

Knowing What We Don't Know

How do we examine, detect, and design for an environment we know so little about? With the ever-increasingly complex layers embedded into the city's dense fabric, one piece of knowledge is for certain; we are urban detectives at best. Although we will more than likely never know the city as a whole, intelligently deciphered 'codes' from public architectures deliver clues from such unknown processes. In other words, recording outcomes directly linked to self-determined urban adaptations can allude to a sort of 'dna' reading of the city's 'code'.

INTRODUCTION

Processing the contemporary city is undoubtedly complicated and seemingly insurmountable. The products of urban systems are shaped from morphological layers of temporality and spatial collage. Particularly, the strata of natural and formal principles across diverse urban patterns engage a series of internally responsive urban implications. The illusion of holistic understandings ingrained in Modern planning methods generates overly irrelevant and insensitive urban architectural implantations. In addition to the isolated Modern artifact, current trends in complex formal architectural language tend to ignore and invert contextualization. Founded on public responsibility, urban space and architecture operate along an integrated, fluctuating field rooted with site and time specific responsiveness. Therefore, it is imperative future speculations in the 21st century urban domain operate within the existing sensitive fluctuations. Instead of anticipating large-scale imposed planning grids as a guides for a future urbanism, methods of micro-extractions can aid in the process of determining sensible future negotiations in the evolution of urban morphology.

This paper reflects the pedagogical goals set within a study abroad program in the northeast Asian megalopolis of Seoul, South Korea. Known as *Seoul Studio (collaboration with Kuhn Park, Texas Tech University)* this architectural studio intentionally generates sensitive questions concerning the rise of capital development. The studio operates more as a detective interrogating and exposing what we don't know in an attempt to reveal certain aspects of hidden, internalized urban morphological exchange. Using public architecture as focus for evaluation, the work proceeds across three stages of knowledge; (1) *measuring the city as a precedent*, (2) *detection of city codes*, and (3) *translating urban evidences* into negotiable design criteria for future responsive speculation.

THE CITY AS PRECEDENT

After being almost completely destroyed in the Korean War in 1950, Seoul has now become an extremely vibrant international city comprised of over 24 million inhabitants making it the third largest metropolitan in the world. To allow for such an enormous population,

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Seoul has implemented one of the worlds largest subway systems and has cultivated a highly technologically savvy culture, making for a powerful globally connected economic center. Various levels of capitalism mixed with historical traces of a Joseon Dynasty culture stimulate an extremely complex urban pattern and form.¹ Because of this and many other recent circumstances, Seoul provides an exciting diverse framework for an urban laboratory to operate within. Both navigating through and experimenting within Seoul's unique characteristics generate inquiries into architectural urban insertion. In order to evaluate intensely, time is devoted to various on-site visits and performing analysis studies of traditional and contemporary neighborhoods, and registering codes in this multivalent city. In addition, the studio applies knowledge built from comprehending cultural differences such as diverse needs, values, behavioral norms, and social hierarchies so students recognize and fully develop an understanding of cultural diversity, and more critically, build upon site-specific urban informed, architectural knowledge.

BEYOND THE URBAN ARTIFACT

Learning from the city as a design precedent becomes key. The city of Seoul is peppered with contemporary urban objects from among leading international architects such as Daniel Libeskind, MVRDV, UNStudio, and Mario Botta. Most recently, the highly publicized Dongdaemun Design Plaza project by Zaha Hadid has sparked much controversy. Set out to regenerate the market districts of Dongdaemun, the Seoul Metropolitan Government commissioned Hadid to replace the old urban settlements in order to conserve and create "a place where the past, present, and future, peacefully coexist".² The over-scaled, object-oriented mega-project rejects a continuous responsibility to the culture of Korean sensibility (Figure 1). Although a remarkable feat in structural performance and geometrical gymnastics, the responsiveness to both contemporary and traditional context is broken. Therefore the contemporary architectural masterpiece will already establish a new artifact stripped from a negotiable and elastic future. Borrowing from Rossi,

"Where does the singularity of an urban artifact begin; in its form, its function, its memory, or in something else again?"³

The Dongdaemun neighborhood is left with a massive architectural artifact incapable of carrying on local form, function, and memory. Hysteria of geometrically complex singular form ultimately produces broken and overexposed collections of isolated urban artifacts. Even though these types of internationally acclaimed projects can be iconic and compelling for their illustrious global and economic presence, they fail to adapt within an on-going dialogue of cultural memory.

