# **Introduction: The Measure of Measures in Philadelphia**

In 1960, *Society Hill Towers*, a set of three high-rise residential buildings, broke into the skyline of Center City Philadelphia. At the same time, just south of the towers, the city restored the small classical headhouse of an eighteenth-century market hall to serve as an historic feature of the old city. Together, the two projects signaled a major urban renewal effort conceived by architect Edmund Bacon, director of the Philadelphia City Planning Commission, that would remake the center of the city. Large and small, new and old, the towers and the headhouse face each other at opposite ends of a twoblock stretch of South Second Street. Seen together in a promotional photograph, the headhouse cupola appears delicate and sculptural, like a familial figure, against the flat, gridded field of the modern buildings, (cover photo). As a contrasting pair, the two projects offer an entry into the dilemmas of scale and position that Ed Bacon faced and that continue to characterize Philadelphia and other old cities made new.

At the surface, his design puzzle was fairly straightforward: how to introduce large modern buildings and infrastructure into a city built on a smaller, pedestrian scale. On second view, however, Bacon confronted the cumulative history of architectural dimensions and geometry established by generations of designers, measures that shaped the comings and goings of daily life. He also engaged the collective stories of the city, both historical and poetic, that cling to the buildings and to the venerable urban plan laid out by founder William Penn in 1683. Bacon was neither the first nor the last architect to specifically engage issues of scale in Philadelphia. As others who came before and after, Bacon's plan redefined the urban composition by selectively adding and taking away structures to modify the streets and buildings of the old city that give citizens scale and position. To make the city modern, he changed how its buildings defined large versus small, high versus low, and here versus there.

The essays in this book examine scale and measure in the local architectural traditions of Philadelphia, focusing on instances when architects such as Ed Bacon strategically manipulated urban scale to engage a larger mythic narrative. The essays open several such manipulations to view, offering both a means to examine vernacular patterns of old cities and a challenge to contemporary architects to engage the scale and structure of the city in the intersection of experience and narrative. On a broader level, these essays suggest that all architecture defines the city, both spatially and rhetorically. The streets and vernacular buildings of old cities in particular, establish spatial rhythms, which are modulated, punctuated, and interrupted by design. These urban patterns define positions for people by giving scale and structure to the built environment.

This study is particularly relevant to contemporary architects who are currently being asked to engage old cities and to construct or reconstruct urban life in America. They face cities that have been tattered by suburbs, highways, highrise buildings, and zoning regulations that have utterly changed urban composition and scale. At the same time, electronic systems have trumped proximity as a means for social contact, while demands for space and well-designed physical surroundings have increased. Cities are no longer places where people live their whole lives and no longer the exclusive center for business, but have become centers for social life and the arts for those who choose to live there. In this milieu, the poetics of urban life are as important to inhabitants as function or comfort.

To remake cities, architects must engage the urban narrative as well as urban form. They must learn to read the city effectively so their work might build the collective text with grace and precision. One of the skills required for the task is a fine sense of scale: how big things are and how they relate to one another. In part, the architectural skill to articulate a coherent narrative of size and position in the city shaped the streets and buildings which contemporary designers now engage. To better rebuild, architects might learn from their predecessors on the ground in the old city centers. The physical poetics of scale laid down by the architects of Philadelphia is the topic of the essays in this book.

#### Scale in Philadelphia

The urban scale of Philadelphia, first established in the city plan, represents the work of many builders, each of whom elaborated, modified, overlaid, or reinterpreted the patterns that preceded them. Emerging from these architectural negotiations, Philadelphia's buildings reveal a vernacular pattern that carries larger traditions of scale and measure that belong to classical systems of geometry and proportion, systems that asserted a link between city and orderly cosmos. Philadelphia's builders, although several steps removed from the center of philosophical debate, nonetheless engaged the contours of the broad narrative to give their work position and authority within the local structures. The systems of measure that they inherited describe ideal relationships between the human body, an orderly universe, and a geometry that might govern both. Classical systems of proportional measure that underlie much of Philadelphia's older fabric project a humanist faith that body and world are linked, as if architecture might be able to reveal the contours of their commonality in a state approaching grace. The rule and square still contain the vestiges of that wish in their structure. On the other hand, modern measures, which govern most twentieth-century buildings, promise scientific neutrality in increments that are simply added one to another in an infinitely extendable series. Both systems offer faith in a structured world, but each defines that order differently. Through these dimension systems, buildings can be read as architectural microcosms within an imagined order of a macrocosm, which offers a vision of how the city might be.

