who has been following the caravan routes through the desert (Fig. 3.1).[15] Lalage epitomizes the formation of the image in the arid wasteland of Khan's mind: "in the midst of a flat and yellow land, dotted with meteorites and

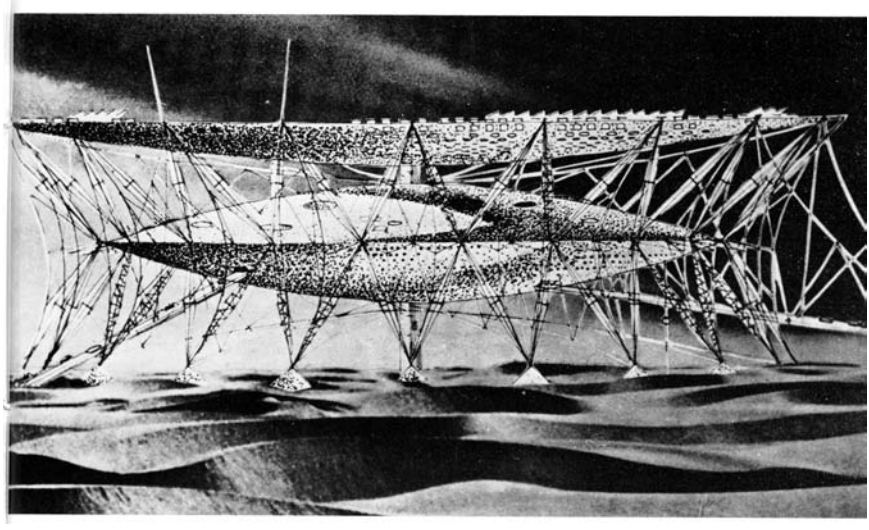

Figure 3.1 Paul Maymont, *Ville des sables* (*City in the Sands*). In Michel Ragon, *Histoire mondiale de l'architecture et de l'urbanisme modernes*. Courtesy of Éditeur Casterman.

erratic boulders, I saw from a distance the spires of a city rise, slender pinnacles made in such a way that the moon in her journey can rest now on one, now on another, or sway from the cables of the cranes."[16]

The gradual apparition of architectural images had been theorized earlier in Superstudio's 1969 manifesto, which defined human history as "a parable of formalization, so it is a story of deserts, both natural and artificial [interior, mental desert]" (Superstudio 127). In Superstudio's comic-strip drawings there appears, amidst material and mental deserts, a monolithic square block that gradually divides into smaller and smaller units which then combine to generate the forms of architecture (127–28). Staging a car journey "into the realms of reason" (128), the "artificial or interior deserts" (128) of the mind, Superstudio captured the appearance of "light images of dream architecture" (128), "the catalogues of illusions and utopias" (128). Analogously, the emblematic nature of Calvino's city descriptions kindle the imagination, allowing readers to experience and enjoy the narration of Polo's imagined journeys: "the descriptions of cities Marco Polo visited had this virtue: you could wander through them in thought, become lost, stop and enjoy the cool air, or run off" (38).

Lynch's parallel emphasis on the city as an aesthetic object to be looked at, recalled, and enjoyed suggests that the 1972 work's descriptions were informed by the early wave of what is known today as postmodern urbanism. Calvino's thinking on the imagination and literature foregrounds *visibility*, which is best understood as the literary correlate of what Lynch termed *imageability*, that is, the quality of a city that permits the resident or visitor a clear, legible, and recognizable image of itself.[17] Calvino's Eudoxia is an invisible city in which a carpet preserves the urb's design form. As in Lynch's mental image, the figure on the carpet maintains a clarity and vividness impossible to grasp when residents are immersed in the commotion of urban life (*Invisible Cities* 96–97). The novelist called for "clear, incisive" images of the city (*Six Memos* 55); for cities of a "well-defined, memorable, and self-sufficient form, the *icastic* form" (92), which implies an attention to what urbanists in the late '60s called *form quality*.

According to Lynch, the first criterion of imageability was a form quality characterized by *singularity*, which renders the urban element "remarkable, noticeable, vivid, recognizable" (*Image of the City* 105). It is obtained through "figure-background clarity: sharpness of boundary . . . , closure . . . , contrast of surface, form, intensity . . . " (105). The *figures* of Calvino's cities fulfill Lynch's criterion in that they stand out in the Khan's vague and formless mental landscape: "in the Khan's mind the empire was reflected in a desert of labile and interchangeable data, like grains of sand, from which there appeared, for each city and province, the figures evoked by the Venetian's logogriphs" (*Invisible Cities* 22). In the Khan's desertlike imagination, Polo's cities are the epitome of singularity; their *brevitas* and their concise poetic tenor endows them with "the power of emblems, which once seen, cannot be forgotten or confused" (22).[18]

Visibility emerges also from a language that construes space through references to extension, color, form, spatial relationships, and orientation (Jansen 77). Calvino's allusions to the shape of the city and its architecture lead us to Lynch's second criterion of imageability, which he termed form *simplicity*, or "clarity and simplicity of visible form in the geometrical sense." Such a criterion is immediately recognizable in several of Calvino's "colored miniatures" (*Invisible Cities* 136). Dorothea, for example, is painted in Calvino's words as a city in which "four aluminum towers rise from its walls flanking seven gates with spring-operated drawbridges that span the moat whose water feeds four green canals which cross the city, dividing it into nine quarters, each with three hundred houses and seven hundred chimneys" (9). In Hypatia the traveler climbs "the porphyry steps of the palace with the highest domes," then crosses "six tiled courtyards with fountains," and finally reaches a "central hall . . . barred by iron gratings" (47). Olivia's prosperity is icastically sketched in "filigree palaces with fringed cushions on the seats by the mullioned windows" (61); and Fedora, as will be seen later (ch. 4), is simply a gray stone metropolis in whose center "stands a metal building with a crystal globe in every room" (32).

Lynch's third criterion of imageability was *continuity*, the "repetition of rhythmic interval" (106). The descriptions of the cities, in fact, are divided into nine chapters (ten descriptions in the first and last chapters, and five in the others). Each of the nine chapters is encased within the "frame" of the book, that is, prefaced and followed by a short excerpt of dialogue between Polo and Khan. Their speculations are therefore fragmented and interspersed throughout the book, establishing conceptual affinities among the frame and the cities. Polo's reports about the cities are delivered thematically under nine rubrics; the cities belonging to the same rubric are not only rhythmically encased in a precise geometrical scheme, but also organically connected to each other and to the whole through various intratextual lacings and allusions. Continuity in an urban environment was bolstered by similarity and analogy according to Lynch (106), and the web of relationships and echoes between Calvino's urban icons satisfies this requirement.

Still another of Lynch's criteria, *names and meanings*, pervades the 1972 fiction. "Names," Lynch explained, " . . . strongly reinforce such suggestions toward identity or structure as may be latent in the physical form itself" (108). In Calvino's work, the etymology of the city's name and the contents of the city's description are frequently in accord, revealing an intricate grid of analogies and oppositions.[19] A few examples will suffice: Diomira, "a city with sixty silver domes, bronze statues of all the gods" (7), conjures its spiritual identity through its name: *Dio mira*, or "God is watching." Despina is named after the nymph born to Poseidon (god of the sea) and Demetra (goddess of agriculture), a peculiarity reflected in the city's contrasting surf-and-turf nature. Euphemia, the city loved by those who enjoy telling stories about their lives, is a name composed of *eu* ("well") and *phemí* ("to speak or tell"). Aglaura is derived from the Greek

aglaós, meaning "shining" or "resplendent," creating a strict correspondence between name and content, just as Lynch prescribed, for the name matches what is described as Aglaura's sporadic revelation of "something unmistakable, rare, perhaps magnificent" (*Invisible Cities* 68).

In order to foster imageability, as it was defined by the emerging postmodern paradigm in urban studies, and the reader's faculty of image making through the literary text, Calvino immerses readers in Marco Polo's poietic enterprise (Pocci 112). Polo has built up his "inner city" (the city of his imagination) and now trains his interlocutor Kublai Khan in the art of inner vision: he injects *views* (or mental images), as Barthes defined the discontinuous yet contiguous images suggested to the human imagination by Loyola's *Spiritual Exercises*. Polo does not report on travels that he has physically experienced; rather, he intentionally and rationally conjures up the *phantasmata* that have become part of his mental patrimony: "perhaps, Kublai thought, the empire is nothing but a zodiac of the mind's phantasms" (22).[20] These Lucretian *simulacra* projected onto the screen of the mind are in fact "rising within the confines of empire" (*Invisible Cities* 164). It is a mental space that recalls Lynch's discussion of the mind of city dwellers as the place where a city, like a page in a book, was to be visually apprehended as a pattern of related symbols. Arnheim, on the other hand, while working in 1966 on his theory of visual thinking, namely, the ways in which we think through mental images, had connected his reflections to pre-Socratic philosophy, in particular Democritus's theory of *eidola* (or replicas).[21]

"Your atlas," we read in a phrase that conveys a Lucretian reversibility between atomism (*res*) and language (*verba*), "preserves the differences intact: their assortment of qualities which are like the letters in a name" (137).[22] In lieu of lengthy explanations, this atlas of heterogeneous spaces investigates the city's reason for existence and directs the reader's attention to a multiplicity of urban and social vocations. Thus, visibility at once embodies one of Calvino's most prized literary principles and defies the standardization and stultifying homogeneity that were weighing down urban centers as well as urban planning and design during the gestation of Calvino's novel. In these twin and overlapping contexts, it is of enormous relevance that at the beginning stage of writing, when Calvino was wrestling with the frame of *Invisible Cities*, he conceived of Khan as an urban planner and builder: "Khan designs . . . [and] builds cities" (Calvino qtd. in Barenghi, "Gli abbozzi" 81).

Polo's endeavor is not less demiurgic than if the novel actually reported on buildings built or under construction outside of the novel. Indeed, Khan's mind approximates that Fryean mineral world to which the images of cities give shape.[23] Polo's poietic enterprise consists therefore in the creation of worlds.[24] He and Khan are said to be overlooking "only the lake of [their] mind," harboring "within [themselves] this silent shade" (117). They explore the empire of the imaginary in a fictitious space "in the shadow of [their] lowered eyelids" (103). They share with readers an inner space where

"in the midst of the din and the throng, [they] are allowed to withdraw," and "each time [they] half close [their] eyes . . . to ponder what [they] are seeing and living, to draw conclusions, to contemplate from the distance" (104). This lightness, or detachment, likens them to the inhabitants of Irene, who look down on their city from "the edge of a plateau" (124). Polo's images are the Lucretian mental projection (*animi iniectus*) that make humanly possible the cognition of the invisible or what was not immediately visible, in spite of the weight of perceptual automatism. All of this, of course, was one with Kepes's goal of cultivating the imaginative and visual abilities of city dwellers in order to make urban life more communicative and richer in meaning. It is not by chance, then, that Polo's mental projections have been credited with establishing an entirely new relationship between language and action (Dombroski and Miller 167) (Fig. 3.2).

An eminent Calvino scholar has rightfully singled out the importance of the mental projection of images induced in the novel's reader.[25] What has gone critically unremarked, and is no less important, is how resolutely Lynch's description of the individual's interaction with the urban environment is reflected in Calvino's staging of Polo's interaction with the world and of the reader's interaction with the urban images projected by Polo. "Environmental images," the urbanist explained, "are the result of a two-way process between the observer and his environment. The environment suggests distinctions and relations, and the observer—with great adaptability and in the light of his own purposes—selects, organizes, and endows with meaning what he sees" (Lynch 6). The mental operation required of Calvino's readers—the three-dimensional reimag(in)ing of images, architectures, and urban morphologies—constitutes a resemanticization that, once again, has a historical referent in De Fusco and Choay's calls to resemanticize the language of architecture and urbanism.[26] Just like Polo

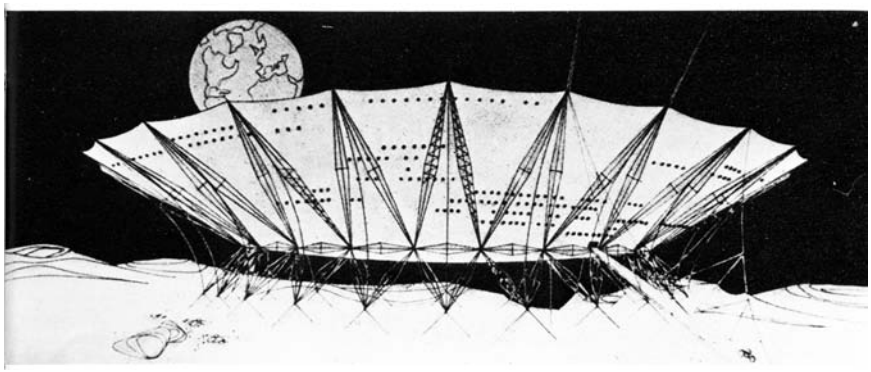

Figure 3.2 Paul Maymont, *Megastructure lunaire* (*Lunar Megastructure*). In Michel Ragon, *Histoire mondiale de l'architecture et de l'urbanisme modernes*. Courtesy of Éditeur Casterman.

restores meaning to the cities in the novel, so readers too learn to extract the "sign" from the obsolete urban language and to transform it by renewing its meaning, inserting it into a new syntax, and ultimately handing it back to its referent.

Beyond visibility or imageability, another quality achieved by the novel's Lucretian lightness is *variety*, or multiplicity, which is conveyed through a vast array of urban icons that defy the image-effacing anti-city condemned by the emerging postmodern paradigm in urbanism.[27] Such was the second benefit that Calvino hoped to convey to his readers who were learning *mode utopique*, and here *Invisible Cities* again draws theoretical and practical sustenance from Lucretian physics: *De rerum natura* is, first and foremost, a celebration of nature's variety or diversity.[28] Perhaps the most widely enjoyed aspect of Calvino's work, variety was also a trait heralded by the very urbanists' work he was reading while he wrote the novel. Lynch asserted that more variety in design and architectural terms would provide "all [the inhabitants] perceptual material which is congenial to their own particular way of looking at the world" (110–11). Jacobs complained that a dearth of multiplicity and complexity had transformed the urban and suburban landscape into an "unnourishing gruel" (7). Indeed, the bulk of *Death and Life* addresses "how to accommodate city diversity [diversity of uses, of relationships, of images, of people] well in visual terms" (Jacobs 229). It should also be remembered how Simoncini railed against Los Angeles's gray look and its obsessive acentric continuum. In the face of this "evil," he lamented, even a "place of psychological alienation" like Disneyland becomes an "artificial paradise" simply by appearing to offer a bit of variety.[29] Simoncini, moreover, exemplifies how the critical literature on the city in those years itself constituted a hymn to visual diversity, thanks not only to the eye-catching images of utopian cities but also to the frequent illustrations of classical ideal cities and avant-garde cities.[30]

Generating urban diversity also implied generating a diversity of cities, the absence of which Calvino's fiction deemed punishable by death—that is, urban disintegration and sprawling monstrosity: "the catalogue of forms is endless: until every shape has found its city, new cities will continue to be born. When the forms exhaust their variety and come apart, the end of cities begins. In the last pages of the atlas there is an outpouring of networks without beginning or end, cities in the shape of Los Angeles, in the shape of Kyōto-Ōsaka, without shape" (*Invisible Cities* 139). Devoid of imageability and multiplicity, Zoe, Penthesilea, and Trude are daunting cities of indivisible existence and mental confusion in which all distinction or separation has been erased.[31] At the other end of the spectrum, Calvino chose Venice as a metaphor for complexity, or "the first anti-Euclidean city," in his 1974 essay "Venezia: Archetipo e utopia" ("Venice: Archetype and Utopia"; 2688). Just as Lynch had deemed Venice the imageable city par excellence, so Calvino singled out Venice's "favorable mental climate": its "special geometry that sparks [the] imagination to travel unaccustomed

paths" (2688). Venice's "pluridimensional human environment" constituted a bulwark against effacement and sameness: "the extraordinary effect of Venice is truly diversification in the extreme, non-uniformity in a homogeneous experience" (2689–90). He also mentioned another characteristic of his ideal city: "there is nothing limitless on the level of sensation, space opens and closes before us, always in diverse configurations" (2688).

Published only two years after the novel, Calvino's "Venice: Archetype and Utopia" sheds light on his fictionalization of Mumford's two urban imperatives: a container of multiple dimensions (the macrostructure of *Invisible Cities*) and multiple focal points (the microtexts or descriptions of cities).[32] The forms of the visible undergo a relentless transformation in *Invisible Cities*, deconstructing the monolithic bulkiness of the city in the multiplicity of its visual spectacle. (All of this was, it should be remembered, in harmony also with Jacobs, who had defended the social value of variety in architecture and of mixed-use zoning.) This Lucretian pulverization of visible forms begins with the landscapes or topographies on which Calvino's cities are located (gulfs, hills, plains, riverbanks). It extends to the specific shapes of the cities, to their varied architectures and materials, and to the assortment of human types, professions, and trades within them.[33]

Facing the boredom and sterility conveyed by modernist architecture, especially the "bare, echoing, arid spaces" (MacEwen 13) of its repetitive and rigorously geometrical glass, concrete, and steel buildings now immortalized by director Michelangelo Antonioni, Calvino insisted on a variegated morphology for his urban icons, even indulging in enumerations that might convey an impression of totality. Phyllis, for example, is the city where the eyes "rejoice in observing all the bridges over the canals, each different from the others: cambered, covered, on pillars, on barges, suspended, with tracery balustrades" (*Invisible Cities* 90). Multiplicity delighted its residents and visitors: "what a variety of windows looks down on the streets: mullioned, Moorish, lancet, pointed, surmounted by lunettes or stained-glass roses; how many kinds of pavement cover the ground: cobbles, slabs, gravel, blue and white tiles. At every point the city offers surprises to your view" (*Invisible Cities* 90).[34]

Marshaling a bounty of diverse construction materials must have been especially important to Calvino because the novel delights in filling architectural and urban spaces with a dazzling array of materials. Doubtless this was partly in response to the spread of imposing cement apartment buildings that had made modern architecture seem inhuman to urbanists in the late '60s and early '70s (MacEwen 14). In addition, the author himself would comment in his chapter on lightness that "the weight of matter [in Cavalcanti] is dissolved because the materials . . . can be many, all interchangeable" (*Six Memos* 13). In the novel, Calvino's urban icons fragment the weight of construction for readers by conjuring the visual aspects and physical sensations of many, interchangeable materials: silver, bronze, tin, and crystal in Diomira; zinc in Zaira; copper and glass in Zora; iron and

lime in Despina; porphyry, majolica, and basalt in Hypathia; alabaster, coral, and glass in Moriana; marble, wood, brocade, glass, and velvet in Clarice; gold, silver and diamond in Beersheba; agate, onyx, chrysoprase, and all the precious stones in Anastasia; tin, plastic, and porcelain in Leonia; and clay in Argia. Most conspicuous, within Calvino's visual indexing of urban and social alternatives, is the absence of cement.

Variety steadfastly challenges the threat of saturation and lack of differentiation in social space, as Calvino faces off with a central preoccupation of the era: overpopulation. The demographic explosion was dreaded as much as cementification and urban sprawl. Superstudio's *Continuous Monument*, a nightmarish design project of total urbanization that was mentioned earlier (ch. 2), resulted from "envisaging the progressive impoverishment of the earth and the now nearby prospect of 'standing-room only'" (Superstudio 129). Some of Calvino's cities confront this looming threat by conveying spatial compactness, or a lack of discontinuity (or voids) that impedes mobility. Laudomia, for instance, embodies erstwhile philosophical concerns about alienation, or an impending detachment of human beings from the flux of history: "the future inhabitants of Laudomia seem like dots, grains of dust, detached from any before and after" (*Invisible Cities* 142). In the urbanistic context, however, Laudomia explores the anxieties around the Great Number, or overpopulation of the planet. To the already saturated space of the living and that of the dead, Calvino adds a third space, "the city of the unborn" (140). Infinite in number, the unborn are as invasive as dust particles, imagined in every size and hidden in every object, "intent on the concerns of their future life" (141). In the unyielding compactness of marble, one sees the unbearable burden of the future: "and so you can contemplate in a marble vein all Laudomia of a hundred or a thousand years hence, crowded with multitudes" (141). Echoing Simoncini's 1970 warning about extreme population density, the city's unborn transmit "alarm" from their hiding places:

> In every pore of the stone there are invisible hordes, jammed on the funnel-sides as in the stands of a stadium, and since with each generation Laudomia's descendants are multiplied, every funnel contains hundreds of other funnels each with millions of persons who are to be born, thrusting their necks out and opening their mouths to escape suffocation. (*Invisible Cities* 142)

Again, in Procopia, the traveler becomes aware of an exponential population growth that is progressively gnawing away at social space and resources:

> You have no idea how many people can be contained in a confined space like that little field of corn . . . motionless. They must have been many more than they seemed: I saw the hump of the hill become covered with a thicker and thicker crowd . . . . This year, finally, as I raise the curtain, the window frames only an expanse of faces: from one

> corner to the other, at all levels and all distances. . . . Even the sky has disappeared. I might as well leave the window.
>
> Not that it is easy for me to move. There are twenty-six of us lodged in my room: to shift my feet I have to disturb those crouching on the floor, I force my way among the knees of those seated on the chest of drawers and the elbows of those taking turns leaning on the bed: all very polite people, luckily. (147)

These urban emblems underscore the dehumanizing results of overcrowding, cementification, and sprawl. A claustrophobic sensation overwhelms the reader who identifies with Polo's imaginary urban experiences. There are no voids in Procopia and Laudomia; there is no space to move about, no room to breathe. They are human traps that fulfill Mumford's prophecy of "the slavery of large numbers" (*City in History* 528).

THE SEARCH FOR COMMON GROUND

Other urban icons do not explore the overpopulation or "Great Number" debate, but rather, the abundance of relationships facilitated by reimagined urban environments. Together with the principles of imageability and variety, the interconnectedness of all things and the generative force of their combinatory processes come to the fore. Indeed, through Lucretian lightness Calvino's fiction encourages visual and cognitive awareness of a characteristic of the healthy urban environment that contributes mightily to the "reshaping of what is seen": common ground, or a sense of community. As a contemporary architect explains, "the city is a living scaffold, a framework that brings people, their occupations and practices, modes of production and consumption, and all forms of culture together into a single cloth" (Blizard 105-06).[35] Contemporary architects and urbanists lament the present-day loss of that vital characteristic (Blizard 116, 126–27; Friedmann), which is hinted at repeatedly in Calvino's 1972 text, interviews, and essays from the '60s and '70s. That very possibility compelled him to place in bold relief the historical relationships between the city and centuries-old notions of civic life and to fundamentally rethink what the city's collective dimension meant to civilization (Pocci 110).

Through any number of his readings and viewings, the Ligurian novelist could have reaffirmed his conviction that the city was the only place capable of serving as the common ground of humanity. Archigram's Peter Cook recalls how the 1963 London exhibit *Living City* aimed at shifting the attention of city builders from practical concerns such as allocation of space, building codes, zoning, and density to the inner life of the city and its affective and cognitive rapport with residents and visitors. "Living City" was intended to "to capture, to express, the vitality of the city," in the absence of which "the city will die at the hand of the hard planners and

architect-aesthetes" (Cook, *Archigram* 20). The London exhibit aspired to reeducate the spectator by betraying his or her expectations: "to condition the spectator by cutting him off from the everyday situation, where things are seen in predictable and accepted relationships" (*Archigram* 20). In Italy, Simoncini underscored the relevance of configuring an urban space so as to enhance human contact (61, 71, 148). In France, Choay endorsed Camillo Sitte's designs for enclosed and reassuring city spaces meant to counteract the modern malady of alienation (Choay 42–44). In the United States, Jacobs deemed the resurrection of vitality and interpersonal relationships the compelling reasons for urban renewal. In addition, one could certainly read Mumford's entire oeuvre as a hymn to the collectivism made possible throughout history by the city: "give and take, the interchange of goods and ideas, the expression of life as constant dialogue with other men in the midst of a collective setting that itself contributes to the animation and intensity of that dialogue" (*Urban Prospect* 125).

The city in Calvino's novel is the materialization of desire, of generative energy, a conceptualization that was central to Mumford's *City in History* as well as to Frye's *Anatomy of Criticism*. At the very same time, Rossi's drawings of cities (now undergoing a critical renaissance) were foregrounding the city as the common ground of diverse projections of desire.[36] Like Calvino, Rossi opted for visuality and poetic estrangement as vehicles for communicating ideas about the city, in hope of influencing the planning and construction phases of the same. The page was for Rossi, as it was for Calvino, a space of experimenting in the *mode utopique*, a theatrical stage where combinations take place, a veritable common ground of Lucretian lightness: "it becomes a territory revealing possible combinations and connections, a place where forms can be put together or be taken apart" (Celant, "Aldo Rossi Draws" 17).

Calvino's and Rossi's cities resonate with Blizard's figuration of common ground as a "memory theater" (118), as the combinatory energy of Lucretian lightness weaves together elements from reality and from fantasy. On this view, the historical or lived urban environment becomes for its inhabitants "an analogical city of possibilities and connections where reason commingles with memory and imagination" (Blizard 118). Several of Calvino's cities (primarily but not exclusively in the series "Cities and memory") and many of Rossi's drawings recognize the social value of the city as memory theater, liberating "its hidden life built up in layers through time and history" (Celant, "Aldo Rossi Draws" 11).[37] In Calvino's descriptions and Rossi's drawings alike, the city becomes an intersection of different temporal layers in its material as well as its symbolic form, or in the stratified recollections that each place conjures up and combines with traces surfacing from the unconscious.[38]

This temporal layering is reflected in the collage of memory, erasure, and unconscious return that is Polo's complex relationship with Venice, and with its most explicit replicas: Esmeralda, Valdrada, Phyllis, and

Kin-sai. In Isidora, moreover, the future-oriented projection of desire and the contemplation of the past coincide, whereas in Adelma the traveller encounters a nightmarish kaleidoscope of faces resembling people who had died long before. In Berenice, Polo pushes temporal coevality to unequivocally include the future: the current city contains all the future Berenices "present in this instant, wrapped one within the other, confined, crammed, inextricable" (163). Zaira's memory theater directs readers to the relationship between the measurements of architectural space and the events of history: "as this wave from memories flows in, the city soaks it up like a sponge and expands" (10). Clarice underlines how buildings and materials adapt to different uses throughout the course of history, as various strata of memories begin to seep and blur. Diomira, finally, reminds us that each city triggers subjective recollections, such as those of the traveler "who arrives there on a September evening, when the days are growing shorter and the multicolored lamps are lighted all at once at the doors of the food stalls . . . " (7).

The city as the common ground or memory theater for humanity is at the very heart of the 1972 text. After Mumford defined the three main functions of the city as "enclosure, assembly, [and] intermixture" (*Urban Prospect* 81), Calvino was to emphasize these very functions, along with their limits and contradictions, by creating fifty-five urban icons that—to paraphrase Mumford—concentrate the social actors within a bounded field (*Urban Prospect* 82). Within these enclosed urban spaces, Polo introduces a variety of voices generically identified as a traveller, a man, someone arriving or departing, and so on (Martignoni 22), through whose senses and psychology the reader observes a broad range of social mores and human experiences. Indeed, Polo pays special attention to the spaces of human culture rather than to the space outside of cities: "in uninhabited places each stone and each clump of grass mingles, in my eyes, with every other stone and clump" (152-53; Chessa Wright 162). Mumford's imprint on Calvino in this regard is especially palpable. He characterized the cities of the past as visible expressions of the anthropological reasons that led humans to live together. Cities thus "recorded that which was desirable, memorable, [and] admirable" (*Urban Prospect* 110). Several series of cities in Calvino's novel recover the very same attributes: "Cities and desire," "Cities and memory," "Cities and eyes." In Mumford's analysis the contemporary city was poised to lose its role as "an agent of human interaction and co-operation" (*Urban Prospect* 115). Not coincidentally, *Invisible Cities* delves into social interaction and human cooperation—into the reasons that led early humans to form communities. This question is confronted directly in the series "Trading cities," in which each member city "is a place of exchange . . . , only these exchanges are not just trade in goods: they also involve words, desires, and memories" ("Calvino on *Invisible Cities*" 41).

Calvino scholars remain divided on the question of the presence or absence of life in the novel's cities. Some see a lack of humanity in the

narration's absence of visceral emotion and its fastidious geometry or symmetry.[39] Without discounting this critical perspective, it is nonetheless possible that the idea of the city as the common ground or memory theater for humanity propels us toward a radically different reading: the fifty-five urban icons are microcontainers that dramatize attempts (successful or not) to build intellectual and affective community between the traveller and each city's inhabitants, and between the inhabitants of each city. These fifty-five stagings of community or memory focus on the inhabitants' relationship to space and time, and on the mental/invisible image of each city versus the real/visible image of the same. Calvino's microcontainers give shape to the author's perception of human relations, and of relationships with the self and with reality at large, as often shifting and elusive, contradictory and incomplete, made of tangles that it is possible to unravel only temporarily and tentatively by fragmenting their complexity in a Lucretian manner. On this reading, human interactions in the 1972 work are efforts at conscious or unconscious community-building, even when they end in deadlocked situations that emphasize emotional and intellectual limitations to human fulfillment or wholeness.

When people gather in Chloe, "taking shelter from the rain under an arcade, or crowding beneath an awning of the bazaar, or stopping to listen to the band in the square" (51), all trades and combinatory forms of interpersonal exchange are *in potentia*. Because all social interaction happens exclusively in the minds of its inhabitants, Chloe starkly communicates the loneliness of the crowd. At the very same time, however, Chloe recalls Polo and Khan's mental staging of the city, accentuating the "carousel of fantasies" (52), their great streaming of flights of fancy and daydreamed interpersonal exchanges stimulated by the urban environment.[40] In Melania, the traveler calls our attention to the never-ending dialogue that links up the city's inhabitants in a whirlwind of roles and relationships, and here the city as common ground or memory theater becomes explicit. The entire city is evocative of a *commedia dell'arte* performance in which an entire cast of social types take to the stage: boastful soldier, confidante, decadent young man with prostitute, usurer, avaricious father, love-struck daughter, silly servant, hypocrite, enraged old man, and clever-talking maid (80). Melania's residents alternate roles in the memory theater or common ground of their city: "when one changes role or abandons the square forever or makes his first entrance into it, there is a series of changes, until all the roles have been reassigned . . . , even if none of them keeps the same eyes and voice he had in the previous scene" (80).

Through Ersilia, Calvino endows with visual evidence the web of intricate relationships that "sustain the city's life": relationships "of blood, of trade, authority, agency" (76). Although such relationships are intricate and shapeless, the inhabitants are said to be nothing without them. Conversely, the residents of Octavia, the spider-web city, are aware that the strength of all human relationships relies on the recognition of the precariousness of

such bonds. Laudomia focuses on the affective interaction between the living and the dead, as its cemetery conserves and communicates the shared emotional history of city residents: it is the place where residents go "on fine afternoons" (140) to look for a space where everything is "divorced from chance, categorized, set in order," where Laudomia seeks "the explanation of itself" (140).

Polo catches glimpses of the theatrical flavor of city scenes, and he conveys the ocular delight found in community and variety. Lightness proceeds by leaps and bounds in Raissa, a melancholy city and un-self-aware, in which nothing separates a bad dream from the day that dawns. Images of social life crisscross, collide with, and slide into others as in a nimble and fluid transformation of prime matter:

> And yet, in Raissa, at every moment there is a child in a window who laughs seeing a dog that has jumped on a shed to bite a piece of polenta dropped by a stonemason who has shouted form the top of the scaffolding, "Darling, let me dip into it," to a young serving-maid who holds up a dish of ragout under the pergola, happy to serve it to the umbrella-maker who is celebrating a successful transaction, a white lace parasol bought to display at the races by a great lady in love with an officer who has smiled at her taking the last jump, happy man, and still happier his horse, flying over the obstacles, seeing a francolin flying in the sky, happy bird freed from its cage by a painter happy at having painted it feather by feather, speckled with red and yellow in the illumination of that page in the volume where the philosopher says: "Also in Raissa, city of sadness, there runs an invisible thread that binds one living being to another for a moment, then unravels, then is stretched again between moving points as it draws new and rapid patterns so that at every second the unhappy city contains a happy city unaware of its own existence" (149).

OPEN TEXT: THE CITY AS *FABBRICA*, OR WORK-IN-PROGRESS

Many of Calvino's urban icons dialogue with two complementary conceptualizations of the city. The first is the city as a *fabbrica*, or open-ended structure, in material and semantic terms, which must not be isolated from planning, construction, and demolition phases inspired by diverse models throughout history. As Calvino's contemporary Rossi explained, "*fabbrica* means 'building' in the old Latin and Renaissance sense of man's construction as it continues over time" (*Architecture of the City* 18). On this view, architecture must not be approached as one urban artifact among others. Rather, the entire *fabbrica* is architectural: "architecture as construction, the construction of the city over time" (21).[41] His drawings from the late

'60s and early '70s are visual enactments of his credo; architecture assumes one shape, then another, in what has been called a "re-dramatisation" of the city (Celant, "Aldo Rossi Draws" 11).[42] The second is the city as the epitome of "open-text" poetics in the semiotic sense. De Fusco reflected at length on the *open work* as a concept compatible with much of contemporary architecture "the urban lay-out (*piano*), like the current shape of architecture . . . , is nothing other than a work-in-progress: a work of art that is *done* only insofar as it is *becoming done*" (De Fusco 144).[43]

Calvino was thinking along similar lines. In "Gli dèi della città," he remarked that the city should be approached as a living organism always in evolution. Like living species, cities either adapt their organs to new functions or disappear entirely from one era to the next (346). "Every movement acting upon society," Calvino insisted, "deforms or readapts—or irreparably degrades—the urban tissue, its topography, its sociology, its institutional culture, and its popular culture (in a word, its anthropology). We believe that we are looking at the same city, when we have another, still unseen, right before us . . . " (346–47). As was established earlier (ch. 1), Calvino greatly admired Galileo's praise for all that is "subject to alteration, mutation and generation" ("Book of Nature" 87), identifying it as an antidote to inertia and paralysis, which he figured as "the nightmare of the Gorgon" (88). "Forced to remain motionless and always the same," the city of Zora "has languished, disintegrated, disappeared. The earth has forgotten her" (*Invisible Cities* 16). Zenobia, on the other hand, deepens the relationship between planning, building, and mutability or transformability. A prime example of the anti-Medusan approach to urban planning, Zenobia is among those happy cities that "through the years and the changes continue to give their form to desires" (35).

At the microstructural level of *Invisible Cities*, in description after description, Lucretian lightness contributes to the education of vision by calling our attention to the *assembly-required* nature of the city—to the idea that it is infinitely constructible and destructible. In the lexicon of Lucretian physics, matter is subject to both *concilio* (composition of bits of prime matter) and its opposite *discidium* (decomposition), both of which illuminate several of the novel's urban icons. Thekla encapsulates the Calvinian message by struggling against its own destruction through a continuous restructuring, adhering to a strict plan without on-the-fly improvisations. Uninterruptedly engaged in achieving its ideal state, Thekla is intrinsically animated by a productive lightness: movement enlivens "the plank fences, the sackcloth screens, the scaffoldings, the metal armatures, the wooden catwalks hanging from ropes or supported by sawhorses, the ladders, the trestles," as in a kinetic mechanism of cogwheels and springs (127). The wider implications of that perpetual motion are discernible in Thekla's residents: "the inhabitants continue hoisting sacks, lowering leaded strings, moving long brushes up and down" (127). Why? "So that its destruction cannot begin" (127).

Olinda's growth in concentric circles, on the other hand, calls attention to the modality of urban development (129), and the reader is made to think about the growth of cities outside of the novel through a reversal of expectations within it: Olinda's circles blossom, one inside the other, from the center outward, while real cities add circles on the exterior (suburban rings or sprawl) in a radioconcentric development rebuked by Friedman in his "Paris Spatial" (20) and by Archigram in their design projects exploring alternatives to the rings of small towns being built around cities like London to catch their overflowing populations.[44]

Insisting on the *fabbrica* nature of the city, several of Calvino's urbs warn against aiming for abstract harmony in urban planning and design—against isolating the shape of the urban container from the life that occupies it—a danger serrated in the literature on the future of the city. The negative example of Perinthia (144) directs the reader's attention to the layout of the city through a provocative reversal. Perinthia was envisioned on paper as a simulacrum of Paradise, like many ancient cities (Mumford, *City in History* 69). On the ground, however, its formal perfection, abstract and immobile, has made living in the city an unnatural, deforming experience. Perinthia has spawned monsters: "children with three heads or with six legs" (*Invisible Cities* 144). This urban atrocity is man-made; it is therefore relative and historical, not eternal and transcendent (Muzzioli 149).

Conversely, Andria was also built according to the harmony of the firmament, but its essence—its very nature—is the capacity to transform itself in order to defy petrification or stasis (*Invisible Cities* 150). Not even the sky, as Calvino had read in Galileo, was immutable. Andria compels the reader to scrutinize and speculate about the consequences of ongoing changes to the city's layout and architecture and to respond creatively and when necessary, refusing material and social immobility at all cost. Andria's residents embody the two virtues that Calvino proposes to urban planners: "self-confidence and prudence" (*Invisible Cities* 151). (Eusapia too leaps to mind here because there even the dead continually renovate their necropolis: "not many [changes], but surely the fruit of sober reflection, not passing whims" [110].) Among the perpetual changes experienced by Andria's inhabitants, it is certainly not by chance that one perfectly illustrates ascending lightness: "a suspended street recently opened over a bamboo grove" (150), while another conveys the Lucretian-Ovidian qualities of mobility and repurposing: "a shadow-theater under construction in the place of the municipal kennels, now moved to the pavilions of the former lazaretto" (150).

The work's emphasis on the healthy urban environment as open-ended and infinitely changeable is reinforced by another principle of Lucretian physics: the combinatorial process that informs the cities, which will be seen later (ch. 4). Here it is sufficient to note Calvino's insistence on the transition of thin elements through different sections of the text: the communion of substance among all things, and therefore the ethics of indestructibility, manifests itself in the shifting of minute particles from one

object into another. This process is visually suggested by the transfer of iconic *elementa* from one description to the other, but it involves conceptual themes that move across shapes and return reversed, evoked, refracted, or presented from different perspectives.

As Blizard has recently observed, the idea of the city as open-ended entails another, the *intelligible city*, that is, the text of controversies and affirmations about what constitutes morals, civic duty, Good Society, and so forth (Blizard 106). Calvino frames the urb as a multifaceted, dynamic system consisting in combinations of psychological elements such as desire, memory, subjectivity, and the passing of time, in continual interaction with the city's layout, architectural look, functions, culture, and history.[45] Many factors and elements come together to make the city's identity (and the search for the ideal society) elusive. Beyond discovering a multiplicity of itineraries, the reader quickly senses the polysemantic nature of the text/city: "in our own times literature is attempting to realize this ancient desire [of Lucretius and Ovid] to represent the multiplicity of relationships, both in effect and in potentiality" (*Six Memos* 112).[46] This desire was for Calvino "the idea of a system of infinite relationship between *everything* and *everything else*" (112), a system that by nature implied open-endedness. *Invisible Cities*, in itself a reflection on the difficulty (or impossibility) of arriving at a stable definition of the city (see Anastasia, for instance), or of an overarching concept of the Good Society, leaves the interpretative door to each city ajar.