On the contrary, other examples of public architecture can be found as more sensitive resolution. The project known as Ssamziegil, designed by local architect Choi Moon-Gyu, transforms public architecture into an interstitial zone of publicness; between the 'building' and 'public space'. Translated as Ssamzie "street", the project in Insa-dong extends a public street literally up and into a spiral pathway continuously aligned with shops and local vendors (Figure 1). Completed in 2004, the highly successful 'architecture' seems to disappear into the robust activities of public interactions and exchange. The project is both a successful example of public engagement and elaborates on historical knowledge of Korean architectural cues. Through the scale of centralized public space, materiality, and orientation the newly adapted zone resembles organization to that of traditional Korean characteristics (madang and maru) as well as intelligently transforms the knowledge of the Korean market.⁴ Here the architecture is not a glorified object transplanted from external sources. Rather, the strategy creatively intertwines existing knowledge of public Korean culture built out of a contemporary architectural diagram supporting an unpredictable future. Fundamentally, projects like that of Ssamziegil promote continuous and collective negotiation between existing configurations and evolving an architectural participation.



1

MEASURING PROCESSES

Philosophically the investigations here in Seoul Studio pedagogy shift focus from the object, or artifact, to the local lens of interacting urban behaviors. These two highly differentiated architectural responses from above (Choi and Hadid) demonstrate two ends of the ‘knowledge’ conversation. Both successfully advocate public engagement, although at different scales, Ssamziegil encourages translation of previous public interventions while DDP simply transposes a radically new and unassociated urban encounter. This simple analogy between two different public architectures is used as an educational tool for students to evaluate urban knowledge. DDP, as whimsical and handsome as it may be, simply doesn’t carry over any comprehensible knowledge of previous or even existing embedded architectural culture. Working in Seoul requires speculation beyond the internationally superficial. Rather than being flattered by glorified and isolated artifacts, the pedagogy here focuses efforts initially upon a process of measuring as precedent. As Thom Mayne describes,

“The true territory of innovation in urban architecture, then, is not in the production of platonic solids, but rather in the design of operational strategies that deal with the multiple and overlapping forces of a highly complex and entirely uncertain collective form”.⁵

Expanding upon Mayne’s observations beyond the singular “platonic solids” knowledge for the studio begins with measuring fragments of the city that are not fully comprehensible, and uncertain.

Selections of large neighborhoods containing ingredients of an unknown architectural vocabulary are first identified. The studies take on neighborhood-scale zones in order to recognize patterns of existing built form. The urban morphologies at this scale are outcomes of layered interventions based on an amalgamated and collective transformation through time. Intentionally these zones are not the authoritative master plan of a capitalistic generality. Neighborhoods including Bukchon, Seochon, Jayang, and Mullae-dong contain evidences of historical conflicts between politics, economics, social behaviors, and cultural implications. Each of the neighborhood zones reveals a variety of density, overlap, collage, and continuity. Candidly, the pursuit is not to understand ‘why’, but more specifically to understand ‘what is’. The aims of large-scale exercises embrace the ignorance of the unknown, and provide fields of particularities across a wide-range urban spectrum as the more truthful urban precedent.

In order to identify the neighborhoods inherent qualities more precisely, we amplify and slow down our reading of the city into smaller intelligible scales. Hands-on measuring allows

Figure 1: Ssamziegil (left) and Dongdaemun Design Plaza (right)
photos by author

students to further their tactile reading of the city into digestible bits (Figure 2). As a method of extraction, the dissections of neighborhoods shed some light and expose possible pattern behaviors. Diving further down in scale, data and measurable units are collected as a set of urban 'dna' to begin understanding how the large-scale neighbor may be organized. This process requires precise measuring, documentation, and particular drawing techniques of physical, calculable properties. Human pattern behavior can be useful as a tool for understanding economics and infrastructure, though for this studio pedagogy the work focuses on measuring the haptic, tactile ingredients of urban component. If we can comprehend the scale of the measurable, it is possible to proceed outward in scale to strengthen our understanding of the unknown larger populated pattern.