Through dimension, architects engage at least three of layers of experience. First, conventional measuring systems contain references and geometry inherited from ancient architectural practices and habits of the building trades. Their persistence is due in part to the traditional and local nature of construction, for measures must speak to builders in terms of material. In the United States, architects, builders and manufacturers of building materials have retained the English system of measure long after engineers and scientists switched to metric. Classical traditions of proportion and size, although overturned by modern systems, are also tenacious, remaining embedded in measures even as overt classical details were rejected.

Secondly, dimensions are experienced not as number but as relative measures or scale. Things seem large or small directly in relation to the body and indirectly in relation to each other. All things are measures, so the size and position of things nearby,

high or low, far or near, influence how one perceives the size and position of one's own body.<sup>1</sup> In classical architecture, mathematical proportions ruled both the large and small to link the dimensions of the body with those of the building. However, in practice, real size is not so easily mutable. Albrecht Dürer observed that if a bee were as large as an elephant without changing its proportions, it could not hold itself up, let alone fly. In classical practice, architects created an experience of scale by negotiating between proportional relationships and real size. For example, Gian Lorenzo Bernini mixed details from three canonical orders to devise a column for the colossal colonnade at the Piazza San Pietro in Rome. The base of the column relates to people individually as they walk along the colonnade, while the column shafts are seen as a group across the calibrated distances of the piazza, and the capitals relate to figures of the saints standing above an entablature, which are elongated in proportion.<sup>2</sup> In architectural practice, the word 'scale' has come to mean these manipulations of real and relative size.

Finally, architectural scale is linked to a narrative tradition of interwoven stories of the gargantuan and miniature, the celestial and the subterranean that describe the size and position of the body in a symbolic universe. Buildings and stories refer to one another in a web of spatial references that links the immediate experience of architecture to poetic imagery, either through explicit symbolism or vague popular associations. Physical and imaginative worlds build on one another, so architectural definition of size and position resonate symbolically through a history of stories that link buildings and the city to a larger universe.

Each of these layers of meaning folds into the others. Conventional measures are built on stories that link human and celestial order. A direct physical experience of small or large often carries a narrative reference. And architectural conventions of size establish habits that define the experience of scale. Architects navigate this field in making spatial decisions for specific places. They address local situations and inherit local practices in a vernacular of measure that is implicitly understood by citizens as they go about their daily business.

In building design, large is defined by small, height by depth, outside by inside, and repetition by singularity. In cities in particular, inside and outside as well as public and private spaces define each other in patterns, which architects characteristically draw in black and white maps called Nolli plans in reference to a plan of Rome drawn in 1748. In traditional urban design, large buildings have required complementary public open space in front, and a tower's height is calibrated relative to the surrounding buildings and landscape rather than in absolute terms. For example, an 1884 sketch of the Eiffel Tower shows its height in relation to a typical Parisian apartment house as well as monuments of the city: Notre Dame Cathedral, the Arc de Triomphe, and the Statue of Liberty, which was in Paris at the time. Each dimension defines another.

Similarly, a dynamic balance of opposites was part of mid-century modernist thought as developed by artist Paul Klee in the foundation course for the Bauhaus.<sup>3</sup> Klee invoked the principles of Japanese art and philosophy to propose modern, abstract composition based on contrasts between elements in free space. This approach to design defines the ground not as a pattern but a plain, like a blank sheet of paper, a distinctly anti-urban condition, adopting some of the reciprocal qualities of traditional scale, but leaving others aside.

The architectural tradition of thinking in dimensional contrasts holds particular relevance to urbanism and to environmental sensibility. The architect who thinks in reciprocal measures acts in the relationships between things. Each architectural move contains its opposite; each element added to a site implies something removed. Building on an open site implies removing vegetation, while a load of stone added to a building is subtracted from a quarry elsewhere. Similarly, new construction in an old city requires complex negotiations of scale to engage existing conditions with skill.

This inquiry into architectural scale is grounded in Philadelphia, a city that has accumulated measures on top of measures for over three hundred years. Among American cities, Philadelphia is recognized for the geometric order that underlies its grid of streets, row houses, and stalwart monuments. Articulate systems of dimension are



Figure 1. Location Map showing major cross streets and Headhouse Square

embodied in the city at every level: the city plan drawn in 1683 carries measures that resonate with numinous significance. Eighteenth and nineteenth-century 'Philadelphia style' buildings adopt a classical practice of proportional dimensions modified for the local social and spatial milieu. Twentieth-century rebuildings introduced a modern experience of continuous space that redefined older buildings as historic. Important civic buildings, and heroic infrastructural projects that address the city as a whole, such as Philadelphia City Hall, Philadelphia Waterworks, and the Benjamin Franklin Parkway, make the dimensional structures of ordinary buildings legible by evoking classical and historical narratives that attach specific references to physical experience. The multiple systems overlaid on one another reveal moments of intersection or misfit that measure the differences between them.