At the paradigmatic level, readers transform each series of urban icons, not only by reimagining the images (or projecting them onto their private mental screen), but also by juxtaposing the city descriptions, or even melding them together with each other or with the speculative sections of Polo and Khan's dialogue. In so doing, readers are transformed from consumers of the text into producers of the same: they create original and unexpected (extratextual) combinatory meanings.[47] Readers therefore frequent that utopian mental city that was the only one Calvino deemed possible: a space to experiment with shifting and always-provisional itineraries whose semantic potential is continuously renewable (Grujičić 202). The collaboration of readers in the semantic building of *Invisible Cities* transforms the text into a provision for visual and philosophical conjectures, into an "autonomous logical-fantastic machine," which develops kaleidoscopic refractions that dialogically interact amongst themselves, with the readers' creations, and (what is most relevant to my purpose), with the referential urban images evoked in the readers' memories. Indeed, the text induces readers to produce a thick weaving of relations between interconnected philosophical statements, so as to create the idea of a combinatory machine, or *ordinateur*, in which ideas are forever in dialogue, creating and dissolving meanings. The author's epistemological engagement swings between avowals and hesitations, problematizing each position and thus steering clear of a monologic voice (Grujičić 207). Readers, in contrast, continually

establish new dialogical relationships between meaningful segments of the imaginary/written world and the real/object world.

Though the work's structure is in fact not expandable, Palmore heightens the idea of the series of urban icons (the entire book) as a portion alluding to an infinite, as a visualized (or "visibilized") group taken from an invisible continuum, in a route that may be pursued by the imagination ad infinitum. This sampling of possibilities stimulates a process of conception of "fresh nodules" (Mumford, *City in History* 560): an illustrative survey of various building and social options to continue on our own, elaborating the "unexplored potential" (Muzzioli 149) that we allegorically visualize in the museum of the city of Fedora, which contains the miniature models of cities imagined by its inhabitants. After all, the cities of the novel are fifty-five, one more than in Thomas More's *Utopia*, at once a conveyance of utopia as visual and cognitive process and an affirmation that Polo's imaginative inner strength is, indeed, that mental exercise on lateral possibilities (*mode utopique*) that readers are compelled to imitate. Khan, alas, models that utopian thinking by producing a fifty-sixth city on his own. Every human being, as Calvino wrote in his essay "Palomar e Michelangelo" ("Palomar and Michelangelo"), is "an instrument that the world uses to continuously renovate its own image. Since the forms created by man are always somehow imperfect and destined to change, they guarantee that the look of the world as we see it is not definitive, but, rather, a phase in its transition to a future form" (1992).

RES AND *VERBA*, CITY AND TEXT: *INVISIBLE CITIES* AS HEURISTIC ITINERARY

The ethical imperative of that education of vision, or training in Lucretian lightness, is to endow readers with the ability to read the city, within the text and without, as a *fabbrica* or open text that can be broken down into minimal segments and rearranged in new dialogical relationships, in an open-ended process. But this very quality or category that now bespeaks the postmodern aesthetic had distinctly social imbrications during an era of urban crisis and renewal. As a result, Lynch's description of the ideal city (both imageable and open-ended) could also serve as a page of literary criticism devoted to Calvino's text:

> It will be a complicated pattern, continuous and whole, yet intricate and mobile. It must be plastic to the perceptual habits of thousands of citizens, open-ended to change of function and meaning, receptive to the formation of new imagery. It must invite viewers to explore the world. . . . If it is desirable that an environment evoke rich, vivid images, it is also desirable that these images be communicable and adaptable to changing practical needs, and that there can develop new groupings,

> new meanings, new poetry. The objective might be an imageable environment which is at the same time open-ended. (119, 139)

In Calvino's invisible, or imagined, urban environments, ascending and Lucretian modalities of lightness function as a new language that enables the *fabbrica* in *mode utopique*. A heuristic itinerary dotted with imageable and open-ended urban environments is emblematic of Calvino's cognitive method. He consistently resorts to the circularity of linguistic and physical reality explained in *De rerum natura*. Adroitly exploiting the analogy between (and reversibility of) formations of *verba* and of *res*, Calvino crafts a parallel between scouring the city and scouring the text, approaching both as visual and cognitive exercises in decoding.

Indeed, the Lucretian circularity of *res* and *verba* is made explicit in Tamara, the first of the series "Cities and signs." Two cities that precede Tamara, Diomira (the first in the novel) and Zaira (the fourth), prepare the reader to pay attention to a new language or mode of seeing/reading the city, one that moves away from traditional descriptions and analyses. "Finally," we read, "the journey leads to the city of Tamara. You penetrate it along streets thick with signboards jutting from the walls. The eye does not see things but images of things that mean other things . . . your gaze scans the streets as if they were written pages" (13–14). Strolling through each imaginary city the visitor recognizes signs, just as the reader recognizes signs on the pages of the novel. With Tamara, Calvino at once warns about the ineffability of the city's ultimate essence hidden "beneath this thick coating of signs" (14) and frames the city as a semiotic space that requires deep reading or interpretative penetration.

The relationship Calvino establishes between city and text endows the process of reading fiction with a simultaneously cognitive and social relevance. At the very same time he projects the emerging tools of semiotics and structuralism onto the city *qua* text. The circularity between *res* and *verba* fosters an awareness that literature, as well as the city and object world more broadly, function like all sign systems. Through permutations, or maneuvering the elements, the novel's reader pulls the levers of her combinatory machine and arrives at multiple meanings.[48] The act of reading disassembles and reconstructs the signs of verbal and urban systems[49] in a process that preserves what Calvino defined as fiction's privileged role within human consciousness and within society: to express the potential contained in sign systems ("Cybernetics and Ghosts" 16). The analogy between written and unwritten worlds in the novel results in the intersection of textual and urban experiences, sending the reader off on a nonteleological *quête* for the meaning of the real city.

Calvino explained the process of reading the page and the object world in explicitly semiotic terms in his 1983 James Lecture at New York University, "The Written and the Unwritten World," published later as "Mondo scritto e mondo non scritto" (1985). He did not distill this association on

his own, of course. The semiotic and structuralist understanding of the reversibility of text and city—of the book as reconstruction of urban space, and vice versa—marked urban studies as well as literary studies during that era. In 1964, for instance, Umberto Eco borrowed Edmund Wilson's comparison of James Joyce's *Ulysses* to a city, to address the National Institute of Architecture (Instituto Nazionale di Architettura, or IN/ARCH) founded by Bruno Zevi:

> 'Think of this book [*Ulysses*] as a city which, in spite of its rigorous structure, its reticule of streets and buildings, you can enter from various directions, stroll through as you please, gaze at and memorize its faces, street corners, phenomena that we happen to see, just as we wish, according to personal choice, according to a decision for which we are responsible, even though the architect and urban planning have given us our initial cues.' (Wilson qtd. in De Fusco 144)[50]

As mentioned earlier, Calvino was planning to found *Alì Babà* with a group of friends (Neri, Celati, Ginzburg, and Melandri) while he was working on his 1972 fiction. The bookish Pantagruelism shared by the group, their exchanging of letters and ideas, was directed toward articulating the role of literature in society to be disseminated through the prospective cultural magazine.[51] Celati elaborated on the publication they were then envisaging in a February 1972 letter sent to Calvino from Ithaca, New York. Their shared speculations were closely related to the novel that Calvino was writing:

> As for the didascalic-heuristic essays, here's my idea once again: it would be interesting to organize them in the form of an itinerary . . . as if they were short chapters of a collective research, intersecting and amending each other like approximations striving to reach a destination through subsequent corrections. The idea would be to give the sense of a non-teleological quest. (Celati qtd. in Barenghi and Belpoliti 157)

Celati imagined *Alì Babà* as a series of "short chapters" presenting different ideas to be consulted like an "itinerary through a city on which you always discover new lines" (Celati qtd. in Barenghi and Belpoliti 157). Calvino, welcoming the idea of multiple, even contradictory, ramifications, answered Celati three months later: "I agree with the idea of articulating the essays as an itinerary through a city" (Calvino, *Lettere* 1150).

The open-ended, antihierarchical structure that Calvino was simultaneously devising for his work of fiction was also commensurate with what he had read in Menna's *Profezia di una società estetica* (*Prophecy of An Aesthetic Society*), which made a deep imprint on Calvino's ideas about the urban environment (Calvino, "Per Fourier, 2: L'ordinatore"

281n1) and constitutes a hitherto unrecognized vademecum to *Invisible Cities*. Menna dedicated an extensive section to Baudelaire's 1862 *Le Spleen de Paris: Petits poèmes en prose* (*The Parisian Prowler*), fifty fables in which a *flâneur* takes the reader on a tour of nineteenth-century Paris (viii). Baudelaire's imprint on *Invisible Cities* has been affirmed more often by Calvino than studied by scholars. In a 1973 interview with Claudio Varese, Calvino affirmed that Baudelaire was a primary reference for his 1972 novel; a decade later he would define *Invisible Cities* as a work somewhere "between a fable and a *petit poème en prose*" (*Six Memos* 49).

According to Menna, Baudelaire's prose poems strive to attain an "analogic correspondence between the structure of the poem and that of the city" (54) in order to disclose how the urban system of interrelated parts "sustains and regulates the multiplicity of itineraries and relationships" (65). For this purpose, traceable also in *Invisible Cities*, Baudelaire needed a narrative (verbal) arrangement capable of grasping "the visible and the manifold and at the same time the invisible, the unique" (65). The preface to *Petits poèmes en prose* attests to this goal: the Frenchman's analogy between poem and urban environment was based on a "free combinatory play leaving to the reader an infinite freedom of intervention, just like the city supplies the poet with an infinite possibility of itineraries and connections" (Menna 66). In a passage that undoubtedly caught Calvino's attention, Menna located the origins of that combinatory play governing both the formation and the fruition of Baudelaire's poems in the possibilities that the poet had recognized in certain optical instruments described in his "Morale du joujou": "the number of frames that can be created is infinite, just like the reader is free to arrange the prose poems and the poet, the images and the itineraries of the city" (66–67). Calvino absorbed the Baudelairean understanding of a literary work or an urban environment as enjoyable in its multiplicity: a spatial and conceptual *fabbrica* allowing for various routes, entrances, and exits, an understanding that could be easily mapped onto counterculture urbanism or postmodern fiction beginning in the '60s.

Menna's *Profezia di una società estetica* also presented Calvino with an excerpt from Baudelaire's 1862 letter to the editor of *La Presse*, Arsène Housset. Dwelling upon certain structural considerations of his *Petits poèmes*, Baudelaire's missive might well serve as a striking introduction to Calvino's 1972 novel:

> My dear friend, I send you this little work of which it cannot be said, without injustice, that it has neither head nor tail, since, on the contrary, everything in it is both tail and head, alternatively and reciprocally. Consider, I beg you, what admirable convenience that combination offers us all, you, me, and the reader. We can stop wherever we want, I my reverie, you the manuscript, the reader his reading; for I do not bind the latter's

> recalcitrant will to the endless thread of a superfluous plot. Remove one vertebra, and the two pieces of that tortuous fantasy will reunite without difficulty. Chop it up into many fragments, and you will find that each one can exist separately. In the hope that some of those segments will be lively enough to please and to divert you, I dare dedicate to you the entire serpent. (Baudelaire, *The Parisian Prowler* 129)

One hundred and ten years later, reminded by Menna of the Baudelairean analogy between book and city, Calvino similarly eschews the awkward heaviness of traditional plotline to offer multiple reading routes: the reader or traveller usually starts off on a linear reading sequence, but soon he or she realizes that the itinerary can also be covered in reverse, or by starting from any intermediate point, or by extracting Baudelairean vertebrae according to subjective associations, or by following the cues in the rubrics that group the cities, or by sorting the cities into new groups or compounds based on their formal features (underground, vertical, bipartite, tripartite, specular, and so on).[52]

Tellingly, Calvino's postpublication remarks on *Invisible Cities* contain a spatial description of the text, in which urban and literary delight judiciously overlap: a book "is a space which the reader must enter, wander around, maybe lose his way in, and then eventually find an exit, or perhaps even several exits, or maybe a way of breaking out on his own" ("Calvino on *Invisible Cities*" 38). Moreover, in the chapter on exactitude in *Six Memos*, he explains that he had constructed "a many-faceted structure in which each brief text is close to the others in a series that does not imply logical sequence or a hierarchy, but a network in which one can follow multiple routes and draw multiple, ramified conclusions" (71). The very same spatial network appears also in his remarks on *Invisible Cities*: "there are conclusions throughout its length, on each of the faces, and along each of the edges [of the structure]" ("Calvino on *Invisible Cities*" 41).

The kaleidoscopic play that Calvino architects in *Invisible Cities* is reminiscent of what Baudelaire termed in his 1863 *Le peintre de la vie moderne* (*Painter of Modern Life*) "the multiplicity of life and the mobile grace of all the elements of life" (qtd. in Menna 67). Esmeralda, one of the "trading cities" whose residents negotiate their daily itineraries according to their needs and desires, is the open text par excellence and may be read as the novel writ small. Its outstanding feature is a combinatory of "optional routes" (*Invisible Cities* 88). Conversely, Zemrude is a closed text that offers residents exactly the same itinerary everyday: they encounter "each morning the ill-humor of the day before, encrusted at the foot of the walls" (66). Because Esmeralda embodies in its very topography all that an educated vision requires to counteract perceptual flattening, it is continually re-visited and re-viewed, in effect created anew by "combining segments of the various routes" (88). In Esmeralda, Lucretian variety intersects with the lightness of superelevated passageways, their ups and downs between little

bridges and suspended roads. It is not by chance that a prominent Calvino scholar recognized that Esmeralda conjures up Venice.[53]

READING, *FLÂNEURIE*, AND THE ELSEWHERE: THE CITY AS EPISTEMOLOGICAL MODEL

Active producers of meaning, readers stroll through *Invisible Cities* projecting interpretations onto the materials offered to their sight.[54] Likewise, Lynch's concept of the *imageable* city called for the interpretative

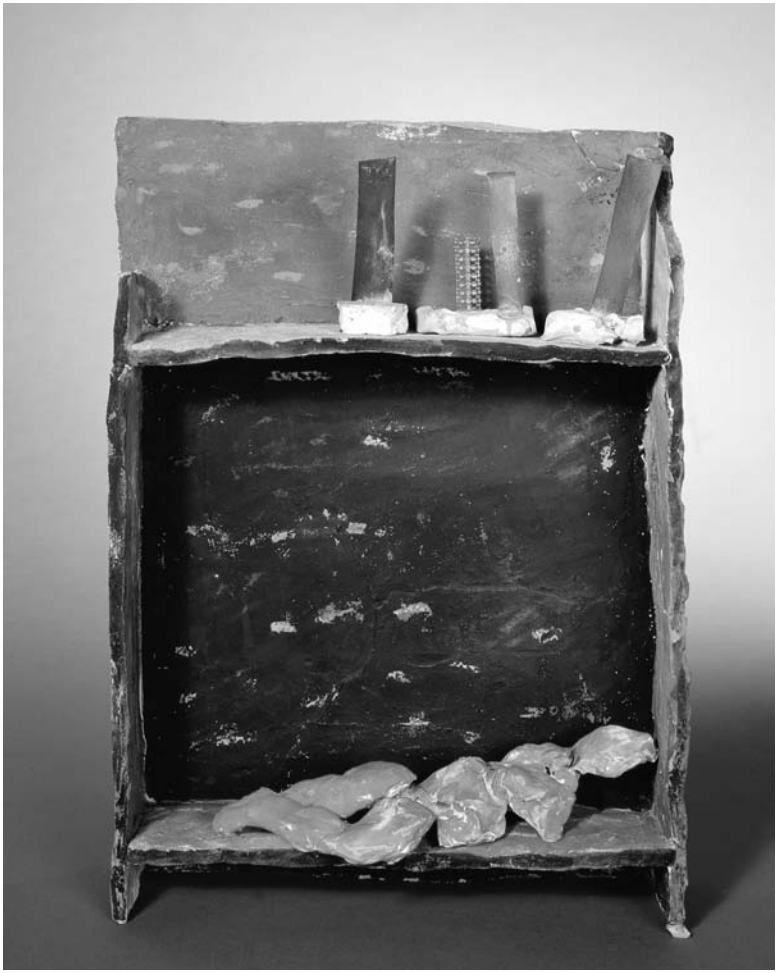

Figure 3.3 Fausto Melotti, *Il sonno di Wotan* (*Wotan's Sleep*), 1958. Courtesy of Archivio Fausto Melotti.

intervention of hundreds of thousands of protagonists-residents, as Guarda has recently underscored (in Lynch 15). Indeed, the readers' journey through Calvino's text recalls Lynch's remarks about urban residents who virtually map their city as they create mental images of the same (Fig. 3.3). The American urbanist distinguished between two cognitive-perceptual processes: the "static map" and "continuous organization" (Lynch 89). The first resembled the drawing of an image organized as "a series of wholes and parts descending from the general to the particular," which constituted a "hierarchical" image (89). The second was an image of the city organized in a dynamic way, based on associations of parts and "pictured as though seen by a motion picture camera . . . , more closely related to the actual experience of moving through the city" (89). The "continuous organization" image, which on my view approaches the experience of Calvino's readers, employs "unrolling interconnections instead of static hierarchies" (89).

"If there is to be imagination," Calvino wrote in 1973, "then it must have the benefit of areas in flux, open to interpretations that leave some margin for the creativity of the interpreter" ("Fine Dust" 247). Calvino's choice of the symbol of the city and of Lynch-like cognitive "unrolling interconnections" meshes with the speculations engaging his group of *Alì Babà* interlocutors in those same years. Calvino's written and oral exchanges with Celati and Ginzburg were centered on coming up with a new cognitive method and epistemology (Barenghi, *Le linee* 185). Lynch's process of continuous organization, or a dynamic mental mapping of the urban environment, coincided precisely with the choice of the city as the emblem of their epistemological model, rooted as it was in "disparate knowledges of reality" that could not be rendered "on a map drawn once and for all" (Gabellone 71). Three essays brightly reflect the results of their speculations from that era: Calvino's 1972 "Lo sguardo dell'archeologo" ("The Archeologist's Glance"), Celati's 1975 "Il bazar archeologico" ("The Archeological Bazaar"), and Ginzburg's 1979 "Spie: Radici di un paradigma indiziario" ("Clues: Roots of an Evidential Paradigm"). I add to this formidable trio Gabellone's reflections, which he shared with the group through letters, though they would not appear in print until the 1977 publication of *L'oggetto surrealista* (*The Surrealist Object*). All four of these works on ways of knowing the object world are pertinent to *Invisible Cities*, particularly to its training of readers in Lucretian lightness.

Calvino actually wrote "Lo sguardo dell'archeologo," which features the alternative model of cognition that he was working out, in the same year as the novel. A semiotic-archaeological poetics, the new model was a response to the crisis of reason and the rigid classifying tools of various historicisms. As an alternative means of knowing of comprehending external reality, the writer should look for and minutely catalogue all objects that the human eye can identify, without sorting them into a hierarchy of importance, as an explorer of the world's surface would, which is to say: as an archaeologist, rather than a historian. "Dissatisfied" with a "world

less and less habitable" ("Lo sguardo" 325), Calvino was "convinced that the tools to change it won't be found unless we find those to understand it" (325). He linked that pressing cognitive and epistemological crisis to a host of challenges besetting contemporary society, namely, the exponential growth of the world's population and new urban (de)formations such as "the explosion of the metropolis" (324).

A programmatic statement for *Alì Babà*, "Lo sguardo" is crucial to my understanding of *Invisible Cities* as a model of cognition, for it foregrounds literature's role within that era's profound epistemological and ontological soul-searching. Literature, on this view, is a "space of meanings and forms that have value not just for literature" (327). The literary is a space for culturally and socially productive interdisciplinarity; it is, first and foremost, a "poetics of making" (327).[55] Calvino's belief is better understood in resonance with Ginzburg's "evidential paradigm," a gnoseological system based on the observation of commonly ignored secondary elements, the leftovers of observation. Ginzburg opposed the systematic and lineal order of instrumental rationality, focusing instead on what Calvino defined as "the folds, . . . the shadowy places" ("Fine Dust" 255), where one could catch sight of marginal, overlooked elements. By deciphering and interconnecting these minimal elements, "clues," or "traces" (Ginzburg 91), one could attain a form of conjectural knowledge, the only sort allowed by late capitalism.

Analogously, Celati's thought gravitated around a cognitive approach anchored in the minimal unit, and he endowed discontinuity and fragmentation with significant value. Though he would remain virtually unknown in U.S. circles of New Historicism, Celati widened the group's intellectual panorama by bringing in the theories forged by Michel Foucault, Walter Benjamin, and Lévi-Strauss. This fostered a rethinking of the relationship between historicism (linearity and unity of history, hierarchical order among different aspects of reality, monologic voice) and antihistoricism (the ideal of an alternative historical approach that levels traditional hierarchies and brings attention to what would otherwise be neglected; West, *Gianni Celati* 72). Celati summed up the two systems of thought in the dueling metaphors of *museum* (historicism) and *bazaar* (antihistoricism). On the one side the rational, organized, selective, and hierarchically ordered exhibit of the museum; on the other, a collection of decontextualized fragments ("Bazar" 12). His eloquent image of the bazaar introduced Calvino and the others to the idea that the only possible representation of the world was a collection of "shattered images": "the telling . . . gives way to a collection, a gathering of traces of systems that have disappeared" ("Bazar" 12–13). Interestingly enough, Celati explained his point through optical metaphors: "if prospective vision is the metaphor suited to historicism, eidetism is the one suited to archaeology" ("Bazar" 22).

Celati hypothesized a dotlike form of knowledge that Calvino defined as an involuntary, rhapsodic trace of truth hidden in the creases of the system: "a utopia of fine dust" (Calvino, "Fine Dust" 225). Celati's contribution

was therefore fundamental, being both reflected in the cognitive model that Calvino theorizes in "Lo sguardo" and put into practice in *Invisible Cities*. The epistemological and societal fragmentation that Calvino and his *Alì Babà* cohorts associated with both late capitalism and what today we call postmodernity is the formal and thematic backbone of his 1972 novel. Calvino assumes the role of the archaeologist who digs up pieces that do not match and describes an "inventory of minimal signs, of lateral data" (Celati, "Bazar" 14). This semiotic-archaeological poetics of Lucretian lightness enacts the nontotalitarian, antihegemonic, and antisystematizing gaze that the *Alì Babà* group deemed an alternative and urgent observation point.[56] The minimal elements gathered by Polo's collectionism are far from being chosen, as through historicist lenses, for their role and hierarchical status: they are, rather, marginal fragments, whisperlike traces or clues, the equals of imposing monuments. Because the novel is based on the discontinuity of discrete fragments, it consciously and ethically sidesteps the linear path that would lead to a final agnition; it parades (perhaps even flaunts) multiple, and often opposing, conceptual agnitions in the *explicit* of the single cities and in the dialogue between Polo and Khan.[57] Intent on pursuing his heuristic itinerary, the reader (and we must try to imagine the novel's reader in the early '70s) internalizes the idea that all knowledge is unhinged, partial, and radically contingent, and yet we must continue to seek ways of making sense of reality even in the absence of cognitive and epistemological master-narratives.[58]

For that very reason, *Invisible Cities* is situated at the antipodes of traditional storytelling, revisiting in fictional form Celati's cognitive and epistemological method emblematized in the bazaar of shattered images. Eidetism, or the faculty of seeing clearly revived optical impressions, is at the basis of Polo's, Khan's, and the reader's respective mental activities or imaginings. The city in the novel is a heterotopia that coincides with Celati's metaphorical one, which "has lost its centers and monuments . . . in the infinitesimal divarications of routes" ("Bazar" 33).[59] Polo's archaeological or eidetic gaze covers a nonanagogical itinerary, hewing to Celati's theorization of a new cognitive and epistemological method:

> No longer a *quête* geared towards a truth to visit, at the center of a utopian city in which all the provinces are represented in compendium; but rather, a *quête* without a goal: spatialization and *flânerie*, an uninterrupted visit to the molecular places of a heterotopic city where for ever float the remains of extraneousness, objects and traces of that which has been lost and that no museum is prepared to preserve. ("Bazar" 30)

Calvino introduces the gaze of a *Polo flâneur* who mentally flips through the atlas of possible urban visions. Rather than seeking out what Celati qualified as the "privileged case, [the] meaningful scene, [the] special view" ("Bazar"

31) of the city, Polo wanders about, "starting from the scattered message that we find on the ground," as Gabellone suggested to Celati and the others who aspired to found *Alì Babà*.[60] "The city (the here-elsewhere) is the place where alterity discloses itself," he underscored, "[the space] of the revelation of alterity" (Celati qtd. in Barenghi and Belpoliti 158). The city is the site where there coexist "different *knowledges* of reality" (Gabellone 71). Celati connected Gabellone's ruminations about the possible founding of a literary magazine to his friend's novel in progress.[61] He spelled out precisely, in his February 1972 letter to Calvino, that he saw *Invisible Cities* as the "narrative parable of the entire project, because of both the principle of 'distance' governing the storytelling . . . and the theme of the city, which could become one of our emblematic themes" (Celati qtd. in Barenghi and Belpoliti 159).

As a device to probe into the nature of the city, the novel models antihistoricist (or New Historicist) perceptual and cognitive tools. Doubtless Calvino's subversion of crono-spatial categories contributes to this end, but his deconstruction of instrumental reason and historicism also operates at the level of description, in the very images of the cities with their Rimbaud-like parades (to paraphrase Celati) of strange and diverse objects. Whether rising randomly from the caldron of history and of memory, like in the case of the "mullioned windows and peacocks, of saddlers and rug-weavers and canoes and estuaries" (*Invisible Cities* 62) in Olivia and that of the bandstand and the "two young ladies with white parasols" (30) in Maurilia,[62] or emerging from the hidden face of the city, like in the chaotic enumerations of Moriana, Beersheba, Leonia, and Theodora, these images (the obverse of those that prevailed at the height of the urban crisis) inject alterity into individual consciousness.[63]

Similarly, for the architect Rossi the page was a transit station for memories of life attaining consciousness, for signs that he sensed as if they were architectural elements (Celant, "Aldo Rossi Draws" 17). In words that ring true also for *Invisible Cities*, Celant defines Rossi's drawings as a "visual polyphony generated by fortuitous collusions of an almost surrealistic character" ("Aldo Rossi Draws" 17). Because of this, his drawings are populated with everything from animals and coffee pots to industrial products and temples. Calvino's urban icons, with their bazaarlike heterogeneity and traces, are uncannily reminiscent of both Rossi's architectural drawings and his remarks on the city as collage in *I quaderni azzurri* (*Blue Notebooks*), which he began to write in 1968 (Rossi and Celant 45).[64] The architect therein proposed a representation of the city as a net of random figurations. *Invisible Cities*, for its part, reflects that postmodern urban experience that urban sociologist Giandomenico Amendola, referring to the modern city, named after Vattimo's philosophy "il modello debole di città" ("La città educante" 165), or the idea of the "città collage," or even the "città bricolage," a transitory "melting pot of cultures and signs" (165).

The poetics of Lucretian lightness models for readers of *Invisible Cities* how to split the city (as urban reality and cognitive model) into minimal

units, thereby reflecting key features of the emerging paradigm in architecture and urban planning and design: fragmentation; decenteredness; the combination of disparate architectural styles, cultures, and languages; decanonization. It is the world of the infinitesimal element, the heart and soul of Fourier's utopian thinking, that was so greatly valued by Calvino, and confirmed through his dialogue with Celati and Gabellone. Calvino wrote Celati from Paris in March 1972 that he had found Gabellone's notes on the city to be extremely valuable: "[they] are very intriguing and I am looking forward to seeing G.'s completed work. His notes can inspire not only new variations in *Invisible Cities*, which I am about to start working on again . . . , but also a possible revisiting (or rather beginning) of my discourse on utopia" (Calvino qtd. in Barenghi and Belpoliti 166).[65] In the same letter, Calvino expressed his interest in Celati's words on the "city of the infinitesimal" (166): the continuous divisibility of the city into a proliferation of minute components susceptible to epistemological scrutiny. He linked Celati's stress on the infinitesimal to utopian modes of seeing and knowing: "Fourier's own is plainly the utopia of the infinitesimal, and this concept is fundamental in his theory and unique to him" (Calvino qtd. in Barenghi and Belpoliti 166).[66]

DUSTLIKE UTOPIA AND *DISCRETIO*: IMAGINING AS CONSCIOUSNESS RAISING

Invisible Cities, "novel of lightness par excellence," enables its author to achieve his own personal dissolution of the world, whose chief inspiration is Lucretius (Belpoliti, "Calvino e la polvere" 166). The discontinuous, atomistic nature of the work exposes the imagination of its readers to "all that is infinitely minute, light, and mobile" (Calvino, *Six Memos* 8). It trains them to manipulate the minimal segments of reality into new dialogic relationships, new forms.[67] In the years immediately preceding the publication of *Invisible Cities* Calvino became convinced of the value of Lévi-Strauss's *morcellement* (or parceling out), which had germinated for the novelist in the Lucretian tenet that knowledge of the world requires the dissolution or disintegration of its compactness.[68] The ethical imperative of Lucretian lightness, as was already established, values the resilience of the smallest of elements. It was in keeping with the epistemological model of the minimal trace, leftover observation, or shard that Calvino matured through his dialogue with the other aspiring cofounders of a literary magazine that was not to be. The convergence resulted in an exhortation to train the imagination to exercise *discretio*, to become capable of fragmenting the heaviness of appearances in order to identify even the most minute signs of alterity (of knowability, of hope, of positivity, perhaps) in a hellish scenario.

References to dystopias permeate the last conversation between Polo and Khan. The utopian cities that the Khan "visited in thought" (*Invisible*

Cities 164) are "New Atlantis, Utopia, the City of the Sun, Oceana, Tamoé, New Harmony, New Lanark, Icaria" (164). These seem to lose the duel with the dystopic urban environments that "menace in nightmares and maledictions" (164): "it is all useless, if the last landing place can only be the infernal city, and it is there that, in ever-narrowing circles, the current is drawing us" (165). The final cities remind the reader of the worst manifestations of urban growth outside of the novelistic universe: the *anti-city*, or megalopolis. At both the referential level (the city as living organism) and the epistemological level (the city as space for making attempts at knowing reality), the megalopolis is impassable: unlivable on one hand, unknowable on the other. The anti-city, as urbanists were then wont to call it, eschews human understanding on all sides.

Scholars of Calvino's most interdisciplinary novel have posited references to the most infernal aspects of modern urbanism in a sprinkling of urban icons. However, they have ignored the referentiality of numerous invisible cities together with the sustained dialogue between the novel and the urban realities most severely rebuked during that age of crisis and countercultural response: overpopulation, congestion, the formless sprawl of the megalopolis. I refer to shapeless, imageless, and centerless cities like Trude: "the world is covered by a sole Trude which does not begin and does not end" (128). Cecilia is another: "how have I managed to arrive where you say," Polo says, "when I was in another city, far from Cecilia, and I have not yet left it?" (153). Penthesilea, the city in which "you advance for hours and it is not clear to you whether you are already in the city's midst or still outside it" (156), is still another realistic (or perhaps hyperrealistic) representation; Leonia, a metropolis "in constant eruption . . . covered by craters of rubbish" (115), speaks to erstwhile political and social concerns about overpopulation and poverty in the developing world.

In Calvino's review of *Anatomy of Criticism*, it must be remembered, he fully endorsed Frye's idea of the city as reflecting the form imposed by human imagination and effort on the mineral world, but he found the opposite just as intriguing: Frye's insistence that human fears and terrors, projected onto the mineral world, assume infernal forms. The Canadian literary historian wrote of a world that is completely rejected by desire, which leads us, on my view, to those cities of demonic descent in Calvino's novel, the formless cities where life is slavery and paralysis: "the world of the nightmare and the scapegoat, of bondage, and pain and confusion" (*Anatomy* 147), Frye wrote; "cities of destruction . . . , images of perverted work" (105), the world of "the labyrinth or maze, the image of lost direction" (150).[69]

Calvino summed up these demonic images, in his critical review, as "City of Dis, City of Cain, labyrinth, *modern metropolis*" ("Literature" 53 [my emphasis]). Significantly, the novelist translated out Frye's mazelike images of confusion as "modern metropolis." Frye's anguished and sinking images of urban life are traceable not only in Calvino's infernal cities like Trude,

Cecilia, Penthesilea, and Leonia, but also in the novel's heralded ending, which evokes "the inferno of the living . . . where we live everyday" (*Invisible Cities* 165). Frye's words are as follows: "just as apocalyptic imagery in poetry is closely associated with a religious heaven, so its dialectic opposite is closely linked with an existential hell, like Dante's *Inferno*, or *with the hell that man creates on earth*" (*Anatomy* 147 [my emphasis]). The Fryean subtext of this ending is so thinly disguised that the critical silence enveloping Frye's contribution to the novel is rather curious.

To such discouragement, Polo responds with an epigrammatic invitation to resist. Although the novel's final paragraph evokes the image of hell to symbolize the urban and existential condition of Calvino's age, the novel actually ends with an appeal to the reader's individual conscience and consciousness:

> And Polo said: "The inferno of the living is not something that will be; if there is one, it is what is already here, the inferno where we live every day, that we form by being together. There are two ways to escape suffering it. The first is easy for many: accept the inferno and become such a part of it that you can no longer see it. The second is risky and demands constant vigilance and apprehension: seek and learn to recognize who and what, in the midst of the inferno, are not inferno, then make them endure, give them space. (165)

The novel's final words advocate for "vigilance and apprehension" (165), and it must be underscored that the Italian *apprendimento* (translated above as "apprehension") means "learning," rather than "fear" or "anxiety." Mental alertness and a willful disposition to discernment (*discretio*) offer the reader an ethical escape route.

Calvino's engaging finale is often quoted for its celebrated moral message, and like much of the novel may be reduced to adages and the shiny surfaces of play. Still, glimpses or shards or traces, in the novel and Calvino's nonfiction, suggest the alternative reading that I have been putting forth in this study: the ending and the novel as a whole as interventions in that era's discussions and debates about the past, present, and future of the city. To this point, the very last words of *Invisible Cities* track Mumford's in a chapter entitled "The Myth of Megalopolis": "if I have duly emphasized the disintegrations of the metropolitan stage, it has been for but one reason: only those who are aware of them will be capable of directing our collective energies into more constructive processes" (*City in History* 560).

Mumford's looming presence in the novel does not end there. He assiduously resorted to pathological metaphors, representing the ills of urban life as "cancerous tumors" (*City in History* 560). Calvino's Polo, in turn, describes the state of decadence in terms of a physical malady: "yes, the empire is sick, and, what is worse it is trying to become accustomed to its sores" (59), that is, it is choosing to "accept the inferno and become such a part of it that [it] can

no longer see it." Mumford's described modern urban developments made of "low-grade urban tissue" (*Urban Prospect* 81) that grow "inorganically, indeed cancerously, by a continuous breaking down of old tissues, and an overgrowth of formless new tissue" (*City in History* 543). Likewise, in his 1975 "Gods of the City," he wrote of the future of the city: "this tissue with its healthy parts . . . and its disaggregated or cancerous parts, is the material from which the city of tomorrow will take its shape (for good or for bad), according to plan, if we have been able to *see* and intervene today—or not according to plan, in the opposite case" (349).

Written in the mid-1930s, Mumford's *Culture of Cities* catalogued the forces that threatened metropolitan civilization in a section entitled "Brief Outline of Hell." Although the final chapters of the later *City in History* portray an "even more dire condition" (556), Mumford's ethical thrust compelled his reader to be conscious of the widespread "ruin" of human settlements and existential conditions (a recurring concept in Calvino's 1972 novel) precisely to be able to focus on the "patches of healthy tissue [that] fortunately remained" (557). In order to escape "the death-trap" of the modern city, urban planners and residents alike had to learn to recognize "fresh nodules of growth . . . in the midst of all this disintegration" (560).[70]

Like the American urban historian, the Italian novelist and essayist appealed to the ability to exercise critical judgment, to practice *discretio*. Calvino, as quoted above, alerted readers to the fact that the sustainability of the city would depend on our awareness of the illness and our "ability *to see* and intervene today." In other words, the future of the city—of civilization itself—depended on our educated vision: one trained "to seek and learn to recognize," to discern "who and what, in the midst of the inferno, are not inferno" and on our reviving of the Mumfordian "positive nodules" or Calvino's "dust-like utopia": "make them endure, give them space."[71]

Thus the Ligurian's 1972 novel invites us to exercise individual *discretio* as readers of the text and of the world, to single out, in the negative of the present, the building blocks of "a positive image to aim toward" (Calvino, "Gli dèi della città" 349). It is the utopia of the minute and ineffable: "my book opens and closes with images of happy cities which constantly take shape [e.g., Berenice] and then fade away, in the midst of unhappy cities" ("Calvino on *Invisible Cities*" 41). As readers we are sensitized to the dyad of *qui-altrove* ("here-elsewhere," or "here-otherwise"), alerted to the surfacing of glimpses of difference amidst uniformity. It is a mental *clinamen*, a willful cognitive act: the ability to mentally swerve out of the prevailing images of petrification and to grasp a trace of lightness. Here again it is useful to recall Celati's pronouncement on the virtue and necessity of perceptual and cognitive discontinuity: "if it is true that we need grammars to understand reality, it is also true that *we need to learn how to recognize the diverse* [i.e., heterogeneous] in order to catch a glimpse of alternatives.

After all, what we need the most are the alternatives, more than the grammars" (Celati, "Bazar" 25 [my emphasis]).

In Calvino's novel the city of Phyllis unequivocally prioritizes the education of vision in order to recognize the diverse, the otherwise, the possible alternatives to the status quo. This city has faded before the eyes of its inhabitants. With all details lost or expunged, residents simply follow zigzag lines through the city, ignoring all the rest: "all the rest of the city is invisible," we read, and "millions of eyes look up at windows, bridges, capers, and they might be scanning a blank page" (91). Only the spectator with *discretio* can truly grasp the scattered bits of meaning of modern cities: "many are the cities like Phyllis, which elude the gaze of all, except the man who catches them by surprise" (91). Likewise Zemrude points the reader of the novel (and the aspiring knower of external reality) toward an *altrove-qui*, an "elsewhere-here," that is, toward an alternative or otherwise that might yet replace the oppressive here and now: "for everyone, sooner or later, the day comes when we bring our gaze down along the drainpipes and we can no longer detach it from the cobblestones. The reverse is not impossible, but it is more rare" (66).

Training in Lucretian lightness should allow the novel's readers to detach themselves from the petrification of the present—from the cobblestones—and enable them to make out and nurture an elsewhere, an alternative order of things. I am reminded here again of the architect Rossi's striving for the otherwise, or *altrove*, in his drawings and paintings, which attempted to recover and convey the city's ineffable and essential landscape, the "'elsewhere'" hidden beneath its crust."[72] I recall also Gabellone's contemporaneous thoughts on the surrealist imaginary and the concept of city as analogon of the text: the city and the text echo each other, they dialogue. The written word gives life to unseen forms through the multiple associations that take place in the imagination, just like beyond the objective topography of a city there is "the hidden form of the city . . . as sum of all the routes—past, present, future—and all the happenings, real and virtual" (Gabellone 48). Alterity or diversity do not belong at all to an "historical and geographical *elsewhere*" but rather, to a "*here* (the city as reserve) where the elsewhere slips in, where chance can at any moment open breaches and pierce holes" (72). While his interlocutor Gabellone was analyzing that surfacing or blossoming of the marvelous (*merveilleux*) in Breton, Calvino was highlighting surrealism as a field of "utopian energy" in Fourier.[73]

It should not surprise us, then, to find that Calvino's novel integrates Gabellone's understanding of *flânerie* as a "non-teological stroll that is somewhere between the sacrality of the *quête* and the banality of wandering about" (54). Writing and *flânerie* merge in order to bring to the surface the daily *merveilleux* and to unveil a combination leading to what Calvino labeled "unexpected meaning or unforeseen effect" ("Cybernetics and Ghosts" 21): the fortuitous disclosing of a piece of knowledge that would not have been consciously attainable.[74] On the surface of the page, mentally

strolling about the city's surface, the pen captures flashes as the *flâneur* spies an event (see Gabellone 53). On the lookout, the surrealist sentinel seizes upon fugitive approximations or combinations that illuminate an elsewhere that is always here, though it is refractory to sight, invisible to conventional modalities of perception and cognitive association. As Calvino put it in an interview, "behind the city that we see there is one that we do not see, and that's the one that matters" ("Nel regno di Calvino" 11).