Similar to Fumihiko Maki's notion on group-form from the 1960's, the 'dna' sections offer bottom-up expressions of larger networks.

"Forms in group-form have their own built-in link, whether expressed or latent, so that they may grown in a system. They define basic environmental space, which also partakes of the quality of systematic linkage. Group-form and its space are indeed proto-type elements, and they are prototypes because of implied system and linkage."⁶

In a reverse design method, the smaller extractions of formal "prototypes" of the neighborhoods allows for a possibly more accurate reading of Seoul's urban fragments. Not so different than Kevin Lynch's city element, the node.

"Some of these concentration nodes are the focus and epitome of a district, over which their influence radiates and of which they stand as a symbol."⁷

This notion of the node defines not singularity or "symbols" as Lynch describes but instead defines capacities of identifiable, repeating themes within a district. The complicated arrangements and idiosyncratic formal resolution of the fragmented metropolis make for a difficult evaluation.⁸ The apparently unrelated urban forms across dense and highly varied zones are not so unrelated upon investigation of the 'dna', or 'nodal' section. These neighborhoods are not based on top-down planning processes. The much more rich history of Seoul's conflicting ingredients divulge various, un-designed consequences and results. Therefore it is necessary to scale down, slow down, and attempt to precisely identify site and time specific outcomes of a complex self-determined urban field.

DETECTING CITY CODES

The 21st century megalopolis is filled with a wide variety of unplanned, non-deterministic organizational strategies, which are not based master planning principles. Much of the

Figure 2: Measuring processes in the city (photos by author)

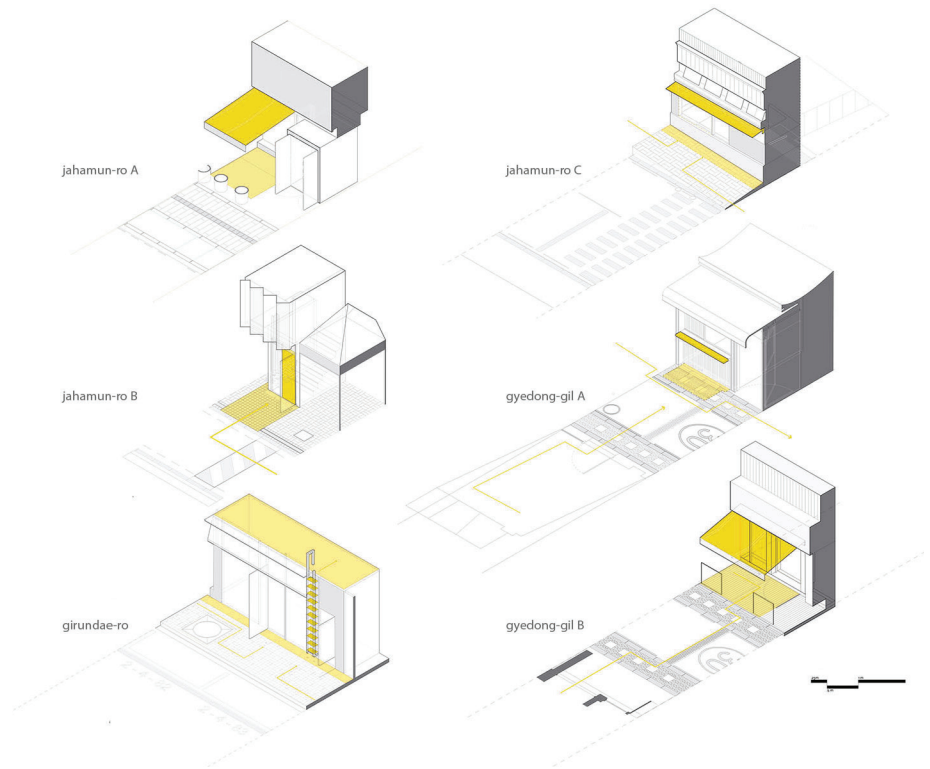
'dna' ingredients from the measuring processes dictate unplanned and highly flexible urban conditions. As stated previously, knowledge of the unknown must transpire from precisely captured methods of dissected sampling. This extraction process uses basic techniques of photographic documentation, orthographic drawings (particularly useful in section), and three-dimensional cuts of each sample. The collected documentation attempts to accurately depict the known and measurable physical characteristics. This knowledge is only supplemental to a much longer temporality of on-going oscillations in the urban condition. Intentionally, the drawing freezes the particular moment in order to detect operational city 'codes'. These codes become the organizational tools expounded out from the previously discussed conflicts between urban morphological exchanges. For the city of Seoul in particular, two sample typological codes are extracted and used as evidence found in the city; 'adaptability' and 'hybridization'. The evidences of such detected codes aid in the accuracy of profound urban knowledge.