Some questions of dimension and scale are best approached by focusing on architectural tropes of individual buildings. In these instances, Headhouse Square, the 400 block of South Second Street in Philadelphia's Society Hill section, offers a microcosm of the old city with buildings dating from the eighteenth, nineteenth, and twentieth centuries (Figure 1). First laid out in the late seventeenth century, the street was widened in 1740 to receive an open market hall at its center. The market headhouse and the surrounding row houses were built in the early nineteenth century, renovated in the late nineteenth century, suffered a long decline through the first half of the twentieth century, and were finally reconstructed as an historic district in the 1960s. In each instance, architects reconfigured the buildings and thus remade the street, negotiating building dimensions with pre-existing measures of streets, lots, and standing structures (Figure 2).

## Ideal Measures and Real Land

Measures are acts of arrogance and imagination in the gulf between ideal numbers and real material. To measure is to abstract a single axis of comparison that can travel between things, like a simile in language used instrumentally. Measurement systems were invented to serve commodity exchange as standards that could tally one aspect of things for the market.<sup>4</sup> Dimensional increments, like empty vats, are filled and refilled with material, opening gaps in a continuous fabric that renders all of it alike and available for exchange.

Yet the reduction to measure also renders variations more visible. Even across a simple sequence, each increment



Figure 2. Photo collage of Headhouse Square

of the same dimension holds a unique position. A runner will know the first mile of a marathon differently than the last and each mile in between is played out in time, in the body of the runner, and on the ground. Measures pointedly disregard variation outside the axis of comparison, collapsing distance and difference to the point that comparisons can seem arbitrary, even wanton. A pound of lead equals a pound of feathers and an acre of ground in New York City equals an acre in Iowa. The similarities of measure cast differences into relief by abstracting one quality only. Similarly, measured drawings allow architects to fold materials together along lines of dimension then project the new construct into the real substance of building.

Exchange is implicit in measure. To measure something is to delimit it as an entity and lift it away from its place so it might be compared with something else that is equally bracketed, exchanging one for the other. To compare the height of the Empire State Building (1472 feet including radio tower) to the span of the Brooklyn Bridge (1595 feet) implies laying the tower on its side across the East River or propping the bridge up vertically in Manhattan. The intermediary, feet, is a third element that is equally

estranged from its native body, a set of detached shoes to walk up the tower and across the bridge. In the transaction of measurement, each is cut away from the material continuity of its respective site or body and exchanged with the others: the tower for the bridge, or for the many feet that they cost.

Measuring land presents a particular set of ironies between substance and number that characterizes architectural decisions. While detachable objects offer edges to limit measure, continuous ground resists. Land, unlike towers, bridges, bodies, or buildings, extends past all boundary lines to a receding horizon. To cut land into increments of measure or property always leaves unmeasured territory as 'terra incognita' beyond an arbitrary limit. Land or space contains the measurer in the ancient sense that the universe or 'chora,' is a surrounding environment, a stage of action or 'milieu,' which is always known from within. From inside, dimensions span from here to there, rather than edgeto-edge.<sup>5</sup> Plato describes chora in the Timaeus, as the all-encompassing universe that precedes measure or geometry. He imagines an archer shooting an arrow from the edge of the universe outwards to ask whether the arrow would land inside or beyond, and if it flew outside the universe, then where would it be? Plato concluded that the arrow, like the arrows of a dimension string, may never extend beyond the space they measure, for beyond is simply no place, like the white of the paper outside of a map. Similarly, land has received multiple systems of dimension that traditionally project distances outward from cities or landmarks. Legal edges such as property lines were mapped by triangulating from points within the terrain.

In 1803, Thomas Jefferson overrode local measures of distance with a national ten-mile mapping grid to define the territory of the United States. Jefferson's abstract grid was uniform and perfect, like a net, extending indefinitely without arrows or edges and without local centers. When the grid descended to touch the ground, however, it was ensnared, first by the roundness of the earth that bent every square mile into a distended trapezoid, then by rough terrain that stretched measures over mountains and down valleys until dimensions taken on the ground relate only vaguely to measures on the map. The grid is unified in its ideal aerial state, yet warps when it touches the land.

