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# Cultivating the City

Instilling urban design in landscape architectural education

Karl Kullmann

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### Introduction: manifold urbanism

From the earliest stages of their education, students of landscape architecture learn that the agency of a site is inseparable from the dynamics of its context. Where this context once adhered to modern distinctions between culture and nature, today it is more likely to be defined by a condition that is simultaneously urban and landscape (Brenner 2014; Dettmar and Weilacher 2003). Within this paradigm, even a rural setting or wilderness becomes defined in relation to global flows of energy, information, capital and human migration. In a mechanistic sense, cities are simply the engines that drive these flows, siphoning in energy and expunging waste (DeLanda 1997). In the other very corporeal sense, cities remain places where people carry out their daily lives and create individual and collective meaning through time (Sennett 1993; De Certeau 1984; Jacobs 1961).



Urban design negotiates the space between these often-contradictory aspects of the urban condition. Most deliberately positioned as a cure for the dehumanizing ills of the modern metropolis, *traditional* urban design offers a template for compact walkability and built form drawn from pre-industrial cities. As part of this template, the significance of the public realm—and the street in particular—is revived from its marginalization within the modern city (see Jacobs 1993). Nevertheless, traditional urbanism adheres overall to a town-andcountry model that positions landscape outside of the city (Duany 2002). In contrast, *landscape* urbanism rejects nostalgic notions of landscape as a mere witness to the contemporary metropolis. The figure/ground plans of traditional urbanism are inversed as the city is reimagined as complex ecological systems and infrastructures (Pollak 2006; Corner 2006; Bullivant 2006; Waldheim 2002).

Although these three approaches to urbanism—modern, traditional and landscape—define the past half-century of urban design discourse, all exhibit strengths and weaknesses (Heins 2015). For example, while traditional urbanism is demonstrably useful at the local neighborhood scale, it is less credible when the scope is broadened. Conversely, while landscape urbanism is effective at the regional structural scale, it has less to say about the pragmatics of dwelling (Duany and Talen 2013). Moreover, while modern urbanism assimilates technological innovation into the city, it makes less allowance for the impulses of individual place making (Kullmann 2015b).

Despite abundant rhetoric to the contrary, these overlapping and intertwining urban design doctrines demonstrate that no single approach offers a complete self-contained account of city making. The implications for urban design education in landscape architecture are manifold. First, effective learning necessitates pedagogy that acknowledges that aligning with a single urban design doctrine is likely to be limiting—and possibly precarious—over the longer term. Second, a truly landscape approach to urban design is akin to the landscape itself; it involves redundancy, overlap and untidiness. And third, since landscape frameworks are hard-wired to accommodate such disparate elements, landscape architecture is an apposite basis from which to learn and practice this manifold urbanism.

#### Motifs for landscape/urban pedagogy

This chapter explores the diverse terrain of urban design as it pertains to landscape architectural pedagogy. Towards the goal of cultivating a general sense of the city in landscape architectural education, a series of diverse themes relevant to both traditional landscape architecture and contemporary urbanism are overviewed as overlapping motifs. The motifs are sampled from a larger pool of themes that comprise a survey course introducing landscape/urban theory to graduate students of landscape architecture. The didactic purpose of discussing these topics is to provide students with a diverse range of lenses through which to perceive the varied circumstances encountered when designing urban sites. The order of the following themes adhere to the chronology of their introduction within the theory course.

#### The contested landscape of alternate urbanisms

I begin the course by discussing the historical territories and trajectories of the various disciplines invested in urban design. The origins of landscape architecture schools are as diverse as the field itself (Baird and Szczygiel 2007). Those schools prioritizing creative expression tended to emerge from art, architecture or design departments, while those more grounded in the sciences tend to trace their origins to agricultural, horticultural, forestry, or geography departments. With the exception of landscape architecture programs closely associated with geography or architecture, these origins are unlikely to comprise significant exposure to urban design topics. Those that do are most likely to have been repositioned within a design college that brings disciplines invested in spatial design together under a single umbrella.