ADAPTABILITY

Throughout the various fields in Seoul, codes of adaptability impact the threshold of public activity. As an on-going adaptation created by individualized necessity, street facades become active ingredients embedded in the flexible urban fabric. Contingent on time of day, month, and year cycles, the flexibility modify façade space allude to expanding operability of the urban form. The active agents of adaptations define codes of self-generated, non-deterministic operations. Extended surfaces allow for new volumes to be employed along the street for blurred public program (Figure 3). Sometimes these intermediary zones expand from interiority out into public thresholds. These new volumetric places can be used as flexible programs to support vendor needs, public interaction, and cultivate a continuously changing conditional state. In addition to public architecture informally expanding, deletions, insertions, and connections fold into one another creating powerful tools for future speculation. Therefore, here in the adaptability state, knowledge is defined by the operations of flexibility, not from formal characteristics. Even material palettes and juxtaposed collisions suggest public behavior and inform a city made of unplanned speculation. Not so different than the open-ended design of Ssamziegil, places in the city reveal a new knowledge base concerning how our megalopolis fragments and stitch back together under this premise of design adaptation.

HYBRIDIZATION

The second evidence of unpredictable codes continuous more of literally legacy of built form. Hybridization techniques are found across many of the selected neighborhoods. Hybridization codes allow for a more specific adaptation into the public architecture domain. Here, evidences of mixed architectural vocabulary support the combinations of physical layers and historical reference, including combinational time as well as flipped reference. Interestingly, the 'dna' samples indicate various hybridization types in themselves. Two specific types are identified in this study; 'commercialized-traditional' and the 'stacked-multiple' (Figure 4). Each cultivates an ever-changing flexible state. The commercialized-traditional manipulates function with an unassociated traditional arch-type. For example, we find vendors intentionally using traditional Korean house (hanok) techniques in a bizarre attempt to force reference to a historical past. The hybrid makes for oddities in the city, which may or may not be able to have been specifically noted at the larger neighborhood scale. This is important as the commercialized-traditional fracture in time and form unusually idiosyncratic morphologies across the urban domain. As expected an infinite variety exists in particular geometries and adaptable units. Many of the traditional typologies of the hanok (Korean house) show up as new materials following the old building typology.⁹



3

Obviously constructing 'fake' traditional is nothing new as distributions across our post-modern city. Though for here in Seoul, the applied 'fake' typologies can become flipped, inverted, and completely messy. Here specifically, the hybrid offers new knowledge concerning the relationship between urban form and economics. It is not the post-modern formal structures what is important. The city of Seoul had to make major economic advances quickly following the Korean War to catch up with the rising global market. Over the last 25 years specifically, the city overlaps new commercialization and capital investment with broken fragments of the traditional urban form. With the hybridization code, we begin to unveil the 'tip of the iceberg' relating to public architectures response to this exaggerated growth and economic shift. These samples may be alluding to both a new knowledge of conflicting economics in the form of architectural signifiers. The overlap and insertions of referential temporality (or even the reverse) mixed with unassociated economic consequences, impacts unpredictable urban behaviors. These implications pose as aspirations for maintaining cultural integrity through ironic architectural fragments while simultaneously progressing forward in a rapidly evolving post-industrial economy.