The biblical story of the Tower of Babel crystallizes the conflict between an ideal language such as measure and the rough, physical landscape. In the city of Babel, people unified by a single language grew proud and coordinated their efforts: "Let us build a tower whose top may reach into heaven and let us make a name lest we be scattered abroad upon the face of the earth."<sup>6</sup> A common language let them dream of architecture and presume the power to create words, a privilege considered divine. They built the tower and gave themselves a name to resist the terror of Diaspora, raising both constructions against the unmeasured breadth of landscape. Both however challenged God's position as creator, supreme architect, and original poet. He shattered their language and scattered the citizens of Babel abroad. The loss of a common tongue, which included a common measure, left tradesmen unable to communicate with each other, and their architecture fell into a state of simultaneous incompletion and decay. In Genesis, Babel's fall from Grace follows that of Adam and Eve and Noah's flood, as the third parable charting the consequences of disobedience. The story specifically warned against the arrogance of architecture by condemning language to multiplicity. It also condemned architects to eternal translation, calculating between the measuring conventions of each building trade, which have resisted even metric uniformity.

Architects stand on the side of ideality, forever attempting to standardize measure and rebuild the tower to reach the heavens.<sup>7</sup>

The roots of the word, 'measure' reveals its position as mediator. Measure derives from Latin 'modus,' meaning mode or means, stressing its use as a tool. From that root 'measure' is allied to 'modification' recalling Gregotti, and to 'modesty' meaning a careful moral judgment, as well as to 'medicine' in the sense of 'taking care' or 'taking measures', and to thoughtful 'meditation.' 'Good measure' implies ethical judgment, a considered response in a specific situation.<sup>8</sup> In this sense, measure is far from the neutral tool that it is presumed to be.

### **Rethinking Measure**

To take measure of measures in an urban landscape, I draw on two philosophical traditions developed in Paris that offer distinct but related definitions of measure and place. First, the tradition of Phenomenology as developed by Maurice Merleau-Ponty in the 1950s describes perception as an intertwining of body and object. Second, a philosophy of difference articulated by Gilles Deleuze and Felix Guattari draws on Phenomenology to address an ecology of meaning. Both consider architecture and landscape directly and both have influenced architectural thought.<sup>9</sup> Theorist Ignasi de Sola-Morales cites both traditions in describing the undercurrent of thought critical of modern rationalism that emerged in post-modern and contemporary architecture. He writes, "In Deleuze, as in the phenomenological tradition, one finds the reading or description of reality as something that must be built, designed, as a process from the subject, as work to be done, drafted ... "10 Both Merleau-Ponty and Deleuze/Guattari consider perception a construction central to all thought that is built on tangible things in the real world. Both address the ephemeral realm of images, illusions, and language by appealing to direct, physical experience and both allude to architecture as a primary description of reality that shapes sensual experience poetically.

Importing these European, specifically Parisian, assumptions about architecture to an American city requires some translation. Americans have never loved their cities as have Europeans, nor developed, nor studied them with such absorption (with the exception of New York).<sup>11</sup> An American sense of identity characteristically depends on individual autonomy and mobility, resisting identification with a single place. The sameness of the suburbs can be considered freedom from place, open to the possibilities of the highway and to social relationships that travel through other, often electronic, channels. Cities have long been suspect in American mythology. They threaten American freedom with a clinging identity that can seem more dangerous than either crime or corruption. American studies of place tend toward open landscapes or imagedriven diffuse cities such as Los Angeles or Las Vegas, and they draw on European intellectual traditions, often through opposition.<sup>12</sup>

Many American architects in the 1970s gravitated toward Merleau-Ponty's essays on Phenomenology, in which he described perception as an active engagement between physical experience and memory. Merleau-Ponty reinterpreted a classical idea of the spirit of place or *genius loci*, as the accumulated stories, experiences, and associations that cling to locale. He allowed Americans access to ideas developed by French philosophers Henri Bergson and Gaston Bachelard, who abandoned Idealism to posit that perception was a spontaneous intertwining of subject and object. Their model did not require things to contain an a priori essence, thus loosening perception from the fixed geography of Being so it might roam in a state of Becoming.<sup>13</sup> Merleau-Ponty proposed that landscape in particular can evoke both mythic and literary images, merging immediate experience with poetic memory. He mused that the contemporary Greek landscape of Mount Hymettus and the plane trees of Delphi that Plato and Aristotle saw still hold an ancient visibility that looks back toward the viewer. In all of his observations, Merleau-Ponty defined reciprocal relationships rather than absolute qualities. The act of looking and being looked at, touching, and being touched overlaps past and present in a single experience. "We must say that things pass into us as well as we into things," for landscape is "pregnant with many visions beside our own."<sup>14</sup>

