INTRODUCTION

On Observing

EARLY IN MY undergraduate studies, I was encouraged to study relations between the forms of places and how people use them. My first drawings captured activities around Harvard Square and during graduate studies expanded to canal villages outside Shanghai. From eastern China to the western Taklamakan Desert, from Mediterranean hill towns to American suburbs, I find myself in China again—with more questions and speculations on the potential of design to support everyday life.

With three decades of recording environmental relations, it is no surprise that I firmly believe in observation as a necessary competence of architects and environmental designers. It is a strategy that reveals how places are linked to the practices that form them and informs designers of further transformations that are rooted in place. Seeing is prefaced by questions. For example, asking how a site is to be drained leads to observing topography and soil conditions. Asking how a project contributes to public space may lead to identifying systems of access, building elevations, land use patterns, and so on. Designing formulates questions that sharpen observing.

The essays and design speculations in this book are prefaced by questions of urban identity and legibility. The questions are posed in the context of rapidly growing global cities. What are the forms of good 21st-century cities? Pre-supposing that there should not be a universal answer to this question, what differentiates one city from another? How does contemporary city-building support exchanges between people and places? And what is the role of the designer? At a time when architecture and city design are dominated by multinational firms and brand-name designers, there is a global and now Chinese approach to city-building. Each development, project or building must be distinct and stand out from the rest. As a result, the experiences of Chinese cities are becoming a globally familiar cacophony of discrete interventions. China’s cities look more alike: parts of cities are
indistinguishable from each other, building prototypes are replicated en masse, and navigating cities is disorienting.

If we are to increase, or at least sustain, the unique identities of cities, we need professional competences in engaging the local practices that form places. We need strategies to expand, intensify and transform the particular, shared and continuous relations in cities that extend beyond any single intervention. This book is about seeing and designing these shared relations and continuities as fields that operate within a city in the visible public realm to the less easily accessed private realms. It is the design of exchanges between these domains that supports urban legibility and builds urban identity.

To move beyond the public realm is difficult and often uncomfortable. It challenges personal spatial practices to learn about other places where one normally would not go. Yet this discomfort is a necessity for designers: professionals need to be conversant with a diversity of ways in which spaces are perceived and the variety of reciprocities between domains: public to public, public to private, and private to private relations. To stay in the public realm is to only be a tourist.

For the past six years, I have brought architecture graduate students from the University of California Berkeley to design projects in the neighborhoods of this book—in districts at the center and outskirts of Shanghai, Tianjin, and Beijing. In each studio, we walked long lengths of each city, mapping relations between form and use in neighborhoods, streets, alleys, courtyards, and rooms. We visited new skyscrapers, gated compounds, and the soon to be demolished courtyard housing. Three of the studios have been to the canal village of Zhujiajiao located in Qingpu, a western district of Shanghai. At the beginning of each visit, I asked students to wander, and soon they were dispersed down the shop-lined tourist paths that follow the canals. When we re-grouped to organize for fieldwork, I found that most did not venture off the “public” canal path. As happens in many places, the residential fabric is organized perpendicular to the public path. To move off the canal paths, you must turn to enter into long, narrow alleyways. Although there were no doors, these alleys were read by the students as thresholds to private domains that they were not welcome to cross. When told that alleyways with numbered plaques led to many dwelling units within, they began to wander into the depths of courtyards hidden from the canal path.

Passing through an alleyway into the first courtyard, we were welcomed or ignored by the residents; moving deeper through the
next alleyway to the second courtyard might bring residents to their windows and doorways to scrutinize our visit; in the third courtyard, residents inevitably came out to inquire. Since the only way out was to return by the same route, visitors were rare in the final courtyard. Even here, deep in the field, we would often find someone who would generously admit us even further—into his or her home where eating, entertaining, and sleeping all took place in one room. In all the older city fabrics, where compounds are overcrowded and privacy is a constant challenge, we found many residents willing to share how they live. My students and I have intruded without warning upon so many and nonetheless have been warmly welcomed to share in food, drink, and stories of day-to-day life. We have all come to believe that our professional competence requires recognizing where cultural thresholds exist as well as a willingness to cross them to understand their role in the environment.