A typical arrangement comprising the three disciplines of landscape architecture, architecture and urban planning is augmented by urban design, which, although not a department in itself, operates at the intersection of the other three disciplines. In theory, this arrangement



Figure 27.1. The city of disciplines. Disciplinary convergence: diagram illustrating the relationship between landscape architecture, architecture, urban planning, landscape urbanism and urban design, (1a: left) as a static Venn diagram, and (1b: right) as a dynamic model of competitive interactions. (Drawing © 2016 Karl Kullmann)

embodies the archetypal disciplinary model, wherein the confluence of landscape architecture, architecture and urban planning crystallizes into urban design (Schurch 1999). Nevertheless, although educational institutions are routinely structured along the lines of this Venn diagram, disciplinary culture rarely aligns so neatly (Figure 27.1a). Each discipline projects its own distinct version of urbanism that is based firmly in that discipline's value system (see Kullmann 2016a; Swaffield 2002).

These alternate urbanisms are often vociferously oppositional, as the disagreements between traditional urban design and landscape urbanism exemplifies (see Duany/Waldheim 2011). To cloud matters further, architectural and landscape architectural versions of landscape urbanism differ in subtle but nevertheless significant ways (Allen 2009; Waldheim 2002; Walker 2014, 1998). In practice, the interactions amongst disciplines invested in urban design are far more competitive and dynamic than the static symmetrical Venn diagram suggests (Figure 27.1).

When teaching urbanism within landscape architecture, establishing priorities within this milieu can be disorienting. In the absence of a credible methodology with which to navigate the shifting disciplinary terrain of urban design, familiarity with the basis of each approach is a solid place to start. For example, learning the conventions of traditional urban design through the fundamentals of building typologies, street design and transportation remains useful in many contexts. Similarly, familiarity with the instrumentality of urban infrastructure, policy and code is often revelatory for site-focussed students (Figures 27.2 and 27.3).



Figure 27.2. Student urban design project focussing on building typology in downtown Oakland, California. (Drawing © 2015 Yueyue Wang, reproduced with permission)



Figure 27.3. Student urban design project focussing on self-sufficient development in downtown Oakland, California. (Drawing © 2015 Marine Oudard, reproduced with permission)

#### The deconstructed landscape of urban decline

Somewhat counterintuitively, the course pedagogy shifts to a context that deconstructs the fundamentals of urban design. In urban districts and settlements experiencing shrinking populations, decline typically occurs in a piecemeal and dispersed manner. Over time, as services are decommissioned and surplus structures demolished, the urban landscape becomes increasingly perforated (Figure 27.4). This process is so contrary to the paradigms of progress and growth that underpin urban design and planning are constructed that most efforts explicitly or implicitly seek to reverse decline (Lynch 1981).

In the absence of a field that specializes in addressing decline, landscape architecture often defaults into the role of *reverse* urban design. The application of landscape architecture is partly pragmatic in the sense that the process of urban deconstruction usually creates new open landscapes that require some form of attention (Dettmar 2005). More intrinsically, landscape architecture's established emphasis on articulating and steering processes of emergence and decay more closely aligns to the challenges associated with decline than disciplines that are more calibrated towards growth, control, and progress (see Kullmann 2014b; 2013).

Extending this reasoning, exploring a landscape-based approach to urban decline is an effective point of departure in landscape architectural urban design education. Injecting urban design into landscape architectural education through the reverse process of urban decline vividly reveals how the topic is fundamentally grounded in landscape and pertains to far more than buildings and streets. Moreover, the topic demonstrates landscape interconnectedness at multiple scales, whereby decline and growth are revealed as part of the same dynamic process of population flows (Oswalt 2006).



