Aesthetic Collaborations

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INTRODUCTION

The role of the architect-theorist is a familiar one. Vitruvius, Palladio, Ledoux, Le Corbusier, Rossi, Venturi, Eisenman, Tschumi, Koolhaas have all played it. Both the advantage and the danger of this hybrid character is that the architect is able to set the terms for how their own work is received and understood. In other words, they are at once the writer, director, actor and critic of their own performance. Of course, as Manfredo Tafuri recognized, the distribution of these tasks to various disciplinary specialists does not remove the potential for conflicts of interest. The ostensibly objective position of the theorist, historian or critic has often served as cover for professional and/or ideological propaganda.[1]

Today, the question as to how to sustain a useful friction between architectural design(ers) and discourse is as relevant as ever. With the number of PhD candidates in architectural history and theory increasing coming from the ranks of design, it would appear that the architect-theorist role will be filled for the foreseeable future. What, if any, will the role of the stand alone theorist be?

In documenting the development and deployment of a new theory of architectural patterns - from its inception, to its discursive development, and through its deployment in the design studio - this paper argues for both the increased collaboration between history-theory PhD's and progressive designers, while paradoxically maintaining that they keep their distance from one another. It contends that it is more productive when a recognizable and self-conscious gap between these areas of expertise and responsibility exists, but, that this gap must be crossed intentionally and often if one wishes to increase architectural knowledge, intelligence and influence.

Specifically, it looks at how this form of intra-disciplinary collaboration is consistent with this new theory of patterns; a theory which, following the insights of Gregory Bateson, stresses the advantage of thinking aesthetically.

According to the anthropologist and cyberneticist Bateson, patterns – in part because they consist of a repeatable and typically predictable structure - have the capacity to link seemingly dissimilar things to one another. In contrast to the rational method of science, which isolates parts from wholes, his "pattern that connects" operates according to the logic of aesthetics, a system based on the intuitive qualities of "recognition and empathy" for the interconnected forms of life.[2]

For Bateson, patterns are neither fixed nor fleeting entities, rather, they simultaneously embody stability and change; structure and randomness. Thus, not only did he make an argument for the value of aesthetic modes of inquiry and knowledge, he defined patterns as simultaneously maintaining difference while producing consistency across a variety of phenomenon; a task which architects are also asked to repeatedly execute.[3]

SILENT PATTERNS

If a few years ago I had been asked to lead a design studio, the first question I would have asked myself is "what could I teach?" As a professional architect with a recently minted PhD in history and theory, I certainly could have come up with a site, a program and a typology that would engage current formal, social and political contexts. What I

didn't have was an equally contemporary representational and methodological agenda or technique to help translate these extra-disciplinary issues into architectural form. But, by the time I was asked to lead a studio last year, this was no longer the case. In the interim my colleague Paul Andersen and I had developed a theory of architectural patterns that helped to fill that void.

Surprisingly, this transformation began with an innocent question at the end of an ill-attended lecture. I had inquired about the persistent presence of graphic patterns in a body of work that ranged from the analysis of suburban sprawl, the structure of a residential tower, and the underside of an apartment building. Before that evening I was not particularly interested in patterns. And, this might have remained the case had the response to my question not been so intense, so violent.

I had thought I was paying our guest, architect Xaveer de Geyter, a compliment. The ability to deploy a specific yet supple technique across a variety of design contexts was impressive and convincing. Each pattern was specific to the task at hand; many were aperiodic and internally differentiated. The only thing consistent about them was their ubiquitous presence in the work.

The trouble with my question, it seems, was that it mistook the effect for the cause. To begin one's analysis, let alone the design process with aesthetic considerations, rather than with the social, structural or organizational aspects of a project, was seen as ethically suspect. Or, as one of my peers suggested, it was "a question only an American would ask." By trying to understand how diverse phenomenon could be accommodated (or represented) under the rubric of "patterns" I was accused of being superficial and of oversimplifying the situation; ignoring firmness and commodity and overemphasizing delight.

The nature of this response was not new. But why was it so intense? Perhaps the hostility toward my question was because it wasn't posed by a designer but by a theorist/historian. Wasn't I supposed to have known better? As the recent recipient of PhD from a program that officially called itself "Critical Studies in Architectural Culture," shouldn't I have been skeptical of the use of graphics and images in the first place? Wasn't it my role to recognize

and unpack the dangers of the superficial and the spectacular?