**On China**

I first visited China in 1973, the year after President Richard Nixon re-opened relations between the United States and China. As was typical then, our tour group was escorted through the major cities in China. Our guides orchestrated what we would see as well as what we could not. Despite their care, it was clear that the physical environment had been neglected for many years. The road between Hongqiao Airport and Shanghai was a two-lane dirt path lined with scraggily, recently planted trees and used predominantly by donkey carts to haul goods. In the *lilong* home of my father’s family, my grandmother, aunt, uncle, four cousins, and one spouse lived in three of their former nine rooms. The other rooms were occupied by five other families. Each family kept a coal-burning stove for cooking either in the back room of the ground floor or in the hallway, clearly health and safety hazards.

Despite disrepair, lack of services, and crowding, my memory of each city is quite distinct: the arcaded streets of Guangzhou, the tile-roofed buildings that lined the canals of Suzhou, the European building façades of Nanjing and Huaihai Roads in Shanghai, the walled alleys and grand avenues of Beijing. With subsequent trips, I have witnessed the fragmentation of each city’s fabric, swaths of land cleared for new, autonomous, and often anonymous buildings as well as wide roads. Small retail shops that once extended along the length of streets that served as seams between residential neighborhoods
are swept into malls and the streets widened for cars. The collective
 courtyards and lanes of the horizontal city are replaced by housing
towers and elevated highways. The sense of being “inside”—in the
room, in the courtyard, in the street, in the neighborhood—is lost,
replaced by disembodied interior space and interstitial exterior
dross. This rapid shift to figured development makes the experience
of being in first-tier cities more alike and second- and third-tier
cities indistinguishable from each other as they rush to imitate the
appearance of premier cities. Today, it is becoming more difficult to
distinguish one city from the next, one district within a city from
another, one street from the next. This homogeneous fragmentation
is rooted in object-oriented approaches to city-building in which
each intervention ignores the next. While the pieces of cities are
occasionally spectacular, the parts do not add up to anything larger
nor do they contribute to the extended setting.

There is an anecdote about a man looking for his lost keys under the
street light. A passerby stops to help and eventually asks the man where
he dropped his keys. The man points to another spot on the street. The
good Samaritan asks why they are not looking over there. And, the
well-known punch line from the man who lost his keys: “Because the
light is better over here.” While this book could be written about the
dominance of figural designs and developments throughout the world,
a light shines brightly on the rapid changes in Chinese cities.

Against Figures

Concerns about the rending of city fabrics by figures are not new.
In 1889, Camillo Sitte rejected the design of buildings as structures
unconnected to an urban fabric. In the European cities of his study,
public movement was a system of paths and nodes whose legibility was
reinforced by plazas often enfronted by a church. Through comparative
built-unbuilt drawings, Sitte illustrated a trend in which churches were
detached from the urban fabric to be built as objects within plazas.
This eliminated the figure of the plaza to emphasize the figure of the
church. “We are always of the delusion that everything must be seen
at once, that around about a thing only a uniformly empty space is
in order. It is not taken into account that this vacuum of a space, in
itself extremely boring, also destroys any diversity of effect.”¹ The loss
plazas and of reciprocities between plaza and church made navigating
cities both disorienting and homogeneous.
During the mid-20th century, the debate between fabrics and figures dominated architectural and urban design. The catalyst was a proposal by the members of the International Congresses for Modern Architecture (CIAM) to reorganize “pack-donkey’s” urban networks, admired by Sitte but criticized by Le Corbusier as the source of urban slums. In his 1924 book, The City of Tomorrow and Its Planning and the later 1943 publication of The Athens Charter, Le Corbusier produced a manifesto for “rational” cities in which streets were hierarchic and functions segregated. Dwellings were isolated in towers and distributed within parks to ensure that urban centers could be both dense and sunlit. The lures of mass production in automotive and building technologies coupled with imperatives of health and safety overrode any concern for urban legibility or locale. Le Corbusier’s urban vision, a tabula rasa approach to site, and belief in technology as salve to problems of urban living have been adopted by generations of architects, planners and policymakers, especially during waves of large-scale urban reconstruction as evidenced in post-war building booms in the West and today in contemporary China.