Drawing on Merleau-Ponty's work, measure is a form of active looking in which a measuring rod laid across a landscape brings with it the human body, already resonant with associations. The landscape then returns the dimensions of natural or man-made structures that speak of their own history and conditions in terms of the body. For example, the height of the Eiffel Tower was intended to be 300 meters or 1000 metric feet (a metric foot is an approximation of a traditional foot, made to fit metric standards). These dimensions resonate poetically with traditional measures of the body and the city as well as with metric measures derived from the diameter of the earth. At 1000 feet, the tower is already a figure, rising over the city with head, torso, and legs already comparable to the human figure, a phallic man in many allusions, but also woman with broad skirts that invites men to enter.<sup>15</sup> In this sense, measure is an active form of investigation, like perception, that brings a web of allusions to a particular situation.

In the 1960s, a harder philosophical edge emerged in a time of political tumult, demanding that multiple voices be heard.<sup>16</sup> A loosely related group centered in Paris and allied with Marxism coalesced around Michael Foucault, Jacques Derrida, François Lyotard, Deleuze, and Guattari. They reinterpreted Marxist ideas to propose a model of social relations based on difference rather than similarity and conflict rather than synthesis. They saw a pluralist society characterized by multiple, discordant readings of even the simplest ideas.<sup>17</sup> Their ideas evolved into a broad philosophy of difference that struck at the surety of modern idealism by rejecting the stable subject/object relationship at the heart of the western scientific method. They challenged the unified vision that constituted a ground for rational debate (a single language) to recognize many tongues scattered across the land in many visions and voices like the builders of Babel. Through this multiplicity, many architects returned to the specificity of the land to find new starting points for imagination.

If measure is defined as an relationship between body and place, then one must ask, whose body, which place and for what purpose? The constancy implied by Phenomenology emerges as classical, even imperialist and ideas such as the *genius loci* appear reactionary.<sup>18</sup> Many scholars interpreted the occupation of place as a contest of power in which measure was a hegemonic weapon used by an aggressor in the act of appropriation. Jefferson's grid over the west was a violent assertion of dominion cast over the landscape and its inhabitants, including people who had claimed prior ownership according to their own measurement systems.<sup>19</sup> Conflict and power relations have had a formative effect on the city, yet if this model dominates all others, the landscape is seen as a battlefield with aggressors and victims, winners and losers, arrayed along a single axis of power. The hegemony of the model tends to suppress realms of expression such as art and play that operate in other arenas.

Deleuze and Guattari interpret difference and conflict as part of larger ecological assemblages made up of multiple, interdependent relationships. They write of relationships rather than things, such as the orchid that evolves to resemble a pattern of a wasp, while the proboscis of the wasp evolves to fit the funnel of the orchid.<sup>20</sup> The wasp desires the flower's nectar and the orchid desires the wasp's mobility. Although they are dissimilar in species and function, wasp and orchid move together, each filling the other's lack.<sup>21</sup> Deleuze and Guattari argue that language and image, like the pattern of the orchid, are ephemeral expressions of desire that travel to make new alliances with things, people, and ideas far away from their places of origin, such as, for example, the replica of the Eiffel Tower that now rises in front of the Paris Las Vegas casino. In new territories, disparate things come together to form new assemblages that define qualities of place on the fly, without evoking essences or genius loci.

Within the Deleuzian construction, measure may be considered an agent of assemblage driven by desire, like the pattern of the orchid that attracts the wasp. In this sense, measure is a vessel for travel, carrying a narrative of body and place into distant territories where they may meet other bodies and other places. Stepping back a level, measurement systems also become elements of assemblage defined by their associations. Architectural measures are a tool designed to fit buildings like a box wrench fits a bolt head. Buildings, in turn, are designed to fit measures, which have been largely straight edged, until recently. Computer modeling has changed measurement tools to make irregular forms more accessible. In turn, architects build to the limits of their tools, introducing complex curved and double curved surfaces into the city fabric.

Deleuze and Guattari's philosophy of difference recognizes that the act of measuring inserts the measurer into the relationship. A straightforward dimension such as the length of the span of the Brooklyn Bridge could be taken in travel time by car or on foot relative to travel time in Manhattan, in the volume of traffic relative to population, or in the tension on the steel cables relative to their strength and diameter. Alternately, one could tally the length of the bridge in the linguistic difference between a Manhattan and a Brooklyn accent relative to the difference between New York and New Jersey, in the cost of real estate, or in the differences in soils on the two riverbanks. Each measure addresses one relationship among many to describe the Brooklyn Bridge not as an object but a complex of actions.