But that was not what I saw in the work. Rather, I was struck how the seemingly "light" technique of patterning was being used, not simply as a surface appliqué or as efficient structuring device, but simultaneously as a product of analysis, a structural system, a design motif, and an organizational device. This combination suggested both a methodological and an aesthetic innovation, one that turned the alleged weakness of "the image" on its head.

I was used to the complaints about the formalist preoccupations of digital designers, about my country's obsession with superficial images, and about the "critical" distance theorists and historians should maintain between themselves and contemporary practices. Yet a number of things made the responses I heard that evening different. For one, the vehemence of the replies suggested an anxiety about patterns that would need to be further examined in order to be explained. Second, the belittling of aesthetics and aesthetic effects seemed misplaced, if not wrong. It was one thing to subordinate sensorial experience to a social or political program, it was another thing to dismiss them altogether. Third, and ultimately most important, there was a digital savvy design faculty in the audience – who was similarly interested by both the work and the response.

It wasn't a coincidence that both Paul and I were intrigued by the exchange. We had gone to school together at UCLA (he in the M Arch I program) where there was a strong emphasis on contemporary discursive and design practices. I was also a reliable presence on his reviews. However, prior to that night we hadn't discussed collaborating on anything much more than lunch. What was it about patterns, and that evening, that provided the opening for us to combine our complementary skills and interests? Whatever it was, it proved to be a productive fuse. In a relatively short time we had developed our ideas about the potential for patterns as both a design process and product and gave a few talks on the subject at symposia and conferences (where we were again violently dismissed as naive formalists). In a little over a year we had written a draft for, and had a commitment to publish, a polemical book on the subject.[4]

Among the questions we initially asked ourselves, the most productive ones were: If so many buildings, regardless of their aesthetic or political agendas, ended up being patterned, why not start the design process with them in the first place? Given their ubiquity, why were architects so loath to talk about patterns? There was no serious discussion about them since Christopher Alexander's *Pattern Language* in 1977. Understanding why patterns were currently in vogue, why past conceptions of them were outdated, and how new ones were different, required both historical and technological knowledge. It also demanded a new theory to explain how they could be used in the future.[5] We needed to research, gather information, categorize, write about and generate patterns. In order to pry patterns away from the conventional definitions of them as both superficial and timeless, we needed to re-theorize them as protean and elastic devices. In short, we needed the skills and resources of a historian, a critic, a designer and a theorist; we needed one another.

TRACKING CHANGES

It is safe to say that if I had pursued this line of inquiry on my own I would have focused on establishing an explanation as to why architectural discourse had been silent about patterns for so long and would not have been as interested in the internal design processes that generated them. And, if left to his own devices Paul would have focused on how to use the skills he had developed using CAD/CAM techniques to make and use patterns in design. That is, I would have acted as a historian asking "what" and "why," and he as a designer would have asked "how" patterns could be used.

Instead, as a diverse team we found ourselves asking "what if …"questions. What if patterns were used to both explain and produce new modes of architectural thought and production? What if patterns were not deployed to return to "total design" but as a mechanism to simultaneously generate variety and variation? What if we taught a class on this subject, how would we integrate the theoretical information with the design skills needed to produce patterns? These were much more speculative and theoretical questions compared to the individual ones we would have individually asked. Only by combining our efforts, our expertise and our skill sets could such questions be answered.

As part of our initial investigation I did what I was trained to do, a literature review on the topic, through which I discovered Bateson's ideas about patterns. Armed with his general theory of patterns, our suspicion about their potential was further reinforced when Paul - drawing on both his technological and mathematical background - found examples of simultaneously stable and dynamic behavior in the physical and natural sciences (chemistry and evolutionary biology specifically), while my art historical background helped me to find the same in the decorative and fine arts.[6]

Most productive for us were the dissipative chemical structures observed by Ilya Prigogine and the Op Art paintings of Bridget Riley, both of which illustrated compelling and complex patterned processes and products. At first glance these diverse examples would appear to be nothing more than another instance of locating architecture at the intersection of art and science. However, in previous moments in architectural history when patterns were positioned as revealing the similarities between these radically different modes of knowledge, they were seen as devices through which to produce a state of dynamic equilibrium between the two.[7] In contrast, the phenomenon we were looking at (dissipative structures and op art) produced physical forms and physiological states that were far from equilibrium, allowing us to recognize that the goal of synthesis was antithetical to the physical, aesthetic and even the professional and political processes that a newly patterned architecture would produce.