Within CIAM, disagreement about the Charter led to the emergence of Team 10. These European architects and planners challenged universal urban solutions and the loss of both individual and collective identities. In the United States, Jane Jacobs put forth her famed rebuke of modernist planning principles in her 1961 book, Death and Life of Great American Cities. The first line reads, “This book is an attack on current city planning and rebuilding.” Using New York as her primary case study, she derided figural monotony, fragmenting boundaries, and the loss of fine-grained and diverse social and economic complexities necessary for a healthy city. Her decimation of city planning was so complete that the profession has yet to return to formal questions of cities.

While the debate over what constituted good cities continued, the culture of object building evolved. A convergence of immense concentrations of capital, availability of cheap energy, and vertical technologies fostered a building culture dominated by icons to corporate and individual wealth. In 1978, Rem Koolhaas also used Manhattan as a case study to describe urbanism in its “terminal” stage when buildings are so large, they become “automonuments,” even if they do not deserve such symbolism. The skyscraper is such a monument in which urban living is “lobotomized”—splitting inside from out, block from block, public from private.
Also published in 1978, *Collage City* by Colin Rowe with Fred Koetter warned of the “predicament of texture” in light of modern architecture’s fixation with the object. In urban texture, Rowe and Koetter found that continuity in the built fabric gave “energy to its reciprocal condition, the specific space,” a balance between a legible urban structure with versatility and variety. They posited that urbanity could survive with objects in a city fabric but not as a city of objects. Like Sitte, Rowe and Koetter used figure-ground drawings to illustrate the change in cities from continuous buildings with figured spaces to an amorphous void of space with figured buildings.

With the return of infrastructural development and large-scale projects, particularly in Asia and the Middle East, there is a resurgence of concern for the continuous forms of cities. In *Splintering Urbanism*, Stephen Graham and Marvin Simon used infrastructure as a lens to understand the undermining of overall, large-scale coherence in cities. While Graham and Simon cited numerous disciplines as contributing to the phenomenon of splintering, they critiqued architects and urban designers for focusing “overwhelmingly on the designed spaces within site envelopes, rather than the networked infrastructures that knit buildings together, binding and configuring the broader spaces of metropolitan life.”

In China, there is growing recognition of the loss of urban heritage. Yung Ho Chang describes Beijing as a “Horizontal City” overtaken by the “City of Objects.” These objects cause “a revolution to sabotage ... urban and architectural coherence” and are used “to develop singularity as well as verticality ...” Kongjian Yu decried “the cosmetic art of urbanity”—a decorating of each building, especially at its top, to be admired and distinguished from afar. Yisan Ruan made the loss of urban identity vivid by comparing images of two Chinese cities: Lanzhou in Gansu Province and Changsha in Hunan. With rows of crowded high rises, both images looked identical. “Nowadays, cities have grown in height, but they are having identical faces.” Ruan’s remark is notable because of the forum in which he was allowed to make his statement, the second Theme Forum of Expo Shanghai 2010, tacit acknowledgement by the Chinese government of a growing loss.

Perhaps we are *Palladio’s Children*. N. John Habraken wrote, “Prior to Palladian architecture, no architecture had been named after a single practitioner.” In *The Four Books of Architecture* of 1570, Palladio’s drawings of buildings were published, notably devoid of contextual information. Thus began a practice of disseminating architecture with
the designer as the formal source over descriptions of architecture as lived-in, local places. Perusing almost any architectural monograph or journal today, the conditions of site and context are rarely present. Our culture molds habits of thinking.

At a time when architecture and urban design are dominated by multinational firms and brand-name designs, the experiences of cities are becoming a globally familiar cacophony of discrete interventions intended to stand out from the rest. The aggregation of the extraordinary is becoming a burden on the ordinary. These figures splinter everyday life in the city—the urban fabric is disconnected, illegible, disorienting, uniform, homogeneous, monotonous, self-serving, and lobotomized. If we are to sustain or even increase the quality and legibility of cities, we need compelling alternatives that shift development and design away from figures and objects.