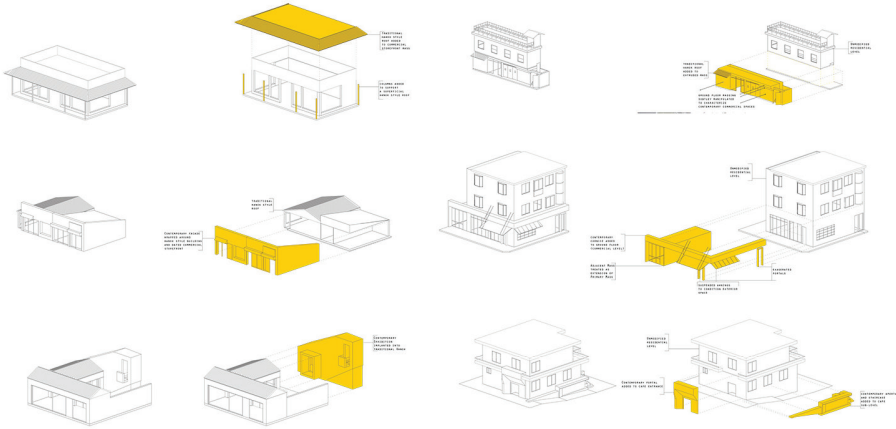
The second hybridization code, 'stacked-multiple', in the long list of types involves more disruptive, sometimes violent collisions and insertions. Due to major city and economic growth inhabitants in Seoul creatively impact the public architectural realm through explorations in real-time. In other words, the architectural by-products from hybridization trends invert the role of master planning to bottom-up tactics once again. Building codes are often rejected, ignored, or altered to accommodate specific conditions otherwise impossible to manifest into a workable planning solution. This knowledge building process of the 'stacked-multiple' strategically invents a plethora of new urban forms distributed along themes of public articulation. Many of the buildings from the 1980's (specifically the two to five story buildings) are becoming re-adapted. Not in terms of historic preservation principles, but through ad-hoc necessity. As the building break up into multiple rented properties, tenants re-invent street levels, operable volumes of roof decks, and expandable apertures. These hybrids

Figure 3: Adaptability codes
(drawing by Alberto Ponce)

stack various spaces with completely different organizational logics. Therefore making an even more fragmented urban environment. Ideally, the collisions of form and space could be regarded as undesirable outcomes for future design projects. Instead, the desire here processes design criteria and future speculation. By exploiting these realistic evidences of urban codes as design knowledge, new design criteria is informed by an adaptable and transformed public architectural resolution.

TRANSLATIONS OF CONTINUED DESIGN CRITERIA

The outcomes taken from the measuring processes and detection of codes formulate translations back into the already established urban strata. New design criteria (not design form) generate foundations based upon found physical evidence of city processes. More sensible urban resolution now has the ability for the local, physical and cultural continuum to exist.



The ‘urban artifact’ continuously changes, adapts, and evolves through responsive associations and collective behaviors. As described by Peter Trummer,

“In order to construct a morphogenetic approach to urbanism, the use of associative design techniques needs to be evaluated in terms of their assembly.”¹⁰

In other words, the design criteria provide techniques for on-going and future manipulation. In contrast to the platonic derivative, “it is less the intelligence of the geometrical model that unfolds morphogenetic potential” and operates more along a series of emergent behaviors.¹¹ Methods are employed through delicate translations of the field’s inherent performance and systematic ingredients. By sensibly articulating the haptic and registered logics, an analytical stratum is exposed (Figure 5).