# **Philadelphia's Measures**

The creative process of taking measures in a landscape and giving measures to architecture has shaped the city of Philadelphia as every other city. Philadelphia's age, its steady growth, the survival of its buildings, and its relative prominence throughout its history make it a valuable example of American urban architectural traditions. In the eighteenth and nineteenth centuries, The Philadelphia Carpenter's Company, a guild of artisans founded in 1724, trained builders to draw as well as to build in a classical vernacular style. The University of Pennsylvania started courses in Architecture in 1868, as did Drexel University in 1895.<sup>22</sup> In the twentieth-century, a Philadelphia school of architecture was recognized nationally, centered on a group of modernists including Louis Kahn, Romaldo Giurgola, Robert Venturi, city planner Edmund Bacon, and

engineer Robert Le Ricolais.<sup>23</sup> In addition, Philadelphia and its buildings have been recognized as historically significant since 1776 and have been the subjects of extensive research.<sup>24</sup> The Historical Society of Pennsylvania, started in 1824, is one of the oldest in the country, and the Philadelphia Chapter of the American Institute of Architects established a Committee for Historic Preservation in 1898 in response to a botched 'restoration' of Independence Hall.<sup>25</sup> As a result of their efforts, many of Philadelphia's buildings have been preserved, restored, or renovated,



Figure 3. Scene from "Worth Winning" 1986

retaining several generations of measures in their fabric.

Philadelphia has also consistently spawned writers who reflect on their city in essays, novels, and films, mingling literary images with images of the buildings in readers' imaginations. In fiction, the city plays many roles as both setting and character. For example, Philadelphia has a long tradition of novels that conjure a foreboding urban gloom tinged with delectable mystery. Perhaps Edgar Allan Poe's respite in Philadelphia set the tone for the city's mysteries and society novels. Both are dramas of enclosure that are often explicitly architectural. Many linger on descriptions of crisp, proper facades that hide labyrinthine back rooms to emphasize the contrast between the proportional precision on the outside and immeasurable emotional depths within. This common literary trope, glossed onto Philadelphia's architectural vernacular, renders the classical brick façades as thresholds leading to potentially limitless depths. The many fictional Philadelphias infect the real city in stories that construct its architecture as effectively as architects.

On Headhouse Square, the buildings weave fact and fiction together in both architectural and cinematic imagery. When the city rebuilt the area as an historic district under the aegis of Ed Bacon, building façades were reconstructed to evoke several nostalgic images including the restored Independence Hall, Williamsburg, and popular images of Dickensian London. In turn, Headhouse Square offered its image to a 1986 movie, *Worth Winning*, to give the story an expressive scale. In one scene, TV weatherman Taylor Worth walks past the historic façades of Headhouse Square. He seems large in relation to the quaint setting as he explains to the camera how he has deceived three women in order to win a bet (Figure 3). The camera pans to an old-style bay window of a cafe where the women plot to expose his duplicity. Unlike the philandering man, the women fit within the architecture. They do not acknowledge the camera but remain within the story, speaking to each other in conspiratorial tones. In framing the shots, the director read the scale of Headhouse Square twice. From the outside it appears small and fake, like a stage set, yet from the inside, it fits the inhabitants easily, offering a secure position from which to see out.

A similar negotiation of architectural scale also appears in the image published in 1960 of Headhouse market and Society Hill Towers to promote the idea that historic and modern buildings were complementary elements in the composition of the city (Frontispiece & Figure 4).<sup>26</sup> In both projects, size is deceptive. The wall of the towers is unduly large, a repetitive



Figure 4. Headhouse Market

grid that could extend indefinitely and, although each cell is the height of an apartment unit, it seems detached from the dimensions of habitation. Conversely, the headhouse cupola is a miniature building with columns and an octagonal dome like a temple, placed above the roofs where it can be seen but not reached so it is uninhabitable both in size and position. Both projects were designed with different scales for views out and views in, framing places for a viewer to stand apart from a scene. The abstract grid of the towers resists views in, yet the apartments offer occupants a panoramic vista from above that renders the city small. On the other hand, the arch of the market hall and shop windows of stores facing the market along Second Street frame views into multiple interiors, like snapshots, while the cornice line frames a view up to the cupola, making it and other steeples and towers in the city appear large. These manipulations of scale and position draw on the long, poetic traditions of architectural design and experience that give order to urban life, for example, the privileged Olympian view from above, the framed world of theatre and display, and the delicate miniatures of models and toys.