About Fields

I was schooled at a time when there was a unique convergence in the search for architectural alternatives to the urban tenets associated with CIAM’s modernism. At the Massachusetts Institute of Technology (MIT), Gyorgy Kepes, Kevin Lynch, and Maurice Smith were laying out an experiential design paradigm that spanned the visual arts, planning, and architecture. At the same time, the school had ties with members of Team 10, including Aldo van Eyck and Herman Hertzberger, and continuing involvement with Giancarlo De Carlo through the International Laboratory of Architecture and Urban Design (ILAUD). Into this mix, N. John Habraken arrived to be department chair. I wrote earlier that our culture molds habits of thought. For me, my habits began with fields.

The term field has associations with the sciences (force and vector fields), with landscape (agrarian and playing fields), with the arts (visual fields), and with social sciences (fields of power and production). All use the term to describe shared relations—the ways in which parts act upon each other, connect, and propagate. In environmental design, fields are the relations, patterns, and systems that operate within and between environmental levels.

As already alluded to, Team 10 emerged from within CIAM as a loose association of members seeking alternatives to the a priori tenets of the Athens Charter. In 1968, Alison Smithson equated “mat-building” with “built-fields,” using the metaphor of a “mat”
as a thick, woven, primarily horizontal fabric or matrix. Using a reverse chronology of precedents that spanned from the Berlin Free University (Candilis, Josic, Woods, Schiedheim) back to the Katsura Imperial Villa, Smithson wrote, “Mat-building can be said to epitomize the anonymous collective; where the functions come to enrich the fabric, and the individual gains new freedoms of action through a new and shuffled order, based on interconnection, close-knit patterns of association, and possibilities for growth, diminution, and change.”

A field is a mesh that invites appropriation of uses rather than being assigned functions, and supports spatial connections rather than isolation or separation.

Van Eyck’s writing set out broad goals for architecture and urbanism, and his projects exemplified the local integration of his concepts. He coined “inbetween” to describe the dialogue between people and places, “right-size” to address issues of density and aggregation of number as well as “collective” to mediate repetitive parts into new spatial and associational configurations that form urban identity. In building more, we should expect to get more—greater variety of public spaces, more collective ways of sharing, and richer ways of dwelling—in places that grow richer over time. The Children’s Home in Amsterdam, also referred to as the Orphanage, the Sonsbeek Pavilion, and the Catholic Church for Pastor van Ars are pedagogical examples of van Eyck’s field configurations. And, his 734 playgrounds in Amsterdam that re-knit abandoned or interstitial gaps back into the urban fabric exemplify the power of particular sites to effect urban life and legibility.

For both Smithson and van Eyck, fields are built through overlapping systems with each system a recognizable set of parts and relations. In van Eyck’s words, “All systems should be familiarized one with the other in such a way that their combined impact and interaction can be appreciated as a single complex system—polyphonal, multirhythmic, kaleidoscopic, and yet perpetually and everywhere comprehensible. A single homogeneous configuration composed of many subsystems, each covering the same overall area and equally valid, but each with a different grain, scale of movement, and association potential.” Systems within fields have unique configurations, differentiated lives within and between systems that empower different agents, including individuals. Systems in fields neither operate wholly independently nor hierarchically, but interdependently, overlapping and extending across sites.
Despite being a proponent of places, Smithson's mat-building precedents were devoid of contextual information. It was the work of Giancarlo De Carlo to articulate iterative processes of “reading-writing” that situated designs within places. “Shuttling back and forth between reading and tentative design, we discover that there’s a genetic code that has governed the birth and development of the place ....” Connecting relationships between a culture, time, and locale maintains distinctiveness between places, “a feeling of being somewhere as opposed to just anywhere.” Designing and observing are paired competences required to engage fields. Through their individual practices, Team 10 collectively explored the forms, organizational structures, and processes that allow projects to be situated and continually renewed—imbedding the capacity for change in program, in building systems, and in associations.

During a parallel period, faculty at MIT were also moving beyond critiques of spatial segregation to design proposals based on cognitive and experiential relations. In the planning department, Kevin Lynch pioneered urban design strategies rooted in how people perceived and navigated different cities. In *A Theory of Good City Form*, Lynch defined his performance dimensions for cities: vitality, sense, fit, access, and control. It is “sense” that most parallels the search for urban legibility in this book. Sense is the “degree to which the settlement can be clearly perceived and mentally differentiated and structured in time and space ....” This definition of legibility is not universal but local to the practices that form it as well as to the “culture, temperament, status, experience and current purpose of the observer.” Legibility is associational and cultural, based on our past and current experiences with places. Of the elements of legibility, Lynch’s use of “district” and “grain” equate with fields.