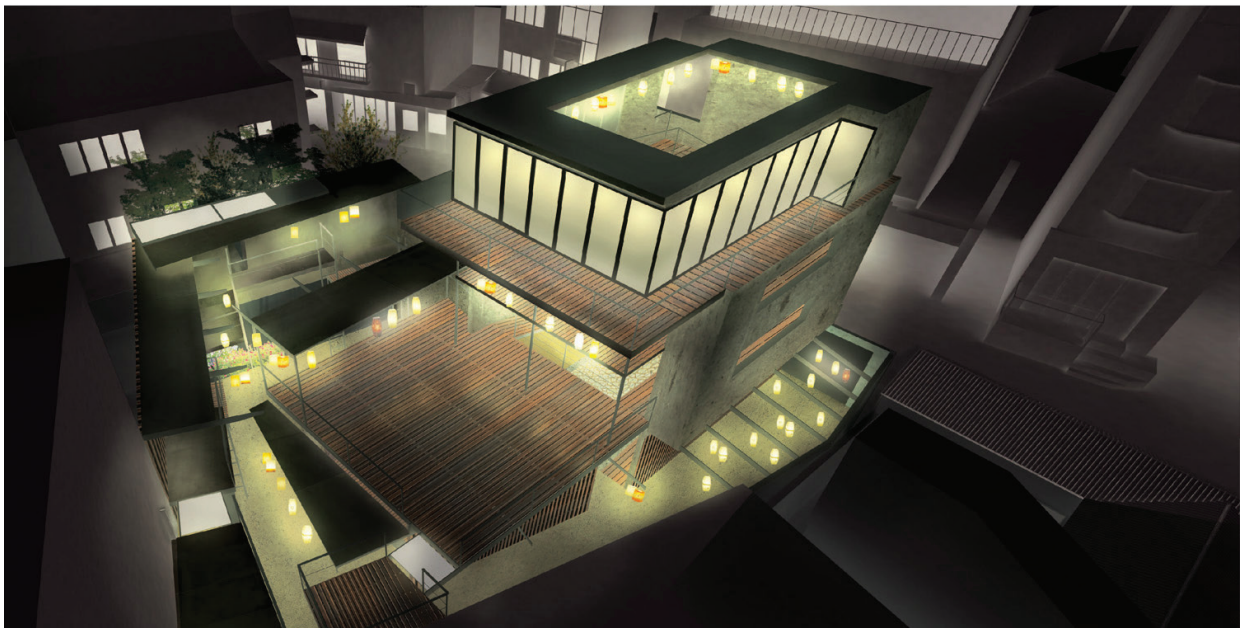
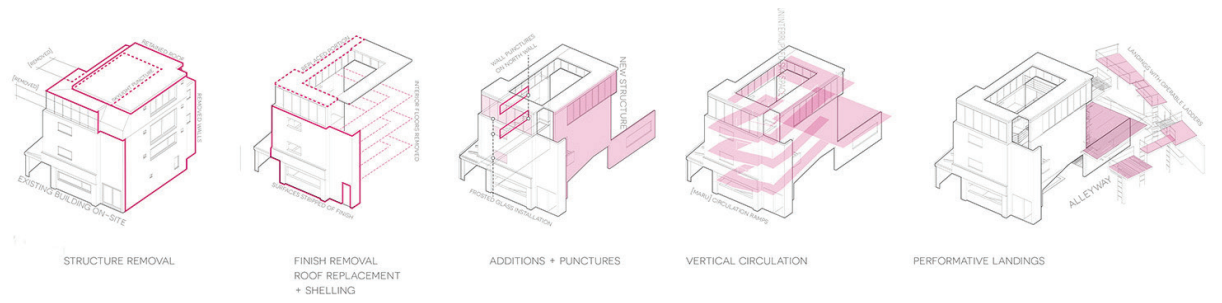
Previously in the discourse of urban idealistic planning, utopian visions for ‘what the city should be’ needs modification. There are two primary ideological states on where utopian visions focus; rationalism and libertarianism. The rationalist utopian schema is one of regulation and centralization on both power and global organizational structures. The other, libertarianism, occupies notions of individualized control, especially when it reaches to the political endeavors for freedom. The work here attempts to operate in a position of neither, the organized centralization or the decentralized state. Similarly to the Metabolism movement in Japan during the 1960’s,

“these two types of utopias reflected the contradictions between a call for order and a desire for freedom, as well as the tension between a reliance on centralized, large-scale organization and a claim of local autonomy and individual creativity.”¹²

ENDNOTES

1. Chang, Yun-shik and Steven Hugh Lee, ed. *Transformations in Twentieth Century Korea* (New York: Routledge, 2006), p. 1-13. From the 1970’s an era known as ‘foundational capitalism’ matured away from instability post-Korean War and led to the emergence of ‘capitalist modernity’. This rise of new capitalistic economics greatly affected the urban structure of Seoul neighborhoods and still today dominates new development.
2. Boettcher, Kerry. “Creativity and Design for the Masses”. *World Architecture News* (2015), accessed September 13, 2015. <http://www.worldarchitecturenews.com/project/2015/25508/zaha-hadid-architects/dongdaemun-design-plaza-in-seoul.html>. The article is borrowed as an example to express global impact of architectural contemporary icons set the stage for presence. Interestingly, the article describes the DDP project as successfully connecting the “past, present, and future”. Culturally, the architecture and public space has very little to do with historical contextualization. Only due to artifacts found during excavation for the project turn to possessing “history”. In fact, before the excavation, the term History was not included during schematic development.
3. Aldo, Rossi. *The Architecture of the City* (Cambridge: MIT Press, 1982), p 106. Using the genius loci as a primary anecdote to the urban artifact, the contemporary megalopolis can be viewed with a multiplicity of loci. These urban artifacts presented by Rossi are essential in understanding the differences between a contiguous urban fabric and a broken collection of singularity.
4. Choi, Jae-Soon, et al. *Hanoak: Traditional Korean Homes* (New Jersey: Hollym, 1999) Two primary features exist in traditional Korean architecture; madang and maru. The madang is a central communal space for multiple purposes and activities. This courtyard-like space is flexible, particularly for changing climate conditions. The maru is a wooden horizontal surface bounding the madang semi-exterior space and extends into and through interior space.