### Plan of this work

The essays in this book trace four traditions of poetic scale as they have emerged in the architecture of Philadelphia and as they have been challenged and changed by modern architects. The first essay explores traditions of dimension and proportion, which linked buildings mathematically with each other and with an ideal universe. Since founder William Penn first laid out the streets of the city using numbers and geometry charged with mythic significance, Philadelphia's dimensions have held the wishes of its designers for order and prosperity. The second and third essays consider the reciprocal traditions of miniature architecture high above the roofs of the city and gargantuan systems rumbling below the streets. The city skyline is graced with classical steeples and cupolas designed in diminutive perfection, while the poetic architecture of underground infrastructure emerged in Philadelphia in articulate buildings designed by Benjamin Latrobe in 1800 to contain pumps for the city's first water system. In a modern reversal of these traditions, mechanical systems, which were once held entirely underground, have been relocated to

the flat roofs of modern high-rise towers. The fourth essay addresses traditions of architectural framing, which defines distinct positions for the viewer and the scene, separating here and there. For example, Bacon's scheme for renovating the city reinterpreted Philadelphia's architectural order, placing modern buildings such as Society Hill Towers in positions to view the city, and composed historic buildings such as the headhouse of Second Street Market as scenes to receive the view, like an historical tableau.

Together, the four essays explore strategies of architectural scale and position, which draw on the poetic history of measure to mark the city and make it legible. The objectivity and regularity of measurement systems give way to alternative readings of both place and dimension. Counting becomes storytelling and dimensions moved from one place to another are refigured in a new scale. Measures, which at first reading are simply instrumental, become multiple and mutable to suggest a fluid field of rhetoric and disputation rather than authoritative order. Each essay enters one of these fields in a spirit of inquiry rather than exposition to seek out local narratives of measure in Philadelphia.

<sup>&</sup>lt;sup>1</sup>Gilles Deleuze and Felix Guattari, A *Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota, 1987), 9

<sup>&</sup>lt;sup>2</sup> Joseph Rykwert, *The Idea of a Town: The Anthropology of Urban Form in Rome, Italy and the Ancient World* (Cambridge, Mass: MIT Press, 1988), 370

<sup>&</sup>lt;sup>3</sup> Paul Klee, *Pedagogical Sketchbook* (NY: Praeger, 1953).

<sup>&</sup>lt;sup>4</sup> Vico argues that we can only know the things we make, "verum ipsum factum" products of the imagination and of the hand. Carlo Scarpa carved this motto into the entry gate of the Instituto Universitario d'Architettura di Venezia Marco Frascari, *Monsters of Architecture* (Savage, MD: Rowman & Littlefield, 1991). 54.

<sup>&</sup>lt;sup>5</sup> Plato described 'chora' or space as the mediator between Being and Becoming that brought the universe into being. Plato, "Timaeus," in *Plato: The Collected Dialogues*, ed. Edith Hamilton and Huntington Cairns (Princeton, NJ: Princeton University Press, 1961), 52d (p.1179). See also Alberto Perez-Gomez, "Chora: The Space of Architectural Representation," *Chora* 1 (1994).

<sup>&</sup>lt;sup>6</sup> Genesis 11:14

<sup>&</sup>lt;sup>7</sup> Marco Frascari reads the architect as translator between the separate measures of the separate building trades. The architect remains in a dangerous position as imitator of the God of tongues.

<sup>&</sup>lt;sup>8</sup> James Corner does a similar thoughtful analysis of measure in James Corner and Alex MacLean, *Taking Measures Across the American Landscape* (New Haven: Yale University Press, 1996), xvii.

<sup>&</sup>lt;sup>9</sup> Ignasi de Sola-Morales, *Differences: Topographies of Contemporary Architecture*, Writing Architecture Series (Cambridge, MA: MIT Press, 1997), 95-97. This is a good overview of issues of space and place in contemporary architecture.

<sup>&</sup>lt;sup>10</sup> Ibid. xi.

<sup>&</sup>lt;sup>11</sup> Richard Sennett, *The Conscious of the Eye* (NY: Knopf, 1990), 34.

<sup>&</sup>lt;sup>12</sup> Reynor Banham, *Los Angeles: Architecture of the Four Ecologies* (Harmondsworth, England: Penguin, 1971). and Edward Soja, *Thirdspace: Journeys to Los Angeles and other Real-and-Imagined Places* (Oxford: Blackwell, 1996), 238.