*Districts are the medium-to-large sections of the city, conceived of as having two-dimensional extent, which the observer mentally enters ‘inside of,’ and which are recognizable as having some common, identifying character. Always identifiable from the inside, they are also used for exterior reference if visible from the outside. Most people structure their city to some extent in this way, with individual difference as to whether paths or districts are the dominant elements. It seems to depend not only upon the individual but also upon the given city.*
For Lynch, the grain of districts could be fine or coarse, sharp or blurred—configurations that described activities, densities, access, time, controls, ecosystems, as well as forms.

Lynch joined the department of planning in 1949, and a decade later, Maurice K. Smith joined architecture, becoming a dominant pedagogue in the department until his retirement in 1996. In describing attributes of form, Smith employed written collages containing pluralities and polarities of concepts. In particular, Smith was explicit about formal behaviors (or relational systems) of which “field organization” was an overarching principle. In describing a spectrum of field to figure, Smith wrote the following:

As paired phenomena (Figure 0.1), Smith described the formal qualities of the built environment and provided a way for a designer to work transformationally, working toward one end or the other of the spectrum.

At MIT, both Lynch and Smith were influenced by Gyorgy Kepes, painter, designer, and educator who founded the Center for Advanced Visual Studies. It was Kepes who was exploring the potentials of vision in cognition that Lynch and Smith extended to the built environment. “Vision is primarily a device of orientation; a means to measure and organize spatial events ... Each new visual environment demands a reorientation, a new way of measuring.” In Language of Vision, published in 1944, Kepes makes explicit use of fields as generator of collective experiences.

*The word ‘plastic’ therefore is here used to designate the formative quality, the shaping of sensory impressions into unified, organic wholes. The experience of a plastic image is a form evolved through a process of organization. The plastic image has all the*
characteristics of a living organism. It exists through forces in interaction which are acting in their respective fields, and are conditioned by these fields. It has an organic, spatial unity; that is, it is a whole the behavior of which is not determined by that of its individual components, but where the parts are themselves determined by the intrinsic nature of the whole ... These fields extend into every dimension and each field has its own unique form. The fields of the forces may be interrupted, or they may impinge upon each other. A field intercepting another field, attracts or repels it; reinforces it or interferes with it.²⁸

When N. John Habraken joined MIT to chair the architecture department, he extended the definition of fields as “live configurations,” a cognitive way that people conceptualize elements and their relations. “Descriptions of form tend to differ in the choice of parts we elect to see, and in the way we group them ... A particular configuration, thus defined by its parts, may be named. It, in turn, may constitute a part combined with yet other parts, making more complex configuration. In this way we continuously reinterpret the world we inhabit, shifting from one perspective to another in dialogue with the forms around us, as well as with others who are inhabiting them.”²⁹ Renowned for support and infill strategies, Habraken is an advocate of agency in the environment, asking how the field is activated and by whom. A shift to field paradigms continues to be broadly explored by environmental designers. In The Urban Text, Mario Gandelsonas unlayers Chicago’s urban topography to graphically describe the continuities and discontinuities that make that city unique and legible.³⁰ Landscape architect James Corner operationalizes fields through mappings which he describes as a process of setting of rules and establishment of systems, extracting parts and data, and then restructuring the parts.³¹

One of the most succinct essays on the attributes of fields is by Stan Allen in “From Object to Field: Field Condition in Architecture + Urbanism.”

To generalize, a field condition would be any formal or spatial matrix capable of unifying diverse elements while respecting the identity of each. Field configurations are loosely bounded aggregates characterized by porosity and local interconnectivity. Overall shape and extent are highly fluid and less important than the internal
relationships of parts, which determine the behavior of the field. Fields work neither through regulating grids nor conventional relationships of axially, symmetry, or hierarchy. The rules of combination have less to do with the arrangement of distinct and identifiable elements as with the serial aggregation of a large number of relatively small, more-or-less similar parts. Field conditions are relational, and not figural, they are based on interval and measure. Scale matters; field conditions depend on repetition, and require a certain expanse to register.  