Some three decades before, Calvino had referred to the arbitrary and limiting nature of appearances in his 1943 short story "Il lampo" ("The Flash"), which critics have correctly associated with Montale's poetry.[75] This brief narrative turns on an observer of Turin who is suddenly able to separate the urban landscape from its conventional meaning: "what I found strange at the time was that I'd never realized before. That up until then I had accepted everything: traffic lights, cars, posters, uniforms, monuments, things completely detached from any sense of the world, accepted them as if there were some necessity, some chain of cause and effect that bound them together" ("The Flash" 9). Some four decades before *Invisible Cities*, a very youthful Calvino chose an urban environment and a crowd (both human and semiotic), as in the asyndetic series "traffic lights, cars, posters, uniforms, monuments," which is thereafter intensified through *variatio*: "traffic lights, monuments, uniforms, towerblocks, tramlines, beggars, processions" (10). Like some of the urban icons in his 1972 novel, the revelation in "Il lampo" leads to an individual, private "other knowledge" (10) for which Calvino chose even then the *medium* of vision: "it happened one day, at a crossroads, in the middle of a crowd, people coming and going. I stopped, blinked: I understood nothing" (9). The story's agnition, or the observer's flash of critical recognition, reveals the constructedness of reality and what he would later conceptualize and enact as lightness, or a training in seeing and imagining and thinking in *mode utopique*.

A decade later, in his 1953 short story "Paese infido," Calvino would focus attention on the most invisible side of even the most hostile and inhuman reality. In *La strada di San Giovanni* (*The Road to San Giovanni* [1962]), Calvino compared his father's passionate diving into the universe of nature to his own search for an *elsewhere-here*, "the upperworld (or hell) of humanity" (11). In so doing, he thinly disguised his debts to Montale, who offered him a visual rendering of the tear or gash in the compactness or weight of the visible world: "what were my eyes seeking in the dimly lit porches of the night (sometimes the shadow of a woman would disappear inside) if not the half-open door, the cinema screen to pass through, the page to turn that leads into a world where all words and shapes become real, present, my own experience, no longer the echo of an echo of an echo" (10).

Calvino's insisting upon the need to probe into the deceptive outer shell of the world is evidenced in the critically unacknowledged Montalian subtext of *Invisible Cities*. Indeed, only four years after the latter's publication Calvino confessed the lifelong impact of Montale's "Forse un mattino

andando" ("Maybe one morning"), perhaps the most renowned poem from *Ossi di seppia* (*Cuttlefish Bones* [1920–27]), in an essay entitled "Eugenio Montale, *Forse un mattino andando*."[76] Montale's poem captures just such a fleeting perception of the world's true substance, recounting the ephemeral possibility ("Maybe" v.1) of a gnoseologic miracle, before reality reimposes itself with its compact facade.

Commenting on Montale's poem in 1976, Calvino observed: "what sets off the 'miracle' is something natural or rather atmospheric, the dry, *crystalline transparency of the winter air*, which makes things so clear as to create an effect of unreality, almost as though the *halo of haze* which usually covers the landscape . . . is identifiable with *the density and the weight of existence*" ("Eugenio Montale" 210 [my emphasis]). Then he specifies: "it is the concreteness of this invisible air, which seems in fact like glass, with a self-sufficient solidity of its own, which in the end settles on the world and makes it vanish. The glass-air is the real element in this poem, and the city in which I place it is *a city of glass, which becomes more and more diaphanous until it eventually disappears*" (210–11 [my emphasis]).

Beginning with his essays on magma in the '50s, Calvino moved progressively toward a densimetric philosophy of literature and life in which solidity and density alternate with Lucretian vacuum and rarefaction, the visible with the invisible. Solidity, fullness, the visible represent weight, deception, and thickness that blind us to the truth of the world. The true essence or substance of the world consists in disembodiment, void, the invisible always at our backs, of which we miraculously catch glimpses before reality (re)turns to stone. The empirical world, a customary succession of images on a screen, is an illusion unmasked only through a fulminous, intuitive motion that reveals the vertigoes of nothingness, "and in that dizziness lies knowledge" (Calvino, "Eugenio Montale" 217).

In Calvino's 1972 novel, Marozia is a wispy but resounding variation on the signaled theme. The haze ("the density and the weight of existence") that usually shades the city and disables true vision translates into Marozia's "compact walls" (*Invisible Cities* 155). Suddenly, as in Montale's "Forse un mattino andando," a visual miracle in Marozia reveals a "transfigured" city, one that is "crystalline" and "transparent" (155) as in the "crystalline transparency" of Montale's poem. In Marozia the lightening of perceived reality is experienced as the intuition of a truth opposed to "usual illusion" ("Maybe" v. 6). And yet, while the gnoseological discovery provokes "a drunkard's terror" (v. 4), which Calvino later described as a "terrifying vertigo" ("Eugenio Montale" 212), *Invisible Cities* favors what may be called a *ponderal* epiphany. In Marozia, one of the most memorable "continuous cities," the miracle that cracks the solid or continuous wall of existing reality allows residents to perceive the hidden lightness of the city. Calvino's urban icon transfigures, as an image of liberation, Montale's philosophy of the "half-shut gate" ("The Lemons" v. 43). The oppressing weight of Marozia's sky, its "ceiling of stone, cobwebs, and mold" (*Invisible Cities* 155), is pierced through as if the viewer

had succeeded in finding Montale's "broken link in the net / that holds us down" ("At the threshold" vv. 15–16) within this apparently continuous city:

> It also happens that, if you move along Marozia's *compact walls*, when you least expect it, *you see a crack open and a different city appear.* Then, an instant later, it has already vanished. Perhaps everything lies in knowing what words to speak, what actions to perform, and in what order and rhythm; or else someone's gaze, answer, gesture is enough; it is enough for someone to do something for the sheer pleasure of doing it, and for his pleasure to become the pleasure of others: at that moment, all spaces change, all heights, distances; *the city is transfigured, become crystalline, transparent as a dragonfly.* But everything must happen as if by chance, without attaching too much importance to it, without insisting that you are performing a decisive operation remembering clearly that any moment the old Marozia will return and *solder its ceiling of stone, cobwebs, and mold* over all heads. (*Invisible Cities* 155 [my emphasis])

As Marozia testifies, Calvino did not respond to the urban and social crisis of his age by devising an abstract, ideal utopia. On the contrary, he translated into literary and iconological terms the individual striving to find in reality the support for a leap beyond heaviness: "jump out and flee!" Montale urged ("At the threshold" v. 16). The sibyl had prophesied that Marozia was two cities "one of the rat, one of the swallow" (154). Weighed down like "packs of rats" crawling "through leaden passages" (154), residents had interpreted the prophecy to mean that a new century was to come in which they would suddenly rise and "fly like swallows in the summer sky" (154). Instead, Marozia's two cities are coeval: the second (that of swallows) "is the one about to free itself from the first [that of rats]" (155). Lightness in Marozia is caught as if by chance the moment it releases itself from heaviness, a miracle that leads the observer "to the heart of a truth" ("The Lemons" v. 29), before the ceiling made of stone closes again on the city's inhabitants: "time returns us / to noisy cities where the blue / is seen in patches, up between the roofs. / The rain exhausts the earth then; / winter's tedium weighs the houses down, / the light turns miserly, the soul bitter" ("The Lemons" vv. 37–42). Montale's "blue patches" were of course easily reconciled, in Calvino's novelistic and urbanistic imagination, with Mumford's, Celati's, Ginsburg's, Rossi's, and Gabellone's respective metaphors.

Readers are asked to engage in a personal, unremitting although inevitably discontinuous search, that requires attention to minimal details and combinatory creativity, the tools through which Calvino's Lucretian lightness intended to educate the "empire" of the imagination.[77] *Invisible Cities* gives us precise instructions:

> At times all I need is a brief glimpse, an opening in the midst of an incongruous landscape, a glint of lights in the fog, the dialogue of two

> passersby meeting in the crowd, and I think that, setting out from there, I will put together, piece by piece, the perfect city, made of fragments mixed with the rest, of instants separated by intervals, of signals one sends out, not knowing who receives them. If I tell you that the city toward which my journey tends is discontinuous in space and time, now scattered, now more condensed, you must not believe the search for it can stop. Perhaps while we speak, it is rising, scattered, within the confines of your empire; you can hunt for it, but only in the way I have said. (164)

Penthesilea, the last of the novel's "continuous cities," sets the table for the poignant close of the novel analyzed earlier ("seek and learn to recognize") by inviting readers to discern the hidden city in the visible city (the last two cities of the novel belong, as was seen already, to the series "Hidden cities"). It is both symptomatic and significant that Calvino chose to end the novel with the challenge of material and perceptual heaviness. Penthesilea is the city of the Gorgon, of petrification: "its compact thickness surrounds you" (156). The city of the magma par excellence, it spreads for miles around "like a lake with low shores lost in swamps"; it is "a soupy city diluted in the plain" (156). Penthesilea lacks vividness, or what Lynch defined as *imageability*. The settlements are thick and colorless here, then frayed and equally anonymous there. In this shapeless environment the traveler loses all sense of direction and randomly heads down "a street of scrawny shops which fades amid patches of leprous countryside" (157), passing scattered suburbs extending over space like "a freckled pigmentation," "here more concentrated, sparser there" (157).

And yet, even in Penthesilea, where no one can guide the visitor to the center, perhaps "hidden in some sac or wrinkle of these dilapidated surroundings there exists a Penthesilea the visitor can recognize and remember" (158). Whereas Lynch exhorted that we "learn to see the hidden forms in the vast sprawl of our cities," Calvino invites readers to search "in the folds, in the shadowy places" for the dust-like utopia of their/our days. That the visitor despaired of finding it, like in Penthesilea, cannot but leave the traveler with the "gnaw" of an "anguished" question (158): "outside of Penthesilea does an outside exist?" (158). *Invisible Cities* leaves us with this final question, before admonishing us to "seek and learn to recognize."

Like a clinamen, the eye of the mind discloses an interstice or void through which a renewed or educated vision of the city might dodge petrification. That Lucretian lesson was also Montalian: "the eye scans its surroundings, / the mind inquires aligns divides" ("The Lemons," vv. 30–31).[78] Aglaura, another of the "continuous cities," reiterates the lesson. Repeated accounts of it have created a "solid and compact image of the city" (*Invisible Cities* 67) that does not do justice to it. Such compactness needs to be fragmented in order for the city to be seen anew, because "the inhabitants still believe they live in an Aglaura which grows only with the name Aglaura and they

do not notice the Aglaura that grows on the ground" (68 [my emphasis]). Their failure to truly see makes them rely on the conventional accounts of Aglaura as "without character" and "planted there at random" (67). They lack the language to see and capture the city of Montale's miracle: "at certain hours, in certain places along the street, you see opening before you the hint of something unmistakable, rare, perhaps magnificent . . . . You would like to say what it is, but everything previously said of Aglaura imprisons your words and obliges you to repeat rather than say" (68). As urban residents and/or as readers, we must learn a new language for the empire of the imaginary: the otherwise, or elsewhere, of lightness that *Invisible Cities* both teaches and embodies.

4 Architectures of Lightness

> "When you rethink architecture, you must also rethink the world." Michel Ragon, *Les cités* (164)

> "I was once asked about the year 2000: what do you think of the architecture of the next millennium? And I told them: architecture will disappear." Yona Friedman, in Schaik, "In the Air" (32)

Calvino's *Invisible Cities* emerged from his deeply rooted interest in urban planning and design theory, and in the broader public discourse on the unfolding crisis and possible future of the city. It should come as no surprise, then, that Calvino's most popular and critically discussed novel tracks the growing concerns and emerging paradigms of urbanism in the '60s and early '70s. Several of his fictional cities partake, each in its own specific way, in the casuistry of urban possibilities ranging from the fantastic to the realistic or the dreaded. Through them, Calvino expressed characteristics of the city that specialists in architecture and urbanism were then insisting upon: imageability, variety, and the city as open text, staging ground, and memory theater. At the same time he aimed for the (re)education of vision and development of a rational imagination rooted in the principles of atomistic physics. What remains to be seen is the relevance, to both urbanism and Calvino's novel, of the least realistic and most abstract of his urban icons. Placed largely but not exclusively under the rubric of "thin cities" (*città sottili*), these are at first blush (and perhaps last) cities of disembodied materiality. Still, their semantic slipperiness has frequently left scholars of the novel perplexed. Whereas other types of cities in the novel are approached as projections of semiotic, epistemological, phenomenological, or metaphysical models, literary scholars abandon philosophical categories in favor of aesthetic criteria when they look at Calvino's thin cities, proclaiming the poetic essence, visual power, and memorability of the same. Thus, these cities that embody what I call the *architecture of lightness* are still viewed as thoroughly ambiguous (James 148).

From the cognitive and heuristic vantage, the novel's architecture of lightness—its least realistic and most abstract cities—are in effect visual exercises to train the imagination to think in terms of ascending lightness and Lucretian lightness. In essence, the architecture of lightness transmits the novel's most socially invested function: the utopian. In Calvino's thinking and writing from the era of urban crisis, utopia comes face to face with the theorization of the imagination found in Frye, Fourier, and Barthes, as seen earlier (ch. 1), and with contemporaneous debates on utopia within urbanism that are my subject here. Calvino's 1972 novel was designed

to foster a cognitive and imaginative process along the lines of what was known in philosophy and urban studies as *mode utopique*.

Among the loudest voices in the debates on urbanism in the 1960s and early 1970s were those of an international cohort of so-called *visionary architects* whose works immediately preceded the publication of *Invisible Cities*. Visionary architects, especially in France, radically exploited the concept of utopia as a methodology, or something to think with, not as an outcome. This segment of urban planning and design was devoted to exploring utopian forms, or "formal utopias"—forms *in potentia* of the city of the future—taking surrealist André Malraux's formula as a jumping-off point for their consciously provocative spatial architecture: "*toute creation . . . est, à l'origine, la lutte d'une forme en puissance contre une formé imitée*" (Every creation is, at the beginning, a struggle between a form *in potentia* and an imitated form; Malraux in Ragon, *Les cités* 30). Ragon was convinced that utopian urban forms were battling forms produced by uninspired urban planners and designers who aimed to imitate the great masters of modern architecture. Visionary architecture's principal objective was to free itself from the conventions of modernist architecture in order to arrive at new design solutions to urban problems that those conventions—the products of modernist city planning—had been unable to anticipate or solve.

Designs by visionary architects in Paris, where Calvino was then residing, dominated the international conversation on megastructures in the '60s. Several recent works in urban planning and architecture have shown a keen interest in visionary architects such as Friedman, Maymont, Rottier, Walter Jonas, Otto Frei, Schöffer, Iannis Xenakis, and Édouard Utudjian. Indeed, a core of urbanists and architectural historians are presently engaged in a reappraisal of the visionaries' quest for potential forms, the principles on which that quest was based, and the connections that visionary architectural design established with the visual arts. Special attention is being paid to those conceptual and methodological principles of visionary architecture that might prove relevant to urban planning and design in the twenty-first century. Similarly, specialists are investigating the relevance for contemporary urbanism of radical architecture, especially projects by Archigram, Constant, Superstudio, and Archizoom. Their reassessment resulted in the recent exhibit and symposium in Berlin entitled *Megastructure Reloaded* (2008), part of a series called *Utopia Revisited*. The first exhibit in this series was organized in 2006 and carried the suggestive title *Ideal City—Invisible Cities*.[1]

Though contemporary urbanists repeatedly invoke *Invisible Cities* as an inspiration for their twenty-first-century vindication of utopia, no one in literary or urban studies appears to have recognized that the novel itself sprang from an architectural and urbanistic landscape in which the discourse on utopia was still alive and well. On one hand, the counterutopias hatched by the radical architects with their methodological *demonstratio*

per absurdum fascinated Calvino and are reflected in some of his cities, as was seen earlier. On the other hand, he purposefully engaged with a variety of theses on the future of the city as laid out by visionary architects. Indeed, the quest for forms *in potentia* that defined their urban designs in the 1960s is consonant with Calvino's iconic innovations and formal experimentation in *Invisible Cities*, which aims to liberate the reader's imaginative faculty from the "heaviness of preconstituted images" and to guide it toward the "field of possibilities and of that which has not yet been experienced" (Paulicelli, *Parola* 138). Marco Polo, significantly and precisely defined by Calvino as a "visionary traveler" ("Presentazione," *Città* viii), arrives at an empire described by its own emperor as morally and materially decayed (*Invisible Cities* 5). He offers Khan a remedy: vision. Throughout the novel, Polo is the novelist's instrument for *mode utopique*, which produces an array of alternative possibilities or forms *in potentia*, as Malraux termed them.

The architecture of lightness is linked to utopia in still another sense that has gone undiscovered by scholars. The dematerialization of several of Calvino's cities correlates with lightness as *sine qua non* of the ideal city of the future according to the French school of visionary architecture known as *urbanisme spatial* (spatial urbanism) (see Ragon's entire oeuvre; Banham 58). A now-iconic chapter in the history of architectural design, spatial urbanism's lightweight framework has been judged "the most abstract, least material and most conventionally 'elegant'" of all megastructuralist designs (Banham 58). Whereas the shortcomings of the modernist paradigm in architecture were sprawl, heaviness, and immobility, the very foundation of spatial urbanism was lightness, notwithstanding the girth of the megastructures. The aesthetic of these French megastructuralists is captured in a 1962 editorial that appeared in the Parisian *L'architecture d'aujourd'hui*:

> Imagine, not a single Eiffel Tower, but ten, twenty or even more, like an immense metal forest, connected by bridges, roads and platforms. Within this gigantic "three-dimensional" spider-web there are arranged dwellings, schools, theatres, commercial enterprises. . . . The structure is lighter and more transparent than Eiffel could have dreamed in 1887. All the tension members are cables; those in compression are few, essentially lattice pylons. Scintillating coloured materials, lighter and smaller forms are threaded through this *Cité Spatiale* . . . (Alexandre Persitz qtd. in Banham 57)[2]

As a theory and as a practice fundamental to ethical and social engagement with the object world, lightness for Calvino merged with the urgent need to reimagine urban life and, more specifically, with the utopian spatial configurations of visionary architects working in France. As was explained earlier, ascending lightness in Calvino's formulation frees us from the prison of reality and triggers an ethical response. It remains to be shown in

what ways lightness constitutes a material value or form of the city of the future—specifically, how Calvino's two modalities of lightness were both mechanisms of the imagination and principles of urban and architectural planning. His 1972 novel immerses lay readers, architects, and city planners in both modalities of lightness by subjecting their imagination to training (or by reeducating their vision) and at the same time compelling them to reject sprawl, the construction of imageless and massive architecture, and immobility. The most luminous cities in the novel, as Calvino once defined the "thin cities," are not gratuitously fantastic. Rather, they are visionary cities: gravity-defying urban icons inspired by the French school of megastructuralists.[3] Calvino's building techniques and materials figuratively emphasize the very quality that city planners needed to embrace for the future: lightness. The utopia that Calvino created by imagining cities according to ascending lightness and Lucretian lightness is therefore a utopia squared: they are cities-on-paper (literary) that recombine or reconfigure other cities-on-paper (those of the formal utopias imagined by the visionary architects).

CITIES ON STILTS, SPIDERWEB CITIES: OF "HIGH SIGNS" AND VISIONARIES

Megastructuralists in the '60s established a significant connection with the visual arts. In Ragon's *Où vivrons-nous demain?* (*Where Shall We Live Tomorrow?* [1963]), now considered the first wide-ranging survey of megastructural architecture (Deyong 45), he dedicated ample sections to the synergies between architecture and sculpture, fields that he judged to be gradually converging.[4] The rapprochement of architecture and sculpture was partly derived from Le Corbusier's pioneering elevation of the building structure supported by *pilotis* (piles), or reinforced concrete stilts, which allowed it to be viewed as a sculpture (Ragon, *Aesthetics* 52). Pivotal to the symbiosis of architecture and sculpture was the tendency towards immateriality—the use of lighter materials (such as glass) and the lightening effect of cantilevering systems. Visionary architecture was so allied with sculpture that André Bloc, editor of *L'architecture d'aujourd'hui*, conceived his design project as *Sculptures Habitacles* (*Inhabitable Sculptures*), and Schöffer, one of the most daring of the French visionary architects, was also a sculptor.

It is perhaps not a coincidence, then, that the stripping of an oversaturated reality—the physical or material lightness—that defined visionary architecture in the '60s assumed the same shape in Calvino's novel as it did in sculptures by Fausto Melotti (1901–86), a foremost figure in the history of modern sculpture who came to the art world after studying physics, mathematics, and electrical engineering.[5] The novelist came to know the sculptor precisely in those years in which he was mapping out *Invisible*

Cities. He saw in Melotti's oeuvre the plastic rendering of lightness conjoined to the theme of the city: the embodiment of disembodiment. Visionary architecture and Melotti's abstract art in the '60s shared that striving for weightlessness: the utopian spatial cities of the '60s and Melotti's works are similar in their dematerialization of architectural and sculptural mass, respectively, and in their appreciation of what Nash terms the void as meaningful form (31). The Italian's sculptures exploring multilevel spaces with open walls and delicate platforms resemble the spatial urbanists' design projects to a degree that not even Ragon could have imagined, as do his works derived from atomistic structures. Compare Melotti's *Scultura n. 21* (1935-68), for instance, with Schöffer's *Centre de recherches scientifiques* (1969) (Figs. 4.1 and 4.2). The formal utopias forged by the visionary architects and Melotti's abstract sculptures converge in the ethics and aesthetics of lightness in Calvino's novel.

The "image-centric" origins of Calvino's fictional narratives (Ricci, *Painting With Words*), and his notorious passion for the visual and plastic arts that sparked so many of his essays,[6] have led scholars to identify an unmistakable ekphrastic tendency in his writing (Ciccuto 115). This very tendency connects the theory and praxis of lightness in *Invisible Cities* to Melotti's abstract embodiments of cities. Many critics have repeated the following statement by Calvino, which reveals the significance of abstract, or weightless, images to his most challenging novel: "the most joyous images of cities to come out are *rarefied*, *threadlike*, as if our optimistic imagination today could not be other than abstract. . . . After I got to know the sculptor Fausto Melotti, one of the first Italian abstract artists who has been discovered and given his proper due only in old age, was the time when I started writing *thin cities like his sculptures, cities on stilts, spider-web cities*" (*Romanzi e racconti* 2: 1363 [my emphasis]). Calvino's remarks are of signal importance, for they reveal the ethical and aesthetic potential of lightness—which is to say, how it provides a space for the human mind to remain optimistic in spite of existential burdens. They also bring to light the provenance of some of his light images: Melotti. Calvino was also committed to lightness as a guiding principle of urbanism, and for several images of cities in the novel he seized upon Melotti's visual and conceptual stimuli in a *clinamen*, or swerve, from the conventions of modernist architecture and urban design.

Melotti began his art career in the Lombard abstractism of the 1930s, centered in the Milanese gallery Il Milione until 1935, creating geometrically structured explorations of form that reveal his early attention to architecture (Carandente 11; Nash 30). Still, it was not until the late '60s, the period in which *Invisible Cities* was germinating, that Melotti's work began to enjoy widespread acclaim. Once the silence surrounding his work was broken, exhibits and critical reviews of his works appeared in Monaco (1965) and Basilea (1966). However, he became known to the wider public largely thanks to the 33rd International Biennial Art Exposition in Venice (1966), as part of the exhibit "Aspects of Early Italian Abstractism

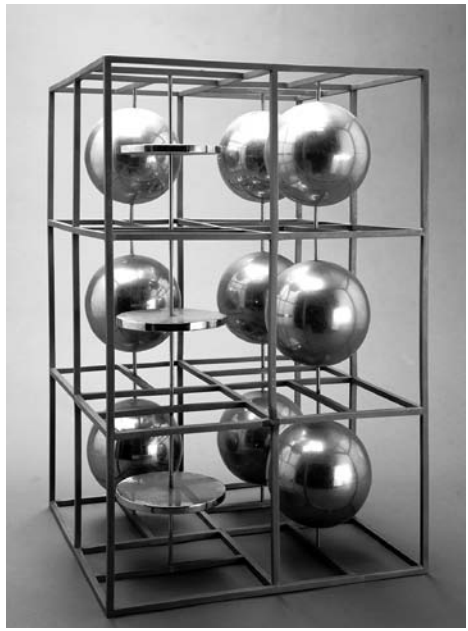

Figure 4.1 Fausto Melotti, *Scultura n. 21* (*Sculpture Num. 21*), 1935–68. Courtesy of Archivio Fausto Melotti.

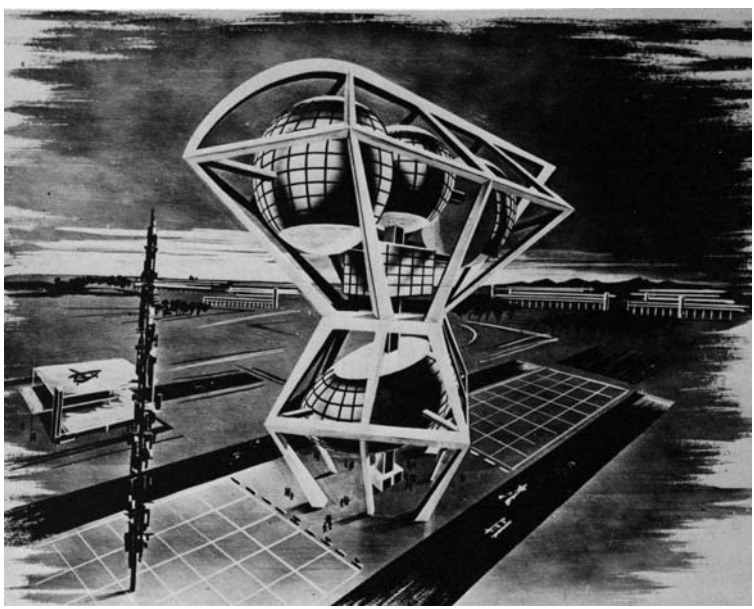

Figure 4.2 Nicolas Schöffer, *Centre de recherches scientifiques* (*Center for Scientific Research*). In Michel Ragon, *La cité de l'an 2000*. Courtesy of Éditeur Casterman.

1930–1940." The first comprehensive catalog of Melotti's works was published the following year in Milan, and it triggered a series of expositions and critical reviews in Italy and beyond (Celant, Melotti, and Gianelli). Even in Calvino's Paris, Melotti's sculptures were drawing the attention of scholars and the public. In June 1971, for instance, an exhibit whose title almost certainly enticed Calvino, "The World of Non-Objectivity," opened at the Galerie Jean Chauvelin before moving to Milan. From 1967 to 1972, a crucial period covering the gestation and publication of *Invisible Cities*, Melotti exhibits were staged throughout Italy. Of particular relevance was a 1972 multiartist exhibit in Genoa that included works by Melotti and was titled "Images for Cities." Equally important were the six Melotti exhibits that were held in Turin, a city that Calvino frequented in that period to visit friends and to attend meetings at Einaudi, for which he had been working as an editor since 1961.[7]

Familiarity turned to friendship in 1971, thanks to Calvino's post at Einaudi and its publication of two books related to Melotti, for one of which Calvino wrote the prefatory essay "I segni alti" ("High Signs").[8] This essay reveals that Calvino had visited Melotti's studio and gives us a window into the novelist's mind as he was finishing *Invisible Cities*.[9] Calvino imagines a traveller (himself) accompanied on a "cognitive itinerary" to the workshop of a wise man, Melotti ("I segni alti" 1970). There appear unexpectedly before the traveller's eyes "rarefied scaffoldings of happiness," an entire "vegetation of disembodied signs" (1970) that "is the only way to express sadness in the face of the impossible possibles" (1971). Journey, precarious heights, disembodied signs, impossible possibles—it is as if one were eavesdropping on Marco Polo and Kublai Khan's conversations. "High Signs" is unmistakably evocative of the novel's closing reflections on "essential landscapes" (122), on the idea of "disembodying the emperor's conquered territories down to their bare essence" (123).

The path taken in Calvino's first essay on Melotti offers clear-cut evidence of the thematic and visual relations between the sculptor's works and *Invisible Cities*. "At the end of the journey," the novelist writes in "High Signs," "there will undoubtedly appear before the traveler an inventory of three-dimensional and dynamic images (*emblems*), each of them hoisted on a stand, ready to rotate like little umbrellas, to uncoil like a spring, to flutter like the tail of a kite" (1971). The inventory of icons is Melotti's, which Calvino's eye surveys as if they were "joyous little signs" (1971). In the conclusion to "High Signs," Calvino signals the confluence of Melotti's sculptural style and the French visionary architecture of the '60s, both of which were yielding palimpsests for his novel: "*the signs in any case must be carried aloft*: without any pomp, and with the *lightness*, the care and the industrial stubbornness of the lake-dwellers. It was towards the region of the pile-dwellings that the traveler [Calvino himself], and well before yesterday, was moving his stilts, *the only possible habitat in the centuries of the immediate future*" (1971 [my emphasis]).[10] The habitat of the pile

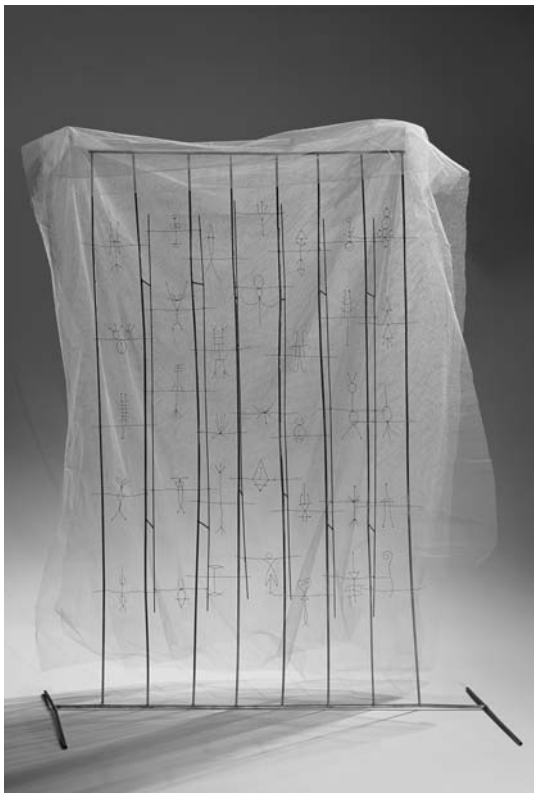

Figure 4.3 Fausto Melotti, *Gli effimeri* (*Ephemerals*), 1978. Courtesy of Archivio Fausto Melotti.

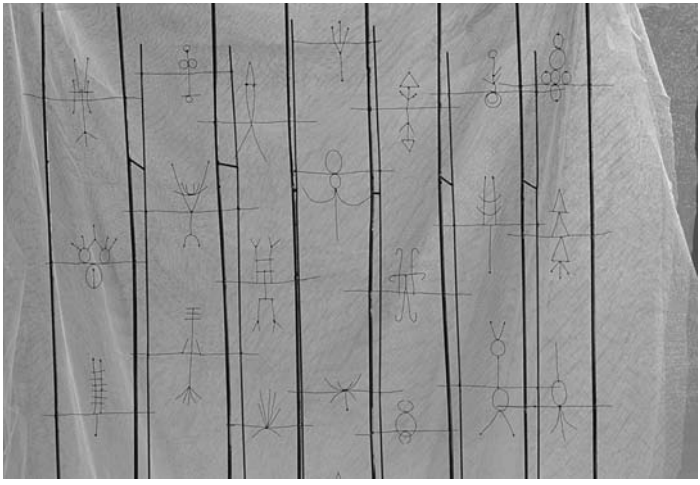

Figure 4.4 Fausto Melotti, detail of *Gli effimeri* (*Ephemerals*), 1978. Courtesy of Archivio Fausto Melotti.

dwellings, of that which is thin and scampers playfully to the top, was to return under the rubric of lightness in Calvino's subsequent essay on Melotti, "Le effimere della fortezza" ("Mayflies in the Fortress"), written for the most wide-ranging exhibit of Melotti's career, at Forte Belvedere, in April through June 1981. Here Calvino exposes the atomistic core of his thinking. Reading Melotti's body of sculpture, Calvino contrasts Lucretian lightness, or that which is "light and quick and thin," with the paralyzing heaviness of the fortress (487), an affirmation that reveals the ethical preoccupations that are at the very root of light images in *Invisible Cities* (Figs. 4.3 and 4.4).

Calvino, the traveler in "High Signs," took away from Melotti's work that which Kublai Khan in *Invisible Cities* takes away from Marco Polo's tales of his journey. Contemplating the vastness of his territories, the melancholic emperor is overcome by desperation: "this empire which had seemed to us the sum of all wonders, is an endless, formless ruin" (5). Marco Polo's descriptions of the cities visited in his expeditions, however, offer the emperor an antidote to that perception of decay and wreckage, rooted in lightness and its capacity to crack open the compactness of negativity, allowing him (and readers) to exercise *discretio*—to "seek and learn to recognize" minute traces of difference, elements worth building upon. From the onset of his novel, the ethical demands that Calvino placed on literature and the imagination are transposed in fictional form: "only in Marco Polo's accounts," readers are told, "was Kublai Khan able to *discern*, through the walls and the towers destined to crumble, the tracery of a pattern so subtle it could escape the termites' gnawing" (5–6 [my emphasis]).[11] Polo's storytelling empowers the Emperor to think critically and identify atoms of resistance with which to envision alternatives. The antidote to Emperor Khan's feelings of hopeless destruction and existential heaviness is lightness: the "tracery of a pattern so subtle it could escape the termites' gnawing." Likewise, Calvino the traveler draws from Melotti's work the "high signs" of an aloft positioning in the world, or being-at-a-distance, and finds in those aloft visual nuclei the images of an alternative political and social reality amidst the impossible of the real. That abstract microcosms of levity and imagination—"a visionary realm of splendors and marvels," as Calvino described it ("Effimere" 488)—intersected in the novelist's imagination with his ethical and intellectual obligation to speculate about the future of the city and an alternative object world.

THE VISIONARY ARCHITECTURE OF LIGHTNESS

In the '60s and early '70s, dozens of publications on the future of the city, and on the development of the disciplines charged with planning and designing it, occupied the publishing houses and social imaginary in Italy and France, as well as in the United States, the source par excellence for speculations about the future of the city. Such publications frequently devoted an

entire section to the vanguard of urban planning and design, the visionary architects, whose models make even Calvino's most abstract and bizarre cities appear understated. Some specialists in visionary urbanism dedicated special issues of journals and entire books to visionary architecture, especially in France, which sparked renewed interest in the city as human environment and prompted original design projects for Paris. Specialists in visionary architecture assailed (with even more vim and verve than historians of the city such as Jacobs and Mumford in the U.S.) the paralysis and creative stagnation that characterized contemporary urban planning. They shared a desire to rekindle the imagination in order to engender urban designs attuned to their society's needs and wants.

Fascinated by this second-degree criticism of modernist urban planning and design, Choay paid close and sustained attention to visionary architecture. It is not difficult to picture Calvino becoming enchanted, while reading Choay, with an array of visionary marvels: Maymont's vertical city, Fitzgibbons's bridge city, Friedman's spatial grids extendable ad infinitum, and even floating cities. Reflecting on these revolutionary proposals for urban living, Choay observed that "the visual image" plays the leading role "in the plastic appearance of these cities" (55). On her view, the structures of visionary architecture were being introduced with increasing success into popular science primarily because of their icastic power. As further evidence of increasing public interest, she mentioned the 1960 "Visionary Architecture" exhibit curated by Arthur Drexler at the Museum of Modern Art in New York City (where Calvino lived for four months that very same year), harbinger of the academic and public fascination with the city of the future throughout the decade and into the '70s.[12] Once a specialized niche of urban studies, visionary architecture had transcended its discipline and become remarkably popular with the general public:

> Today the non-specialist reader has completely assimilated the term *urbanism* to these futuristic images, to which the authors themselves give the name "urbanism of science fiction." Indeed, the projects and models published in magazines primarily satisfy the reader's need for daydreaming, for mystery, for poetry even; they offer him a means of escape from the daily routine of living which is a permanent frustration. Moreover, these visions reassure him about the future. (Choay 56)

One of the international specialists in architecture and urbanism who contributed the most in the '60s to the renewed interest in the city as habitat or human environment was the aforementioned Ragon, who looked favorably upon the vanguard potential of those visionary models that belonged to what he termed "parallel architecture" (*architecture parallèle*; *Les cités*, back cover): suspended vertical cities, portable cities, floating cities, and underground cities. As the founder and first president of the International Association for Prospective Architecture (Groupe International

d'Architecture Prospective, or GIAP), Ragon was attempting to find a way for what is known today as postmodern architecture and urbanism to move beyond the modernist legacy of Le Corbusier. At the Musée d'Art Moderne, the GIAP held an exhibit in 1966 entitled "Light and Motion". Thanks to his studies of visionary architecture, Ragon disseminated throughout France the conviction that ongoing transformations of the urban environment and its functions required the generation of original solutions.[13]

Two of Ragon's studies are keenly relevant to the rapport between urbanism (especially visionary architecture) and Calvino's novel: *Les cités de l'avenir* (*Cities of the Future* [1966])[14] and *La cité de l'an 2000* (*The City in the Year 2000*) [1968]), popular versions of ideas that he had presented in a more technical fashion five years before in the aforementioned *Où vivrons-nous demain?*.[15] Both studies were published in attractive, square-shaped formats with lush illustrations of design projects and urban planning models. With these two captivating monographs, Ragon helped to further popularize visionary urbanism, and he was as cognizant as Choay was that the general public was increasingly taken with contemporary developments in architecture and urban planning, that the latest topics were entering "into conversations, into the media, into official discussions" (*La cité* 21). "Everyone feels wrapped up in it," he observed, "everyone senses that something is brewing, that something new is about to begin" (*La cité* 21). In his preface to Ragon's *Les cités de l'avenir*, futurologist Jean Fourastié (*Histoire de demain* [1956] and *La Grande métamorphose du XXe siècle* [1961]) expressed his hope that Ragon would be able to "awaken imaginations, vocations, and create the climate of sympathy and desire necessary for the new design concepts that our times require" (*Les cités* 18). In "The Ephemeral," a 1967 essay published in *Utopie*, Baudrillard insisted: "The ephemeral is undoubtedly the truth of our future habitat. Mobile, variable, retractable structures inscribe themselves in the formal demands of architects and in the social and economic demands of modernity" (33).

In this context, lightness becomes the guiding principle for the city of the future. Reflecting on Melotti's sculpture, Calvino sketched out connections between rarefaction, levity, and the "optimistic imagination," and he discerned "the only possible habitat for the immediate future centuries" in their lofty separation from the ground, in that which he termed "the region of the pile-dwellings." Years later, Calvino would elaborate the principle of lightness in *Six Memos*: a quality both visual and stylistic that would guarantee the survival of imaginative literature, that could ward off petrification. The extensive critical literature on *Six Memos* and *Invisible Cities* does not account for the fact that lightness was, in the '60s and early '70s, a guiding structural principle of "the only habitat possible"—to appropriate Calvino's formula in a nonmetaphorical sense. This quality of fiction was also, it must be emphasized, a quality of imaginative urban design—of territorial and spatial planning—highly esteemed within the vanguard of urbanism who were seeking to counteract what MacEwen diagnosed as

"the plague of tall blocks rising from seas of asphalt or concrete that has appeared all over the world" (18).

