

# Architecture City

## Structuring the Urban Environment

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### INTRODUCTION

When design professionals speak of the city and of urban planning, they focus on the large-scale – its urban core, its infrastructure, its roads, its public space. The smallest part of this, and sometimes the least noticeable, is perhaps the building, which is like an atom of a chemical compound. It fundamentally structures the way the city operates, from bottom to top. As design professionals explore contemporary aesthetic and cultural objectives, they must be cognizant that buildings foremost contribute to urbanism and outlast changes in culture and in technology. Recently, however, contemporary designers have been foregrounding mass-customization, free form, and parametric architecture in ways that do not always contribute to the pedestrian experience. Presented here are three alternative methods by which an architect and urban designer can consider architecture which instead foregrounds urbanism. First, identical objects and variability are contrasted with mass customization, investigating the potential in using identical objects in varying ways. Second, emergent grids are explored, illustrating how new conceptions of

the grid can be advantageous and contemporary. Third, using parametrics as background, rather than foreground elements, acknowledges the role parametrics can play at an urban scale.

### IDENTICAL OBJECTS AND VARIABILITY

Contemporary culture continues to employ mass customization as an expression of individuality and as a solution to unique and specific problems. When considering the built environment, however, the acceptance of mass customization should be weighed against an alternative concept – that of the identical object with variability. For most of architectural history, identical objects have been varied in position and configuration to create variety. It was the architect's innovative use of the same materials that both allowed individuality and legibility at the urban scale. In the modern era, architects who have been particularly adept at this technique include Frank Lloyd Wright and Will Bruder, who worked with brick and concrete block, respectively. More provocatively, SHoP Architects has recently used custom form-work to create variable brick patterning on a base of only twotypes of bricks. This becomes an intriguing moment where the individual object with variability accomplishes a contemporary aesthetic. Unlike mass customization, in which unique objects are used to perform very specific functions, identical objects with variability expose an object's potential and celebrate its skillful deployment. Not only contemporary, this type of architecture converses with its urban neighbors, creating an urban experience that is potentially more intriguing, cohesive, and longer-lasting than many of its alternatives.



290 Mulberry uses two different brick sizes with a variable arrangement to create a contemporary facade.

Figure 1. SHoP Architects, 290 Mulberry, New York, New York, 2010, photograph. ([www.shoparc.com](http://www.shoparc.com), 2/11/2012)

### EMERGENT GRIDS

The majority of urban buildings continue to be created within grids, with only a few iconic structures breaking from this time-tested approach. The grid has been mostly considered a tool of function and rationality, making it an ideal target to eliminate in favor of an irregularly-shaped “freedom.” In

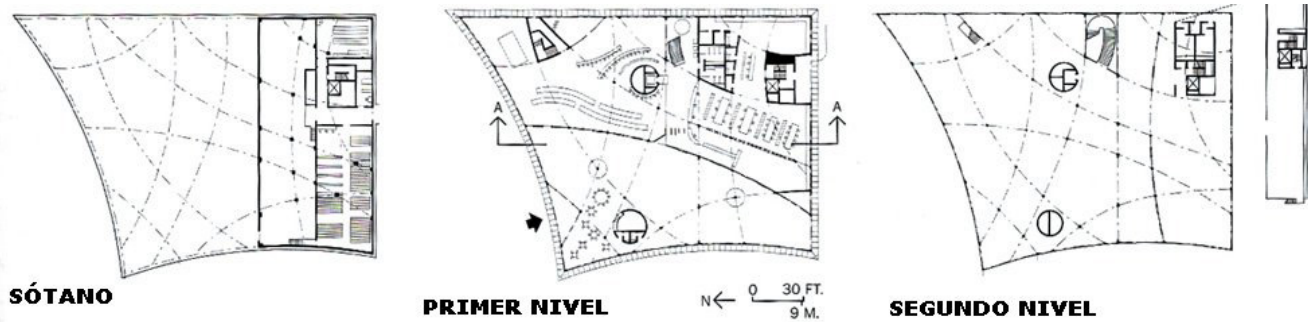


Figure 2. Toyo Ito, Tama Art University Library, 2007, floor plan drawing. ([www.toyo-ito.co.jp](http://www.toyo-ito.co.jp), 3/14/2012) Tama Art University uses an inflected grid to structure space.