Figure 27.4. The retreating city. Remains of the Detroit inner neighborhood of Islandview, Michigan. (Image © 2016 Karl Kullmann)

#### The linear landscape of urban infrastructures

Shifting focus from human to hydraulic flows, the invention of pipes (for potable water, sewage and storm water) and transportation systems historically enabled urban densification and expansion. The civic value originally invested in this infrastructure evaporated through the twentieth century as the utilities and networks that service the city became increasingly efficient, mundane and invisible (Kullmann 2012b; Morrish and Brown 1995). Today, infrastructure has a more bimodal relationship with urbanism, with utilities and networks as likely to rupture the urban fabric as to support it (Strang 1996). The linear spaces that result may positively enable a transition, threshold, or activity corridor, or conversely may negatively enforce an impermeable boundary or linear void (Smith 1999).

Within these *extremes*, residual linear spaces exhibit a variety of evident and latent characteristics that are contingent on infrastructural origins, urban context, landscape condition, policy, regulation and market forces. Typologically, linear landscapes can be: a *filter* that selectively edits through-flows; a *program sink* that



Figure 27.5. The city of conduits. Linear landscape typology (left to right): (a) filter; (b) program sink; (c) conduit; (d) suture; (e) stage; (f) pedestal; (g) thicket (Drawing © 2011 Karl Kullmann)

accommodates precisely defined uses; a *conduit* that channels rapid non-vehicular movement; a *suture* that stitches an urban rupture; a *stage* that links a necklace of events; a *pedestal* for observing external spectacles; and/or a *thicket* that impedes passage in any direction (see Kullmann 2011) (Figure 27.5).

Harnessing the typology of residual linear spaces into a landscape infrastructure provides students with an alternative framework for seeing, mapping, and engaging the city. To be certain, the term infrastructure has been stretched in urban design discourse and education to encompass almost anything and everything that is multiplied across the city. Given that the infra in infrastructure means below, the term pertains more concisely to the ground or underlying structure of the city. Through the medium of the landscape, an infrastructure of the ground becomes of integral value to urbanism. Far more than a passive green counterbalance to the 'real' city of buildings and pipes, the landscape's service to the city becomes as quantifiable as floor space or optical fibre.



Figure 27.6. The topographic city. Contour signature for north-eastern quarter of San Francisco. (© 2016 City of San Francisco OpenData, reproduced in accordance with non-commerical use policy)

#### The rough landscape of topographic urbanism

Returning from the underground to the surface reveals the strong predisposition of conventional urban design towards flatlands. Historically, this bias can be traced to the capacity for cities with control of their hinterlands to prosper on navigable river floodplains (Rykwert 1976). Conversely, hill towns were an option of last resort that sacrificed access to resources for defensibility. Given the influence of prominent European and American cities on present-day traditional urban principles, it follows that urban design typically presumes level ground, with prominent landform typically relegated to scenic backdrops or landmarks within the urban zone (see Duany 2002). Perhaps surprisingly, landscape urbanism also inadvertently preferences the flatlands through an emphasis on post-industrial sites, which are generally located on reclaimed waterfronts.

In the contemporary landscape/urban condition, this oppositional relationship between topography and urbanism dissolves. As urban populations increasingly coastalise on a planetary scale, highly variable coastal terrain becomes a significant setting for twenty-first century urbanism (see Engelman 1997). The coastal metropolis is often characterized by distorted urban morphologies and untamed geomorphic expression in the form of geological outcroppings or complex sand dune systems. Indeed, some of the world's most memorable coastal cities derive their distinctiveness from the pragmatic negotiation between inhabitation and terrain (Kullmann 2017f; Lipsky 1999) (Figure 27.6).

In addition to historical influences, the technical complexity of designing with landform contributes to the continuing urban design bias towards the flatlands. The three-dimensional nature of topography is not fully comprehended in the plan, section and axonometric drawings that typify urban design delineation. Given that topographic training is central to landscape architectural education (through site technology and design studios), students are pre-primed for generating a topographic approach to urban design. This topographic approach deploys three-dimensional modelling to tie the morphology of the ground to the morphology of the urban fabric (see Kullmann 2017d; 2014a). The result is urban form that enhances rather than marginalizes or flattens—the topographic character of its setting.