In the manifestos and treatises of the visionary architects there is a clear tendency toward dematerialization (or degravitation) in design structures that are meant to be anchored to the ground rather than to weigh upon it. One such structure was the French architect and engineer René Sarger's system of lightweight tension structures, introduced as a roof solution, at the 1965 "New Structures in Architecture" exhibit at the Conservatoire National des Arts et Métiers in Paris.[16] "Weightless architecture [*L'architecture du nonpoids*] has been born before our eyes," wrote one architect; "its connection to the ground takes on the same symbolic importance as the column" (Robichon qtd. in Ragon, *Les cités*, 72). Sarger would later express his profound conviction that he was facing "a fundamental revolution that will turn architecture upside-down" (qtd. in Ragon, *Les cités* 71). While the subtraction of weight had been a constant in the history of architecture, the revolution of forms then underway was generating light design structures that were geared toward dematerialization. This represented a complete inversion of the classic paradigm of architecture—a shift away from massive structures dependent on their earthly foundations and toward the cities of the future predicated on lightness: "we can expect the world in the future to be more aerial, that it will be more like a fairyland than the present world or the world in the past" (George Thomson qtd. in Ragon, *La cité*, 189).

Calvino's Paris period was one of intense speculation about the intellectual, physical, and psychological advantages of living in light urban environments. The well-being derived from living detached from the ground was invoked repeatedly: "detachment from the surface," wrote the sculptor and architect Schöffer, "creates a levity effect and aids intellectual pursuits" (qtd. in Ragon, *Les cités* 147).[17] Foreshadowing Calvino's references to Milan Kundera and Nietzsche in the memo on lightness in *Six Memos*, Schöffer explained: "we flee from our weight. Ever since Icarus it has become increasingly clear that it is weight, among all human aspirations, which most obsesses man. Today we are entering the era of elevation and freedom from the force of gravity. Who among us hasn't had the most pleasant archetypal dreams about floating off into outer space?" (qtd. in Ragon, *Les cités* 147). Among visionary architects there were even some who believed that an architectural solution aimed at elevation, at the domination of space (and at dangling in the void, like in Calvino's city of Octavia), would enhance intellectual and physical efforts by combining the neurochemical effects of higher altitudes with the effects of exposure to light (Ragon, *Les cités* 148). Others discussed the potential of antigravity treatments, or "cures d'apesanteur" (Ragon, *Les cités* 201), like astronauts' trips to the moon, to remedy the psychological and physical maladies caused by modern life.[18]

Above all, lightness was the answer to the central problem of the future—the use of space in the face of the city's explosive growth, as was seen earlier

(ch. 2).[19] The overall sentiment in visionary architecture was a preoccupation with saturation, chaotic congestion, and the heaviness of the building industry—with the veritable cementification of the earth's surface. Voices of this urbanistic vanguard responded to the crisis by exploring forms *in potentia* of what they called the *spatial city*: urban hypotheses born of the interplay of principles of atomism (lightness and its derivative mobility and combinatory capacity), on which Calvino's *Invisible Cities* was to rely heavily, as visual stimuli and as structural characteristics. Visionary architects and urban planners envisioned future cities that might counter the heaviness and chaotic asphyxiation of the building surface through the most radical and visionary of solutions: *freeing the earth's surface from* the city by shifting the latter's physical mass onto a vertical axis, whether straight up or straight down. The design projects of spatial urbanism placed buildings, rooms, and thoroughfares aloft on highly elevated support structures while they often lowered warehouses and other large buildings to underground spaces.

In this "no-weight," or weightless, architecture, the lightness of the buildable surface was achieved by dint of several factors visible also in Melotti's spatial sculptures. The first was aerial elevation: the lightweight cells or building blocks of the city are often suspended from tubular stilts; stuck like leaves to treelike towers; or placed in three-dimensional frame grids, raised on *pilotis* above ground level, appearing like a slender infrastructure of cages or a chessboard.[20] The second was the privileging of thinness. The third was the entropic impulse of the materials adopted: thin cables and steel platforms rather than cement and asphalt; copper, aluminum, titanium, and plastic materials in place of iron (the late nineteenth-century's favorite material). Imagining an increasingly immaterial architecture that aspired to transparency, some visionary architects predicted that once all urban environments were climate controlled, heavy isolating walls would no longer be used in building. Light and slightly opaque dividing surfaces would be sufficient—filmlike walls made perhaps from compressed air. The fourth was the mobility and combinatorial nature of the holding structure and of the parts of the city, assemblable and disassemblable modular cells. The fifth was the high level of computerization of the city, often coordinated by a central brain, hence the epithet *cybernetic city*.[21]

It was believed that the adoption of light architecture would change the world entirely, from the visual point of view. In architectural theorist Simoncini's reflections on the vertical spatial city, he was persuaded by Soleri's claim that it was necessary to "abandon the idea of the city as plane [flat and wide] and conquer the third dimension [height]" (45). Myriad design projects representing *arborescente* architecture (a visionary school that privileged large-scale urban forms soaring outward and upward like the branching of trees) abound in the Italian's study and in numerous others from the '60s and early '70s. They portray an array of futuristic-looking cities, many of them rotating around axial vertical structures to which

inhabitable cells are attached. Communication and distribution centers as well as rapid and efficient means of transportation via complex systems of elevators to avoid congestion are located in these axial structures. Multiple artificial floors are attached to these columns by groups of cables, and when more highly elevated structures are built next to each other, there is a passageway variously designated (due to this elaborate crisscrossing of cables) a "spider-web" city (Ragon, *La cité* 90, 128), "transparent city," even a "city on a wire" (as in design projects by Rottier and Maymont), which Calvino was to integrate into *Invisible Cities* (Fig. 4.5).

"It's the reign of transparent and suspended architecture that is now beginning," Ragon wrote (*La cité*, 163), whereas architect Bernard Zehrfuss proclaimed that "the dream and imagination of architects" would come up with "gladsome solutions to the problem of future cities, or at the very least help authorities in-charge to leave behind worn-out routines and parameters" (Zehrfuss qtd. in Ragon, *Les cités* 137). Beyond the aforementioned Rottier and Maymont, luminaries such as Friedman, Frei,[22] Arthur Quamby, Éduard Albert, and Buckminster Fuller[23] designed structures with a maximum amount of freedom and visual fantasy by playing with principles of lightness, mobility, and combinability. While giving free reign to their imagination, visionary architects and urban planners in the '60s stubbornly pursued a complete rupture with classic notions of the human habitat and in so doing produced a veritable inventory of never-before-seen urban forms not unlike the catalog of urban icons built out in Calvino's most daring novel. The visionary conceptualization of the human environment imagined astonishing and fresh forms whose forte was the very *visibility* deemed lacking in modern architecture: the spiderweb city, the bridge city, cities of pile dwellings,

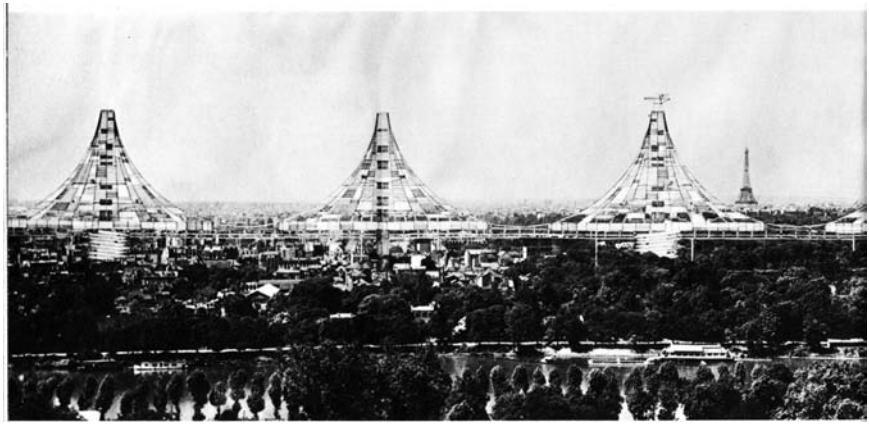

Figure 4.5 Paul Maymont, *Villes Suspendues* (*Suspended Cities*). In Michel Ragon, *La cité de l'an 2000*. Courtesy of Éditeur Casterman.

floating cities, transparent cities, layered cities, suspended cities, snail-shell cities, funnel cities, labyrinth cities, and so on.[24]

In the architectural context laid out here, an oft-quoted passage from *Invisible Cities* takes on richer hues:

> The rivers in flood have borne forests of beams to support the bronze roofs of temples and palaces. Caravans of slaves have shifted mountains of serpentine marble across the continent. The Great Khan contemplates an empire covered with cities that weigh upon the earth and upon mankind, crammed with wealth and traffic, overladen with ornaments and offices, complicated with mechanisms and hierarchies, swollen, tense, ponderous. "The empire is being crushed by its own weight," Kublai thinks, and in his dreams now cities light as kites appear, pierced cities like laces, cities transparent as mosquito netting, cities like leaves veins, cities lined like a hand's palm, filigree cities to be seen through their opaque and fictitious thickness. (73)

On one hand, specialists in urban planning and architecture with their manifestos and designs, and on the other, the storyteller Calvino with his fictional contribution to one of the most pressing topics of the '60s and early '70s: the future of the city. He responded, like those visionary architects of the spatial city, by escaping from the prison of preconceived ideas: he wrote his own catalog of urban forms *in potentia* that draw heavily from the visionary architecture of lightness.

SOARING ARCHITECTURES

Calvino built his cities partly inspired by a literary source: Frye's idea of the city (and the anti-city) as resulting from human projection of either desire or fear onto the inorganic world (ch. 1). According to Frye's *Anatomy of Criticism*, when the mineral world is transformed by desire, the transformation generates paradisiacal imagery; when by fear, infernal imagery. Calvino noted throughout Frye's now-classic study a confluence of paradisiacal, apocalyptic imagery and lightness. One paragraph left an especially profound impression on Calvino, who would later reproduce it in his critical review of *Anatomy*: "to this category also belong geometrical and architectural images: the tower and the winding stairway . . . , the ladder . . . the ascending spiral or cornucopia, the 'stately pleasure dome' that Kublai Khan decreed . . . " (Frye, *Anatomy* 145). According to Frye, such architecture is one of the forms of the archetypal symbol of the city in its apocalyptic-paradisiacal, and therefore utopian, aspect. Human utopian desire, projected onto the mineral world, shapes it into ascending forms.[25] In Calvino's novel, the conversations take place precisely in Kublai Khan's palace gardens, and the cities in which lightness prevails

approximate Frye's catalog of images. It is an *architettura ascendente*, or "soaring architecture" (Calvino, "Literature as Projection" 53), built from images that reflect a complete or in-progress elevation (towers, staircases, pinnacles, spires, vertical pipes, etc.) or, in Calvino's broadening of the concept, *dematerialization*. These ascending forms bring the Canadian literary historian's archetypes of literature into harmony with the demand for lightness in the city of the future issued repeatedly by the vanguard in urban planning and design, while echoing the principle of dematerialization embodied by Melotti's oeuvre.

The sculptures that had the most profound effect on Calvino's conceptualization of lightness were Melotti's so-called threadlike sculptures (*sculture*

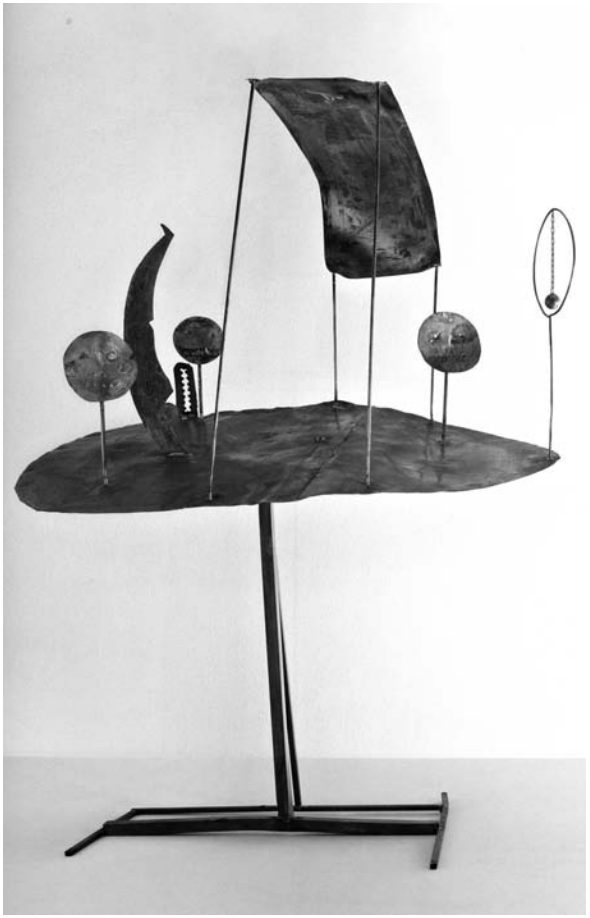

Figure 4.6 Fausto Melotti, *Il circo* (*Circus*), 1965. Courtesy of Atchivo Fausto Melotti.

filiformi) from the '60s and early '70s, which are "almost Calder-like mobiles" (Lodi 149).[26] Among these are threadlike figures, rarefied and suspended compositions of basic materials like sheets, spheres, tin, thread, iron wire, veils, and scraps of fabric. A look at the Melottian emblems reveals thin little rods—what Calvino called "flamingo legs"—supporting wiry floors that in turn support little sticks with symbols on top, and even spiderwebs of wire, lacework in sheer fabric or flimsy metal grates, and crisscrossing little chains. These sculptures are described as "drawings materialized in space, with just a touch of vibration in the light scaffolding—as if they were being moved by the wind" (Bacile and Melotti 59) (Fig. 4.6).

Regarding what is called here Melotti's lightness, Renato Barilli has acutely observed that what defines and distinguishes him from other abstract sculptors is his reductive or entropic gesture toward his building materials: a process of dematerialization (qtd. in Bacile 35). Barilli's analysis is also applicable to some cities in *Invisible Cities* whose potential mass is rendered so mobile and light that urban space becomes invisible (or mental) space. Melotti chooses plaster and metal, which are the most solid materials imaginable, Barilli notes, and "works miracles to thin them out, to render them diaphanous, positioned to leave traces more than anything else, to insinuate a landscape of forces and currents otherwise invisible" (qtd. in Bacile 35).

This Melottian lightness—the tendency to thin out or disembody an oversaturated reality—assumes the same hues in Calvino's *Invisible Cities*, especially, but not exclusively, in the so-called thin cities. Calvino had defined these (in a Fryean salute) as a subspecies of the category "cities and desire," which is to say, a poetic transfiguration of the subjective experience of desire linked to the city.[27] Like an air bubble that floats outward and upward, Isaura inaugurates the levitation that characterizes the thin cities. Just like the vertical spatial city conceived by visionary architects, Isaura is put into motion through the rapid circulation of its vertical axis. The city's gods, according to the novel, rise from the wells to enliven the scene with a sprightly and joyous movement, vertical and light, that recalls also Melotti's sculptures:

> In the buckets that rise, suspended from a cable, as they appear over the edge of the wells, in the revolving pulleys, in the windlasses of the norias, in the pump handles, in the blades of the windmills that draw the water up from the drillings, in the trestles that support the twisting probes, in the reservoirs perched on stilts over the roofs, in the slender arches of the aqueducts, in all the columns of water, the vertical pipes, the plungers, all the way up to the weathercocks that surmount the airy scaffoldings of Isaura, a city that moves entirely upward. (*Invisible Cities* 20)

Although the architectural features of Isaura recall a broad swath of Melotti's sculptural production, Calvino's city is almost certainly a verbal rendering of *Gli dei (case, alberi, nuvole)* (*The Gods [Houses, Trees, Clouds]*) from 1968, when Calvino was mapping out the novel (Fig. 4.7).

About Isaura, "a city that moves entirely upwards," Calvino emphasized its distribution on different planes or levels, "perched on stilts" and connected by "vertical pipes," all of which unequivocally locate it within the panorama of the aerial architecture of spatial cities. The city's gods emerge from an underground level and move upward traversing the "airy scaffoldings," all the way up to the highest level of the city—that of the sky. In Melotti's sculpture, we see a delicate loom of brass with a slender and fleeting appearance, truly aerial scaffolding, comprised of a pentagram of thin horizontal planes on which houses, trees, or clouds stand with grace and stylization. On the second highest plane, a thin sheet of material resembling

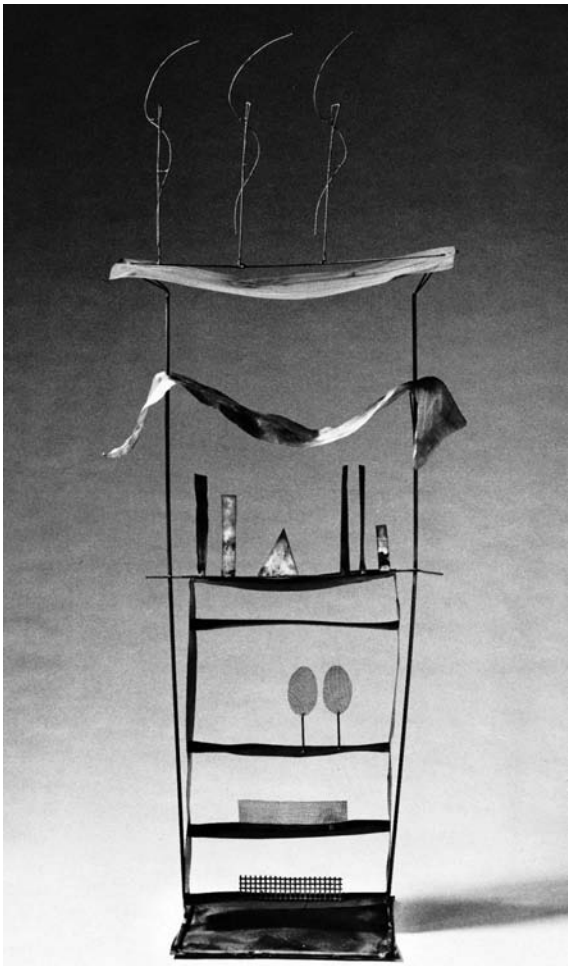

Figure 4.7 Fausto Melotti, *Gli dei* (*case, alberi, nuvole*) (*Gods [Houses, Trees, Clouds]*), 1968. Courtesy of Archivio Fausto Melotti.

wrinkled fabric speaks of clouds. Above the clouds, three slender tubular figures (the gods?), spiral upwards into the infinite heavens. Again, Melotti's sculpture dates from 1968, only four years before the publication of *Invisible Cities*.

Earlier in his career, in *Castello dei destini incrociati* (1969) Calvino had described "a suspended city . . . , a city floating on waves or on clouds, and carried by two winged putti. It was a city whose rooftops touched the vault of the sky" (525). Then, in *La Taverna dei destini incrociati* (1973), he saw on a tarot card a city come to life with "countless towers and spires and minarets and domes stretching beyond its walls" (553). The city is "balanced atop a pyramid, which might also be the top of an enormous tree: it is a city suspended between the higher branches like a bird's nest, with its foundations dangling like the aerial roots of certain plants that grow on top of other plants" (554). In the 1972 novel, Isaura launches the cluster of cities suspended in the sky, the thin cities through which Calvino delivered his

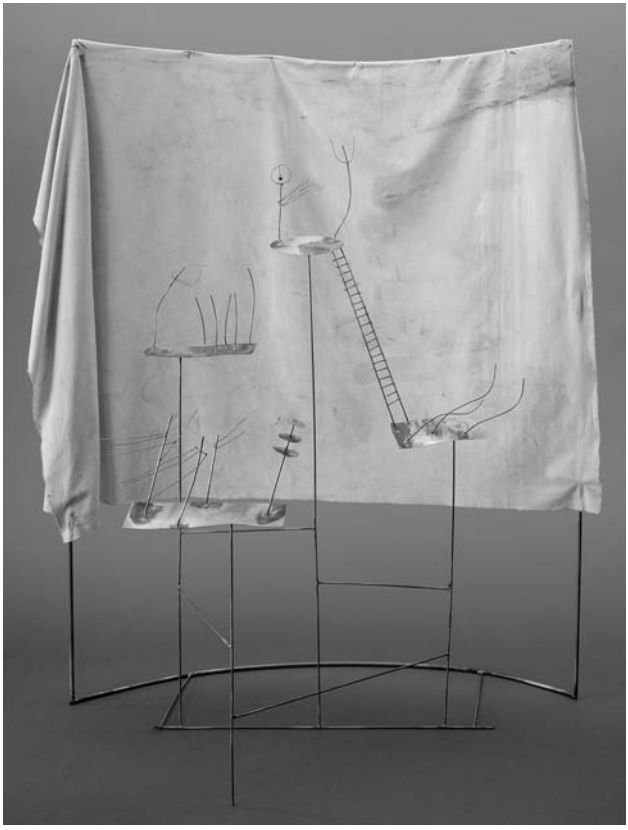

Figure 4.8 Fausto Melotti, *Da Shakespeare* (*After Shakespeare*), 1977. Courtesy of Archivio Fausto Melotti.

credo of lightness: Zenobia, Sofronia, Armilla, and Octavia. These urban icons manifest explicitly the features of lightness most indebted (visually speaking) to spatial architecture and to Melotti's architectonic sculpture.

In Zenobia, readers encounter the highly elevated pile-dwellings, the many "platforms and balconies placed on stilts" that recall many of Melotti's sculptures as well as the principles of visionary urbanism: "Now I shall tell of the city of Zenobia," Calvino writes, "which is wonderful in this fashion: though set on dry terrain it stands on high pilings, and the houses are of bamboo and zinc, with many platforms and balconies placed on stilts at various heights, crossing one another, linked by ladders and hanging sidewalks, surmounted by cone-roofed belvederes, barrels storing water, weather vanes, jutting pulleys, and fish poles, and cranes" (35). Indeed, Zenobia's inhabitants are so very satisfied with their city's configuration that in their imagination it coincides perfectly with their "vision of a happy life": it is one of those cities that "through the years and changes continue to give their form to desires" (35) (Fig. 4.8).

Armilla, with its skeleton of tubes and pipes, a city made of webbed vertical lines, recalls the yearning for dematerialization, aerial elevation, and communication and transportation systems of the spatial design projects by visionary architects in the late '60s. In *La cité de l'an 2000,* Ragon recalled Konrad Wachsmann's observation: "supports will disappear almost completely, and when they do exist, one will no longer notice them. Walls, windows, and doors also will undergo profound transformations. I can imagine that there will be nothing other than transparent, opaque, or mobile surfaces" (*La cité* 131). "The fact remains," we read of Calvino's invisible city Armilla, "that it has no walls, no ceilings, no floors: it has nothing that makes it seem a city, except the water pipes that rise vertically where the houses should be and spread out horizontally where the floors should be: a forest of pipes" (49). Like one of the visionary architects' spatial cities, Armilla tends towards transparency: "against the sky a lavabo's white stands out, or a bathtub, or some other porcelain, like late fruit still hanging from the boughs" (49).

At the same time, Armilla could be the verbal rendering of *City* (*Città* [1963]), one of Melotti's threadlike, or filigree, sculptures (Fig. 4.9). Armilla's lightness is vivacious and playful: "in the sun, the threads of water fanning from the showers glisten, the jets on the taps, the spurts, the splashes, the sponges' suds" (49). Like Melotti's sculpture *Città*, Calvino's invisible city Armilla is the filigree city par excellence. In the novel, Kublai Khan is able to discern, as quoted earlier, "the tracery of a pattern so subtle it could escape the termites' gnawing" in Marco Polo's accounts. Armilla is, moreover, the city that survived destruction: seeing Armilla, "you would think," Calvino writes, that the urban "hydraulic systems, indestructible, had survived a catastrophe, an earthquake, or the corrosion of the termites" (49). Lightness, in this context, is not only aesthetic—not merely a question of form; it is *ethical*, even ontological: it enables the city to endure, to survive destruction.

Octavia is a "spider-web city" that swings over an abyss, tied with ropes to two mountain tops, its precarious situation opposed to earthly gravity. "If you choose to believe me, good," the visionary traveler says of Calvino's city, "now I will tell you how Octavia, the spider-web city, is made. There is a precipice between two steep mountains: the city is over the void, bound to the two crests with ropes and chains and catwalks . . . , below there is nothing for hundreds and hundreds of feet" (75). A striking parallel may be discerned between Calvino's city and Rottier's city on

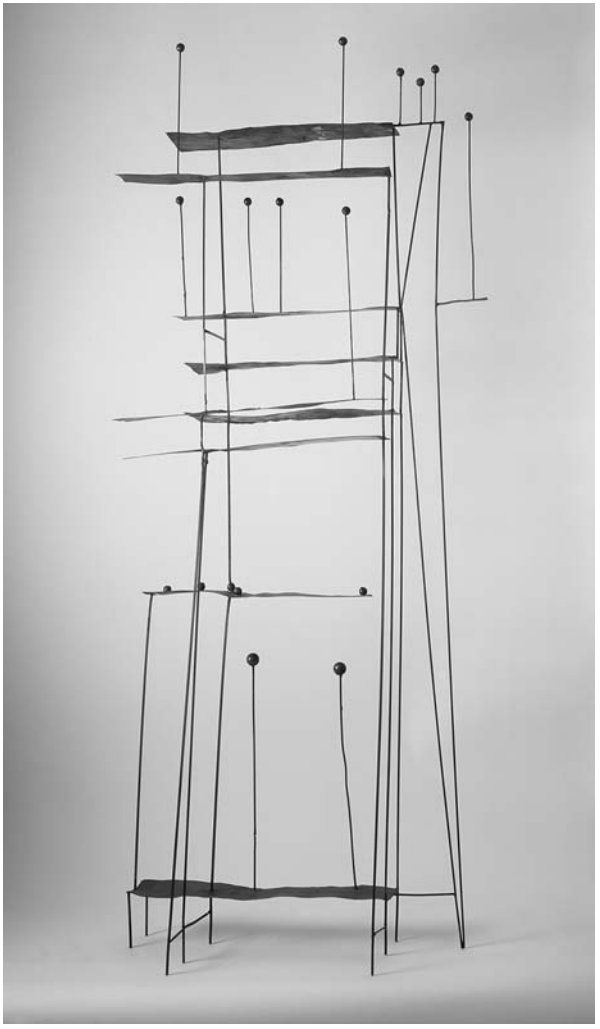

Figure 4.9 Fausto Melotti, *Città* (*City*), 1963. Courtesy of Archivio Fausto Melotti.

cables: a human habitat composed of habitable cells suspended by cables stretched between mountains and arranged "in a spiderweb fashion" (Ragon, *La cité* 128) (Figs. 4.10 and 4.11). At the center of the spider's web, the visionary architect Rottier placed the "brain" of the city, that is, the machinery that moved the cables at the end of the season to gather the inhabitable cells to be repainted and put in storage until the next season, when the various cells would be "regenerated" on the cables ("bloom" on the cables, it was said, because they looked like leaves).

Octavia is also vividly reminiscent of Maymont's spiderweb design projects (Ragon, *La cité* 190) of villages hanging on cables "against an abrupt falaise" (Ragon, *Les cités* 203) and also of the Ville Pyramide, by the same

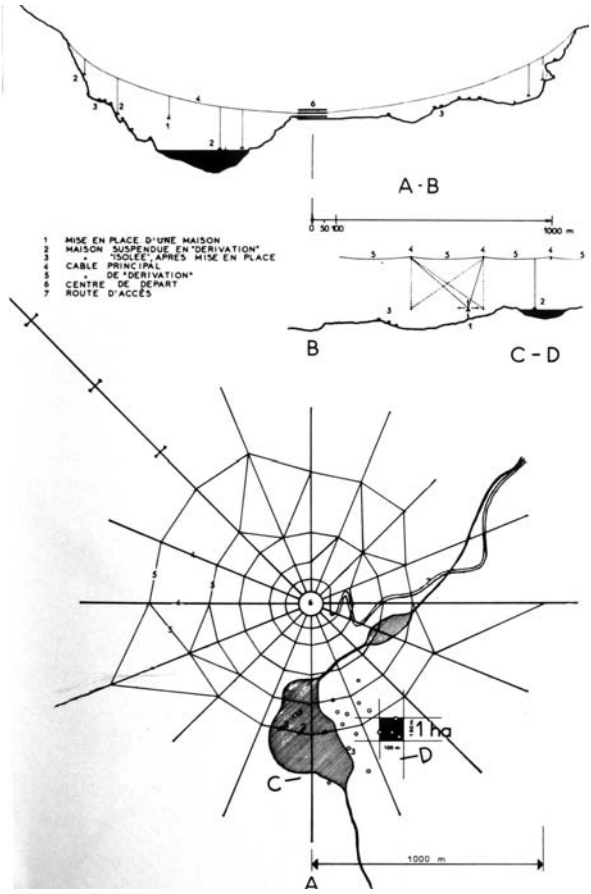

Figure 4.10 Guy Rottier, *Cité de vacances sur fil* (*Resort Town on Cables*), 1964–65. A spiderweb city. Courtesy of Guy Rottier.

architect: "a pylon that supports an elastic trellis [in the shape of a pyramid], made up of cables, from which are suspended the singular cells or the artificial floors" (Simoncini 54; see fig. 4.5 *Villes suspendues*). In the middle of this gigantic 3-D spiderweb, there are rooms, theaters, businesses, and schools of "light and diverse shapes," made of "colorful scintillating materials," situated on various levels, as Alexandre Persitz explained: "the structure is even lighter and more transparent than that which the engineer Eiffel could dream up in 1887" (qtd. in Ragon, *Les cités* 132). This transparent Mount Saint Michel would be 125 meters high and accommodate fifteen thousand to twenty thousand inhabitants.

A third, and complementary, inspiration for Octavia can be found in Melotti's sculpture *Il sacco* (1969), a sculpture composed of a tall, slender trellis holding up in the air a transparent gauze with some little balls inside (Fig. 4.12). Again, it is necessary to remember that the lightness of the urban icon is not exclusively formal. Calvino develops the intrinsic potential of the image in ethical and ontological terms that suggest an approach to life: "suspended over the abyss, the life of Octavia's inhabitants is less uncertain than in other cities. They know the net will last only so long" (75).[28] With Octavia, the last in Calvino's series of thin cities, lightness splits off to form many lightnesses, reverberating in the webs of strings in the sky that signify the relations between inhabitants in Ersilia, which becomes a veritable spatial city, a "labyrinth of taut strings and poles that rise in the plain" (76), on "long flamingo legs" (77) that sustain the city of Baucis high in the air (Fig. 4.13).

Figure 4.11 Guy Rottier, *Village Suspendu* (*Suspended Village*), 1965. Courtesy of Guy Rottier.

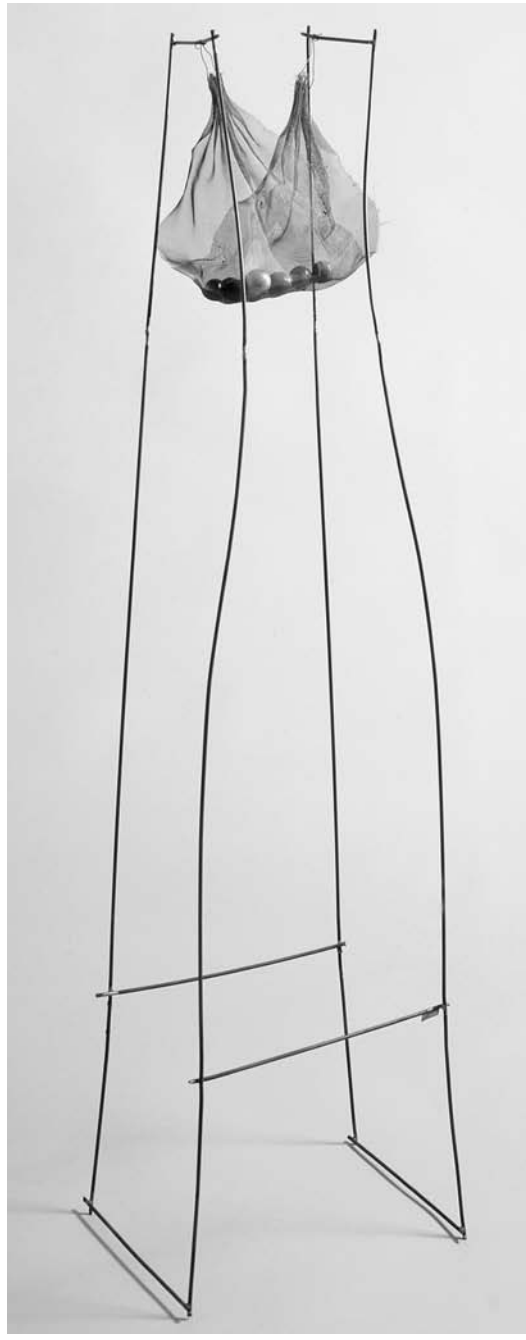

Figure 4.12 Fausto Melotti, *Il sacco* (*Sack*), 1969. Courtesy of Archivio Fausto Melotti.

The cities in chapter 5, to which Octavia, Ersilia, Baucis, Leandra, and Melania all belong, embody lightness more than any others in the novel. Evidence for this claim is to be found in the preface, in which Calvino limits himself to a single observation about his urban icons from the perspective of the visual, but he does not use the word *visual*: "as a reader among others, I can say that in Chapter 5, which develops at the very heart of the book a theme of lightness strangely associated with the theme of the city, there are some passages that I think are better as visionary evidence, and perhaps these threadlike shapes (the 'Thin cities' and others) are the most luminous area in the entire book" (*Presentazione* xi).[29] This observation offers a hermeneutical key to understanding the novel as much more than a postmodern experimentation with literary forms, for it places lightness in the foreground and marries it to the *visionary*, or the transcendent visual.

Figure 4.13 Fausto Melotti, detail of *Il sacco* (*Sack*), 1969. Courtesy of Archivio Fausto Melotti.

Such "visionary evidence" is at its best in the aforementioned Baucis, the aerial city that on luminous days projects a pierced shadow onto the foliage below. Numerous scholars and artists have been intrigued by this city of absence, the invisible city par excellence, because the traveler cannot see the city unless he looks upward, "yet he has arrived" (*Invisible Cities* 77).[30] Hovering over empty space, the city is suspended over the clouds, accessible only by towering ladders. The inhabitants appear to feel nostalgic for the ground below, or perhaps they are captivated by what the earth is without them occupying (hiding) it or by the contemplation of the space where they could be and are not: "there are three hypotheses about the inhabitants of Baucis: that they hate the earth; that they respect it so much they avoid all contact; that they love it as it was before they existed and with spyglasses and telescopes aimed downward they never tire of examining it, leaf by leaf, stone by stone, ant by ant, contemplating with fascination their own absence" (*Invisible Cities* 77). Calvino himself referred to his life away from Italy through the image of Baucis, the metaphor of an observation point that allows a deeper understanding of oneself by reflecting on one's absence: "among the *Invisible Cities* there is one on stilts, and its inhabitants watch their own absence from on high. Maybe to understand who I am I have to observe a point where I could be but am not" (*Hermit in Paris* 189).[31]

Because a number of scholars have read the image of Baucis as a projection of Calvino's distancing—and at times alienated—approach to reality, readers have been conditioned to think of it as an abandoned or destroyed city spied by distant inhabitants with telescopes. And yet, this city at the very core of the novel is not an empty space on the ground, but rather, an elevated city. Polo is very clear on this point: "nothing of the city touches the earth expect those long flamingo legs on which it rests" (77). Suspended in the sky aloft long, slender stilts, Baucis takes on a radically different—not socially distant but, instead, *socially engaged*—meaning when it is read in the context of Calvino's relationship to visionary architecture and urban planning in the '60s and early '70s. The inhabitants who contemplate with spyglasses and telescopes their own absence from the ground leave the ground free, achieving the wholesale inversion of urban conventions and expectations promoted by the creators of spatial cities. Baucis's inhabitants are altogether satisfied: "having already everything they need up there, they prefer not to come down" (77). In the Ovidian myth, as a reward for welcoming two disguised strangers (Zeus and Hermes), an old couple named Baucis and Philemon are elevated above the level of their neighbors' selfishness to the summit of a mountain. The high elevation of the new dwelling place spares them from the flood that sweeps through the land below. Equally, Calvino's Baucis is an alternative locus of hospitality and renewed perception; it is an elsewhere or otherwise, in the Gabellonean sense.

At the core of *Invisible Cities*, then, there are various manifestations of lightness, the founding principle of a future human habitat. The "visionary evidence" of lightness denotes the other cities of the "most luminous

area of the book." With Ersilia, Calvino erases the physicality of the city in order to restore the isolated image of the relationships connecting inhabitants to each other that are represented as floating webs of strings (76). In Leandra, Calvino projects lightness, this time Lucretian, into his visionary rendition of the quintessential nature of the city: Leandra's protagonists are a multitude of imperceptible gods like moving atoms, "too tiny to be seen and too numerous to be counted" (78).[32] They live alongside the living and participate in everyday life, the "true essence" (79) of the city that will remain through time. These invisible gods are light, mobile, and vectors of messages like the *spiritelli* of Cavalcanti's poetry that Calvino celebrated among his examples of lightness in *Six Memos*: "if you listen carefully, especially at night, you can hear them in the houses of Leandra, murmuring steadily, interrupting one another, huffing, bantering, amid ironic, stifled laughter" (79). Melania, the last city in chapter 5, continues Leandra's essential fractioning into little discrete bits whose extreme mobility forms a combinatory of relationships.

The union of a longed-for lightness and an urban thematics is manifested beyond chapter 5 of the novel, as Calvino opposes opaqueness, thickness, weight, and saturation to lightness, luminosity, and transparency—the ethical "high signs" of our "optimistic imagination"—throughout the novel. A thin city of supreme lightness is Lalage, which appears to Khan in a dream, perhaps a wink to Coleridge's architectural visions in *Kublai Khan* (1816), "light and shimmering as reflections in a soap bubble" (Thomsen 71). Lalage's distant slender pinnacles and spires rise against a backdrop of emptiness and destruction, an apocalyptic wasteland (*Invisible Cities* 74). Moriana, which belongs to the category "Cities and eyes," is on one hand a true spatial city born out of the mind of visionary architects; on the other, it is a nightmarish degradation of urban existence that must be overcome. It fictionalizes the dialectics of lightness and weight that characterized Calvino's perception of reality, as exemplified by the commentary in the frame that precedes it. Images of stasis, heaviness, and calcification are opposed to a vision of this city through a diaphanous and transparent breeze (99). Moriana is a sheet of paper; "it consists only of a face and an obverse . . . with a figure on either side" (105). On one side there is lightness: "its alabaster gates transparent in the sunlight . . . , its villas all of glass-like aquariums where the shadows of dancing girls with silvery scales swim beneath the medusa-shaped chandeliers" (105); on the other, *heaviness*: "an expanse of rusting sheet metal, sackcloth, planks bristling with spikes, pipes black with soot, piles of tins, blind walls with fading signs" (105).

Between Calvino's novel and the discussions in urban planning and design there is another conspicuous parallel: the elevated presence of Venice, the "region of pile-dwellings" visible already in his first essay on Melotti, "High Signs." Heretofore Calvino scholars have analyzed several sets of relationships in the novel generated by Venice: between Polo

and memory; between fiction and reality; between the original and its *simulacra*; between the West and the Orient.[33] However, as was already established, architects and urban planning experts in the '60s and early '70s viewed Venice as a utopia of the present because of its interconnectedness, functionality, imageability, and variety. Moreover, for many visionary architects, Venice was the archetypal model of the ideal city in terms of lightness because for centuries it has rested on a structure of tree trunks. Biro and Fernier, the project designers for *Ville-en-X*, clearly had this Italian city in their minds' eyes: "where are the audacious creators of Venice with their wooden posts that still support the city after more than five centuries? We likewise are on the banks of a new ocean and we need to find our poles to build our city. What will our future Venice look like?" (qtd. in Ragon, *Les cités* 150) (Figs. 4.14 and 4.15).