Figure 4: Hybridization codes; commercialized-traditional and stacked-multiple (drawing by Hunter Ince)



5

Figure 5: Design criteria diagrams and speculative negotiation
(drawings by Tyler McBeth)

Exploring the possibility space of between two ideologies allows for an expansive tissue of connectivity. Both structurally and theoretically the status of between two utopian ideals presents a new kind of dystopia of potentiality. The term dystopia is not referred as to brand a negative totalitarian environment. A subtle distinction is necessary. As the work situates between, large-scale influences certainly have demonstrated its impact on local, small scaled articulated states. The reverse occurs as well. Component logics at the small-scale have the authority to distribute and push against such centralized ideological utopian desires.

CONCLUSION

Understanding the city is too complex as a 'whole'. We need to slow down, and dissect comprehensible content to form educated design criteria for new urban insertions into the established, ever so evolving urban condition. It is with this understanding that a future of public architecture and urban design can and should come out of informed knowledge from the found evidences in our complex megalopolis.

Rather than 'what the city should be', why are we not asking 'how is the city operating'? Strategies of knowledge-base investigations are vital in the new paradigm for the future of the 21st century and beyond. As a tool for adjusting our design strategies at the urban scale, it is now necessary to use data informational systems, analytical extraction processes, and translational methods to enhance responsive output. Simulating agents based on external input is irrelevant and insensitive to the latent activity operating constantly.¹³ This methodical sequence of learning, evaluating, transforming, and negotiating is necessary for both understanding and designing in our highly active urban conditions in the 21st century megalopolises around the world.

5. Mayne, Thom. *Combinatory Urbanism: The Complex Behavior of Collective Form* (Culver City: Stray Dog Café, 2011), 5.
6. Maki, Fumihiko. *Investigations in Collective Form*. (Washington University Special Publication, 1964), 4. This process extracts registered and measurable samples from the city in order to more directly capture the reading of larger systematic links across the complex ordering systems.
7. Lynch, Kevin. *Image of the City* (Cambridge: MIT Press, 1960), p 63–74. Nodes are used here not as singular, isolated moments, but rather as a collection of repeatable elements across the neighborhood region.
8. Shane, David Grahame. *Urban Design Since 1945: A Global Perspective* (New York: Wiley, 2011). "Fragmented Metropolis" p. 37. "Foucault emphasized that heterotopias were often miniature models of an urban ecology, a small city within a city. Also the actors in charge often reversed significant coes inside the heterotopia." For Shane, the relationship between actors and codes inform the dynamic features distributed across a multiplicity of urban form. Shane's 'codes' are used as a guide for interpretation of extracted 'dna' sampling of neighborhoods in Seoul.
9. Choi, Hanaok. Various elements of the hanok repeat within fragments of contemporary hybrid collections where the facilities are residential or not.
10. Trummer, Peter. "Morphogenetic Urbanism". *Architectural Design*, vol. 79, issue 4 (Wiley, 2009), 64.
11. Trummer, "Morphogenetic Urbanism", 66.
12. Lin, Zhongjie. *Kenzo Tange and the Metabolist Movement*. (New York: Routledge, 2010), 4-5.
13. Trummer, "Morphogenetic Urbanism", 67. Morphogenetics in the urban scale can be defined through a collection of smaller units that then make up the larger organizational structure. If this work was to extend back into the larger scales of the neighborhood, Trummer's interpretation could be used as population strategies across many scales as we move up to the street, neighborhood, district, and city-scale.