#### The inflective landscape of urban intervention

Complex, disorienting and extending well over the horizon, the contemporary city confounds even the most comprehensive maps and models. This city is shaped more by capital and code than by the designer's masterplan (Dagenhart and Sawicki 1992). Without material control of the metropolitan fabric, urban design customarily exerts agency at the project, or site, scale. This reality regularly leads to siloed urban developments that contradict urban design's metaobjectives of connectivity and integration. Landscape architecture also negotiates this disjunction between scale of agency and scale of intent. Whereas the scope of the landscape imagination is unlimited, the scale of physical intervention in the landscape is encapsulated in the archetypal enclosed garden (see Aben and de Wit 1999).



Figure 27.7. The city of inflections. Historical typology of garden enclosure and orientation: (a) medieval cloister garden; (b) renaissance garden; (c) baroque garden; (d) picturesque garden; (e) hunting park; (f) modern garden; (g) postmodern garden; (h) inflected garden. (Drawing © 2016 Karl Kullmann)

The garden and the city are customarily situated antithetically. Through the use of a physical frame, the garden historically functions as a locus of respite and retreat from the noisy disorientation of the surrounding urban milieu (see Harries 1989). Nevertheless, as the city becomes more expansive and dislocating—and the garden becomes more private and withdrawn—this relationship becomes strained (see Marcuse 1997; Kullmann 2017b; 2016b; 2012a). When the rigid frame is reassessed, the urban public garden assumes more catalytic capabilities in urban design. In place of the walled enclosure, a topographically formed semi-permeable threshold recalibrates the urban/landscape relationship (Figure 27.7). Rather than being removed from the tapestry of the city, the garden takes the form of a continuous fold or inflection in the urban fabric (see Cache 1995).

By leveraging the familiar medium of the unassuming garden (the design of which is covered in most landscape architectural programs) students discover a potent mechanism through which to act in the

city. Rediscovering the corporeality and agency of the garden enables students to reimagine this archetype as an urban catalyst as opposed to a self-contained enclosure. The creative work of Shusaku Arakawa and Madeline Gins is relevant to this enterprise, whereby the 'open containment' of the garden becomes a kind of mind-body training ground for negotiating the accelerating, disorienting and immersive qualities of the contemporary urban condition (Arakawa and Gins 1994).

#### The de/programmed landscape of uselessness

Just as the inflected garden embraces some of the activity of the city, the open-ended characteristics of landscape also potentially crosspollinate back into the city. Whereas the mandate of urbanism and architecture is to be demonstrably useful and programmable, landscape has a more historically complex relationship with utility.

Despite origins in the working landscape, strong associations with scenography led to landscape being positioned as 'other' outside of the legitimate business of the city (Casey 2002; Cosgrove 2004). Certainly, the usefulness attributed to landscape has historically waxed and waned, with greater emphasis under modernism and less emphasis in the Beaux Arts and postmodernism. More recently, performance and program emerged as mechanisms for recovering landscape usefulness and agency. Urban public spaces of all types became settings for programmatic activation and ecological function.

Elevating landscape functionality and agency retrieves landscape architecture from its diminished role as a decorative veil to the industrialized world (Corner 1999). However, with public parks and other spaces now obliged to appear as continuously useful as the neoliberal cities in which they are set, the preoccupation with program and usefulness risks smothering more ephemeral landscape qualities. In the sense that it reduces the potentiality of a site, the highly tuned and programmed space is likely to be less robust and adaptive once the physical or cultural conditions change (see Overmeyer 2007). The increasing reliance on specialized—but rapidly superseded—



Figure 27.8. The de/programmed city. Example of a discarded urban prop in Berlin's Mitte disctrict. (Photograph © 2001 Karl Kullmann)

infrastructure and props to service the escalating pressure placed on urban event-scapes epitomizes this situation (Figure 27.8).