Paul-Jacques Grillo came up with two design concepts called *Poseidon* (the lagoon city) and *Aegea* (the lake city). Maymont imagined a floating

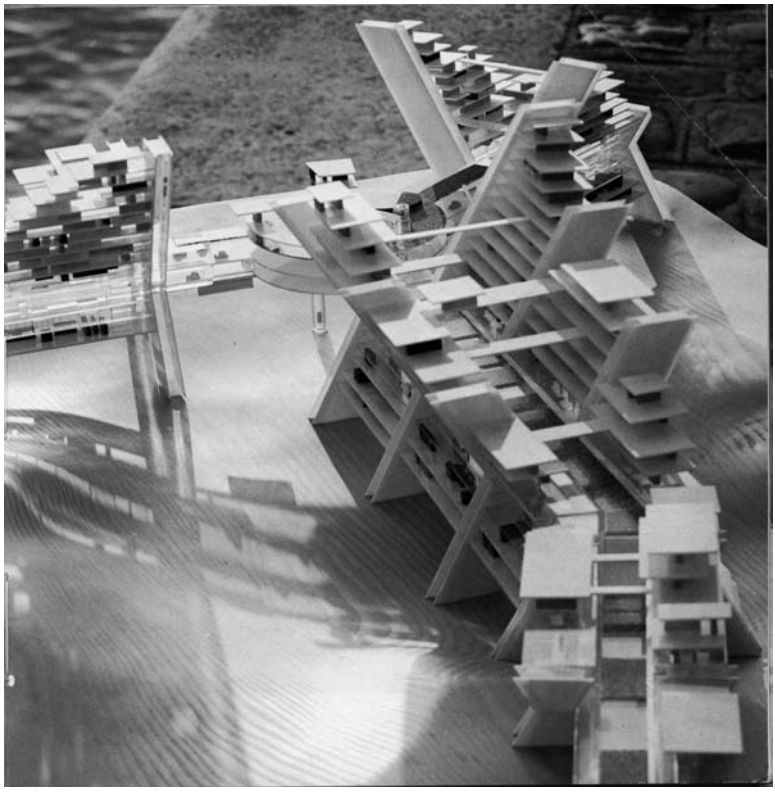

Figure 4.14 Biro and Fernier, *Ville-en-X* (1) (*X City* [1]). In Michel Ragon, *Histoire mondiale de l'architecture et de l'urbanisme modernes*. Courtesy of Éditeur Casterman.

city of isles connected by bridges, the neighborhoods of a mobile marine city conceived as an extension of Monaco: "a Venice of interchangeable isles" (Ragon, *Les cités*, 195).[34]

Several visionary designs for a new Paris were inspired by Venice. Maymont's design proposal for a new Paris on the plain of Montesson, *Venise du XXe siècle*, was a future city elevated in order to anticipate the rising of the waters (Ragon, *La cité* 160). Ragon too imagined his Paris made new. His visionary redesign resembled a veritable invisible city, with the presidential palace in the shape of a prism made of steel and glass and suspended by cables over the water. To the left and to the right of it there would be transparent pyramids occupied by the national assembly and the senate, and various ministries housed in groups of pyramids would be connected to each other by suspension bridges (*La cité*, 160).

Lightness as a quality of the only human habitat possible achieves its maximum material expression in forecasts regarding the slow sinking of Great Britain. Like Venice, in fact, Great Britain was known to be inexorably sinking into the sea at the rate of twenty-three centimeters per century. Not content with remaking the capital of France, Ragon imagined a London *sur pilotis*, on foundational stilts or pile dwellings (175). The goal for the year

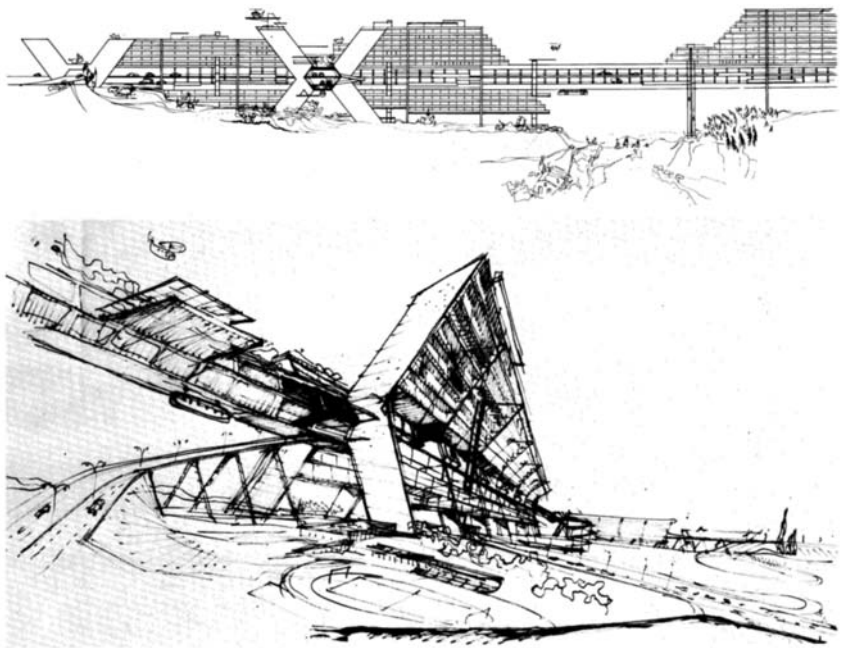

Figure 4.15 Biro and Fernier, *Ville-en-X* (2) (*X City* [2]). In Michel Ragon, *Histoire mondiale de l'architecture et de l'urbanisme modernes*. Courtesy of Éditeur Casterman.

2000, then, was a singular one: to elevate the level of cities using artificial floors secured by *pilotis* one meter high in order to safeguard England for the next four centuries. Ragon foresaw a "modern Venice" on the banks of the Thames in the project design for Thamesmead, a city on water to house sixty thousand inhabitants, with man-made rivers, lakes, and canals—a city design model that would be repeated elsewhere. Just as Polo does with Khan in Calvino's novel, Ragon injected urban icons into the minds of his readers, cities that he described as already existing as he rhetorically pretended to be writing sometime in the future, for example, this "modern Venice" projected for the year 1980. They were *phantasmata* produced by his inner vision.

Venice was a recurring image and theme for Calvino in the late '60s and the early '70s. It surfaces in "High Signs" as he embraces "the industrial stubbornness of the lake-dwellers" and "the region of pile-dwellings" for the future of humanity. In the period 1969 to 1973, Frye and Fourier helped Calvino to conceptualize his beliefs about the function of literature and of literary images in a speculative model that would bring together ethics and utopia, as was seen earlier (ch.1). The intertwined impact of Frye and Fourier on Calvino is clearly legible in "Venezia: archetipo e utopia," in which he reflected upon "the force with which Venice acts upon the imagination" (2692) at once as archetype and as utopia. Exhibiting his fluency with the vanguard of architectural and urban planning and design theories, he observed:

> You see that the Venetian model increasingly appears in the projects for cities of the future, for example, in the urbanists' proposals for solving the traffic problem in London: lanes dedicated to vehicles that pass below while pedestrians go about on elevated pathways and bridges. The era in which we live is seeing all existing large cities in crisis: many cities are becoming unlivable; many cities shall have to be restructured or rebuilt from the ground up, following designs more in accordance with the Venetian model. (2691)

"I believe in the future of the aquatic city, in a world populated by countless Venices," he went on to say (2691). Venice was the definitive city of the future, the urb that would come out ahead in the Western urban crisis: "In the transitional period that we are about to go through, during which so many cities shall have to be abandoned altogether or rebuilt from top to bottom, Venice, which did not go through the brief phase in human history (only eighty years, roughly) when it was believed that the future belonged to the automobile, shall be the city best positioned to overcome the crisis and to model, out of its own experience, new developments" (2691).

Later in the same 1974 essay, a visionary Calvino predicted a world of futuristic cities that uncannily resemble the design projects for spatial cities or megastructures and several cities in his 1972 novel:

> The world will be full of Venices, or, rather, of Super-Venices, in which multiple communication networks will be superimposed on and connected to each other at various heights: navigable canals; roads and canals for air-cushion vehicles; underground, underwater, and elevated railways; bicycle paths; horse and camel trails; hanging gardens and drawbridges for pedestrians; cableways. Of course, vertical communication shall enjoy limitless expansion and variety by means of elevators, helicopters, cranes, and firemen's ladders mounted on water taxis and other watercraft. (2692)

Before beginning to write his novel, Calvino sketched out archetypes and categories such as "cave city," "pile-dwelling city," "Venice type-city," "island city," "New York type-city," "San Francisco type-city," "Los Angeles type-city" (Barenghi, "Gli abbozzi" 79). Venice, it can be gathered from these working notes, was initially one among many in his typology of the city. He was not planning to emphasize the relationship between Polo and his native city in the novel, as he eventually would feel compelled to do because Venice is the city of lightness, variety, and imageability par excellence: the epitome of visionary architecture and urban design.

A city of great icastic potential, Venice is the city that both remains implicit and becomes explicit in a kaleidoscope of urban icons in Calvino's novel (*Invisible Cities* 86). I have already pointed out various features of lightness possessed by the Venice type-city, and numerous cities in the novel are imbued with Venetian vistas. Valdrada, a city built on the shores of a lake, with houses looking out over the water, reflects Venice. The Melotti sculpture that I directly associate with this city, *Canal Grande* (1963), is a playful view of the Venetian Canal (Fig. 4.16). Resting on a mirror, the sculpture recalls the mirroring effect of the water. In Calvino's novel, the bridges "arching over the canals, . . . the bustle of light craft zigzagging . . . , the balconies, platforms, domes, campaniles,

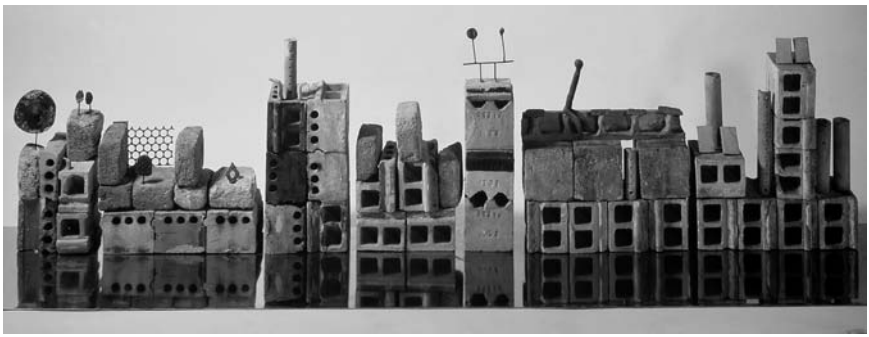

Figure 4.16 Fausto Melotti, *Canal Grande* (*Grand Canal*), 1963. Courtesy of Archivio Fausto Melotti.

island gardens" (85) of Kin-sai, the capital visited by the emperor and his foreign dignitary, all recall the lightness of Venice and of visionary spatial architecture, just like Esmeralda's "up-and-down course of steps, landings, cambered bridges, hanging streets" (88) in the network of intersecting routes that the inhabitants combine every day, or the multiplicity of Phyllis's bridges, conjure Venice.

Visionary urbanism, while exploiting spatial vertical axes, frequently imagined the city of the future's morphology as cut into sections: a tripartite design with underground, ground, and aerial floors in which all human activity would be divided according to function and distributed on the three levels. This formal aspect carried over to Isaura and numerous other cities in Calvino's visionary novel, arranged along the lines of underground, ground, and sky levels.[35] Just as Ragon approached the spatial aerial cities as an optimistic projection into the future (*La cité* 103), so Calvino symmetrically correlated lightness with optimism. Nonetheless, the other half of the equation—doomsayer urbanism—also intervened with its underground designs that had a particular resonance in those years keenly sensitive to the possibility of nuclear annihilation. The mirror opposite of the "spider-webs in space"—of the lightest aerial cities imaginable—were mole cities (*villes-taupes*, Ragon called them), literally invisible because they were buried under layers of cement to shelter them from nuclear radiation, or crater cities (Jean Louis Chanéac's *villes cratères* from 1963–68). Notwithstanding the most catastrophic and infernal possibilities, theorists of underground visionary spatial architecture persisted in what Ragon called their epos of optimistic underground projects (*La cité* 104)—tunnels and ambitious excavations—in those years. It is difficult for us to even imagine today the awe and astonishment created by the inauguration of the Monte Bianco Tunnel in 1965, while equally ambitious projects were still in the planning stages: an underground tunnel in Manche, another in Fréjus, and even an underwater passage for Marseille's Vieux Port (Ragon, *La cité* 104).

In this very same period the visionary urban designer Utudjian, author of *Architecture et urbanisme souterrains* (1966), proposed the establishment of two design associations for underground-city architectural studios, Groupe d'Études et de Coordination de l'Urbanisme Souterrain (GECUS) and Comité Permanent International des Techniques et de l'Urbanisme Souterrains (CPITUS). The language employed by the visionaries is telling, and speaks directly to my overall purpose in this chapter: "it's about lightening cities" (*Il s'agit d'alléger les villes*), Ragon affirmed (*Les cités* 59), agreeing with Utudjian that it was necessary to make use of underground space in order to lighten the surface space, freeing it from its "plague" of stations, garages, and warehouses that were, in Utudjian's words, "dead weights" (*corps morts*) and the cause of "urban paralysis" (*paralysie urbaine*) (qtd. in Ragon, *Les cités* 59). Their overarching conviction was that people would eventually become accustomed to an underground habitat and overcome

through various stratagems the natural anxiety produced by such an environment. The underground city designs are brimming with a visual fantasy that makes them jump off the pages of the visionary architecture books of the period. Ragon's darkly lit design, completely round and uterine, visually leads the resident (or reader) to the world below that is designated for rest and relaxation (*La cité* 102) (Fig. 4.17).[36]

The visual contrast with the airy and luminous frameworks of the vertical cities could not be starker:

> But corresponding to these computerized cities that proudly strive toward the heavens like so many Towers of Babel; to these cities of light transparent by day thanks to the spaces left empty between the different artificial floors or suspended blocks; to these cities sparkling by night with a thousand lights in a show programmed by computers, there is another type of city: invisible cities, cities buried in the ground: mole cities, the cities of underground urbanism. (Ragon, *La cité* 101) (Figs. 4.18; 4.19; 4.20)

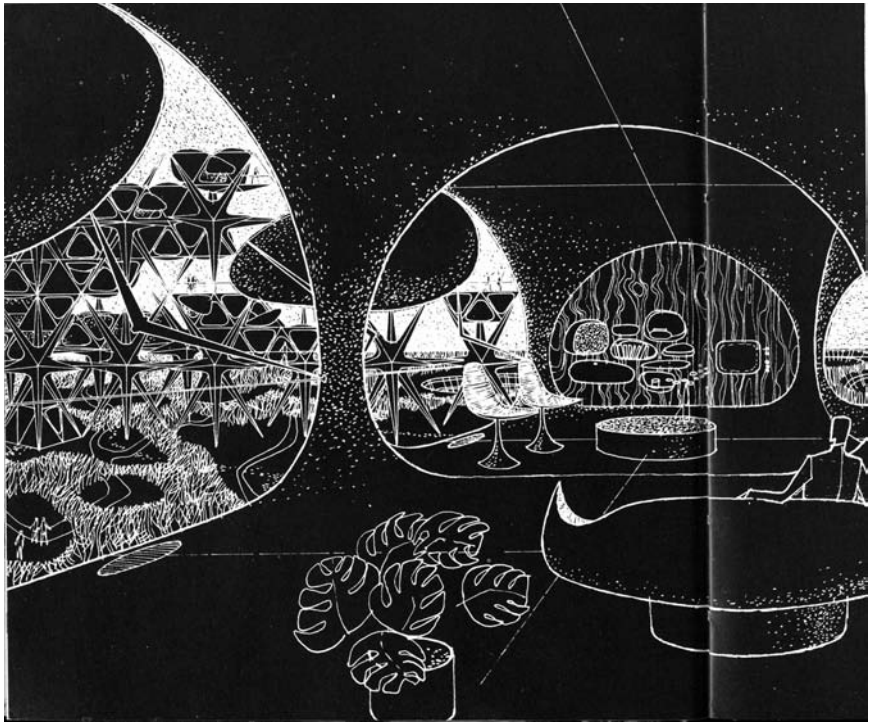

Figure 4.17 Michel Ragon, *Les villes taupes* (*Mole Cities*). In Michel Ragon, *La cité de l'an 2000*. Courtesy of Éditeur Casterman.

The use of underground space—the equivalent in depth of the use of aerial space—is a visionary design philosophy incorporated into Calvino's novel. In addition to Isaura, Beersheba's underground layer hides from view the "infernal" projection of the city, its subterranean system of sewers which, mistakenly, the inhabitants hold in contempt, rather than recognizing that "the inferno that broods in the deepest subsoil of Beersheba is a city designed by the most authoritative architects, built with the most expensive materials on the market" (112). However, echoing the design projects for *villes invisibles*, Calvino's mole city par excellence is Argia: invisible when viewed from the surface ("from up here, nothing of Argia can be seen"), it is the city of "earth instead of air" (126). It seems to be the infernal city of darkness and of extreme compactness where motion is impossible. Argia is "filled with dirt," "clay packs the rooms to the ceiling," and "over the roofs

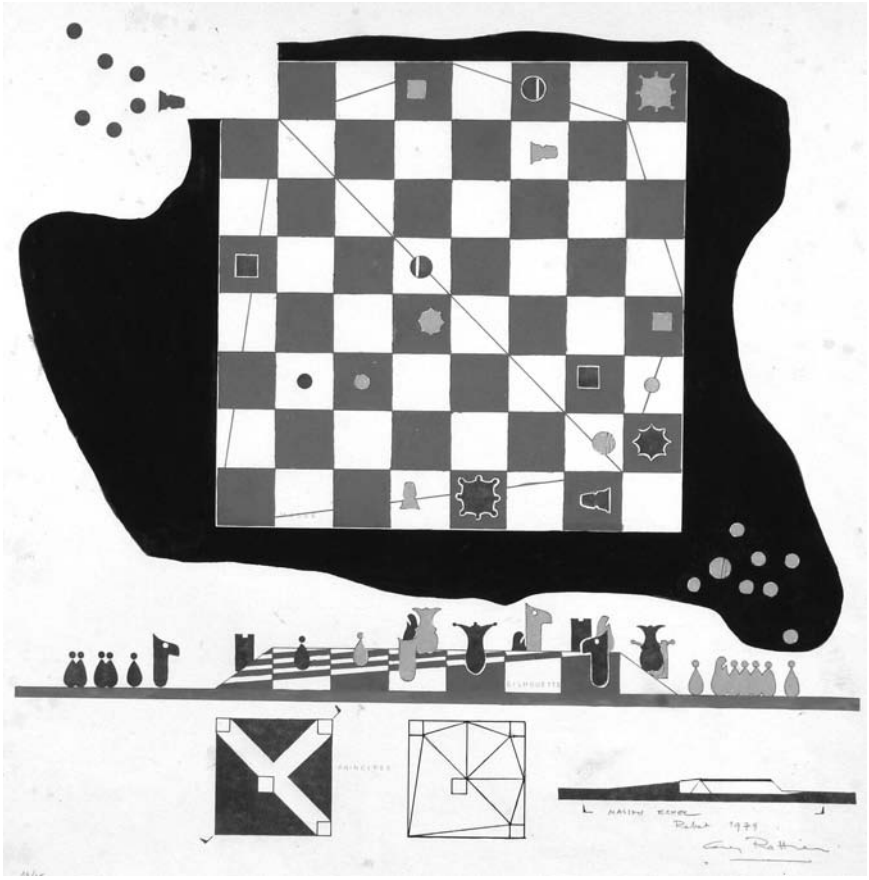

Figure 4.18 Guy Rottier, *Maison enterrée ou maison échec* (1) (*Buried House or Chessboard House 1*), 1965–78. An underground house. Courtesy of Guy Rottier.

Figure 4.19 Guy Rottier, *Maison enterrée* (2) (*Buried House II*), 1965. An underground house. Courtesy of Guy Rottier.

of the houses hang layers of rocky terrain" (126). The bodies of Argia's residents are destroyed by dampness. The city represents an unredeemable projection of fear, as Calvino echoes Mumford's sentiments about underground cities, their "premature burial" and their "encapsulated existence" (*City in History* 480). Argia is a counterutopia, in the style of Superstudio's *demonstratio per absurdum*, a visual catalyst for a critical evaluation of this possibility and its rationale.[37]

And yet, Calvino's imagination enlivens even this most oppressive of urban environments, healing its material and existential heaviness by perforating Argia's calcified city with a trace of minimal endurance, a sign of motion and life: "at night, putting your ear to the ground, you can sometimes hear a door slam" (*Invisible Cities* 126). Here as elsewhere in the novel, lightness penetrates even the solid density of the underground world, just like in Lucretius's physics all matter is composed of both atoms and void. Still another example is Esmeralda, where there are as many above-ground passages as there are underground passages, animated by lively motion: there, rats, conspirators, and smugglers "run" (88), "peep out of manholes and drainpipes . . . ," "slip through double bottoms and ditches . . . crossing the city's compactness pierced by the spokes of underground passages" (89). As in the Lucretian atomistic universe that had completely captured the novelist's imagination, so too in visionary spatial urbanism (aerial and underground), lightness and

Figure 4.20 Guy Rottier, *Maison enterrée (3)* (*Buried House III*), 1965. An underground house. Courtesy of Guy Rottier.

void were generators of new combinatorial forms. However, there could not be generative opportunities in either of the two systems were motion not another guiding principle of the future city.

IN-MOTION: MOBILITY AND COMBINABILITY IN THE FUTURE CITY

Urbanists had placed in bold relief the increased mobility demanded by contemporary lifestyles, and they were in agreement that this growth in mobility should translate into planning and design solutions for urban

environments. This aspect was first highlighted in 1956, at the tenth annual International Congress of Modern Architecture (Congrès International d'Architecture Moderne, or CIAM) in Dubrovnik, through the design projects of Friedman (cylindral and mobile cells arranged in spatial structures) and Charles Péré-Lahaille (his *Mobile City*, or "Cité mobile").[38] One year later, the international design group specializing in mobile architecture, the GEAM (Groupe d'Étude d'Architecture Mobile), brought together the so-called *architects of mobility* and their most fantastic design projects: Gunther Gunschel's inflatable houses, Maymont's floating structures, Wener Ruhnau's portable theater house, and many others. For this occasion, Gunther Kühne wrote an incisive summary that calls to my mind Calvino's meditations on Galileo's Medusa and in which the German architect claimed that mobile architecture challenged petrification:

> For ages we have been building for the ages, our sights set on eternity. . . . You could fill book after book with descriptions of these petrified results of unreflective acts. . . . We have never built based on actual human needs . . . , human needs [that] change. . . . Life is variability, pulsation, dynamism, whereas the built form is static. Everything that we have built in the world up to the present is static, invariable, meaning dead. (qtd. in Ragon, *Les cités* 162).

Calvino responded to those urgent calls by the architects of mobility for a "radical overhaul of the techniques of urbanism and construction" (Kühne qtd. in Ragon, *Les cités* 162). He adopted their avant-garde guiding principle of mobility in various architectural structures, and entire cities, that appear to me to be oriented toward nonpermanence. It was seen earlier (ch. 3) how Calvino's Lucretian lightness called attention to the composite and constructible nature of the city. Here I stress that Calvino's novel takes an explicit stand in favor of the *ephemeral* city (*la ville éphémère*; Ragon, *Les cités* 163), as if he implicitly endorsed the definition in Antonio Sant'Elia's manifesto of *Futurist Architecture* (1914): "we have lost our predilection for the monumental, the heavy, the static, and we have enriched our sensibility with a taste for the light, the practical, the ephemeral and the swift."[39] The ephemeral nature of the city threads its way throughout Calvino's novel. The narration gravitates around the multiple parts of a dismembered city and its incessant metamorphosis, as each light city is founded, disappears, and quickly reconstitutes itself according to necessity, as if moving elsewhere or as if its residents (as mobile as the city itself) had abandoned it. "*L'homme se 'défixera'* (man shall become unfixed)," wrote Lionel Schein (qtd. in Ragon, *Les cités* 170),[40] a prediction in harmony with Bruno Zevi's declaration in his 1973 *Storia dell'architettura moderna* (*History of Modern Architecture*) published by Einaudi: "every single taboo against the stability of the human habitat" must perforce be exorcised (qtd. in Locci 9n4).[41] The novel's open-endedness, the Lucretian lightness that sustains the novel's architectural *fabbrica*, as was seen earlier

(ch. 3), reflects Archigram's goal in their 1964 project "Plug-In City," an investigation into "what happens if the whole urban environment can be programmed and structured for change" (Cook 77).[42]

Calvino explicitly tackles the theme of unfixing the city in Sophronia, one of the thin cities (4). In a nod to Rottier's *architecture éphémère*, namely, his flying and suspended vacation villages, some of them made of cardboard (1964-69), or his design for an artist's residence, Sophronia is a city made up of two half-cities: one is the city of lightness, the kinetic carnival city of roller coasters, Ferris wheels, and the swaying trapeze; the other half is the city of heaviness, monumentality, and immobility, with its functional marble and cement buildings (Fig. 4.21).[43] "One of the half-cities is permanent, the other is temporary" (*Invisible Cities* 63); the latter stays for a brief sojourn and is then uprooted, dismantled, and transplanted "to the vacant lots of another half-city" (63). In a boldly defamiliarizing twist, Calvino betrays his readers' expectations to make

Figure 4.21 Guy Rottier, *Maison pour Arman a Vence* (*House for Arman in Vence*), 1968. In Michel Ragon, *Histoire mondiale de l'architecture et de l'urbanisme modernes*. Courtesy of Éditeur Casterman.

them ponder the possibility of mobility: "and so every year the day comes when the workmen remove the marble pediments, lower the stone walls, the cement pylons, take down the Ministry, the monument, the docks, the petroleum refinery, the hospital, load them on trailers, to follow from stand to stand their annual itinerary" (63). The presumably lighter half-city, on the other hand, stays and waits for the return of the caravan "and a complete life can begin again" (63).

The most renowned and influential architect of mobility was Friedman, author of one of the foundational texts of the movement, *L'architecture mobile* (1958), parts of which appeared in the 1965 *Les visionnaires de l'architecture* (see Lebesque and Fentener van Vlissingen 21–23). *L'architecture mobile* situated visionary architecture squarely within the discourse of social utopia as Friedman advocated for a sustained program of routine urban renewal at regular intervals that would engage not only architecture but the entire range of political and social institutions and all forms of social and emotional life.[44] Friedman's program of ritual mobility was in harmony with Calvino's social utopian call for regular renewal-by-replacement of political elites (literally, chopping off their heads), in "La decapitazione dei capi" ("Beheading the Heads)," the essay on which he was working during the gestation of *Invisible Cities*. To the question, "how to build a city that can adapt itself to the unknown demands of the near-future?" Friedman responded that "the only rational solution shall consist in rebuilding cities every five years" (qtd. in Ragon, *Les cités* 167). Analogously, Calvino enacts the guiding principle of architectural mobility—specifically, ritual mobility—in his novel. The material city Ersilia is routinely dismantled and moved, while as mentioned above the trace of the emotional relationships that connected the inhabitants remain: in the void space of the territory of Ersilia, a thin city, the traveler finds only "spider-webs of intricate relationships seeking a form" (76).[45] In addition, in Calvino's city of Eutropia, Friedman's thesis is translated in a parodic key:

> On the day when Eutropia's inhabitants feel the grip of weariness and no one can bear any longer his job, his relatives, his house and his life, debts, the people he must greet or who greet him, then the whole citizenry decides to move to the next city, which is there waiting for them, empty and good as new; there each will take up a new job, a different wife, will see another landscape on opening his window, and will spend his time with different pastimes, friends, gossip. So their life is renewed from move to move. . . . Since their society is ordered without great distinctions of wealth or authority, the passage from one function to another takes place almost without jolts; variety is guaranteed by the multiple assignments, so that in the span of a lifetime a man rarely returns to a job that has already been his.[46] (64)

Friedman's foundational study had connected mobility with lightness and the combinatory process. It was a question of conceiving cities adaptable to future needs and desires, of designing city plans open to change.[47] Still, the future was impossible to predict with absolute precision, and it was therefore impossible to come up with urban designs that would address all the needs and desires of future inhabitants. Confronting this very question, Friedman and his colleagues from the GEAM came to the conclusion that the least they could do was not burden the city with "dead weight" (Ragon, *Les cités* 166) destined to last forever, for it was *masse inerte* that had petrified the modern city and ineluctably hindered its mobility. The GEAM therefore concentrated its efforts on structural designs that were easy to disassemble, move, and reassemble for use in other combinatory structures; structural designs comprised of minimal parts that were durable and reusable in new combinations, like atoms in Lucretian physics. Their architectural logic was founded on the conviction that the highly vaunted statistical data of the era could not identify with absolute certainty the shapes of tomorrow. Hence, they needed to leave room for the unforeseen by making the possibility of change and renewal a programmatic element in urban planning and design.[48] As Friedman said in an interview in 2001, his awareness of the inability to predict how a city would develop over time led to his study of unpredictability and erraticism, principles that he found in mathematics and physics (Schaik 30).

In Italy, the impact of Friedman's mobility credo is legible in numerous studies, perhaps mediated by Ragon's interpretations and representations of the same. Simoncini, for instance, considered mobility to be one of the elements most relevant to future society. He was convinced that Europeans were destined to follow the cultural paradigm already manifest in the United States, which was marked by physical and social mobility, and that the notion of mobility had to be considered a fundamental characteristic of society in all its aspects.[49] Simoncini affirmed that the future city must express values different from those of the present, in view of the unforeseeable nature of human society:

> The problem of the future city is not, therefore, about building it this way or that way so that it can respond to predetermined developments, but, rather, about building it in a way that it can respond to every possible form of development, given that the latter is not foreseeable. Consequently, its principal characteristic should be elasticity, and this is achievable if the future city is conceived not as a form to be completed once and for all, but, instead, as a form capable of being modified according to the times and in relationship to the variation in environmental conditions. (16)

Calvino's catalog of formal utopias, or forms *in potentia*, is elaborated on the basis of a given restraint with respect to the guiding principles of

lightness and motion, whose interplay inevitably led visionary architecture's logical and figurative invention process (*inventio*) to answer to the combinatory process of composition and decomposition. This principle of Lucretian physics constitutes the creative formula of Calvino's urban "projections of desire" and illuminates a key trope in the novel. Polo studiously arranges, on the black and white tiles of the majolica floor, "the samples of the wares he had brought back from his journeys to the ends of the empire" (*Invisible Cities* 121). Kublai Khan, "a keen chess player," learns the rules by which Polo communicates through the arrangement of the objects, and he invites the Venetian to describe the cities he has visited with the help only of chess pieces on a chessboard. Thus Polo forms "essential landscapes" (122), assembling the ivory pieces into different combinations that suggest an array of visions. "By disembodying his conquests to reduce them to the essential" (123), however, the emperor arrives at the extreme—a void, the loss of the game's sense—and seized by imaginative entropy, he reduces the empire "to a square of planed wood" (131). The visionary traveler Polo nonetheless continues to guide Khan's observations about knowledge, reading the details, down to the smallest. Polo's imaginative powers, especially his ability to extract images from the signs and inject them into Khan's keen mind, contribute greatly to the emperor's knowledge: "the quantity of things that could be read in a little piece of smooth and empty wood overwhelmed Kublai; Polo was already talking about ebony forests, about rafts laden with logs that come down the rivers, of docks, of women at the windows . . . " (132).

It is widely accepted that the chessboard, "as the great metaphor (of Saussurian provenance) for the text" (Zancan 913), is the organizing icon of Calvino's combinatory poetics in *Invisible Cities*, with the metaliterary discourse being structured around Polo's and Khan's respective moves in their game of chess. This trope appears to have been studied exhaustively by scholars of Calvino's most enduring and debated novel,[50] yet one aspect remains unexplored, like the proverbial stone unturned: Polo and Khan's chessboard had a referent outside of the novel. I refer to the relevance of the chessboard design, or geometric grid, to urban planning and design in the '60s and '70s, principally as a means to rationalize territory and as a parodying structural element crucial to radical architecture's counterutopias. The geometric grid was the form of Archizoom's menacing *No-Stop City* from 1969, as was seen earlier (ch. 2). However, Superstudio's project *Vita Educazione Cerimonia Amore Morte* (*Life Education Ceremony Love Death*) from 1971–73 extended the urban grid to swallow the entire surface of the Earth. They thereby created a void landscape of absence, an infinite sheet of graph paper on which there were leftover objects that nomads take with them like scattered chessboard pieces (Altarelli).

Like Superstudio wrote in its 1969 comic-strip manifesto, "envisaging the progressive impoverishment of the earth and the now nearby prospect of 'standing-room only' (129), Calvino's cities of Laudomia and Procopia are

threatened by ultimate saturation and densification. In Procopia, the traveler is sharing a room with twenty-five other people, "all very polite people, luckily" (147). Several other grid-pattern cities in the novel have no defined center or periphery, which renders them continuous like Tschumi's *Joyce's Garden* from 1977: "architectural soup!" one architectural historian calls them (Rouillard, "'Radical' Architecture" 131). Trude, for instance, extends so far and wide that it becomes coextensive with the whole world, like *No-Stop City*. Penthesilea's outskirts slosh for miles ad infinitum, like soup on the plain, to use the Calvinian image. Cecilia "is everywhere" (153). Like radical architects, Calvino pushed to an extreme certain aspects already manifest in the cities of his present.[51]

Beyond these two contexts, there is another to be explored here: the chessboard as an instrument of lightness, mobility, and combinatory for the visionary architects of the spatial city. All of the urban design projects created by the spatial architects had a common denominator: they originate in a structure flexible to change, then unfold into space through a series of easy-to-assemble modular and identical units that ensure optimal expandability and combinability. It was a source of potentially limitless combinations, in terms of both design—through varying arrangements of the building blocks that structure the grid—and the occupation of the grid's spaces by the various buildings of the city. As Giordani acutely observed

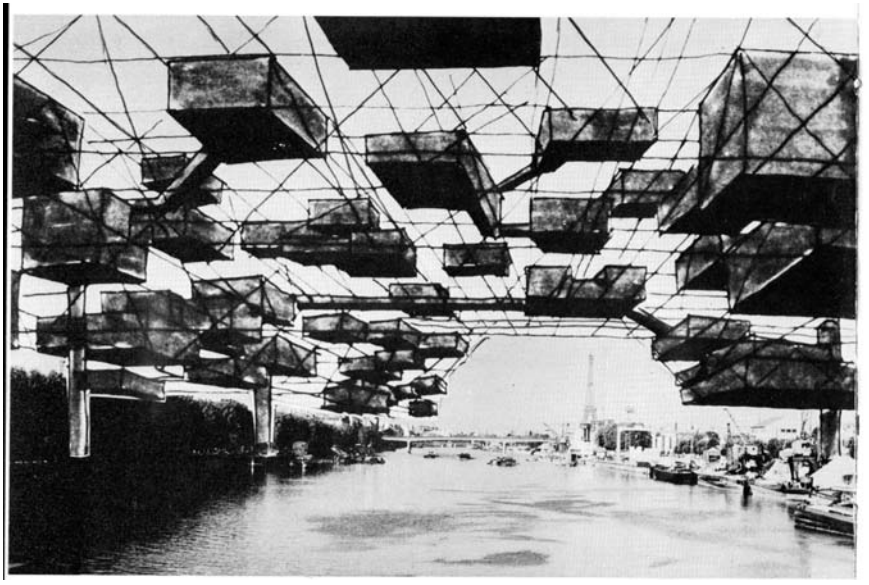

Figure 4.22 Yona Friedman, *Structure spatiale au-dessus du vieux Paris* (*A Spatial Structure on Top of Old Paris*). A spatial city with chessboard grid. In Michel Ragon, *Histoire mondiale de l'architecture e de l'urbanisme modernes*. Courtesy of Éditeur Casterman.

in 1969, "the groupings participate in structuralist poetics by positing new relationships within the language of architecture and urbanism, experimentations aiming for an 'open form' toward 'new systems'" (87). Doubtless lightness is essential to this combinatorial dynamic. However, just as in atomistic physics, it is the presence of empty spaces (voids) within the system that guarantees formal flexibility, namely, a variety of settings or positions to ensure optimal illumination and warming of the surfaces.

Thus, a further parallel exists between visionary architecture and *Invisible Cities* that is based on the appreciation of lightness, motion, and void, not exclusively as sources of visual or conceptual stimuli, or training in image making (as has been seen thus far), but also as the foundations of the combinatorial essence of the city in visionary architecture and in the novel. In Calvino's novel, this combinatorial essence impinges on both the form of the novel and the form of the cities, as well as being the object of self-referential commentary in the dialogues between visionary traveler Polo and emperor Khan. Both visionary urbanists and Calvino resorted to the metaphor of the chessboard in the late '60s and early '70s, and it is essential to remember that the semiotic model of the chessboard represents a scheme of alternating void and full, according on the design of the board and the interplay of a limited number of signs. Such interplay allows for a combinatory dynamic that continuously generates new forms.[52]

To meet the challenges of demographic growth and chaotic asphyxiation on the ground, mobile architecture's most famous exponent Friedman proposed freeing up space on the ground by constructing an aerial Paris that would house three million Parisians and tower over the old city (Fig. 4.22).[53] His spatial urbanistic system made of metal cages arranged in a tridimensional grid structure, valued the void and motion as much as Lucretius's atomistic universe had centuries before the French school of visionary architecture:

> Within its spatial structure the vacant spaces [half of its space] in the three-dimensional grid are meant not only to let the sun in but also to ensure the mobility of the habitat. The city is thus a vast *chessboard* that always contains the same number of vacant houses, but these houses, whether empty or full, are not always the same: these inhabitable cells are rearranged and subdivided according to the needs of their inhabitants. (Ragon, *Les cités* 169 [my emphasis])

The chessboard trope derives from the three-dimensional grid structure: on it, the architect and the city planner can play different games by arranging the modular units into different configurations (Ragon, *La cité* 98). Already in *L'architecture mobile* Friedman had outlined the principles of "flexible spatial arrangements within an empty skeleton and minimum impact at ground level" (Lebesque and Fentener van Vlissingen 29). These principles informed Friedman's 1958 design project *La Ville Spatiale*, which consisted

of a space-frame grid ten meters above ground level, supported by columns—a *structure serving the unpredictable*, as in Lebesque and Fentener van Vlissingen's title. Such an infrastructure was "the *fixed* part of the city" for Friedman, whereas "the *mobile* part consist[ed] of the walls, floors, and partitions . . . , [which] allow[ed] the individual occupant to determine his own spatial layout, the 'filling-in' of the infrastructure" (Lebesque and Fentener van Vlissingen 29–30).[54] The infrastructure was, in Friedman's vision, "the bearer of countless, individual, heterogeneous messages, changeable or definitive" (Lebesque and Fentener van Vlissingen 110).

The open form or work of the spatial city is reflected in the open form or work of *Invisible Cities*, whose routes to multiple readings (beyond the interpretative plasticity of the urban icons themselves) facilitate the Lucretian approach to the novel explained earlier (ch. 3) (Fig. 4.23). Similar to Calvino's novel of combinatory urban icons, the *Ville Spatiale* "is like a blank page on which an œuvre can be drawn"; it serves as a living work of art (Lebesque and Fentener van Vlissingen 110). As for Calvino's novel, its Lucretian lightness allows (to borrow Giordani's 1969 characterization of the formal utopia of visionary urbanists) "a never-before-seen version of utopia: that of social engagement, host to 'infinite possibilities,' the seat of a society of monads . . . , an 'open' city in which modification over time and mobility over space are both possible. . . . A de-ideologized urbanism" (97).