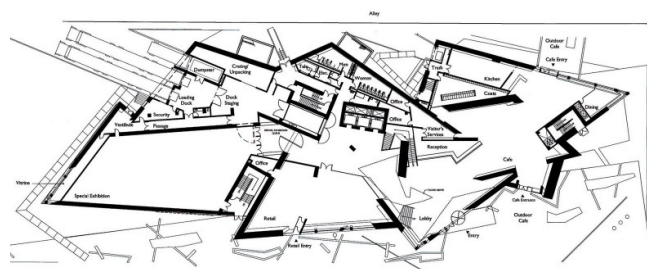
terms of design tools, grids have been largely discarded as both past history and an unnecessary architectural constraint. This is not always ideal for architecture. When totally eliminated, one can end up with the Denver Art Museum, in which all the parts are essentially equal.

The grid, on the other hand, can be used productively as a tool that allows variation within a structured framework. The grid provides for a level field that is organized and equalized. By breaking the grid, designers can place an emphasis or accent on unique features, making variability visible. For example, the plan of Tama Art University exhibits an inflected grid, one that provides unique moments within a cohesive and legible framework. The contemporary grid, however need not be orthogonal, but simply must establish reference points that can thus be broken. Toyo Ito, a prominent Japanese architect, speaks of an “emergent grid” which emphasizes points of local inflection, allowing for daylight, ventilation, and socialization to occur at specific places within a grid architecture. By applying the grid, architects can regain control over their design, provide greater legibility within the urban context, and make their variations more powerful, particularly for iconic buildings. The grid has become a ubiquitous tool for dealing with space. Because the grid is nearly omnipresent in dense urban spaces buildings that acknowledge it, are better able to connect with the city.

### PARAMETRICS AS BACKGROUND

Digital culture has strongly affected the design of cities’ infrastructure and buildings, particularly allowing for a greater variety in formal expression. Highly formal work, which can include work by contemporary architects like Daniel Libeskind and Frank Gehry, is beneficial to a city in

small doses. When a whole city becomes formal, however, architects should reconsider designing buildings to take a background role to the city’s activities and street life. Subtle architecture adds to a space but does not dominate one’s entire attention; rather, it is discovered over time. Subtle is not synonymous with quiet architecture, which implies the inability to be heard. Subtle architecture is visually intriguing but not formally dominant. Form, often parametrically driven at the scale of the building, has attracted all of host cities’ attention, leaving little room for intrigue or interpretation. This creates an architecture that is not only foreign, but that feels uncontrolled and impersonal. Architects can reconsider the most important reason to use parametrics; it allows for continuity and connectivity between physical objects using variables. This makes it particularly useful to the city facing a myriad of influences and inflections, whether political, environment, or societal. Parametrics can be used to establish relationships between parts and relationships of the parts to the whole, making for a multi-performative architecture. The California Academy of Sciences, although not an exemplar of urbanism, is an excellent example of parametrics as background.



The lack of a grid makes all parts equal in the Denver Art Museum.

Figure 3. Daniel Libeskind, Denver Art Museum, Denver, Colorado, 2006, floor plan ([www.archdaily.com](http://www.archdaily.com), 2/11/2012)

Architects should embrace parametrics for their variety and intrigue that is contemporary and revelatory in today's culture. Parametrics, however, should be used to create patterns that are subtle and which reveal themselves over time and through movement. The work of architects often prioritizes an architecture of visual experience, leaving little room for the occupant of the city to move by, question, and interpret their surroundings.

## CONCLUSIONS

With these three means of foreground urbanism, urban designers and planners can better advocate for architecture

that contributes to the creation of urban place. Through a consideration of individual objects with variability, the emergent grid, and parametrics as subtle backgrounds, we can create a city that is visually more compelling, spatially more intriguing, and practically more useful as a long-term urban asset than contemporary structures. The potential is there, now who will take the charge?



*The Academy of Sciences uses parametric design for its subtle yet sweeping roof.*  
Figure 4. Renzo Piano Building Workshop, California Academy of Sciences, San Francisco, 2008, photograph. ([www.architecture-buildings.com](http://www.architecture-buildings.com), 2/11/2012)