In this context, 'depressurized' urban design approaches may incorporate or emulate the landscape 'openness' that is often a feature of large parks and, increasingly, urban wastelands (see Lynch 1972). As a landscape approach, openness is familiar to students of landscape architecture who routinely study precedents and design projects that fit within this framework. Gasworks Park in Seattle, Washington, and what remains of No-Mans-Land in Berlin memorably express this openness through topographic strategies. Existing topography influences programmatic choices on its surface, and, while programming and props tend to come and go, topography often remains significantly intact over time (see Kullmann 2015a). By applying observational study methods to open landscapes, students witness the behaviors and patterns of urban actors in diverse settings across the city (see Whyte 1980).

#### The elastic landscape of urban imaging

How the city is observed directly influences how it is imaged, imagined and designed. For this reason, representation is as integral to the spatial cognition and mental imaging of urban environments as direct, grounded experience. The history of urban representation charts progressively higher vantage points, as the cartographer's eye in the sky passed from hilltops and cathedrals, to camera-equipped balloons, kites, pigeons, and planes (see Cosgrove 2008). Situated at the apex of this skyward journey, the satellite reveals cultural and natural patterns and associations on the ground. Nevertheless, the satellite's abstracted Cartesian perspective exudes a seductive clarity that selectively skims over the scruffiness of everyday life. Even with familiarization and steadily improving image resolutions, abstract planimetric forms routinely fail to resonate with an individual's perception of their place in the world. The recurring popularity of more immersive angles such as the pre-Cartesian bird's eye view is a reaction to this lingering apprehension (Söderström 1996).

High fidelity drone-based imaging technologies are poised to harness the imaginary qualities of the bird's eye view and realign the satellite's distanced perspective. Whereas satellite mapping illuminates largescale landscape systems and associations, low altitude drone mapping illuminates small-scale landscape details and nuances (Rekittke et al. 2013) (Figure 27.9). As it continues to proliferate, drone imaging and mapping is likely influence how individuals view, image and cognitively map their urban environments. Placed in the context of urban design, this new perspective is potentially transformative. Just as widespread access to the satellite's expansive view stimulated an ecological approach to urbanism, the drone's close-in view is potentially instrumental in refocusing urbanism towards the 'behavioral' scale at which people interact with cities (see Birtchnell and Gibson 2015; Kullmann 2017e; 2017c; 2017a; 2014c).



Figure 27.9. The imag(in)ed city. High fidelity drone mapping of the Albany Bulb landfill site on San Francisco Bay, California. (Image © 2016 Karl Kullmann)

The applications and implications of this new technology are highly relevant to landscape architectural and urban design education. Offering image fidelities that are comparable to the world as perceived at eye level, drones provide students with a bridge between the aerial city of plans and the grounded city of everyday life (see de Certeau 1984). Moreover, whereas satellite imagery and mapping is received from government and corporate sources, drone surveys are created in person on site (Girot and Melsom 2014). This direct involvement in the urban imaging process is revelatory for students who often struggle to reconcile the isolation of the studio and digital environments with the real world that they study and design.

#### Conclusion: everything is landscape

As both figure and ground (see Meyer 1997), landscape is the setting for urbanism, but also cultivates and structures urbanism. As an apposite framework for filtering these landscape approaches, landscape architecture does not codify a singular doctrine of urbanism per se, but rather accommodates a range of approaches. The urban agency of landscape architecture is grounded in the field's experience with the simultaneously pervasive and evasive nature of landscape. Pedagogically, this equates to a spectrum of overlapping approaches to urbanism that is not fully encapsulated in a single design studio or theory course, but ideally infiltrates throughout landscape architectural education.

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