PRESENTING PATTERNS

This model of an integrated yet distinct arrangement was maintained when we gave public presentations. I generally handled the historical material and Paul showed the methodological implications for design by showing more contemporary work – his own, his students or his peers. The transition between the two sections was always made by introducing the theoretical, scientific and art historical material, a task which we split. (In contrast, our writing process has been much more fluid. Although we often subdivide responsibilities and each of us produces our initial statements on a topic, over the course of editing and rereading, authorship is truly blended.)

Hilary Pinnington
PATTERN 17.1
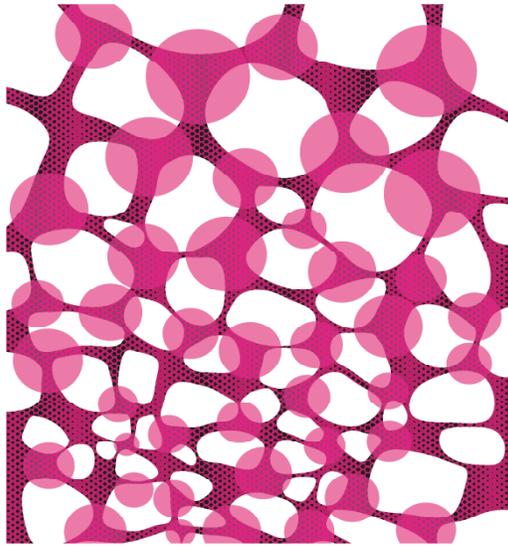Patternology
Paul Andersen and David Salomon
Spring 2008

Figure 1. Hilary Pinnington, *Patternology, A*ssignment 17.01, Spring 2008

When we were given the opportunity to co-teach a class on the subject matter the division of labor was still clear. Paul created and led a series of design workshops and I selected the material for and led the seminar discussions. Yet, when it came time to evaluate both the written and graphic assignments we split the tasks evenly or did the evaluation together. The criteria for judging the graphic assignments - which were a set of six exercises, each requiring a series of patterns - was the ability of the patterns to produce a sustained but differentiated aesthetic effect across a number of recursive attempts. Likewise, the best writing assignments were those which made connections between specific texts, and more generally, between patterns and architecture that we hadn't yet made.

The workshops introduced a series of independent techniques that could be used to generate and manipulate patterns using Adobe Illustrator. The emphasis was on teaching relatively simple commands and then giving them an open ended assignment; leaving it to the students to find ways to combine them into increasingly complex patterns. The series of seminars followed the same logic. Instead of

presenting material in chronological order, or from the simplest to the most complex, each session focused on a specific cultural area where patterns were found. The self-contained sessions were organized around topics that had a longstanding presence in architectural discourse - including mathematics, vision, biological bodies, ornamentation, social practices, spatial behaviors and structural systems. Again, neither direct connections nor a clear hierarchy between these various fields was stressed. The interrelated nature of the material, however, did come up in conversation and in the students' synopsis of the readings, and, not surprisingly they displayed a range of possible combinations and preferences. In short, every session was related to patterns, but each in a distinct way; in turn revealing how patterns connect different phenomenon in different ways.

Finally, by not forcing a direct connection between seminar and workshop assignments (which were alternated from week to week), the design work did not become an illustration of the ideas expressed in the texts, nor was the written work an explanation or justification of the graphics. The link between the two modes of thinking was loose and students established connections themselves.
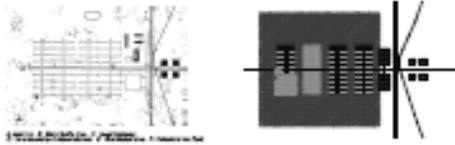
DESIGNING PATTERNS

The same semester we taught the *Patternology* seminar we each taught studio, myself for the first time. In that context, the link between pattern making and architecture was more direct. The project given to my 2nd year undergraduate class was for a suburban infill project, for which there already was a New Urbanist master plan in place. The students began by looking at canonical precedents of suburban developments and were asked to produce two dimensional patterns based on the original geometries and functional distributions found in them. This "primitive" pattern was then transformed and thickened as it was located on the site in New Jersey and subsequently programmed.