Figure 4.23 Moshe Safdie, *Habitat 67* (*Habitat '67*). Individual cells or units assembled into a residential community for the 1967 Expo in Montreal. In Michel Ragon, *La cité de l'an 2000*. Courtesy of Éditeur Casterman.

For an ontological novel like *Invisible Cities*, which frames its author's ambition to (re)order and (re)imagine the object world, reflecting "on the invisible order that rules the city," Calvino's choice of the chessboard combined urban and philosophical concerns. Just before he began mapping out the novel in 1968, he characterized the perspective that philosophers adopted toward reality as a "spider-web of relations" that they established "between general concepts." These relationships, he wrote in "Filosofia e letteratura" ("Philosophy and Literature" [1967]), were drawn by "moving a finite number of pieces on a chessboard which offers an almost infinite number of combinations" ("Filosofia e letteratura" 188; Battistini, "Le città visibili e invisibili" 32–33). The chessboard trope, moreover, not only illustrates the structural combinatory of *Invisible Cities* but also permeates the work at the level of description. The city of Eutropia, for example, becomes a verbal representation of a spatial grid à la Friedman. Eutropia finds in its own repetition its shape and reason for being: it is made of many cities, "of equal size and not unlike one another, scattered over a vast, rolling plateau. Eutropia is not one, but all these cities together; only one is inhabited at a time, the others are empty; and this process is carried out in rotation" (64). Perhaps conveying Serres' warning that identity or sameness meant death, the description insinuates discontinuity through slight variations: "thus the city repeats its life, identical, shifting up and down on its empty chessboard. The inhabitants repeat the same scenes, with the actors changed; they repeat the same

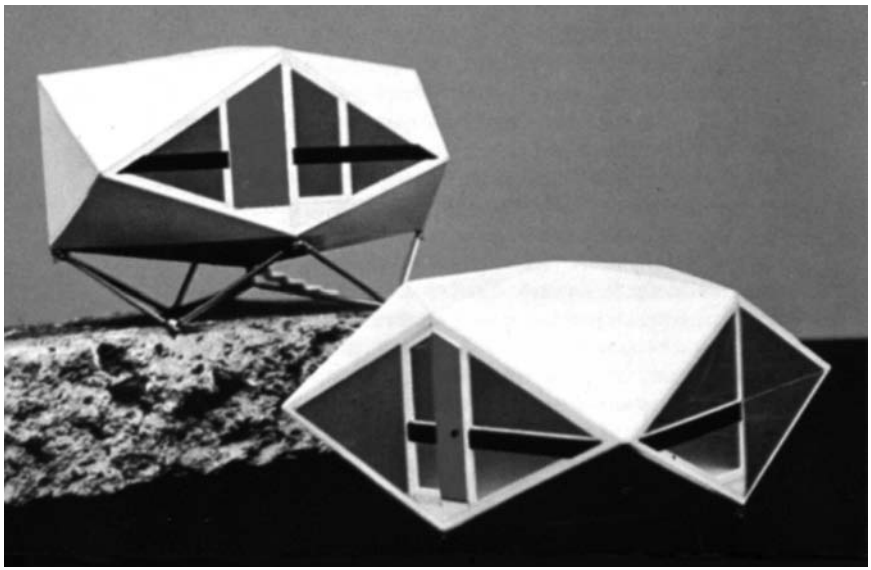

Figure 4.24 Paul Maymont, *Cellules juxtaposables et superposables* (*Juxtaposable and Stackable Cells*). Portable, assemblable-disassemblable dwellings. In Michel Ragon, *La cité de l'an 2000*. Courtesy of Éditeur Casterman.

speeches with variously combined accents; they open alternate mouths in identical yawns" (64–65). The same mechanism is visible in several other cities, including Zenobia, Cloe, Clarice, and Melania, whose origins in the *ars combinatoria* are underscored by Polo. There are continual changes in the form of these cities: groupings of minimal elements come together and then apart, and signifying chess pieces are portable, invertible, and so on.

The inspirations of atomistic physics converged, in those years of urban crisis, with the design philosophies of visionary architecture.[55] Lucretian lightness and the spatial grid were the keys to many visionary projects, such as the vacation structure envisioned by Maymont. This polyhedron, sustained by columns or hanging from a tripod, was designed to be combined with other polyhedron cells (above, underneath, on the sides) in order to offer multiple arrangement options (Fig. 4.24). Ragon described it as an inexpensive vacation home that allowed for "all sorts of combinations," and he sensed the generative power of these structures that would be capable of creating, as in Calvino's novel, "cities in forms that never look alike" (*Les cités* 202) based on a combinatorial process of themes and variations.

Some Italian urbanists were associating the call for social mobility as expressed in the French *coté* of visionary architecture with the analogous demand for mobility implicit in Marxist thinking. Broadly conceived as both sociocultural and institutional, mobility was advocated by all those who opposed petrification, or the "crystallizations of power" (Simoncini 62–63). The aspiration for movement as an antidote to social and political petrification links Friedman's instantiations of mobility (and others by Italian urbanists) to Calvino's, as expressed in "Decapitazione dei capi," on the basis of their shared faith in mobility as an instrument of social utopia. This apparently speculative parallel was made explicit in a passage that Simoncini reproduced from a 1969 article in the left-wing *Il Manifesto*, in which he identified the central problem of "guaranteeing the complete mobility of society and of power" over and against political and cultural retrenchment or immobility.[56] To the question of *how* to achieve this, Calvino would respond with his provocative hypothesis as set down in the title of "Beheading the Heads." Likewise, Simoncini longed for social reform that would immediately reform the urban mode of human settlement, postulating a "certain sharing of goals": specifically, "the striving for maximum mobility—whether physical (of persons or things) or social and institutional—as it was present in select spheres of the Western and socialist world" (63).

ARS COMBINATORIA AND UTOPIA: IMAGINING ARCHITECTURES OF LIGHTNESS

Perfectly analogous to visionary architecture, Lucretian lightness is the catalyst of the generation of new forms in Melotti's sculptures. Indeed, the binary

opposition characteristic of visionary architecture and of a genre of Melotti's sculpture including his *Canoni*, *Contrappunti*, and *Temi con variazioni* was a paramount inspiration, visually and conceptually, for Calvino's *Invisible Cities*.[57] The abstract, scientific, formal, and controlled scheme provoked (and liberated) the figurative and novelistic dream world that transcended the former (Carandente 14). This bipolarity, which abounds throughout Calvino's fiction, has even been integrated into the title of a Melotti exhibit catalogue: *Rigor and Rationality: Poetry and Playfulness*.[58] Calvino and Melotti were balanced precariously between two poles. On one hand there was an abstract scheme that appealed to the intellect, or as Calvino describes it, a "mental space of bodiless rationality, where one may trace lines that converge, projections, abstract forms, vectors of force" (*Six Memos* 74). On the other, there was the figurative space, the "space crammed with objects" (74). In Melotti's sculptures of this genre, the figurative translates into a multiplicity of signs stripped of their material substance and reduced to essential forms, like a skeleton of the geometry of the real—circle, arrow, triangle, spiral, square, oval, star—from which are composed combinatory sequences that play on the slightest of variations. Analogously, Calvino gives visual evidence to the concepts of textual and real worlds as *ars combinatoria* of minute elements "to seek and recognize" to interpret the world, or de/re/construct it, for "knowledge of the world means dissolving the solidity of the world," and it leads, like in Lucretius's *De rerum natura*, toward a perception of "all that is infinitely minute, light and mobile" (*Six Memo*s 8).

While Calvino organizes the serial-mathematic order of the text around the alternation of themes and variations,[59] he also builds the images of the cities by repeating and varying conceptual and visual motifs, allowing Lucretian lightness to penetrate all levels of the work. When we approach

Figure 4.25 Fausto Melotti, *Canone variato I* (*Varied Canon 1*), 1967. Courtesy of Archivio Fausto Melotti.

this conceptualization of reality/text of the world as a combinatory mental process entailing the minimal segments that comprise the former's alphabet, it is important to remember that Galileo himself in his 1623 *Saggiatore* (*The Assayer*; one of Calvino's most treasured books) found in the mathematical alphabet of Nature precisely triangles, circles, and other geometrical figures: instruments for the abstract conceptualization necessary to interpret the world (see Asor Rosa, *Galilei*). Thus, Calvino's novel is highly structured around a varying combination of "alphabetical" motifs, as is seen in the microcombinatory of many urban nuclei. In Chloe, for example, the phenomenon of repetition cum variation draws heavily from Melotti's warehouse of emblems, the essential geometrical forms mentioned earlier (Fig. 4.25). Something runs among the inhabitants, "an exchange of glances like lines that connect one figure with another and draw arrows, stars, triangles, until all combinations are used up in a moment" (51). The city is itself a catalogue of moving human forms: "a girl comes along . . . , a woman in black comes along . . . , a tattooed giant comes along . . . , a young man with white hair; a female dwarf, two girls, twins . . . , a blind man . . . " (51). Like atoms in motion through space, "a thousand things" (51) *in potentia* wait around the corner at each meeting of these people, and the narrator begins a catalogue of possible human trades (Chloe belongs to the urban subtype *trading cities*): "meetings, conversations, surprises, caresses, bites . . . , seductions, copulations, orgies" (51).

The city of Zenobia always returns to memory: "a Zenobia perhaps quite different, a-flutter with banners and ribbons, but always derived by combining elements of that first model" (35). In Melotti's *Canoni, Contrappunti,* and *Temi e Variazioni*, as in several spatial cities of formal visionary architecture, images are repeated with variations by playing off the contrast full versus empty, or inverting their orientation, or experimenting with variations based on a few elementary geometrical forms. In Calvino's city of Chloe, characters are variations of other characters who appear in the city of Zirma. There a blind man, a girl walking with a puma on a leash, and a "fat woman" (19) seized by sultriness who fans herself; here the puma becomes a leopard and is accompanied by the blind man; the fat woman is repeated, but now the ostrich-plume fan is in the hands of an overheated courtesan.[60] Repetition with variation, inversions, and binary oppositions characterize many more urban icons in the 1972 fiction: there are mirror-image cities like Perinthia and Andria, both built to reflect the harmony of the firmament, but with antipodal results; or the city of Moriana on the back and front of a sheet of paper.

This iconic continuum linking the cities in the novel places in relief the common substance at the basis of all existing things: the "attributes and forms that define the variety of things," Calvino writes, in an implicit reference to Lucretius and Ovid, "are only the outward appearances of a single common substance that . . . may be changed into what most differs from it" (*Six Memos* 9). Polo's trained imagination (or "educated vision," to borrow

Kepes's formulation), while fostering awareness of the transmutability of things, is also charged with transformative powers: his images train Khan (and Calvino's readers) to envision the city as *fabbrica*, or open text—to absolutely refuse the premise that a city's present is necessary and incontrovertible. In Fedora, as was seen earlier, the variety of the possible can be seen by all: the museum of the city is a metal building containing a crystal globe in every room, and in every globe "you see a blue city, the model of a different Fedora . . . , the forms the city could have taken" (32), models of the many ideal cities conceived over time (see fig. 4.1, Melotti, *Scultura 21*, 1935–68). In a meta-fictional and meta-architectural sense, Fedora illustrates the value of all of the urban icons to Khan, and of *Invisible Cities* to readers: the inhabitants of Fedora visit the museum of model cities and as spectators or readers they project their desires onto their most meaningful design models through an act of the imagination (32), imagining what sensorial experience they would have felt had they inhabited one of those ideal cities. Not by chance does the visionary traveler and narrator Polo interrupt his description of Fedora to underscore, with an unusually didactic flourish: "on the map of your empire, O Great Khan, there must be room for the big, stone Fedora and the little Fedoras in the glass globes. Not because they are all equally real, but because *all are only assumptions*" (33 [my emphasis]). This is the only instance in the novel in which Polo addresses the emperor in the midst of a description. This *unicum* confers particular relevance to the idea that the object world itself is merely an assumption, and nothing in the political or social order is a historical necessity.

The Lucretian modality of lightness in which Polo trains Khan has not escaped the notice of one of the novel's most faithful and perspicacious readers, Umberto Eco:

> The presence of possible Fedoras that may never exist as such allows us to think that the Fedora of the present is perhaps not so necessary and may therefore be changed. We are not taken back in time to change the possibility that materialized. Rather, by contemplating the counterfactual in which its opposite materializes, by leaping backwards playfully,

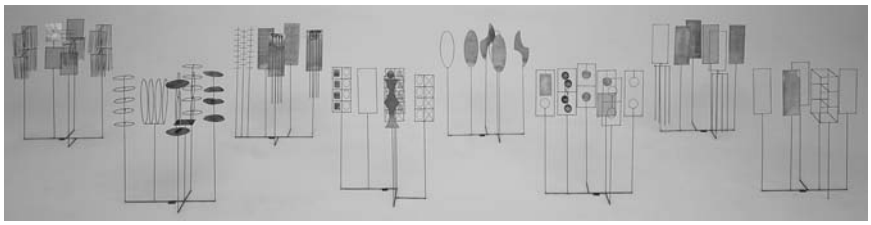

Figure 4.26 Fausto Melotti, *Tema e variazioni* (*Theme and Variations*), 1968. Courtesy of Archivio Fausto Melotti.

> we dash forward for real, in search of a third possibility not yet given, but whose possibility has been revealed through the game of nostalgic combinatory of the possibles. (Eco, "La combinatoria" 210)

Matter continuously shifts from one form into another in the novel, as if it constituted the Saussurian minimal parts of an urban language or Lucretius's alphabet of atoms. Clarice and Melania are perhaps the cities that best exemplify transformation and aggregation. Through them the structural motif that informs the entire novel becomes explicit in a figurative motif. Like Melotti's *Tema e variazioni* (*Theme and Variations* [1968]) (Figs. 4.26 and 4.27), a sculpture made of small mobile pieces that would be arranged in a different combination at each new exhibit, and like Friedman's and Maymont's urban design projects, Calvino's Clarice is formed by "a given number of objects . . . shifted within a given space" (108), and with the objects the rule is "to shuffle them each time, then try to assemble them" (108). In Melania, also, among the participants in an uninterrupted social dialogue "there is a series of changes, until all the roles have been reassigned" (80). And the aforementioned Eutropia is many cities *in potentia* that take turns existing: the inhabitants switch from square to square of their chessboard city, abandoning one role and taking it on again in the next city.

These manifestations of Lucretian lightness are ethically charged, for Calvino hoped to train his readers to imagine alternatives—to take apart images and combine or rearrange elements to form new images, political and social alternatives, an elsewhere or otherwise outside of the novel. The icons of urban landscapes, formed from time to time from minute substances clumped together in diverse combinations, spur the readers' fantasy to imagine alternatives to heaviness, thereby triggering the composition-decomposition mechanism that is at the base of the formation of the new, as was seen

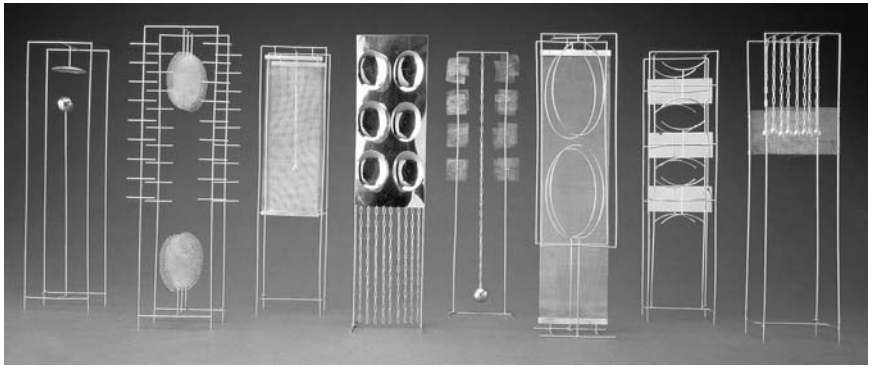

Figure 4.27 Fausto Melotti, *Tema e variazioni II* (*Theme and Variations II*), 1969. Courtesy of Archivio Fausto Melotti.

in Lucretius's atoms as well as his concept of simulacra. It is evident that Calvino saw in Melotti's *Tema e variazioni* what he identified as the three common denominators in Lucretius's *De rerum natura* and Ovid's *Metamorphoses*: first, "everything can be transformed into something else"; second, knowledge of the world means a breaking down of its compactness; and third, "there is an essential parity between everything that exists, as opposed to any sort of hierarchy of powers or values" (*Six Memos* 9).

That transformational and combinatorial approach to reality, which Calvino believed characterized Melotti's thin sculptures and *Tema e Variazioni* pieces from the late '60s, greatly shapes the contribution that his fiction makes to discussions in architecture and urban planning and design. The ever-perspicacious Kublai Khan observes (perhaps with a wink from Calvino) that the different cities in Marco Polo's tale nonetheless resemble each other: "as if the passage from one to another involved not a journey but a change of elements" (*Invisible Cities* 43). As the beneficiary of Polo's storytelling, Kublai Khan stands in for the readers of fictional literature; he does what Calvino wished his own readers would do: because "everything

Figure 4.28 Walter Jonas, *Intrapolis*, 1970, a funnel city. Courtesy of Walter and R. M. Jonas Foundation.

can be transformed into something else," the emperor imagines alternative cities or object worlds. Accordingly, he tries out his own combinatory logic, taking apart Marco Polo's cities piece by piece and rebuilding them in different ways: "substituting components, shifting them, inverting them" (43).[61] The source of ascending lightness or, conversely, of Lucretian lightness, Melotti's oeuvre in Calvino's quasi ekphrasis allows the narrator to elaborate socially useful instruments for refining the imaginative faculty of the novel's readers. The latter, the novelist supposed, would become trained through the reading of the novel to create their own logico-fantastic instruments to counteract the *heaviness* of their material reality and the ensuing paralysis of their imagination (Paulicelli, *Parola* 138).

Likewise, the *mode utopique* of visionary architects and urban planners and designers was for Calvino an especially rich source of never-before-seen designs in the years leading up to *Invisible Cities*. Those design projects amounted to a veritable overturning of the paradigms of classical urbanism. Verticality and lightness, on which projects of spatial urbanism were based, boldly transformed the classical concept of the human habitat. In some instances, the rupture with the latter was achieved by making spatial structures resemble organic structures, as was the case of Chanéac's studies and his "organic spatial structures" made of tubes connected to spheres (Ragon, *Les cités* 145). Their resemblance to the period's model of

Figure 4.29 Walter Jonas, *Intrapolis*, 1966, a valley of funnels hosting housing. Courtesy of Walter and R. M. Jonas Foundation.

the atom is unmistakable, as is its affinities with Calvino's Fedora. In other instances, the visionaries turned traditional urbanism inside out, as is seen in the German-Swiss Jonas's *Intrapolis*, an urban conglomeration of funnels or cones resting on their points whose inhabitants live on the inside and which open to a central patio (Figs. 4.28 and 4.29).

The paradigms of classical urbanism are also inverted in *Invisible Cities*, and such iconic reversals were derived from visionary architecture (ephemeral or weightless designs, etc.) and radical architecture. Phyrrha, "enclosed like a goblet, with a central square deep as a well, with a well in the center" (92), immediately conjures the funnel structure of Jonas's *Intrapolis*. Similarly, the visionary traveller and storyteller Polo is matter-of-factly aware that he must not go down to the harbor, in order to leave the city of Hypathia, "but climb the citadel's highest pinnacle and wait for a ship to go by up there" (48), which visually intimates that Hypathia is built like the crater cities (perhaps one of Chanéac's *villes cratères*). Moreover, Hypathia is the city of the "new language" by antonomasia—that language regarding "not words, but things" (47) that Choay had unequivocally demanded of urban planners and designers. Significantly, it is through Hypathia that Calvino explicitly mentions the need to develop a new imagination in order to meet the challenges of urban living in his age. To understand the fictional Hypathia is to first train your imagination to "see," or visualize, it. Polo explains: "I had to free myself from the images which in the past had announced to me the things I sought: only then would I succeed in understanding the language of Hypathia" (48) because "signs form a language, but not the one you think you know" (48). Calvino's novel betrays the expectations of its readers with instantiations of Lucretian *clinamen* such as these, which train the imagination of readers to conjure up on the mental, or invisible, screen of their imagination the city of Octavia, for example, which hangs upside down from a web, rather than sitting straight up on the ground.

Throughout this study I have framed *Invisible Cities* as a literary contribution to the popular and professional dialogues about the past, present, and future of the city in an age of urban crisis; a contribution that leans heavily on the design philosophies and projects of the visionary architects. Notwithstanding the novel's now-legendary status among academics and the public at large, the futuristic cities imagined by the visionaries provoked skepticism and ridicule from both traditional and progressive schools of urban planning and design in the '60s. Even so, some reviewers recognized the practical applications of the visionaries' design projects. Simoncini, participating in a fractious 1968 conference on the future of the city in Rome, threw his support behind the spatial vertical city, persuaded by Soleri's twin justifications: "to abandon the idea of the city as a plane and to conquer the third dimension" (Simoncini 45). In the section of Simoncini's study titled "Spatial City and Utopia," he underscored the visual impact of the spatial city which was a "stimulus for the invention of a new

figurative language" (47). The year before, renowned architect Ludovico Quaroni had defended the French visionaries on similar grounds in his 1967 *La torre di Babele* (*The Tower of Babel*):

> I believe firmly in the *creative value of utopia*—of an imaginary reality, that is—which is apparently not only distant from actual facts but flat-out undoable, and which can, nonetheless, and precisely because it is the illegitimate off-spring of imagination and experience, hold the seeds for revitalizing a process like urban planning that has lost its capacity for energetic response. (Quaroni qtd. in Simoncini 47)[62]

Seeing *Invisible Cities*, then, means to grasp Calvino's belief in *mode utopique*, in its capacity to spur the invention of a new figurative language and forms *in potentia* of the future city and society. Utopia intersects with the architecture of lightness to form the very heart of his 1972 work, and by writing it Calvino meant to teach us how to see invisible cities—how to imagine, even in an unlivable present, what our cities and our world can become.

Epilogue

Decades ago Calvino observed that he was embraced in the U.S. because of *Invisible Cities*, "a book that is apparently loved by poets, architects and in general by young students" (*Hermit in Paris* 232). Since that time the work's popularity has only increased, and its readership often takes to the Internet to express their devotion in various forms. Also, the concerns and contestations of the era in which he wrote it continue to reverberate in print and electronically across numerous disciplines and professions. To conclude this study I wish to suggest some areas in which the influence of *Invisible Cities* and its sociohistorical referents is still manifest and could be profitably investigated, and others specific to Calvino's works that remain understudied or unexplored altogether.

First and foremost, Calvino's novel, along with the utopian thinkers and architects who inspired it, are consistently integrated into programs in art and architectural studies and urban studies that are rediscovering how relevant utopia, the education of vision, and the training of the imagination are to their disciplines and professions. In architecture and design theory, for instance, Ricardo Castro at McGill University asks students in his class to design 3-D models of the urban icons in Calvino's 1972 fiction. At the Solent Centre for Architecture and Design in the United Kingdom, Calvino's work is used in numerous ways. In Blizard's *Architecture Land Culture Practice*, designed for his course "Architecture and Culture" at the University of Texas at San Antonio, there are numerous references to *Invisible Cities*. The Institute for Architecture and Urban Studies in New York lists the book among its suggested readings. At Florida International University, Gray Read's course "Advanced Design Theories 2009: The City" included selections from Calvino's novel. The University of Liverpool's School of Architecture lists it in its "Urban Studies" course, as does Oregon's Reed College in its course "Architecture and Memory."

The novel's ubiquitousness has compelled Alberto Ferlenga to write wearily that *Invisible Cities* is "cited to the point of nausea, raided for its names and its metaphors" (144). In Milan, faculty in architectural and urban design contributed an exhibition curated by Gianni Canova entitled "Le città In/visibili (In/Visible Cities)" to the Triennale (5 November 2002 to

9 March 2003; Barenghi, Canova, and Falcetto, *La visione dell'invisibile*). Music, film, sculpture, graphic design, comics, and other arts came together to interpret and underscore the uniqueness of Calvino's imaginary urbs. In Menorca, Spain, architect Fernando Pons Vidal and Italian designer Chiara Fabiani collaborated on a boutique hotel in Ciutadella that was inspired by eight of Calvino's urban icons. In Pescara, Italy, Colleen Corradi Brannigan, Raffaele Gigante, and Paolo Cospito displayed stunning drawings, oil paintings, carvings, prints, photographs, and ceramics in their June 2009 exhibit "Le città invisibili tra sogno e realtà." In New York City, the Aicon Gallery sponsored a multimedia exhibit entitled "Invisible Cities" in which sculptors, digital artists, and painters were instructed to "substitut[e] India for Calvino's Venice." In London, artists Katie Pratt and Roger Kelly curated the February 2009 exhibition of paintings entitled "Invisible Cities." They chose Calvino's novel "because it addresses the dilemmas of visual invention and illusion," and the participating artists because of "their diverse strategies of stating the imaginary in terms of location" (Pratt and Kelly). Scholars in cultural studies, architecture, urban studies and planning, and art history, as well as artists, architects, and urbanists should one day join together in a lively and sustained conversation about the practical applications of Calvino's 1972 fiction, *Six Memos*, and his other works, as well as their pedagogical relevance in this digital millennium.

Such an interdisciplinary exchange could also help each of us to sharpen our individual and collective imaginative faculty at a moment when academics and practicing architects and urbanists are engaged in the critical and practical rediscovery of utopia. In Istanbul, Akin Sevinç insists on the relevance of *mode utopique* at the earliest stages of architectural training ("Sketching Lessons from Utopia"), explicitly drawing sustenance from the writers, artists, philosophers, and urbanists invoked in this book. The Greek architect Elia Zenghelis has defended the centrality of the imagination arguing that it is "the ability of coming to terms with the conflict that arises in our order of existence, when the latency of a 'future form' is perceived out of our world of references and requires a technique to materialize it: the discourse that will give form to the conjectures of our psychology" (255). He goes on to explain that the imagination "can be practiced and sharpened through learning to 're-present' and re-constitute reality—as practice" (255). In architecture and urban planning and studies, numerous works published in the last decade have vindicated utopian thinking. Ruth Eaton's *Ideal Cities: Utopianism and the (Un)Built Environment* is an excellent example of this trend. John Friedmann too has argued that planners should be educated to imagine constructive visions of the future through an engagement in utopian thinking (103). Jane Alison, Marie-Ange Brayer, Frédéric Migayrou, and Neil Spiller have edited an entire volume of essays devoted to the topic (see *Future City: Experiment and Utopia in Architecture*). In 2005 Martin van Schaik and Otakar Máčel edited a survey of radical architecture that has been mentioned numerous times in this

study, *Exit Utopia: Architectural Provocations, 1956–76*. Also mentioned earlier was an exhibit and symposium in Berlin entitled "Megastructure Reloaded" (2008), part of a series of projects and activities called "Utopia Revisited." As I write, Reinhold Martin's *Utopia's Ghost: Architecture and Postmodernism, Again* has just been published.

Learning to see anew, as Kepes and Frye understood vision, the imagination, and cognition, is also a core theme of several recent studies in other fields, including Raffaella Baccolini and Tom Moylan's recent collection of essays, *Utopia Method of Vision: The Use Value of Social Dreaming*. "Utopias can help us to think about the world in different ways," Sargisson insists, "to break old patterns and paradigms of thought and approach it anew. By showcasing new ways of being, they can inspire or catalyze change" (qtd. in Baccolini and Moylan, "Conclusion: Utopia as Vision" 323). Kenneth M. Roemer's *Utopian Audiences: How Readers Locate Nowhere* addresses the relationships between utopian literature and its readership. Robert Scholes, for his part, has asserted that fiction "must provide us with an imaginative experience which is necessary to our imaginative well being. . . . We need all the imagination we have, and we need it exercised and in good condition" (Scholes qtd. in Coover 77). Here it is worth asking: what can contemporary Italian fiction in particular and contemporary fiction in general contribute to architecture and urban planning studies? What materials are available to renew our perception of and enhance our individual and collective relationships to the twenty-first century city? What might further the intersections of writing, drawing, and architecture in our era, as Andrea Ponsi attempts to do with his heuristic itineraries through Florence (*Firenze: Changing Viewpoints*; *Florence: A Map of Perceptions*) or of writing, cinema and the city, as the authors insist upon in Chirumbolo and Pocci's volume (*Bel Paese?*)?

Lightness too has generated numerous projects and connections that have gone unnoticed for the most part. In *Six Memos*, Calvino observed that the postindustrial world seemed "supported by the most minute entities" (8), and he connected lightness to the second industrial revolution made possible by the "weightless bits" of computer science "in a flow of information traveling along circuits in the form of electronic impulses" (8). It is tempting to link such observations to the Canadian cultural historian Marshall McLuhan, but it would be perhaps more productive to reflect again on Calvino's relationship to Mumford, whose *City in History* foretold that the "framework of the invisible city" (564) would one day coordinate the visible city via quick and light electronic communications. Dematerialization, or what Mumford termed *etherialization*, was a core concept of that vision of the future city (112). The door to such explorations has been opened, and future researchers are welcome to walk through it.

Two recent studies, Ernest E. Burden's *Visionary Architecture: Unbuilt Works of the Imagination* and Dominique Rouillard's *Superarchitecture: Le futur de l'architecture, 1950–1970*, offer vibrant analyses of the

potential value of the imagination and visionary architecture to our era and its own. A third, Larry Busbea's 2007 *Topologies: The Urban Utopia in France, 1960–1970*, is an impressive survey of spatial architecture in Paris that I regret not having discovered well before I began to write this epilogue. Still, the imprint of the architecture of lightness—of the prospect that architecture might just disappear as the visionary architect Friedman once believed—on *contemporary* architecture and urban planning and design has not been systematically studied. From my perspective, admittedly that of a visitor to these fields, it appears that the Lucretian and ascending lightness of Calvino's 1972 fiction and its architectural correlate adumbrated the architectural design theory, built environments, and urban planning of the late '90s and first decade of the twenty-first century. I make this nonexpert's observation because in spite of Choay's current perspective on the spatial *technotopias* of Schöffer, Friedman, et al., which she now views as tinged with archaism, ultralight building materials and structures that the visionary architects could only imagine have come

Figure 5.1 Guy Rottier, *Hôtel* (*Hotel*), 2009. A project for the Parc du Mercantour near Nice, France. Courtesy of Guy Rottier.

into being (Fig. 5.1). Buckypaper, for example, is "ten times lighter but potentially 500 times stronger than steel when sheets of it are stacked and pressed together to form a composite"; it is one of several exceedingly light and resilient materials derived from "ultra-tiny cylinders known as carbon monotubes" (Kaczor).

Although some affirm that visionary architecture long ago "lost its provocative and prophetic bite" (Manfredi Nicoletti qtd. in Deyong ix), some evidence suggests that lightness and its *simulacra* have been inhabiting the inner city of the imagination all along and have no doubt escaped the gnawing termites of time. The design project for a modular and extendable floating city, or seastead, might soon be built off San Francisco's coast and institute a new form of government (Erdman). Freeing the earth's surface from the sprawl and congestion of the city, like the spatial architects envisioned *l'architecture du non-poids* in the '60s, Japan's microhouse movement has leapt off the design table and produced a startling array of miniature built environments (Craft). To what extent, then, and in what forms does lightness permeate the urban and architectural imaginary of our present?

If one considers *Invisible Cities* not only as a new form of utopian literature but also as the embodiment of a new perceptual and cognitive model, the ideas and concepts Calvino expressed in 1972 seem far less futuristic than they once did. In our digital age, both software and the Internet correspond to Calvino's fascination with cybernetics and speculations about the minute. These lines of thought will not be fully understood until all of his essays and a critical selection of his letters are translated into the major languages and discussed by specialists spanning the disciplines as well as by avid readers. Still, numerous insights are to be gleaned from contemporary design projects revolving around technology as/and lightness, such as the filigree city of nimble strobe lights, LEDs, video walls, and plasma screens studied by Lucio Altarelli.

A cultural theorist and urbanist, Altarelli approaches lightness as a communicative code through which architecture vindicates its freedom vis-à-vis the material, static, and heavy city. His emphasis on the new language of our century's "city of bits" (220) and "electric Eden" of light effects (20) conjures Calvino's Lucretian lightness as well as Kepes's education of vision and "City by Night" installation. Altarelli explicitly draws theoretical sustenance from Paul Virilio's *Aesthetics of Disappearance*. The aesthetics of dematerialization or disembodiment is affirmed by digital technologies (Altarelli 216). The projection of digital images onto material architecture produces a third dimension that is neither that physical space where the event unfolds nor that other space represented in the multimedia projections: it is, rather, a space born out of the mixing of the real and the virtual. This dissolution or dematerialization is behind Virilio's felicitous neologism *stereoreality*: the third space or dimension "rendered complex [and] acoustic by the hybrid commingling of real images and synthesized images"

(Altarelli 238). Perhaps future researchers will look into not only how pixel and LED images produce stereoreality but also how that third dimension intersects with Calvino's theory of the imagination and *mode utopique*. Or, to put it another way, how does the virtual inner city respond to the virtual outer city?

Finally, as Steven Nash has noted, Melotti's lightness is now being discovered by art lovers, museum directors, and collectors in the United States, and I hope this book will broaden interest in Melotti's thin cities and other sculptures in North America and beyond. In this vein, I wish to swerve from our shared labors and share an anecdote from a mutual friend of Melotti, Montale, and Calvino's. As Vanni Scheiwiller recalls:

> I remember that when I went with Montale to Paris, Melotti gave me a little sculpture of his of the utmost fragility, and painstakingly wrapped, to give to Calvino, who was in Paris. Travelling by plane with this most delicate package in my hand, Montale joked that it was like I was carrying around the sacred host. . . . The package was so fastidiously wrapped that Calvino's housekeeper, after ripping through one layer after another, managed to tear the ephemeral and threadlike sculpture to bits. (qtd. in Mulas 81)

Clearly, lightness is not without its risks.

Notes

NOTES TO THE INTRODUCTION

1. In a letter to Gianni Celati dated 12 December 1970, Calvino tells him about "a remake of Marco Polo's *Il Milione* full of brief descriptions of imaginary cities" (*Lettere* 1089). A decade earlier, in 1960, Calvino worked on a theatrical production with Mario Monicelli and Suso Cecchi D'Amico, for which he had read and reread *Il Milione*, "in order to steep myself in that visionary charge, which is its secret," he wrote in a letter dated 2 September 1960. "In short, I have tried to follow Coleridge's method, who by smoking opium and reading *Il Milione* wrote 'In Xanadu, Kubla Khan . . . ' in his sleep" (Calvino qtd. in Serra, *Calvino* 329).
2. On *Invisible Cities* and structuralist semiotics, see Ossola 237n57; Bernardini Napoletano; Briganti; Segre; Donnarumma.
3. See Ichino and Perego; Sorice 45.
4. See first and foremost Ricci, *Painting with Words*, which abounds in keen observations on *Invisible Cities*. Other studies in this area have investigated the intertextual armature linking *Invisible Cities* and Rustichello's *Il Milione*. See Bonsaver 186; Bernardini Napoletano; Zancan. Ossola identifies intertextual links between Calvino's 1972 work and several texts, including *Il Milione*, Viktor Šklovskij's *Voyage de Marco Polo*, the miniatures in the Parisian Bibliothèque Nationale's *Livre des Merveilles*, and Alain Robbe-Grillet's 1970 *Projet pour une révolution à New York* (238). On the visual intertextuality between Calvino's novel and Vittorini's *Le città del mondo* (1969), see Polacco. On the relationship between Calvino's icastic descriptions in the novel, Venice, and the Orient, see Della Coletta. On the presence of San Remo in the imaginary and imagery of *Invisible Cities*, see Quaini; Nocentini, "La San Remo invisibile di Calvino" and *Italo Calvino and the Landscape of Childhood*.
5. See Modena, "'Mi veniva da scrivere città.'"
6. See the excellent essay by Rivoletti, "*Le città invisibili*." See also Cerrai; Donnarumma 58; Rizzarelli.
7. Milanini; Muzzioli; Scarpa, "Sguardi dal ponte"; Bucciantini 160; Donnarumma.
8. See Kuon; Scarpa, "Sguardi dal ponte." Mengaldo has underscored the contrast not only with classical utopia but also with nineteenth-century renditions of utopia by Vittorini and Volponi.
9. Blazina; Pautasso. Christensen, in contrast, analyzes *mode utopique* through reader- response theory. See also Rivoletti, "*Le città invisibili*."

10. Among the many who have proposed decodings of the novel's postmodern structurings, see Ossola 242; Frasson-Marin 42–43; Musarra-Schroeder 84. Critical dissections of the novel's self-referential play of signification and its investigation into the epistemological bases of postmodernity include Hutcheon; Dombroski and Miller; Breiner. Also see the bibliography in Giudicetti's "One-Two-Three." Ricciardi examines issues related to formations of national identity by comparing *Invisible Cities* to Pynchon's *Mason & Dixon*. Springer speculates about the reader's role in the epistemological puzzle of *Invisible Cities*.
11. After I had finished the numbered chapters of this study, I came across Moro's essay, "Il dibattito sull'urbanistica al tempo di Calvino," in a pedagogical manual. It contains sundry references to urbanism in Calvino's times and is accompanied by a DVD.
12. Musarra-Schroeder, for instance, synthesizes this quest by fitting Calvino within utopian postmodernism as it was defined by Ann Kaplan (Musarra-Schroeder 15). Bucciantini and Antonello have recently offered powerful analyses of Calvino's sustained belief in investigating the possibilities of knowledge through writing.
13. Olivieri has compared *Six Memos* to the last act in a protracted intellectual journey by which Calvino came to critically reassess the relationship between politics and literature (173).
14. It has escaped scholars that Calvino here employs a concept from "Literature as Projection of Desire," his 1969 review-essay on Northrop Frye's *Anatomy of Criticism* examined fully in chs. 1 and 3.
15. On the relationship between Calvino and Togliatti, see Francese 124. On Calvino's disillusionment with communism after the Soviet Union's crackdown in Hungary, and on his criticism of Togliatti and the Italian Communist Party's rigid sectarianism, see Spriano.
16. See *Six Memos* 7. Calvino's words about petrification resound a few pages later: "what many consider to be the vitality of the times—noisy, aggressive, revving and roaring—belongs to the realm of death" (12). See also Calvino's 1985 critical review, "*L'insostenibile leggerezza dell'essere* di Milan Kundera," especially 1327. A reconstruction of the political, social, and more broadly, cultural contexts figured as petrification can be found in Puletti 45–50. See also Ginsborg, ch.7.
17. On Calvino's social and political activism in the '40s and '50s, see Francese 111; Re, *Calvino and the Age of Neorealism* 150; Asor Rosa, *Stile Calvino* 7; Bagnoli 196; Spinazzola 104; Ajello.
18. Among the vast bibliography on Calvino's alleged loss of faith in the intellectual's political and social commitment, see Belpoliti, *Settanta* 54, and "Città visibili e città invisibili." Another scholar characterizes the poetics of *Six Memos* as a theoretical approach to literature that began after Calvino moved to Paris and became familiar with structural linguists and semioticians (Ganeri 83). Bagnoli notes the absence of the intellectual's direct confrontation with the social from the late '50s to the early '80s (195). See also Benedetti; Ceserani; Petroni.
19. Berardinelli criticizes Cesare Cases' *distanced pathos* formulation, reworking it as *distanced comfort*. Scholars who most stridently insist that Calvino always remained wedded to the idea of literature as a form of ethical and social engagement, irrespective of changes in literary style or structure, include Re, *Calvino and the Age of Neorealism*; Paulicelli, "Dalla città invisibile alla città futura"; Asor Rosa, *Stile Calvino*; Barenghi, "La forma dei desideri"; Capozzi in Markey 66.