<sup>&</sup>lt;sup>13</sup> Henri Bergson, *Matter and Memory*, trans. Nancy Margaret Paul and W. Scott Palmer (NY: Zone Books, 1988 (1896)), 272. Gaston Bachelard, *The Poetics of Space*, trans. Maria Jolas (Boston: Beacon Press, 1964). Pierre Sansot asks, "What is the duration of a waiting room, a department store, a bistro?" Pierre Sansot, *Poétique de la ville* (Paris: Meridiens Klincksieck, 1988), 35.

<sup>&</sup>lt;sup>14</sup> Maurice Merleau-Ponty, *The Visible and the Invisible*, ed. John Wild, trans. Alphonso Lingis, Northwestern University Studies in Phenomenology and Existential Philosophy (Evanston, Ill: Northwestern University Press, 1968), 123.

<sup>15</sup> When it was built in 1889, the actual height of the tower with the flagpole at the top was 312.27 meters. See the official website of the Eiffel Tower for history and statistics (http://www.tour-eiffel.fr). Surrealists made the Eiffel tower female. See Roland Barthes, "The Eiffel Tower," *VIA* 2 (1973).

<sup>17</sup> See Edward Said, *Orientalism* (NY: Vintage Books, 1979). Donna Harroway, Simians, Cyborgs and Women (NY: Routledge, 1991).

<sup>18</sup> Alexander Pope's rediscovery of the idea of genius loci in the 18th century was reactionary in its political context. Pope was an apologist for the Country Party of large landowners who wanted to maintain their holdings with almost sovereign powers. Norberg-Schultz's consideration of the idea also depends on an historical mysticism for its power.

<sup>19</sup> Robert St.George, *Conversing by Signs* (Chapel Hill, NC and London: University of North Carolina Press, 1998), 35. Early New England Settlers appropriated land from Native Americans by occupying the land with defensive structures similar to those of the English in Ireland, casting the natives as savages. Milan Kundera recalls that when the Soviet Army occupied Prague in the spring of 1967, they changed the names of the streets, imposing a new order on the city under their occupation.

<sup>20</sup> Deleuze and Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, 157. Actually Deleuze and Guattari got this entirely wrong. Some orchids have evolved to resemble a female wasp. The male wasp of this species attempts to mate with the ersatz female and becomes an unwitting pollinator in the process, but gets nothing for its troubles.

<sup>21</sup> Ibid. 161.

<sup>22</sup> University of Pennsylvania has taught architecture since 1868, Drexel University since 1895, and Temple University opened a School of Architecture in 1968. Philadelphia University (formerly Philadelphia School of Textiles and Science) started a School of Architecture in 1994.

<sup>23</sup> See Mimi Lobell and John Lobell, The Philadelphia School: 1955-1965 A Synergy of City, Profession, and Education, unpublished manuscript posted at http://johnlobell.com/Books/PhilSchShrt.htm.

<sup>24</sup> The Philadelphia Athenaeum, The Pennsylvania Historical Society, the Winterthur Museum and the University of Pennsylvania all hold architectural archives. Collectively they support a database of drawings and information on Philadelphia's buildings that is accessible at www.philadelphiabuildings.org.

<sup>25</sup> In the 1890s, architect T. Mellon Rogers, hired by the Daughters of the American Revolution, demolished most of the original interior finishes of the Pennsylvania State House (Independence Hall) and replaced them in a popular image of colonial architecture. In response, the Philadelphia Chapter of the American Institute of Architects established a Committee for the Preservation of Historic Monuments, which established early standards for architectural preservation. See Bruce Laverty and Robert J. Hotes, "AIA Philadelphia Historic Preservation Committee," *AIA Preservation Architect: The Newsletter of The Historic Resources Committee* (2006). And Gary B. Nash, *First City: Philadelphia and the Forging of Historical Memory* (Philadelphia: University of Pennsylvania Press, 2006), 277-81.

<sup>26</sup> "Annual Report of Philadelphia Redevelopment Authority," (Philadelphia: Philadelphia Redevelopment Authority, 1964). At the same time Penn's Letitia St House, a tiny two-story row house was moved to an isolated site in Fairmount Park and the Betsy Ross House, another small row house was saved while all the surrounding buildings demolished.

<sup>&</sup>lt;sup>16</sup> The American Civil Rights movement had preceded the 1968 Paris student riots but many of the ideas were similar.