For example, Jasmine Li transformed the strictly zoned and clearly distributed nature of Ludwig Hiblersheimer's post-World War II neighborhood unit by patterning it with the multiple geometries generated by a series of striating infrastructural and natural elements found on the site. This allowed the programmatic elements which were self-
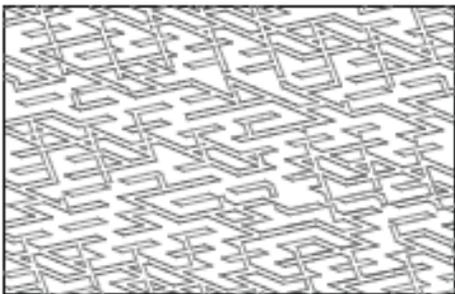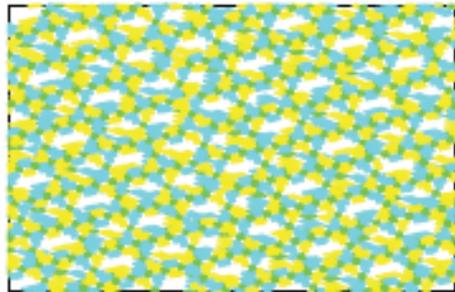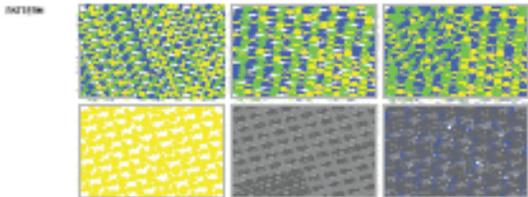
Figure 2. Jasmine Li, Superbia Studio, Spring '08; modulation of pattern from source through site to plan.

contained and homogeneous in the original to be broken apart and redistributed in smaller doses throughout the site. The resultant form and spaces were of self-similar diamonds, which were aggregated or subdivided to produce a family of unique yet related forms within the project.
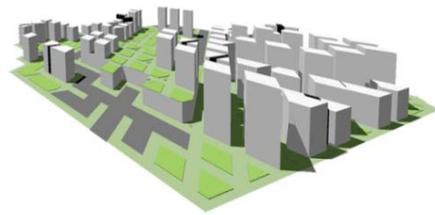

Figure 3. Jasmine Li, Superbia Studio, Spring '08

Drawing on the work of market researchers at the Wharton School of Business,[8] students were also asked to study the spatial and movement patterns found in supermarkets. The rest of the semester was spent designing a suburban development with a supermarket as its focal point, and attempting to integrate the historical, physical and behavioral material they had via the manipulation of the hybrid patterns they had generated.

The most successful projects were the ones where different aspects of their patterns were highlighted, scaled up or stretched to accommodate dif-

ferent programs or different site conditions. For example, Jack Becker began with the circular lots that defined Frank Lloyd Wright's plan for Usonia, New York. He quickly discovered the diagonal and hexagonal geometry embedded in Wright's scheme and used and manipulated this tight-packing strategy to transform the identical/even arrangement of lots found in Wright's plans into a more gradated distribution of programmatic, structural and atmospheric conditions within our brownfield site.

The material he modulated was program, structure, atmosphere, etc.; in other words, phenomenon which must be accounted for in any architectural intervention. The capacity to subtly gradate these generic architectural conditions was done by pixelizing and then recombining and resizing the pixels as needed, and then relocating them within the patterned site plan. The range of objects developed out of these parts included structural, shelving and lighting elements within the supermarket; the sectional development of apartment units and buildings; and the location and geometry of the streets and green spaces within the site. With each shift in scale came a shift in material implications and potential sensorial effects.

All design decisions were literally informed by and were ultimately (but not blindly) governed by the original planning pattern. And, without mimicking or ignoring the precedent, the pattern became a device to produce consistency without monotony; variety without idiosyncrasy. Such characteristic are akin to Bateson's definition of art.