20. *Cosmicomiche* ([1965]; English trans., *Cosmicomics* [1968]), *Ti con zero* ([1967]; (English trans., *t zero* [1969]), *La memoria del mondo e altre storie cosmicomiche* (*The Memory of the World and More Cosmic Stories* [1968]); *Il castello dei destini incrociati* ([1973]; English trans., *The Castle of Crossed Destinies* [1976]).
21. See Calvino's first essay (1962) in *The Road to San Giovanni* and "From the Opaque" (1971), in the same collection, in which he reconstructs the matrix of his spatial perception by going back to the Ligurian landscape of his childhood. See also "Sanremo città dell'oro" (1945); "Liguria magra e ossuta" (1945); "Liguria" (1973); "Il terzo lato è il mare (Genova, Piazza Caricamento)" (1975); "Savona: Storia e natura" (1974).
22. In 1960 Calvino wrote that Turin is the city where "past and future have greater prominence than the present, the force of past history and the anticipation of the future give a concreteness and sense to the discrete, ordered images of today. Turin is a city which entices the writer towards vigour, linearity, style. It encourages logic, and through logic it opens the way towards madness" (*Hermit in Paris* 6). See also *Hermit in Paris* 158.
23. Lévi-Strauss's *Tristes Tropiques* "brought the study of the city into a realm rich with unexpected developments" (Rossi, *Architecture of the City* 33). On Rossi's significance to *Invisible Cities*, see chs. 2 and 3. On the relevance of Lévi-Strauss's *Tristes Tropiques* to Calvino's thought, see Donnarumma 45.
24. See for instance Calvino's review essay "Giovanni Macchia."
25. See Calvino, "Taccuino di viaggio nell'Unione Sovietica" (1952). On Calvino's travels to the URSS and the U.S., see Mee.
26. Calvino's writings on the U.S. are collected in "Corrispondenze dagli Stati Uniti (1960–1961)" and in the section "American Diary," *Hermit in Paris*.
27. New York: "the skyscrapers appear grey in the sky which has just cleared and they seem like the ruins of some monstrous New York abandoned three thousand years in the future. Then gradually you make out the colours which are different from any idea you had of them, and a complicated pattern of shapes. Everything is silent and deserted, then the car traffic starts to flow" ("American Diary" 19). See also *Hermit in Paris* 235.
28. New York, the Guggenheim Museum: "a spiral tower, a continuous ascending ramp without steps, with a glass cupola" (43). It allows "as you go out and look up . . . a different view with perfect proportions . . . since there is a semicircular outcrop that offsets the spiral, and down below there is a small slice of elliptical flower-bed and a window with a tiny glimpse of a garden, and these elements, changing at whatever height you are now at, are an example of architecture in movement of unique precision and imagination" ("American Diary" 43).
29. These short texts are collected as "La forma del tempo" in *Collezione di sabbia*.
30. See Ricci, "De Chirico City."
31. Baczko offers an excellent introduction to the concept of utopia. See also Petrucciani.
32. The idea that utopia was about the ethical and social present, rather than the future, was prominent in the '60s, as chs. 1 and 3 explain fully. It is enjoying a critical renaissance thanks to Frederick Jameson's *Archaeologies of the Future* (2005). Jameson refers explicitly to Darko Suvin's 1968 essay published as ch. 1 of *Pour une poétique de la science fiction* (Suvin 9–20).

NOTES TO CHAPTER 1

1. Analogous speculations about the ethical and social dimensions of his craft had surfaced earlier, in vigorous exchanges amongst a group of Italian intellectuals and friends who were planning to launch a literary journal called *Alì Babà*. See ch. 3 of this book. For a contextualization of Calvino's speculations about the role of the intellectual and of imaginative literature, see Asor Rosa's 1965 *Scrittori e popolo* and Pietro Rossi's 1969 study *Gramsci e la cultura contemporanea*.
2. See Capozzi's special issue entitled *Italo Calvino: Lightness and Multiplicity = Leggerezza e molteplicità*.
3. Among the scholars who vehemently insist that Calvino never abandoned his faith in fiction as an ethically and sociallyrelevant practice, see Re, *Calvino and the Age of Neorealism*; Paulicelli, "Dalla città invisibile," especially 148; Capozzi, "Cosmicomiche vecchie e nuove." Calvino intended to emphasize the ethical and the aesthetic by choosing the word *lezioni* ("lessons") for the Italian original (*Lezioni americane*), and *valori* ("values") was abandoned as a possible title for the English translation for stylistic reasons, according to Calvino (Barenghi qtd. in Calvino, *Saggi* 2: 2965).
4. Alessia Ricciardi approaches lightness as a postmodern literary category in several works by Calvino.
5. For an analysis of Calvino's Lucretian lightness in relationship to the neo-Baroque, see Chessa Wright.
6. Hume analyzes how Calvino emphasizes the granular and divisible nature of the cosmos as a system of ordering to resist negative, indistinct flux. She contends that his cognitive and perceptual approach is as "structurally akin to the granularity as possible" (55). On the positive value of dust particles in Calvino's fiction, and how they communicate the discontinuity inherent in contemporary human experience, see Muzzioli 147–48. Starobinski claims that Calvino turned to Lucretius and his disciples primarily because of their concept of infinite space, and the resulting continual motion and dispersion of discontinuous particles of prime matter (atoms) ("Prefazione" 1: xxv). Also see Antonello, *Ménage* 190.
7. Among many, see Musarra-Schroeder 19; Serra, *Calvino* 235–44; Chirumbolo 85.
8. Hume analyzes the instances of "paste, glue, magma, sticky colloid, dough, mud, or glop" (40), words "that Calvino gives to the mass that threatens the cogito" (41). On the influence of Carlo Emilio Gadda on Calvino's essays on magma, see Giorgio Bertone, *Castello*, especially 67.
9. An emphasis on developing one's critical awareness pervaded the sociological and political works of the period. See, for example, Maldonado's 1970 essay *La speranza progettuale*.
10. In a letter to Franco Fortini dated 3 June 1977, he figures the same lack of imaginative resourcefulness as "standing water in shallow and sedimented shales" (Calvino, *Lettere* 1335).
11. See "La macchina spasmodica" 255; "Filosofia e letteratura" 189.
12. Calvino affirmed that literature suffered immobility when it claimed to be the depository of truth, and that politics, when immobile, was equally "catastrophic" ("Right and Wrong Political Uses of Literature" 97).
13. In "Il mare dell'oggettività," he twice refers to the leap or dash he would later personify through Cavalcanti in *Six Memos*: first, he asks, "shall we be able to find that minimum of support needed to make the leap to a new ethics, to a new freedom, amidst the shifting sands of the object world?" (59);

later, he calls for "the non-acceptance of the given situation, an active and conscious leap, the will to contradict, obstination without illusions" (60). Still another example may be found in "La sfida" (106). See Modena, "La *leggerezza ascensionale*."

14. Bagnoli observes that Calvino's cognitive positioning may be defined as "aloft," one that allows him to confront "Babel-like multiplicity . . . without becoming himself absorbed by it" (197).
15. On the relationship between atomism and lightness, see Piacentini 44–45, 48; Modena, "I contorni."
16. Among Calvino's myriad references to the sciences, see "Filosofia e letteratura" (1967), 193–94; "Due interviste su scienza e letteratura" (1968), 229–37; "Il rapporto con la luna" 227. The critical literature on Calvino and the sciences is now vast. See, for example, Bucciantini; Antonello; Antonello and Gilson; Oliviero; Bresciani Califano; Serra, *Calvino e il pulviscolo di Palomar*; Porro, "Letteratura come filosofia naturale" and "Networks and Knots"; Hume; Pilz, *Mapping Complexity*" and "Literature as Natural Philosophy."
17. See Calvino's 11 July 1957 letter to Luca Canali in McLaughlin, *Italo Calvino* 51.
18. See *La lettura* 3: 177–78. As Giovannetti notes (69), it was the same excerpt (*De rerum natura* bk. 2, 114–41) that Calvino was to later insert in *Six Memos*, on the whirling corpuscles in a ray of light.
19. See Modena, "I contorni," chs. 3 and 4.
20. "I quaderni degli esercizi. Intervista di Paul Fournel a Italo Calvino," in Botta and Scarpa, *Italo Calvino Newyorkese* (17). In addition to the detailed comments on Ovid in the chapter on lightness in *Six Memos*, see Calvino's essay "Ovid and Universal Contiguity" (1979).
21. To read more on the Epicurean and Lucretian principle *omnia mutantur, nihil interit* (everything changes, nothing perishes) see Bernardini Marzolla in Ovidio Nasone xlviii. Lucretius names the atoms from time to time "*primordia*, *exordia*, *principia*, *(corpora) prima*, *(primoria) elementa*; referring to their smallness . . . *corpuscula*; . . . after their generative faculty, . . . *radices*, *semina*, *genitalia corpora*" (Rocca 144).
22. This principle reverberates throughout ch. 3 of this study.
23. On the Lucretian *animi iniectus*, see Gigandet 10; Salem 84.
24. On the intertextual relationship that Calvino entertained with Montale, see Perrella; Rivoletti, "Dagli *Ossi di seppia*."
25. See Marchi. Among Calvino's various references to Montale as an ideal of moral and political stoicism, see his 1959 comment in "Tre correnti" 64–65.
26. Montale's poetry, in reductionist terms, stages the divide between those who are able to escape via a redemptive breach, and those who remain immobilized, enchained ("Clivio" v. 20). Arsenio, reed-man, is paralyzed in a "tangle of seaweed" ("Arsenio" v. 19) and thus unable to extricate himself from "unmoving movement" (v. 21).
27. Calvino prefers to emphasize Montale's symbolic eel over the rat in the stables of Augià. "The eel" (1948) represents the minimal trace, "the wriggle in stagnant puddles" ("The eel" v. 12), "green soul that seeks out life / where drought and desolation gnaw, / that spark that says / everything starts when everything seems / burned out / a buried bough, / a momentary rainbow, twin / to the iris / of your eye, shining / intact in the midst of the sons / of men, sunk in your mire" (vv. 22–31).
28. The poem is one of the two "Conclusioni provvisorie" that comprise the last section of *La bufera e altro* (*The Storm and Other Poems* [1940–54]).

29. The nexus of Calvino's ethical and physical atomism is clear as he resorts to the lexicon of grace and salvation: "how can we hope to save ourselves in that which is most fragile? Montale's poem is a profession of faith in the persistence of what seems most fated to perish, in the moral values invested in the most tenuous traces: 'il tenue bagliore strofinato / laggiù non era quello d'un fiammifero' ('the thin glimmer striking down there / wasn't that of a match')" (*Six Memos* 6–7). Not all of Montale's readers interpret the poet's images of small fragile elements in terms of resistance and salvation. West, for instance, reads in the thin icons of "Piccolo testamento" the signifiers of negativity, as those tenuous sparks are destined to perish (*Eugenio Montale*).
30. About the stories in *Cosmicomics*, Calvino remarked: "I have realized that my stories in which non-being is contrasted with that which is, void and rarefaction with the full and dense, the crooked with the straight, work especially well" (*Cosmicomiche* ix).
31. See Musarra-Schroeder 37 on Calvino's poetics of multiplicity in his essays.
32. Atoms are not just in continuous motion; they are also extremely swift. The atoms of which the mind is composed are the thinnest and fastest. Lucretius dedicates one of the most suggestive sections in his poem to the conjunction of thought, imagination, lightness, smallness, and quickness (bk. 3, 177–230). Calvino, for his part, devoted a chapter in *Six Memos* to quickness as a quality of both storytelling and mental processes. In Calvino's own words: "my work as a writer has from the beginning aimed at tracing the lightning flashes of the mental circuits that capture and link points distant from each other in space and time" (48). Is not quickness encapsulated in the idea of the memo itself?
33. On Calvino and Galileo, see Hume 37; Antonello; Bucciantini.
34. In the chapter on exactitude, Calvino acknowledges: "this information comes from a lecture by Giorgio de Santillana on the precision of the ancients in observing astronomical phenomena, a lecture I heard in Italy in 1963 which had a profound influence on me. These days I have often thought of Santillana, who acted as my guide in Massachusetts during my first visit to the United States in 1960. In memory of his friendship, I have started this talk on exactitude in literature with the name of Maat, goddess of the scales—all the more because Libra is my sign of the Zodiac" (*Six Memos* 55).
35. Bucciantini suggests other parallels in his extremely useful study.
36. Antonello rejects the traditional interpretation that Calvino's semiotics or structuralist phase was due largely to his experience in Paris. On his view, Calvino simply found in semiotics and structural linguistics justification for his original reflections on the structures of language and reality, which stemmed primarily from natural philosophy (*Ménage* 205).
37. In Lucretian physics, "the differential criteria that rule the atomic structure of reality" (22), also known as "producers of the real" (23), or "combinatorial criteria" (28), are "the combinations of matter, . . . its motions, order, position, shapes," and coincide with those widely used by Latin grammarians (Dionigi 24).
38. For a broader discussion of the Lucretian confluence of *res et verba* in Calvino's works, see Modena, "I contorni," ch. 5. In the chapter on multiplicity in *Six Memos* Calvino mentions Hans Blumenberg's *Die Lesbarkeit der Welt* (1981), translated into Italian in 1984 as *La leggibilità del mondo*. Blumenberg addresses Lucretius's physics in relation to the principles of the alphabet.
39. On the widespread interest in ancient and modern theories of visual perception in the early '70s, see Van Hoorn's 1972 study *As Images Unwind*.

40. Epicurus, "Lettera a Erodoto" 77.
41. Epicurus, "Lettera a Erodoto" 79.
42. On the relationship between *simulacra* and *voluntas*, or will, see Fowler, in particular 407-27. *Simulacra* reach the mind unnoticed unless the mind voluntarily focuses upon them; this choice depends on *voluntas*.
43. On the philosophical and epistemological matrices of his combinatorial concept of external reality, see Antonello 11; Bucciantini; Musarra-Schroeder 31. On Calvino's combinatorial literary praxis see Turi 89. On the semiotics-structuralist turn, see Dini, especially ch. 3. The diffusion of works by Roland Barthes, Claude Lévi-Strauss, and Vladimir Propp greatly influenced Calvino's deconstruction of the literary text into its distint elements and functions, according to Chirumbolo 91. On the other hand, we should not ignore the enormous influence of novelist Carlo Emilio Gadda, and of Gian Carlo Roscioni's *La disarmonia prestabilita: Studio su Gadda* (1969), on Calvino's combinatory praxis. Combinatory is what made the world go around, according to Gadda: "combination, the combinatory instinct, is in the universe" (Gadda qtd. in Roscioni 45). On this influence, see also Modena, "I contorni."
44. See Modena, "I contorni," ch. 4, sec. 3: "Georges Perec, Paul Klee e Italo Calvino: *clinamen* e *leggerezza*." The *clinamen* concept has been resurrected recently by Harold Bloom, who associates it with his notion of *misprison* and applies it to what he considers the psychologically motivated deviation of authors from their literary forebears.
45. As Patrick Meadows points out, this part of Epicurean and Lucretian physics was a crucial addendum to Democritus's material determinism. Marx's 1841 doctoral thesis "The Difference between the Democritean and Epicurean Philosophy of Nature" emphasizes the *clinamen* and its safeguarding of human freedom within the course of events (chap. II, 1). His dissertation was available in French, Italian, and English translations in the '60s. Perhaps it is no coincidence that in the 1963 novel *La giornata di uno scrutatore* (*The Watcher*) Calvino's alter ego, Amerigo Ormea, is said to be reading Karl Marx's youthful works (*Romanzi e racconti* 49).
46. Chessa Wright has summed up Calvino's conception of literature as "a system of signifieds in constant evolution, an organism whose form is incessantly destroyed and reconstructed, dismantled and restructured" (137). Antonello takes up and underscores Calvino's approach to literature as a site of transformations because it is the site of tropes (189).
47. In the same essay Calvino returns repeatedly to this concept, by his own admission under the influence of Elio Vittorini's *Le due tensioni* (*The Two Tensions*).
48. Michel Serres' study *La Naissance de la physique dans le texte de Lucrèce: Fleuves et turbulences* (1977) points out the numerous affinities between Lucretian physics and contemporary physics, especially with regard to the *clinamen*, disorder, and chaos theory. Some of Serres' speculations coincide with Calvino's own in his lesson on lightness in *Six Memos*: the idea that atomism is the best language to interpret and translate nature, and the great value accorded to the *clinamen* as a carrier of change.
49. Calvino publishes in «Il Caffè» four parts of a literary project entitled "La decapitazione dei capi" ("Beheading the Heads"), an utopian society based on the ritual elimination of its leaders. See Scarpa, "A lingua tagliata"; Belpoliti, *Settanta* 86–88; Barenghi, *Le linee* 229–36.
50. Adorno and Ernst Bloch shared the Hegelian and Marxist "commandment not to 'depict' utopia or the commandment not to conceive certain utopias in detail" (Adorno qtd. in Krüger 10): "the prohibition of casting a picture

of utopia actually for the sake of utopia, and that has a deep connection to the commandment, 'Thou shalt not make a graven image!' This was also the defense that was actually intended against the cheap utopia, the false utopia, *the* utopia that can be bought" (Adorno qtd. in Krüger 11).

51. On Calvino's critique of Fourier, see Musarra-Schroeder, especially 34.
52. Numerous studies in France led to a reappraisal of Fourier in those critical years, including Lehouck, *Fourier aujourd'hui* (1966) and "Fourier et la liberté" (1969); Debout, "La terre permise" and "L'autogestion passionnelle" (1968); Zilberfarb (1967); Vergez (1969); Butor (1970); Schérer (1970); Barthes, "Vivre avec Fourier" (*Sade, Fourier, Loyola*, trans. Miller, 77–120 [1970]); Klossowski, "Sade and Fourier" (1970) and *La monnaie vivante* (1970); Juin (1970); Hochart (1970); Blanchot (1970); Desanti (1970); Gaudibert (1971). The essays by Klossowski, Debout, Juin, Hochart, and Blanchot appeared in a 1970 special issue of *Topique: Revue Freudienne* devoted to Fourier. It is possible that Calvino was also familiar with the collection of essays edited by Giuseppe Del Bo and published in Milan in 1957, *Il socialismo utopico I: Charles Fourier e la scuola societaria (1801–1922)*. On Calvino's familiarity with these studies, see his copious notes to"Per Fourier, 2: L'ordinatore," which are not available in the English translation from which I quote in this study.
53. On Fourier's combinatory of passions, and its imprint on Gilles Deleuze and Félix Guattari's concept of *déterritorialisation*, see Malécot.
54. Calvino refers to Blanchot's study in "Per Fourier, 2: L'ordinatore" 289n33 (omitted in the English translation). On the dialectics of unity and multiplicity in Calvino, see the chapter on multiplicity in *Six Memos* and the preparatory notes for *Lezioni americane* in *Saggi* 2: 2957–85.
55. See Calvino, "Controller" 244.
56. In Darko Suvin's 1973 essay "Pour une définition de l'utopie comme genre littéraire" (in *Pour une poétique de la science fiction*), he asserted that utopia was neither prophecy nor evasion, but, instead, an "as if" (60). He endorsed Bloch's definition of utopia in *Das Prinzip Hoffnung* (1953-59) as "a methodological instrument of the New" (Suvin 60), and positively characterized Michel Holquist's concept of utopian literature, expressed in his 1971 "How to Play Utopia," as "literature in the subjunctive," in "a hypothetical or heuristic tense" (60). "Literary utopia is a heuristic vehicle for expanding one's knowledge—an epistemological entity, never an ontological one" (60).
57. In *La Fausse Industrie* (1835, reprinted in 1967), Fourier wrote: "Quelle route suivirent Gama et Colomb, pour découvrir de nouvelles contrées, de nouveaux empires, de riches mines d'or et de diamante? Etait-ce la GRANDE ROUTE? Non vraiment: ils eurent le bon sens de reconnaître qu'on ne trouve rien de neuf sur le grand chemin; tout y est connu, exploité, usé" (1: 48). Later, he concludes: "C'est donc en s'écartant de la grande route qu'on arrive aux bonnes speculations" (1: 49), and claims that Columbus reached the New World only by adopting the rule of "écart absolu." "Faisons le même, procédons par écart absolu," prompted Fourier (1: 52). See also Manuel and Manuel 649.
58. According to Spiteri and Lacoss, Fourier's *écart absolu* "is akin to the . . . '*non conformisme absolu*' of the Second Manifesto of Surrealism; it is also similar to Breton's 1942 dedication to always being the one who says 'no'" (293). In 1965 Jean Schuster wrote a guide for Breton's exhibition whose title was "L'écart absolu ou le discours de la method surrealiste."
59. According to Cappello, Barthes's and Butor's respective interpretations of Fourier highlight how the utopian philosopher's work is a critique of society based on "the invention and organization of an original language,"

demonstrating how he "hoped to transform the world through nothing more than the power of the imagination . . . " (234).

60. The Italian translations included *Eros e civiltà* (1964); *L'uomo a una dimensione: L'ideologia della società industriale avanzata*; *Cultura e società: Saggi di teoria critica 1933–1965* (1969); *Critica della tolleranza*, coauthored with R. P. Wolff and Barrington Moore (1968); and *Saggio sulla liberazione: Dall'uomo a una dimensione all'utopia* (1969). The publisher Laterza published an Italian translation of another work, *La fine dell'utopia* (1968), and Feltrinelli published *Critica della società repressiva* (1968). On Marcuse's enormous profile within the Italian countercultural movement of the '60s, see Capozzi, *Scrittori* 51, 59, 94, 132, 156, 164; Ginsborg 306.
61. Marcuse, *Critica della tolleranza. I mascheramenti della repressione* 137. See also Palombella; Bronner.
62. Especially relevant here is Silvano Sabbadini's quotation from Hugo von Hoffmansthal's *Buch der Freunde* in a 1979 special issue of *Nuova corrente* that Calvino almost certainly read: "the present imposes certain forms. To overcome their boundaries and draw some new ones—that is the creative faculty" (qtd. in Sabbadini 137). In the same issue Mario Boselli published an article entitled "Italo Calvino: L'immaginazione logica." I return to Boselli later in this chapter.
63. On the function of intellectuals in Calvino, see also Belpoliti, *L'occhio* 220.
64. Lehouck's *Fourier aujourd'hui* influenced Calvino's thinking in this area.
65. On Calvino's "art of phantasia," see Del Giudice.
66. See Petersen, "Significance of Visibility."
67. See Calvino, *Romanzi e racconti* 2: 1322; Cappello 55.
68. See Petersen, "Significance of Visibility" 97.
69. See Modena, "I contorni" 237.
70. Here the Italian original differs from the published English translation, so I have translated these two quotes directly from the Italian original.
71. On Calvino's belief in the use of a formalized deductive model, see Buccantini 126.
72. Calvo Montoro analyzes Loyola's imprint on Calvino including images of weight and elevation. Ricci also tackles Calvino's relationship to Loyola, scrutinizing the links between visual imagination and world transformation (*Painting with Words* 143). I do not, however, suggest that Loyola was the only influence on Calvino in this regard. Porro has observed that Paul Valéry, whom Calvino greatly admired, "was inspired by Henri Poincaré's reflections on theorising the need to 'think in images' ("Images and Scientific Knowledge in Calvino" 68). Moreover, Heelen inscribes the method of Ignatius within the venerable tradition of mnemonics, "or the cultivation of memory" (xii) and, as was seen earlier, Calvino was familiar with Yates's works.
73. For a reading of Loyola's *Spiritual Exercises* that foregrounds the use and development of our imaginative powers, connecting them to personal freedom, see Heelen xiii.
74. On *discretio* in Calvino's writing, see Battistini, *Le ménage à trois* 14.
75. With regard to the relation between language and the imagination, see Skov, Stjernfelt, and Paulson, who focus "on language studies that have a bearing on the relation between mental imagery and language" (186). On the relationship between Calvino and cinematography, see Re, "Calvino e il cinema."
76. *Man cannot think without images*, the Thomist Aristotelian formulation of consciousness. See Agamben 88.

NOTES TO CHAPTER 2

1. "Calvino on *Invisible Cities*" 40–41. On 29 March 1983, Calvino gave a lecture to students in the Graduate Writing Division at Columbia University that was later published in the literary journal *Columbia*. It was based on Italian remarks that date from 1972–73, according to Calvino, *Le città invisibili* v.
2. For a survey of the shortcomings of modernist architecture, see Jencks 9. On how the modernist movement was perceived in the early '70s, see MacEwen.
3. On the many transformations in Italy since the late '50s, including urban rural exodus, massive influx into regional and provincial capitals of central and northern Italy, and gargantuan urban developments, see Ginsborg, ch. 7.
4. See Woertman 146; MacEwen 11.
5. According to Tafuri, "Italian intellectuals were becoming aware of a new reality . . . , [and] the entire concept of urban planning would be overhauled in the early 1960s" (*History of Italian Architecture* 74).
6. See Rodwin, ed., *La metropoli del futuro* (*Future Metropolis*; Italian trans. 1964); Wright, *La città vivente* (*The Living City*; Italian trans. [1966]); Webber et al. *Indagini sulla struttura urbana* (*Explorations into Urban Structure*; Italian trans. [1968]); Benevolo, Giura Longo, and Melograni, *I modelli di progettazione della città moderna, tre lezioni* (*Planning Models for the Modern City: Three Lessons* [1969]); Quaroni, *La torre di Babele* (*The Tower of Babel* [1967]); Compagna, *La politica delle città* (*The Politics of Cities* [1967]); Stein, *Verso nuove città per l'America* (*Towards New Cities for America* [1969]); Gutkind, *The Twilight of Cities* (1962); Gruen, *The Heart of Our Cities* (1964); Baburov, ed., *Idee per la città comunista* (*The Ideal Communist City*; Italian trans. [1968]); Ragon, *Les visionnaires de l'architecture* (*Architecture's Visionaries* [1964]); Ragon, *Où vivrons-nous demain?* (*Where Shall We Live Tomorrow?* [1964]); and Utudjian and Bernet, *Architecture et urbanisme souterrains* (*Architecture and Underground Urbanism* [1966]).
7. *The Culture of Citie*s (1938), which curiously has a chapter entitled "From the Court to Invisible Cities," was available in Italian in 1954 (*La cultura delle città*). *The City in History* (1961) was available in Italian in 1963 (*La città nella storia*) and in French in 1964 (*La cité à travers l'histoire*). *Technics and civilization* (1934) was translated into Italian in 1961 (*Tecnica e cultura*) and into French in 1964 (*Technique et civilisation*). *The Story of Utopias* (1922, 1962) was published in Italy (*Storia dell'utopia*) in 1971. *Urban Prospect* (1968) was translated into French in 1970 (*Le déclin des villes ou la recherche d'un nouvel urbanisme*) and into Italian into 1971 (*Il futuro della città*). On Mumford's renown in Italy, see Da Ventura, *Alle radici della città contemporanea*, especially "Mumford e il suo 'idolum'"; Rizzo, "Il conferimento della laurea *honoris causa* a Lewis Mumford presso la facoltà di Architettura di Roma"; Mazzoleni 10; Sica 181; Amendola. I quote from Ventura, *Alle radici* 49.
8. On Calvino's familiarity with Joseph Rykwert, see Barenghi, *Le linee*; Barenghi, "Gli abbozzi" 93; Belpoliti, "Città visibili e invisibili" 46.
9. Works by Zevi published by Einaudi during that period include: *Storia dell'architettura moderna dalle origini al 1950* (1961); *Saper vedere l'urbanistica: Ferrara di Biagio Rossetti, la prima città moderna europea* (1971); *Spazi dell'architettura moderna* (1973); *Il linguaggio moderno*

dell'architettura: guida al codice anticlassico (1973); *Architettura e storiografia: le matrici antiche del linguaggio moderno* (1974).

10. Celati provides ample bibliographical references on the modern city that shaped his 1975 "Il Bazar Archeologico" in a concluding note to the second edition of *Finzioni occidentali* (1986). I follow the note as it appears in Barenghi and Belpoliti.
11. Already in 1952 Zevi reflected on utopia's significance to his social context, in "Un testo: Utopia e impegno della cultura urbanistica."
12. Tafuri's "Per una critica dell'ideologia architettonica" first appeared in the journal *Contropiano* edited by Alberto Asor Rosa and Massimo Cacciari. It later became a study entitled *Progetto e utopia* (*Architecture and Utopia* [1973]). As Deamer characterizes utopian thinking in those years, "unlike the nineteenth-century utopias, contemporary utopian thought stated that the last hope for combating capitalist thought lay only in thinking the unreal" (22).
13. On visionary architecture, see Rouillard, *Superarchitecture* (2004); and Ragon, *Où vivrons-nous demain?*, "arguably the first comprehensive survey on the megastructure" (Deyong 45).
14. On radical architecture, see Woertman 149; Rouillard, "'Radical' Architecture"; Van der Ley and Richter, eds.; Deyong; Scott; Alison et al. 143, 275, 276, 321. In her work on utopia, Deamer refers specifically to Archigram in England; Hans Hollein, Coop Himmelblau, Raimund Abraham, and others in Austria; and the radical architecture firms Superstudio and Archizoom in Italy.
15. See Woertman 149; Rouillard, "'Radical' Architecture" 119–27.
16. "The *Twelve Ideal Cities* was a radicalization of the twelve characteristics of the contemporary metropolis: developed separately, each of these characteristics culminated in the creation of a universe of absolute madness" (Branzi qtd. in Rouillard, "'Radical' Architecture" 127).
17. Rogers stated that "the urban architect seems to have progressively lost faith in his own capacity to respond to the task to which he was called, discouraged by a series of increasingly notable failures encountered in the efforts to construct a city according to a formal, precise, and intentional scheme" (Rogers, "The Image" 245).
18. On Gestalt psychology as a key to understanding architecture and urban planning and design more broadly, see architectural theorist De Fusco 135. Nicolin mentions Alexander Dorner, *The Way Beyond Art* (1947); Gyorgy Kepes, *Language of Vision* (1944); Laszlo Moholy-Nagy, *Vision in Motion* (1947); Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye*; and Kevin Lynch, *The Image of the City*.
19. On the conceptualization of visual thinking in those years, see Arnheim's 1969 *Visual Thinking*, a study of visual perception as cognitive activity. Arnheim was one of the first to argue for the primary role of mental imagery within the process of cognition, a field that would later be called visual thinking: "truly productive thinking in whatever area of cognition takes place in the realm of imagery" (v). See particularly "The Images of Thought" (97–115). "Theoretical concepts are not handled in empty space" (111), Arnheim writes, and "the logic of images is the prime mover of constructive imagination" (115). See also Arnheim, "A Plea for Visual Thinking." Arnheim built on Holt's 1964 foundational study.
20. On the megapolis as a new urban (de)formation, see Simoncini 185. He feared the unfettered rolling out of "Atlantica," a megapolis stretching from Boston to Washington, D.C. (209).

21. As Bollerey puts it, "the catalyst for alternative visions for architecture and urban planning was the hegemony of functionalism, which had produced, in the words of Aldo van Eyck, 'the boredom of hygiene' and 'just mile upon mile of organized nowhere'" (7).
22. I do not wish to suggest that every urbanist was gushing over Venice as a model city. Its problems were thoroughly aired among specialists, as a 1970 special issue of *Casabella* readily attests. See, for example, Dorigo's reflection on Venice's loss of inhabitants, and Pane and Muscara's critical rebuke.
23. Here it is useful to acknowledge architect Christopher Alexander's pioneering work to bridge cybernetics and architectural design through language. Alexander's legacy is actually twofold. First, his tenet that architecture (or the built environment) has a generative grammar of minimal units, or a *pattern language*, greatly advanced the writing of computer software (Alexander and Poyner; Alexander, Ishikawa, and Silverstein). Second, his urban residential designs generated by an IBM 704 in the early '60s launched what is today known as CAD, or computer-aided design (Chermayeff and Alexander; Canella 4).
24. Choay was thoroughly familiar with Greimas's foundational work on structural semiotics (78n2). She also mentions Martinet's *Eléments de linguistique générale* (1960), Jakobson's *Essais de linguistique générale* (1963), and several essays by Barthes, including "Éléments de sémiologie" (1964).
25. In a 1968 essay published in the leading-edge French journal of architecture, Gregotti underlined the new relationships between language and architectonic form advocated in a 1964 special issue of *Edilizia moderna*. The editors of the latter called for architects to conceive of form as their first approach to reality rather than a process of elaboration and to understand "linguistic problems as a structural form of the architectural process" (qtd. in Gregotti, "Les nouvelles tendances" 9).
26. On multivalence in postmodern architecture, which clearly suggests open-endedness and "enigmatic signifiers" that provoke many possible interpretations by calling upon the viewer's imagination or storehouse of images, see Jencks 31–32.
27. On semiotics and *Invisible Cities*, see Segre; Pedullà 205.
28. Here it is crucial to remember a passage in Pocci's essay overlooked by most literary historians: "Calvino [was] driven, at least in part, to write *Le città invisibili* by the perception of a specific historical problem. Despite its rarefied, quasi oneiric atmosphere, the text [was] born—again, at least in part—of an experience of personal angst: the anxiety and disorientation provoked by contemporary urban spaces" (111).

NOTES TO CHAPTER 3

1. One of the first to examine Calvino's lightness as both a detachment from the plane of referential reality and the adoption of a decentered perspective was Mengaldo in 1975. In "L'arco e le pietre" he applied Cesare Cases' concept of a "pathos of distance" to *Invisible Cities*, identifying signals of distance in the visual nuclei of certain cities (Bauci, Irene) and in the spatial, temporal, and psychological settings of the narration. On estrangement, see the important work by Slavica Grujičić.
2. Re, "Textos" 107–08; Milanini 165; De Lauretis.
3. In the chapter entitled "The Disappearing City," Mumford distinguishes between seeing the modern city close up or from a distance: "and there are

moments in approaching New York, Philadelphia, or San Francisco by car when, if the light is right and the distant masses of the buildings are sufficiently far away, a new form of urban splendor, more dazzling than that of Venice or Florence, seems to have been achieved" (*Urban Prospect* 109). Danish architect and town planner Steen Eiler Rasmussen, in his influential 1959 study *Experiencing Architecture*, maintains that "in order to see the place properly [in old towns] one needs to interpret every vista as an accidental perspective, not intended in its composition to exclude any other" (Rasmussen qtd. in Arnheim, *Dynamics* 114).

4. See Giudicetti, "*Le città invisibili* e gli explicit" 93.
5. According to Re, this becomes a means of illuminating the role of perspective "in the construction and enjoyment of a text" ("Textos" 108).
6. The symbol of discontinuity par excellence in the 1972 fiction is the (Saussurian) chessboard, which reflects a method based on the interplay of a limited number of signs in different combinatory models. See Battistini, "Ménage à trois" 14. I examine this aspect more closely in ch. 4 of this study.
7. Falcetto made these observations regarding Calvino's *If on a Winter Night a Traveler* in Calvino, *Romanzi e racconti* 2: 1397. Chapter 4 of this study fully explores the principle of atomistic movement in *Invisible Cities*.
8. See Calvino's tales beginning in the early '50s, such as "Un paese disgraziato," "Il generale in biblioteca," "Libertà! Libertà!" etc. Also see Serra, *Calvino* 323.
9. See Battistini, "Ménage à trois" 15; Muzzioli 151.
10. At the level of the segments of the macrostructure, each single city interacts syntagmatically with the adjoining fragments and paradigmatically with the other cities in the chapter or in the same series.
11. See Belpoliti, *L'occhio* 33. Jeannet locates the foundation of Calvino's pictorial technique in Claude Lévi-Strauss's *La pensée sauvage* (1962), in which Lévi-Strauss "is speaking of the miniaturization of reality that is common in the works of painters and artisans" (Jeannet, *Radiant Sun* 118). Such a reduction in scale makes the object look simpler; it can be "'apprehended with a single glance'" (qtd. in Jeannet, *Radiant Sun* 118). On Calvino's cities as minimal units isolated from the flux of reality, see Hume 134–35. Lynch defined this process of differentiation and understanding of parts as "an investigation in a primitive stage" (67). Lévi-Strauss, one of Calvino's most important influences outside of urbanism and literary studies, had discussed the diverse practices of ritual by breaking them down into "discrete minimal units" that might capture the "multiple shapes of practical life" (qtd. in Bucciantini 166). Scrutinizing the relationship between practical life and the city, Calvino likewise chose to begin at the level of the minimal unit. On the visual perception of distinctions, see Calvino's essay about his trip to Japan, "La vecchia signora in chimono viola." See ch. 1 of this study on the perceptual value that Calvino attributed to Fourier's series.
12. Franco Ricci has identified in Calvino's "deconstruction of physicality into easily imagined visual information packets . . . , a process . . . for knowing the indefinable, often indescribable, outer world through a perceptual interface fostered through an inner visual experience" (*Painting with Words* 153). Consonant with Ricci's view, semiotician Ugo Volli has qualified the urban icons as "specialized cities" that exemplify how Calvino breaks down complexity in order to artificially generate areas of meaning amidst the chaos of reality (155).
13. Just as Lynch held that space and urban architecture made sense only in relation to a city's inhabitants, so Calvino makes the reader an active participant

in the novel. As Re puts it, "the cities produce the reader and the reader produces the cities" as he or she, consciously and unconsciously, becomes the protagonist by investing "signs with different connotations" ("Textos" 107).

14. I quote from Ricci, *Painting with Words* 92. The "visual pattern" becomes itself "the story" according to Ricci (144), or one among multiple and paradigmatic "pictorial segments" (De Lauretis 18). Milanini approaches Calvino's cities as visual syntheses, series of images-apologies, "the icastic equivalent of an argument" (143). On the relationship between image and text, Bonsaver contends that the image is the originating nucleus of the novel (179). Eugenia Paulicelli sees in the interactions between the language of the city and the symbol of the city the same duplication of visible and invisible, relying on the theories of Sanders Peirce (Paulicelli, *Parola e immagine* 115–43). The cities could also be assimilated to Uspensky's pictorial work of art, in which time orientation is undetermined (77–78).
15. See also Tamara (*Invisible Cities* 13–14), or Despina, the city that takes the traveler away from the desert of the tableland or of the sea. On the presence of verbs of movement in the incipit of many city descriptions, which communicates a tendency towards the unknown, see Chiesa.
16. "The image is born slowly, first in its horizontal space with only one colour indicated, yellow, and 'in the midst' stands the city not yet mentioned, in a place that looks like a lunar landscape. The beholder sees it from a distance, which diminishes the vision; then a vertical axis (the slender pinnacles) rises in an ascending movement towards the sky. This *veduta*, which has the characteristics of a lithograph, is completed by the moon, resting on a pinnacle or swaying from the cables of the cranes. The light is uniform, almost metaphysical, as in the ideal cities of the Renaissance" (Petersen, "Significance of Visibility" 96–97). On the *veduta*, or view, in Loyola and Barthes, see ch. 1 of this study.
17. See Petersen, "Significance of Visibility," in which he examines the strong visual qualities of *Invisible Cities* and *Mr. Palomar* using Wolfgang Iser's theory of aesthetic response.
18. It is very likely that Austrian city planner Camillo Sitte's 1889 *City Planning According to Artistic Principles*, quoted in Choay's anthology, made an impression on the form quality of Calvino's images. Sitte's aesthetic approach to the city was based on the idea that each city had to etch a unique impression on the viewer's imagination. Choay quotes from Sitte's work to make the case that urban planning primarily consists in limitations of spaces and of impressions, or in forming an enclosed whole (Choay 44).
19. Giudicetti and Lizza Venuti have exhaustively analyzed the names of the cities in their excellent study, *Le città e i nomi: Un viaggio tra le città invisibili di Italo Calvino*, from which I have taken these examples (Diomira 34–36, Despina 54–55, Euphemia 77–79, Aglaura 108–09). See also Giudicetti, who analyzes the Polo-Khan relationship as one between teacher and learner in which the task is to read, rather than (as I contend) to see ("Les séries").
20. On the Platonic flavor of this passage and others in the novel, see Calvino's July 1973 letter to Pier Paolo Pasolini (Calvino, *Lettere* 1196–98). Also see Chessa Wright 91.
21. Arnheim, "Image and Thought," in Kepes, *Sign, Image, Symbol* 62–77.
22. Regarding the relationship of reversibility between atomism and language, I note in passing that Khan expresses his astonishment at how Polo's language skills have improved, that is, how he has learned to sort out and combine words and structures in order to express things with increasing precision and detail.