Like the members of Team 10, Allen emphasizes the design potential of fields as holding actions and forms that emerge from local and particular interconnections, a bottom-up approach to design where the “image” of a project is no longer one seen from a distance but experienced from within. For Allen, using fields to construct site increases urban capacity to be open to change, to accommodate numbers and multiplicity, to be simultaneously local and continuous, to organize flows of movement, to distribute density, and to enable architecture and urbanism to work in dialogue.  

The shift from figure to field is put into its broadest context by Sanford Kwinter writing about Einstein’s publication of the “Special Theory of Relativity.” Kwinter describes this breakthrough as a theory of space (electrodynamics) that paralleled a theory of mass (thermodynamics), an addition of field to figure. While the scientific community has taken advantage of the paradigmatic shift, an environmental shift is challenged by complex motivations. While traditional settlements as fields emerged from cultural practices that no single entity could claim, 20th-century development commodified building as individual brands. To overly caricature, governments wanted monuments; corporations wanted icons; architects wanted recognition and commissions; and developers wanted brand identity. Taken together, design gravitated toward the simplicity and reward of signature figures and fragments with the potential of fields overlooked. My hope is that this book makes fields as compelling as figures, especially in times that require both cultural and resource sustenance.

About This Book
This book is organized in three parts that illustrate the significance of fields in traditional Chinese urbanism, the forces that converge to favor a shift from fields to figures in the design of Chinese cities and
the potentials in returning to designing a progressive urbanism with fields. The first part, “In Built Fields,” is a narrative about Chinese settlement, both urban and rural, that revolves around courtyard compounds. Historically most activities took place within fields of pavilions, walls, and screens that formed collective courtyard spaces. Typically, the description of a courtyard compound is taken out of its context and highlighted as a figure. In this section, three neighborhoods of courtyard compounds are described, not as aggregations of figures but as fields. Through this lens, relational qualities about Chinese urbanism are revealed—the collective attributes and variations that give each neighborhood and city a unique identity, the capacity of the fabric to support change, and the continuities that are experienced across and between multiple levels of the environment that construct urban legibility. These urban conditions are illustrated with three essays about the hutong of the Dong Cheng district of Beijing, the canals of Zhujiajiao in the Qingpu District of Shanghai, and the lilong of the Jing’an district of Shanghai (Map 0.1).

The second part, “Fragmenting Chinese Urbanism,” is a set of five essays on the accelerants of urban fragmentation in China. Reminiscent of Western urban growth in the 1950s and 60s, the proliferation of distribution networks, private vehicles, and home ownership is transforming the Chinese landscape—built and natural. Buildings replace agricultural lands, vehicular transportation shapes urban forms, substandard urban fabrics are cleared for towers in parks, and corporate icons fill the skylines. While it has been nearly three-quarters of a century since the Athens Charter, all lessons have been forgotten, overlooked, or ignored in the rush to build. Figured objects dominate Chinese urbanism, eradicating local identities and legibilities. This chapter describes a unique convergence of Chinese forces with global design practices that expedite fragmenting.

The final part, “Field Urbanism,” illustrates how using a field paradigm can transform architectural and urban design. The key is a structuring of horizontal relations among public, collective, and private activities as a thickened ground layer that prioritizes connectivity between individual development actions. Three essays describe how new projects can extend the unique conditions of a locale without imitation; how designers can collaborate to build distinct projects in parallel with distinct places; and how field tactics foster a quality of “being inside”—in the room, in the building, in the courtyard, in the street, in the neighborhood, and in the city. Each essay explains
MAP 0.1
key concepts surrounding connecting, collaborating, and interiority followed by an illustrative project.

I began this Introduction with observing, a process to understand local reciprocities between use and form which reveal spatial practices that make places unique. Through comparisons, I have come to believe that good urbanism is best held in built environments of any density not as figures but as fields. Seeing fields reveals what extends between and beyond the individual parts of cities. My objective in seeing relational conditions in every site is not a nostalgia for the past or for the traditional, but is a search for a continuum of form that links past, present, and future.

China now sits at a crossroads with much building still to come. To lead in the 21st century, is it a country that will continue to fragment and homogenize the experience of its cities or will it lead in a progressive urbanism that propagates that which is already rooted in place?