> "With almost no exceptions, the behaviors called art or their products (also called art) have two characteristics: they require or exhibit *skill*, and they contain redundancy or pattern. But those two characteristics are not separate: the skill is first in maintaining and then in modulating the redundancies."[9]

He elaborates that there are two levels of redundancy: the first is a perfect replication of a form, figure, or graphic, and the second is a differentiated version of the first. Together they account for the "linkage in aesthetics between skill and pattern" and include a development away from an original condition. Design is the process of the skillful manipulation of the known; the repetitive with the random; the circumstantial with the excessive. In other words, design work is work on patterns.[10]
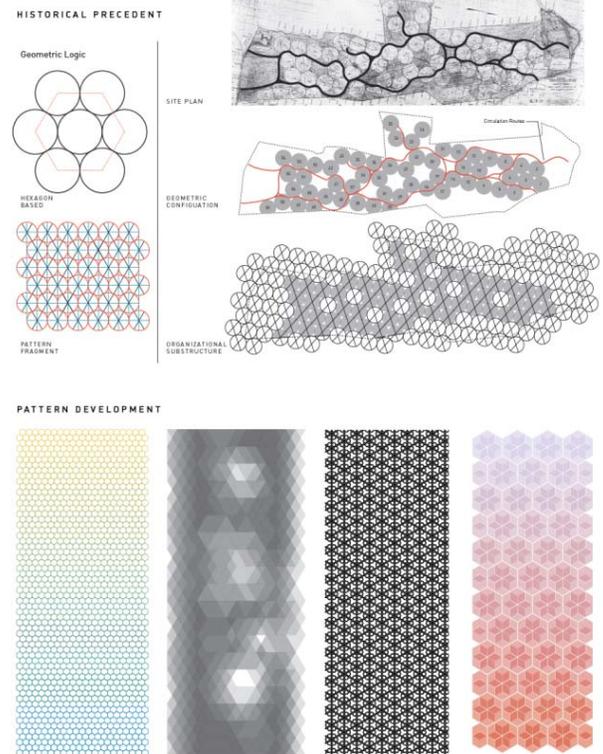

Figure 4. Jack Becker, Superbia Studio, Spring '08; Pattern Analysis and Development

Such paradoxical qualities are ones best understood (and created) according to aesthetic criteria. Aesthetics, following Bateson, is not the philosophy of art, nor is it a visual effect, nor a study of the beautiful, nor the direct sensorial experience of an object. Rather, it is a form of knowledge that establishes connections across multiple platforms, categories or logical types (e.g. form, function, movement, use; supermarket, parking lot, park, street, house, etc.), but not though the deductive and isolating processes of logic or science. Rather, the recognition and empathy provided by the non-lexical language of aesthetics produces a "gap in consciousness" which reveals or communicates the connection or shared structure that exists between lived sensorial experience and other aspects of the life-world. Such moments of insight occur according to pre-conscious mental/bodily operations, the products of which (images and ideas) are themselves ephemeral, non-physical and generally opaque to reason.[11]

The aesthetic relationships between objects and experiences from different logical types are such that

while in dialogue with one another, they, like two different species, can never be fully integrated with one another. This relationship defines the internal structure of any given pattern, the one between Paul and myself, the one that exists between many architects and their inter-disciplinary partners, between one material with another, between one of scale of a design and another, and between the various aspects of my student's projects. In other words, it is a model that is recognizable in most aspects of architectural production.
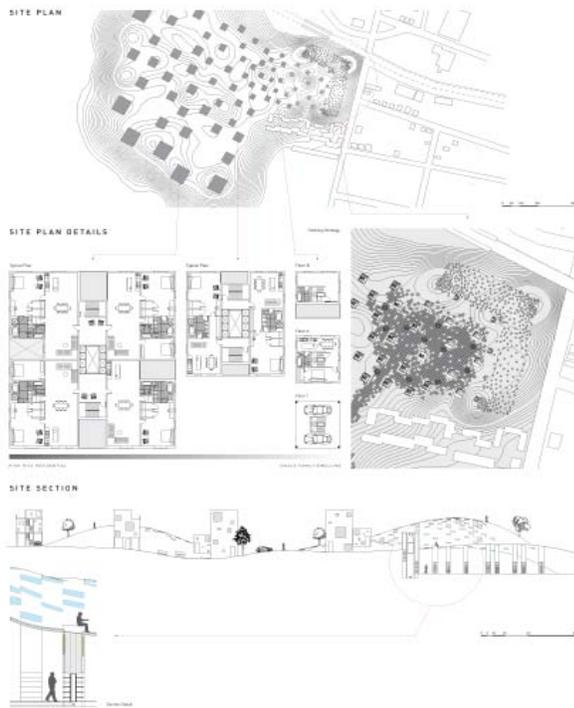