23. According to Rivoletti, within the classical concept of utopia, the journey is a metaphor that transports the reader to a completely different reality or perspective. In Renaissance and Baroque utopian literature, an imaginary traveller represents that diverse perspective and invites the reader's cognitive and affective identification and participation ("*Le città invisibili*" 76). In Calvino's novel, the metaphor of the journey is emptied of its physicality (80) so that it becomes an exercise in seeing and thinking, "for only from a mental distance can the real be contemplated" (79).
24. "By suggesting that Marco is engaged in a poietic activity," Pocci explains, "I mean that his activity is a world-creating enterprise. This implies that, within the fictional world of the text, his cities emerge as possible worlds in the basic sense proposed by Saul A. Kripke . . . , as 'stipulated, not discovered by the powerful telescopes'" (112n4). On atemporality in the novel, see Chessa Wright 70; Frasson-Marin 30; Pocci 112.
25. The reader "helps construct the visual pattern of the cities' numeric atlas, responds to the seminal suggestions of the poetic language, perceives the detailed architectural images in his mind's eye" (Ricci, *Painting with Words* 107). Thus, Calvino's propaedeutic tool both relies on and develops "the visualization capabilities of the reader/user to imagine/assemble pictures on the mind's screen" (155).
26. Dombroski and Miller speculate that Calvino chose architecture (a three-dimensional medium that can never be mere surface) to investigate the epistemological basis of postmodern fiction. Through architecture the author confers on the reader's imagination a status in the object world. Polo's architecture, "which can exist only on the nude landscape of the blank page, becomes increasingly three-dimensional as the reader re-imagines the words" (Dombroski and Miller 166).
27. Rivoletti sees in the novel's fragmentation of utopian topoi a reversal of the topos of uniformity ("*Le città invisibili*"). See also Weiss 148.
28. Calvino's earliest notes on his 1972 work reveal his desire to write about "the city and diversity" and his awareness of John Ruskin's adoration for Verona's variety in his *Verona and Other Lectures* (in Barenghi, "Gli abbozzi" 89). Ruskin marvels at the city's juxtaposition of tombs for the dead and buildings for the living (*Verona* 20) and admires its variety of shapes, hues, and building materials: "now the porch of it here towards Italy is literally like a scene in the *Arabian Nights*. . . . The rock of this promontory on which we are seated hardens as we trace it back to the Alps, first into a limestone having knots of splendid brown jasper in it, as our chalk has flints, and in a few miles more into true marble, coloured by iron into a glowing orange or pale, warm red—the peach-blossom marble, of which Verona is chiefly built: and then as you advance farther into the hills, into variegated marbles, so rich and grotesque in their veinings . . . " (*Verona* 7–8). A similar emphasis on variety may also be found throughout Ruskin's *Stones of Venice*.
29. Simoncini 172. The calls for multiplicity would continue to ring out from urbanist circles even after the publication of Simoncini's 1970 volume and Calvino's 1972 novel. Niels Prak reported, in his *Visual Perception of the Built Environment* (1977), that experiments from the '60s involving Gestalt laws of form perception had demonstrated the deleterious effects on humans of perceptual deprivation (or lack of variety) over time. His study inveighs against the monotony of functionalists (W. Gropius, L. Mies van der Rohe, Le Corbusier)—their International Style "of great simplicity" (69) and on the increasing complexity of post–World War II architecture. Arnheim's *Dynamics of Architectural Form* praised the liberating psychological benefits of a "sequence of unexpected vistas" (115). In Old European towns, Arnheim

remarked, one could enjoy the "liberating and stimulating effects of such surroundings," whereas "an excess of surveyable order has been recognized by city planners as impoverishing urban life" (115). Calvino's inspiration to create urban icons that might help to pin back urban decay outside of the novel may also have come from urbanists who repudiated the antiurban posture of many American intellectuals. The orderly blank dullness of the suburbs stifled human creativity, according to Mumford, *Urban Prospect* 35. Similar harangues issued from urbanists in Italy.

30. In Simoncini's volume, for example, one could leaf through the images of Paul Virilio's "Nauta Cité," Edward Mazet's "Idealcity," Jean Claude Bernard's "Ville Totale," Paolo Soleri's "Babel," Marino di Teana's "Città scultura," Noriaki Kurokawa's "Helix City," Bernard Lefay's "Paris-Parallèle," the spatial city, the container city, the mobile city, the assemblable city, the portable city, and many others.
31. Pocci comments on the medieval tradition of the *laus civitatis* in connection with *Invisible Cities* and mentions Mumford and Calvino's shared perception of the megalopolis as a threat. His analysis makes clear that both authors feared the "urban monstrum": a continuous city that might overrun the entire surface of the earth. Giudicetti points out that the "continuous cities" series is the most socially defined in the 1972 novel insofar as its theme is the most explicitly referential ("Les séries" 91). On Zoe, in particular, see Giudicetti, "One-Two-Three" 196.
32. "If our civilization is worthwhile maintaining . . . , two urban conditions must be laid down: one, a *many-dimensioned container* capable of maintaining this richness and complexity of distributing . . . the cultural wealth that urbanization both stores and helps to increase. The other condition is the creation of *highly attractive focal points*—cities in the historic sense, striking in form and character—where a *diversity* of organizations, institutions, associations [come together]" (Mumford, *Urban Prospect* 137 [my emphasis]).
33. Jeannet acutely observes: "within the desert that surrounds them all, the cities are oases and market places, fair grounds and construction sites. The wealth of disparate elements and suggestions and recalls used by Calvino is impressive. Inside the limits of the cities, humanity lives, gesturing and speaking, bartering and telling tales, loving and killing, cooking and bathing, creating and destroying, touching and imagining, using in ever new combinations all the possible components of human experience" ("Italo Calvino's Invisible City" 31).
34. An observation in Ruskin's *Stones of Venice* comes to mind here: "the Rio Facade of the Ducal Palace . . . still retains one pure Gothic character, which adds not a little to its nobleness, that of perpetual variety. There is hardly one window of it, or one panel, that is like another; and this continual change so increases its apparent size by confusing the eye, that, though presenting no bold features, or striking masses of any kind, there are few things in Italy more impressive than the vision of it overhead, as the gondola glides from beneath the Bridge of Sighs" (29).
35. "The city fashions a community between seemingly disparate elements: walls, buildings, bridges, tables, streets. And across the common ground, between one side and the other, buildings choreograph the events that take place. The common ground of the street and the plaza is the primary institution-forming agent within the city. It provides an agency between inhabitants and a place to conduct business and trade, or perhaps a fugitive glance, or a chance encounter" (Blizard 108).
36. See Adjmi et al.

37. Calvino declared in a January 1985 interview with Michele Neri that his 1972 novel was an attempt to express "the sensation of time having become crystallized in objects, trapped in the things that surround us. . . . The cities are nothing other than the shape of time" (qtd. in Barenghi in Calvino, *Romanzi e racconti* 2:1365).
38. Just as Calvino does through his visual narrative nuclei, Rossi's drawing "makes architecture and the city an active place of clashes and encounters, not only of buildings but also of unconscious mechanisms and memories. The architectural imagination is thus a sum of real and historical pathways, both coherent and incoherent. It becomes a map where the criss-crossing of evident and concealed signs and symptoms takes on meaning. The city as collage, captured in a net of random and contingent figurations, a space of continuous happenings not always governed by comprehensible laws" (Celant 17).
39. James argues that "the people of the cities are not characters; they seem more like decorations in a silent tapestry or figures in a myth; in other words, emblems or allegories of those cities they inhabit" (149). Martignoni complains that the different travellers in the novel are "evanescent paper dolls without identity or thickness" (24). Mengaldo, for his part, has qualified the human presence in the cities as flat logogriphs (421).
40. A recent description by Blizard comes to mind here: "density and accident—coincidental overlap and enjambment of buildings and perception, chance happenings and planned events—become an engine for the imagination. Density offers opportunity and a place for the exchange of ideas as well as for the accident of serendipity. The city presents itself as a dense and dynamic montage through which we think about what might be in terms of what it is. Memory, reason, and imagination are drawn tightly together" (106).
41. Rossi clarifies: "by architecture of the city we mean two different things: first, the city seen as a gigantic man-made object, a work of engineering and architecture that is large and complex and growing over time; second, certain more limited but still crucial aspects of the city, namely urban artifacts [a building, a street, a district], which like the city itself are characterized by their own history and thus by their own form" (*Architecture of the City* 29).
42. Recently, Blizard's idea of an open-endedness stemming from the tensions between the artifactual (or visible) city and the intelligible city, or city as "political and ideological text" (106), has approximated Rossi's *fabbrica* concept. "To comprehend the city," Blizard exhorts, "we see it not as a fixed object whose boundaries and identity are secured and unmoving. Rather, any definition must illuminate the processes of exchange between distinct layers—both visible and intelligible—whose boundaries constantly negotiate the differences and the relationships between" (107).
43. Blizard's prescriptions track De Fusco's theoretical observations as well as Polo's characterization of Tamara (*Invisible Cities* 13–14): "the city is an open narrative that enables the interpreter to enter. Through a series of 'blanks'—openings that are connected, bridged or otherwise entered into by the interpreter—fragments are connected together. The blanks may be considered the distances between things: the elements of the city, its body of artifacts, places, people, and practices. In reading the city, we consider the different ways the various elements may be arranged in relationship with each other and within the domain of the city as a whole. As an open narrative, the city remains unfinished, completed by the reader who makes sense of the discontinuities, enjambments, and the distances in between" (Blizard

165–66). Re sees in Calvino's novel precisely "a book that is constructed like a city" ("Textos" 105).

44. See Crompton 89; Schaik and Máčcel.
45. In 1964 Garroni stressed that Eco's thesis of the open work produced an "intrinsically mobile work . . . , a work in movement" (*La crisi semantica* 235).
46. On polysemanticism and the open work in *Invisible Cities*, see Petersen, "Il fantastico e l'utopia."
47. De Lauretis identifies two modes of writing and reading *Invisible Cities*, the continuous and the discontinuous. Calvino's narrative provides "a rule that allows linking one city to another in a continuous and reversible process, countering the discontinuity of the syntagmatic chain by means of a paradigmatic continuity (Lotman's "summation in time") which is itself synchronic" (21).
48. See Re, "Textos" 106; Barenghi, "Gli abbozzi" 95.
49. On Calvino's deconstruction of the text into its formal components, see Grujičić 210-11. On *Invisible Cities* as a "spatial morphology" whose topology aims to "inscribe the morphology of the world inside of the book in the form of space," see Belpoliti, *L'occhio* 75. On Bertone's view, the process of reading the novel breaks down textual and physical reality into units, then arranges them into meaningful combinations (*Castello* 161).
50. According to De Fusco (144), Eco later published the address as "I premi nazionali IN/ARCH 1964," in the prestigious journal edited by the historian of art and architecture Zevi, *L'architettura cronache e storia*.
51. The depth and intensity of this protracted intellectual exchange has been brought to light by Barenghi and Belpoliti. See also Barenghi, *Le linee*, ch. 7; Jansen and Nocentini; Botta.
52. On *Invisible Cities* and the interpretative possibilities of nonlinear reading, see Flavia Ravazzoli, "*Le città invisibili* di Calvino" and "Alla ricerca del lettore perduto"; Martignoni.
53. Re identifies in *Invisible Cities* not a random topographic structure but, instead, the city of Venice, a "city at once complex and simple, articulated and labyrinthine, but not chaotic . . . : a city, in short, designed and made for man" ("Textos" 105).
54. On Calvino's mapping the complexity of the knowable, Pilz offers a very different reading than the one that I present here, in "Reconceptualising Thought and Space."
55. In 2000, West commented that "the faith implicit in Calvino's words in the great potential of the literary as a space for truly important developments of the social, political, epistemological, and ontological kinds seems almost quaintly antique, given today's academic (and nonacademic) emargination of literature in favor of other forms of cultural production such as visual media and popular culture 'texts' of all sorts *except* the standardly literary" (*Gianni Celati* 81). According to Belpoliti, the "socio-political definition" of *Invisible Cities* is contained in Calvino's "Fine Dust," while "Lo sguardo" supplies a definition of the same novel "in literary terms" ("Città visibili e città invisibili" 48).
56. Milanini sees in the plurality of opinions expressed in the novel "the polemical genesis of the book" against the totalizing ideologies and master narratives that had triumphed until the late '60s and early '70s (142).
57. On these opposing agnitions, see Giudicetti, "*Le città invisibili* e gli explicit" and "Les séries," where he writes of Calvino's "poetics of instability" (96).
58. Gabellone asserts that "the ethno-logocentric assumption regarding the exhaustion of descriptions and of interpretations" has fallen down, and all that remains is "scattered, contradictory, ephemeral messages" (71).

59. See Gabellone 67. Foucault's *Les mots et les choses* (*The Order of Things* [1966]; Italian trans. 1967) was already well known to the *Alì Babà* circle of friends, especially his notion of heterotopia (xviii). For an analysis of the heterotopian zone of postmodernist writing, see McHale 43.
60. Gabellone qtd. by Celati, in Barenghi and Belpoliti 158.
61. Gabellone in fact linked *Invisible Cities* to partial knowledge in the surrealist sense.
62. These instances of *chaotic enumeration*, in the terminology of Leo Spitzer, were defined by Celati and Gabellone as "flea markets." Celati cites numerous examples of this parading of marginal things in Rimbaud's *Illuminations* ("Bazar" 34). On this point, see also Chessa Wright.
63. In Moriana, as I explain later (ch. 4), Calvino illuminates the heavy, dark side of the city; in Beersheba, the avidness and avarice of the capitalist metropolis around which orbits a satellite garbage heap: "a planet a-flutter with potato peels, broken umbrellas, old socks, candy wrappings, paved with tram tickets, fingernail-cuttings and pared calluses, eggshells" (112–13). Leonia is surrounded by a "fortress of indestructible leftovers" (115). In Theodora, "sphinxes, griffons, chimeras, dragons, hircocervi, harpies, hydras, unicorns, basilisks were resuming possession of the city" (160).
64. Links between the philosophy of fragmentation and *Invisible Cities* have not gone unremarked. Barenghi has posited a relationship between Polo's travel reports and a "collection of 'traces'" (Barenghi, *Le linee* 185). Dombroski and Miller write of a "collage of discontinuous entities" in which "each description is a story of the diverse and of the heterogeneous" (162). Belpoliti refers to *Invisible Cities* as "fragments of an exploded whole" ("Città visibili e città invisibili" 45).
65. Notwithstanding Calvino's debts to Gabellone, the latter issued a negative assessment of the novel, approaching it as an unsettling heterotopia: "all 'pièces' of a labyrinthine game without a purpose, i.e., devoid of ethic, civic, or pedagogical value" (69).
66. Celati sought to safeguard "the positing of always-new openings of the possible" within their epistemological model figured as a city (Barenghi and Belpoliti 159). By this he meant that "not the infinite but, rather, the infinitesimal is the character of this city, meaning the infinitesimal divisibility of its components; as soon as I shine a light on something, there is always another side still in the dark that rises up like a new unknown" (159).
67. For a solid analysis of these dialogical relationships, see Grujičić 207. According to De Lauretis, "in Calvino's text the diachronic discontinuity of verbal narrative (the description of the cities on the syntagmatic axis) and the synchronic continuity (on the paradigmatic axis) of affect, memory, and signification, constitute the dialectic (dialogue) of the communicative process" (21).
68. In *Lettere*, Calvino refers to Lévi-Strauss's reflection on "little gods" in *L'homme nu*, which the novelist was to integrate into his concept of the infinitesimal utopia (1343). See also Barenghi, *Le linee* 211–27; Bucciantini 166.
69. Calvino must have read these pages very carefully because portions of them appear in his review. Compare, for example, Calvino, "Literature as Projection" 55 to Frye, *Anatomy* 148.
70. The Trieste-born architect Ernesto N. Rogers has recently affirmed: "The rhetoric which surrounds the celebrated places and that unique ideal which so many historical cities, harmonious and complete, yet tend to reveal, influences the negative experience of the contemporary city. But this process must be changed, so that we shall be able to perceive an individual face, even in a city which is deformed, and we shall be able to discern this face even in

its most unpleasing features. This does not mean that we shall be obliged to accept them, to abandon all thought of correction" ("The Image" 243).

71. Here we should also recall Calvino's reading of Lévi-Strauss. As Bucciantini has noted in a very different context from mine, the French anthropologist spoke of "this vast empirical soup . . . overrun by disorder," but nonetheless dotted by "islands of order" in *Les structures élémentaires de la parenté* (qtd. in Bucciantini 166n67).
72. Celant, "Aldo Rossi Draws" 15. Architecture became the stage for expressing this emerging "elsewhere."
73. On *Invisible Cities* and surrealism, see Pasolini's 1973 essay.
74. On the varied effects of this type of city, see Nava, "Il decennio 1960–70" 193.)
75. On the relationship between Calvino's "Il lampo" and Montale's "Forse un mattino andando," see Consolo. Milanini links "Il lampo" to Rilke as well as Montale in Calvino, *Romanzi e Racconti* 3 xxviii–ix.
76. In "Eugenio Montale," Calvino describes "Forse" as "one of the poems that has continued to go round more than most on my mental turntable" (209–10).
77. See Rivoletti, "Dagli *Ossi di seppia*" 327.
78. Rivoletti analyzes Calvino's recycling of Montale's dialectics and images of necessity and liberty ("Dagli *Ossi di seppia*" 316–18).

NOTES TO CHAPTER 4

1. *Megastructure Reloaded: Visionary Architecture and Urban Design of the Sixties Reflected by Contemporary Artists* (European Art Projects, 6 April 2008 to 25 May 2008. MODEM: Space for Contemporary Music and Arts. Berlin.) Maier explains: "The exhibition will not be a documentary representation however; instead the megastructuralists are to be tested for their currency and relevance to the problems of contemporary urban design. The focus will be on the connection, so significant for these designs, between spatial structures and visual art, as well as on actual architectural and urban-design issues, while examining whether megastructures offer a feasible conceptual approach for the problems of fast-growing megacities" (n.p.).
2. Banham has connected the myth of lightness at the basis of the urban spatialists' designs to progress made in the development of lattice structures and tension models. Neither the lattice pylons nor the tensile propositions were sufficient to sustain the cities imagined by the French visionaries, but the myth of lightness endured (58).
3. On the visionaries, or *visionnaires*, see Parinaud. See also the distinction between "visionaries with a gratuitous fantastic" and "visionaries with a prospective fantastic" in Ragon, *Les cités* 31.
4. See "Industrialization du bâtiment et sculpture-architecture" 36–38, especially "La maison-sculpture"; Ragon, *Aesthetics*, "Sculpture-architecture" 91–98. Ragon later authored a monograph on Alexander Calder's aerial sculptures entitled *Calder: Mobiles and Stabiles*.
5. The best introduction to Melotti's work is Celant, Melotti, and Gianelli's catalog of his work. For an overview of Melotti's life and education, see Geuna. On the affinities between science and sculpture during his era, see Burnham's 1968 study.
6. Compare Calvino's "Guardando disegni e quadri" with the related section "Note, 'Guardando disegni.'" On Calvino's devotion to the visual arts, see

Ciccuto; Belpoliti, *L'occhio*, ch. 8. Belpoliti notes "Calvino's interest in art, photography, painting and cinema, in the world of objects and the most heterogeneous collections" (*L'occhio*, "Prefazione" xi).

7. A cursory review of the Turin exhibitions in the period 1968-72 suggests Melotti's privileged presence within the artistic panorama of the city. In January and February 1968 there was a multiartist exhibit, "Experiences in Italian Abstractism 1930–1940," which was followed by a single-artist exhibit at Galleria Notizie, "Melotti, Prophecy of Sculpture," in November and December. In 1971 exhibits of Melotti's works were held simultaneously at the Galatea and the Martano Galleries throughout the month of March. In 1972, Melotti's sculpture was showcased at the Galatea from May through June, and at Galleria Civica d'Arte Moderna from June to July. Of course, Calvino could have attended any number of Melotti exhibits in other cities of Italy, or in Paris, as Melotti was in high demand in this period and Calvino was notoriously fond of art and architecture exhibits.
8. In 1971 Einaudi published two studies by Paolo Fossati related to Melotti: *Lo spazio inquieto* (*The Restless Space*), for which Calvino wrote "High Signs," and *L'immagine sospesa: Pittura e scultura astratta in Italia 1934–1940* (*Suspended Image: Abstract Painting and Sculpture in Italy, 1934–1940*), which has a chapter devoted to Melotti.
9. Commenting on Calvino's "I segni alti" and "Le effimere della Fortezza," Belpoliti singles out the novelist's and the sculptor's shared striving for verticality and lightness (*L'occhio* 148–51). Moreover, Belpoliti identifies Melotti as the source for Calvino's description of Mercury's dream in *Six Memos*: it is "the description of one of Melotti's sculptures" (151).
10. Calvino's essay also hones in on the presence of the spiral image among Melotti's figures: "moreover, learning from Melotti that the infinite wraps itself up in a spiral encourages a certain freedom regarding space and time" (1971). *Invisible Cities*, as a postmodern travelogue, takes liberties with—programmatically subverts—conventional spatiotemporal categories.
11. Carol James reads these lines in the context of the Khan's attempt to establish his authority over his empire: "the Khan has power over his empire only if he turns it into fiction, even if he does not realize fiction's treacheries" (154).
12. The projects presented at the exhibit were published in a special issue of *L'architecture d'aujourd'hui* (June-July 1962) under the title "Architectures fantastiques." Included in the exhibit were Kiyonori Kikutake's floating city, Buckminster Fuller's dome to shelter Manhattan, Hans Poelzig's terraced metropolis, Lou Kahn's skyscraper, and Paolo Soleri's tubular concrete bridge.
13. Ragon's role in the debates about the city of the future deserves far more attention than it can be given in this study. Beyond the two main studies mentioned in this chapter, he authored *L'urbanisme et la cité* (*Urbanism and the City* [Hachette, 1964]); and *Paris, hier, aujourd'hui, demain* (*Paris Yesterday, Today, Tomorrow*) [(Hachette, 1966]). He also wrote the introduction to *Les visionnaires de l'architecture: Textes de Friedman, Jonas, Maymont, Schöffer* (*Visionaries of Architecture: Texts by Friedman, Jonas, Maymont, Schöffer* [R. Laffont, 1965]). Several of his articles appeared in the Parisian magazine *L'express* during this period, which confirms his status as a high-profile cultural critic.
14. *Les cités de l'avenir* is divided into three sections. In the first, he explores projects that were already underway and would be finished in 1975; in the second, design projects emerging from parallel architecture for the city in the year 1990; and in the third, urban planning and design for the twenty-first century.

15. See also Ragon, *Histoire mondiale* (1971).
16. René Sarger's "Voiles prétendues" was a roofing system rooted in the design philosophy of lightness, which consisted in strips of material-like veils that remained aloft due to the tension. It marked an absolute break with building conventions of the past based on stability secured by weight, as Ragon pointed out. Such structures appeared to "take flight like sails" (Ragon, *Les cités* 71) tending toward a lack of gravity. Sarger was the founder of the Institut Technique et Plastique de Recherches sul les Voiles Prétendues in 1962.
17. Calvino's visual imagination would have been captivated by Schöffer's "spatio-dynamic and cybernetic city" (Ragon, *Les cités* 147), a towering example of spatial architecture. In the chapter "A New Idea: Spatial Urbanism," Ragon discusses Schöffer's design project under the heading, "Schöffer launches the city more than a thousand meters into the air." Schöffer's envisioned an urban system founded on the "decontraction and deconcentration" of residential zones arranged horizontally, and on the "contraction and concentration" of functional zones of work and exchange arranged on a vertical axis (146–48).
18. The positive qualities of lightness emerged also in the visionaries' planning for spaces of human leisure. Schöffer, for instance, was greatly interested in developing a new range of possibilities for "liberating man [*affranchir l'homme*]" (Ragon, *Les cités* 201). Along with his "Center for Sexual Diversions" shaped like a swollen breast, he envisioned "Cities for Extraterrestrial Diversions" carried by satellites or built on the moon (Ragon, *Les cités* 201). Schöffer imagined rapid trips around the Earth or in other directions (201). Perhaps not accidentally, Calvino's "La distanza dalla luna" in *Cosmicomics* closely resembles Schöffer's visionary designs in its freedom from the force of gravity and its trips around the Earth.
19. In 1974, Guy Rottier designed the residential project Boulequiroule based on *apesanteur* (i.e., weightlessness or lack of gravity). His aim was to achieve a more efficient use of space by integrating "weightlessness into weight" (Guy Rottier, e-mail to author Sept. 2010).
20. The elevation of the building on piles, due principally to Le Corbusier, was a sensational innovation. It was transparent at man's height, and people could pass under it. "The house on piles! The house used to sink into the ground: dark and often damp premises. Reinforced concrete gives us pilings. The house is in the air, far from the ground" (Le Corbusier qtd. in Ragon, *Aesthetics* 52). In *Dynamics*, Arnheim discusses how architectural form affects our experience of space, in particular how height is perceived as a liberating act that overcomes gravity's pull.
21. Another of Schöffer's design projects for Paris consisted in a 327-meter- high tower of lights and mirrors and sonic systems named *Tour Lumière Cybernétique of Paris-La-Défense*, which at 327 meters would have been taller than the Eiffel Tower. Displayed in 1963, it was never built, though an enthusiastic Ragon pronounced it the symbol of "the new Paris": the Paris of the year 2000 that he maps out in several pages, based on design projects and projects already in the construction phase.
22. See Frei's lightweight tension structures (LTS), which were tents suspended in the air due to their sparse supports. Alongside his planning and design activities, Frei elaborated a complex theory in the two volumes (from 1962 and 1966, respectively) of his *Tensile Structures: Design, Structure and Calculation of Buildings of Cables, Nets, and Membranes*. In 1967, he worked at the West German Pavilion at the Montreal Expo, and in 1968 he began work on one of his most famous and ambitious projects: the roofs of the stadiums and other structures for the staging of the Olympics in Munich.

23. Fuller, for his part, was thinking about "4-D" residences such as the Dymaxion House, a hexagonal structure suspended by steel cables from a central tree twenty meters high. Thereafter Fuller created an even lighter residence, the Wichita House.
24. On the labyrinth city, see Jean-Claude Bernard's designs in Ragon, *Les cités* 155.
25. See Habegger-Conti, who dissects the novel's chapters according to Frye's tripartite Apocalyptic, Order of Nature, and Demonic (126–27).
26. Melotti himself distinguished his work from the American's: his own was "more modulated by the melancholy of the Old World, by the 'woodworm of fantasy,' although it may not seem less in-jest and ironic" (Melotti, Appella, et al. 14).
27. Calvino in a letter to Caterina de Caprio, 20 February 1973. Barenghi has characterized it as the "optative-lyric" moment of the novel, where desire develops the "hypostasis of levity " ("Gli abbozzi" 75).
28. The height, suspension, and gravity of Octavia's residents may be traced to another of Melotti's sculptures from those years, *L'universo* (*The Universe* [1967]; Celant, Melotti, and Gianeli 1: 190). The piece consists of an exceedingly thin, yielding horizontal cable sustained by two thin stilts sitting on the floor like a tightrope. In the middle of the cable there is a little chain holding a metallic sphere, heavy yet free to oscillate, because it is suspended at a certain distance from the floor.
29. I note that the cover illustration for the first edition of *Le città invisibili* was René Magritte's *Il castello dei Pirenei* (1972). Light cities represent a nod to Fourier, for whom the history of humanity constituted an ascending circle whose apogee was Harmony, followed by a descending circle of degradation that would lead to the end of humanity.
30. Baucis has elicited enormous critical attention. It has been called an "example of distancing" (Weiss 155) or the "*pathos* of distance" (Cases 160). McLaughlin's interpretation of Baucis situates it in relation to Ovid's myth of Baucis and Philemon in *Metamorphoses* (*Italo Calvino* 104–05). Musarra-Schroeder sees in Baucis Calvino's refusal to believe in fiction as social commitment (85–6). For Nannicini, Baucis is the central nucleus of the combinatory system, "the only truly invisible city, the empty square [on the chessboard] that makes the rotation of the other cities possible" (220–21), a device that precedes Perec's analogous *La vie mode d'emploi*. See also Milanini 130–31.
31. Calvino continues: "like an early photographer who poses in front of the camera and then runs to press the switch, photographing the spot where he could have been but isn't. Perhaps that is the way the dead observe the living, a mixture of interest and incomprehension. But I only think this when I am depressed. In my euphoric moments I think that the void which I do not occupy can be filled by another me, doing the things that I ought to have done but was not able to do. Another me that could emerge only from that void" (*Hermit in Paris* 189).
32. Bucciantini recalls that in the early '60s, Celati, Ginzburg, and Calvino were reading Lévi-Strauss's *L'homme nu*. Calvino commented on the mythology of the "tiniest gods" and wrote in a letter to Celati dated 12 March 1972: "In this ending of *L'Homme nu*, which is like a goldmine of information, LS [Lévi-Strauss] always talks a lot about *morcellement* [parcelling out], about Dumézil's little gods who try to get closer to the continuity of the living, in contrast to the mythology of great gods, triadic syntheses, great *découpures* [shearings] of the real. It's an idea that has been running around my brain for a while, this mythology of little gods, of the most minute, or tiniest" (Calvino, *Lettere* 1151). For

other instances of this discourse on the tiniest gods and its relationship to *Invisible Cities*, see Barenghi, *Le linee* 211–27.

33. On Venice as a historical city that inspires Polo's imagination and memory, and on the relationship between the ideal and the copy, see Della Coletta; Pocci; Weiss 149.
34. Le Corbusier's plans for building on *pilotis* over the existing city were widely popular among visionaries (see Maruhn 45). Constant presented his *New Babylon* at the Institute of Contemporary Arts (ICA) in London in 1963 (see Schaik and Máčel). New Babylon stood "on top of high vertical supports, raised above the earth's surface. Everything old or original remains below; the new is elevated, as if the raised platform constituted a theater for the inhabitants" (Maruhn 46). Mentioned earlier were Le Corbusier's 1965 Venice hospital project on stilts, and Friedman's 1969 design project to create several *villes spatiales* across the lagoon to host Venetians and their activities. (Venice itself would become a museum city according to his design; see Lebesque 54).
35. See the striking illustration of Schöffer's "*ville spatio-dynamique*" (Ragon, *La cité* 99). In *Invisible Cities*, Zemrude is perceived as made of two parts, upper and lower; Valdrada has a twin city mirror-image on the lake; Moriana has its obverse; Eusapia is divided between above and underground; Beersheba has three levels, terrestrial, celestial and underground; Bauci and Argia are each the mirror -image of the other, above the clouds and under rocky terrain.
36. Among the many proposals of underground urbanism, Ragon was fascinated with Maymont's, which called for a freeway to stretch across Paris from east to west, under the Seine. Underwater there would be twelve floors, traffic routes, parking lots, freezers, warehouses, and atomic fall-out shelters. His was one of many design projects in the period that envisioned a new future for Paris Indeed, these urban planners and designers predicted that a "Paris rénové, metamorphosé" would surpass the modernity of New York by the year 2000 (*La cité* 163).
37. An analogous city exists in *Castello:* "I try to stay away from a city that is all made of compacted metal," the woman carrying water says, "we inhabitants of the fluid visit only elements that flow and mix together" (518).
38. Péré-Lahaille and other architects came up with a design solution for the work environment: the construction of seven dikes spanning the Rhin, a city composed of fixed and mobile sections on rails to move it from one building area to another (Ragon, *Les cités* 160). On mobile architecture, see Tan, especially "Reality," "Mobility," "Participation," and the final section "Extending" in which he explains how Friedman's project have inspired modern art.
39. Ragon underscored that his era's forward -thinking had illustrious and unheeded predecessors. Antonio Sant'Elia's 1914 manifesto *L'architecture futuriste* called for architecture to abandon heavy materials in favor of light and flexible ones that would allow for maximum mobility and dynamism. Architecture, on the futurist's view, should not be considered permanent, but, rather, ephemeral: every generation must construct its own city based on emerging needs. Ragon remarked that Sant'Elia's manifesto foresaw not only mobile architecture but also *perishable* architecture, or buildings as consumer goods like all others (*Les cités* 163).
40. Lionel Schein and Arthur Quarmby designed inhabitable cells, mobile and easy to assemble into other structures. Frederick Kiesler speculated about elastic dwellings that would vary along with the vital functions of the residents. Already in 1927, Fuller had thought through the nexus of habitat and mobility: his tower carried aloft by a dirigible could be planted, uprooted, and transplanted elsewhere (Ragon, *Les cités* 163).

41. Recently, Altarelli has examined the "language of the provisional" and of lightness in the contemporary city.
42. See Arnheim, *Dynamics* 144–61.
43. As Rottier explained his 1967 design for Arman, which was built in 1968: "Le principe de la maison . . . est d'avoir *une partie fixe* (séjour-cuisine, chamber sans fenêtres) et *une partie mobile*, sous forme de chambers indépendantes pouvant être près ou loin de la maison . . . *Séjour fixe*, peut être en matériaux traditionnels, et chambers mobiles, déplaçables, usinées, permettant à la maison de grandir, de rétrécir . . . " (qtd. in Ragon, *Histoire mondiale* 3: 387).
44. "When you rethink architecture," Ragon affirmed, "you must also rethink the world. With the prospective urbanists there is—just as there was among their nineteenth-century predecessors Fourier, Cabet, and Robert Owen—an enormous striving for new social, political, and economic structures" (*Les cités*, 164).
45. New York City would still exist within the greatly feared East Coast megalopolis, imagined as a continuous swath stretching from Boston to Washington, D.C., and supporting thirty-eight million residents, but it would be uninhabited. Covered with a transparent cupola similar to Buckminster Fuller's geodesique dome, it would be preserved like a memory and visited by tourists, but the actual city would be located elsewhere, like Paris with respect to the new Paris (or Paris Galaxy), or Moscow with respect to the new Moscow with its own tall tower as a symbol of the new (Ragon, *La cité*, 168–71).
46. Analyzing the cities in the context of the classic concept of utopia, Peter Kuon has linked Eutropia, which is comprised of smaller cities inhabited in turns, to a concept in More's *Utopia:* every ten years a drawing was held so that residents had to switch houses (29).
47. See also Mumford in Ventura, "Mumford e il suo 'idolum'" 62.
48. See Lebesque's monograph which contains the first extensive survey, in both text and image, of Friedman's work.
49. These were conclusions reached by the governmental institute *Group 1985*, which had been charged with reflecting on the future of society, as documented in their 1964 report "Reflexion pour 1985" (Simoncini 62).
50. See Milanini, 132; Kirkpatrick; Lavagetto; Celati, "Il racconto di superficie"; Ciccuto 126, n 17; Musarra-Schroeder 84; Zancan 899, 913.
51. For an example of motionless motion in undifferentiated environments, see also Calvino, *La taverna* 552.
52. With respect to chess as a sign -system, it is important to remember an anthology that was crucial to the diffusion of semiotics in Italy: *I sistemi di segni e lo strutturalismo sovietico* (1969). In the very years in which Calvino was working on his novel, Faccani and Eco offered Italian readers a survey of the most important semiotics research published in the Soviet Union between 1962 and 1968. See 92.
53. Along the same lines, Édouard Albert designed his *Place de l'Alma* for Paris: twenty-two hotels with gardens, suspended by tubes of steel at a height of 120 meters, with spaces left empty between the floors.
54. Similarly, Dan Giuresco's design project for *Cité Alpha* visually evoked the moves in a game of chess: the city was made up of individual dwellings on separate aerial platforms built, out of necessity, using helicopters.
55. The architect and artist José Dávila's composition in *Megastructures Reloaded* (titled *Plug-In 01*) includes this revealing explanation: "the space structure is a macro-material capable of modulation, analogous to an intellectual model in physics, according to which the wealth of phenomena can be reduced to a few elementary particles. The physical material is a discontinuum of whole-

number units, molecules, atoms, elementary particles. Their combinatorial possibilities determine the characteristics of the material" (*Megastructures Reloaded*, between 33 and 34).

56. The article was "Due anni dopo," which had appeared in *Il Manifesto*, n. 1 (1969). I quote from Simoncini 63.
57. See Melotti's comments on *Variations* in *Linee*, and Hespelt.
58. There is another analogy with Calvino's novel, according to Della Coletta: "the oscillation between the poles of repetition and difference constitutes . . . the inspiring nucleus of *Invisible Cities*, a novel grounded in the encounter between two opposing structural orders: the one serial-mathematic and the other descriptive-symbolic" (423).
59. In the dialogues between Polo and Kublai Khan, the combinatory logic leads to "divergent and complementary [conclusions], superimposing on the series of images a reticule of partial and competing truths that continuously compel further interpretations and interrogations" (Barenghi in Calvino, *Romanzi e racconti* 2: 1363).
60. De Lauretis ponders the shuffling of visual elements between one city and another, underlining how the novelist arranges them paradigmatically to create an iconic continuum capable of transcending the discrete and closed formula at the syntagmatic level. In still another example from the novel, Isaura's pulleys appear also in Zenobia, but in the latter they are joined by cranes; the suspended tanks in one city are barrels of stored water in the other, and weathercocks appear in more than one city, with different attributes.
61. Polo nonetheless admonishes: "from the number of imaginable cities we must exclude those whose elements are assembled without a connecting thread, an inner rule, a perspective, a discourse" (43–44). Through Calvino's reading of Roscioni, he had absorbed Leibniz's lesson on the rules of combinatory and the laws of chance. Roscioni explained that all of the possibilities compete against each other according to Leibniz: "You could say that as soon as God decreed to create a thing there has been a battle between all possibilities, all of them fighting for their lives, and that those which joined together come the closest to reality, the closest to perfection, the closest to *intelligibility*, win the battle" (Roscioni 45). Melotti's reflection on his Variazioni is in consonance with Leibniz's emphasis on intelligibility or an internal logic that emerges from the competing possibilities: "The variations on a theme, though paradoxically knowing neither birth nor death, unwind in an exact and unique number. The shuffling of a deck of cards, however, or the rotation of a kaleidoscope, can result in infinite situations. A hedonistic game that never becomes poetry" (*Linee* 94).
62. Choay pondered the meaning of visionary architecture, which bordered on science fiction, according to the study that Calvino revered (56). She concluded that it was "doubtless a most interesting field of research and a means of struggle against the *passé* mental habits within the domain of building [and urban design] that present an especially forceful resistance" (56). Striking a similar pose, Giordani noted a certain aestheticizing self-satisfaction in the visionary urbanists, but nevertheless recognized that their "mental projections and constructions" were utopias of unmistakable "intellectual courage" (90). He conceded that prospective utopia was a speculative field but one that was "liberating in the face of mental schemes frozen by habit" (99). He valued in it the "degree of stimulation that leads to a vision; the measure of enjoyment that it produces; its capacity for rupturing stratifications, for reaction against the viscosity of situations, for dialectical provocation" (95).

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