Figure 5. Jack Becker, Superbia Studio, Spring '08

CONCLUSION

At the same time I was guiding the *Superbia* design studio Paul was running a studio focusing on the development of suburban house types. (Re-imagining suburbia is our next collaborative project). He too focused on the aesthetic possibilities of working with patterns. Here also, working independently but concurrently allowed for similarities and differences to emerge. The major methodological differences being my introduction and use of historical, mostly modernist, examples to generate patterns, and I did not actively introduce or emphasize any design

software. Just what you would expect from a PhD in the studio, history emphasized over technology.

However, these examples were not used only to extract historical lessons and principles, nor were they presented in the hope of reviving their forms, modes of construction, material properties, or social agendas. Rather, transforming these precedents into patterns allowed the design process to be both an investigation into making new suburban forms, and an interrogation of modernist planning and formal strategies. This emphasis on form did not come at the expense of understanding the socio, economic, or political content which is inevitably embedded in historical and contemporary forms. For example, in light of the different ownership models present in their precedents, students were asked to consider the ownership structure of their own projects; not to reinstall progressive or socialist housing examples, but to get them to recognize that it would take a different tenure structure and development process to make their own designs feasible.

Would I have done the same thing if we had co-taught a studio? Would we have blended our techniques in a manner similar to how we wrote, or would we have kept things separate as we did in our workshop/seminar class? It's hard to say. What is clear is that staying separate allowed us to deploy different pedagogical and representational techniques, and therefore investigate the usefulness of patterns in suburban design along two interrelated but separate tracks (at the scale of the development and the scale of the house). In the end, we ended up with a diverse but interrelated set of solutions, some of which were obviously patterned, others where the pattern was "hidden" but still active at the organizational or conceptual level.

As witnessed in the work produced by our students, when design begins with patterns - from science, from fashion, from art etc. - their initial state is simply the start of an evolutionary or additive processes, were different functions and performances inflect the pattern as it adjusts to accommodate the numerous and contradictory requirements demanded by all works of architecture. It is patterns which connect these disparate realms.

The variety of the work between our two studios reveals that working independently but closely is a

productive way to increase both our own and our student's skill with "maintaining and then in modulating [patterns]."[12] In other words, it suggests both a new model for collaboration and a new mode of design; one in which establishing personal, spatial, visual and political links is done via the aesthetic manipulation of material and immaterial patterns.

ENDNOTES

1. Manfredo Tafuri, *Theories and History of Architecture* (New York: Harper & Row, 1980).

2. Gregory Bateson, *Mind and Nature*, (New York: Dutton, 1979), 8.

3. See especially, Gregory Bateson, "Style, Grace, and Information in Primitive Art," in *Steps Toward an Ecology of Mind* (New York: Ballantine, 1972), 128-152.

4. Paul Andersen and David Salomon, *The Architecture of Patterns* (New York: Norton, 2009), forthcoming.

5. Ibid.

6. See especially Ernst Gombrich's A Sense of Order (New York: Phaidon, 1979).

7. See especially Gyorgy Kepes, "Thing, Structure, Pattern, Process," and "Transformation, Physical, Perceptual, Symbolic," in *The New Landscape in Art and Science* (Chicago: Paul Thebold, 1956), 204-207 & 226-231. For a contemporary account of the limitations of Kepes' position, see Reinhold Martin, *The Organizational Comple*x (Cambridge, MA: MIT Press, 2004), 15–41.

8. Peter S. Fader, *Eric T. Bradlow* "An Exploratory Look at Supermarket Shopping Paths*,"* accessible at http://knowledge.wharton.upenn.edu/papers/1293.pdf.

9. Gregory Bateson, "Style, Grace, and Information in Primitive Art," *Steps Towards an Ecology of Mind*, (New York: Ballantine), 147.

10. Ibid.

11. See Gregory Bateson and Catherine Bateson, Angles Fear (New York: MacMillan, 1987).

12. "Style, Grace …," op cit.