

UC Berkeley

Room One Thousand

Title

Considering Prefabulous and Almost Off the Grid

Permalink

<https://escholarship.org/uc/item/2x7681tp>

Journal

Room One Thousand, 1(1)

ISSN

2328-4161

Authors

Grenier, Lotus

Beba, Zoe

Gray, Art

Publication Date

2013

Copyright Information

Copyright 2013 by the author(s). All rights reserved unless otherwise indicated. Contact the author(s) for any necessary permissions. Learn more at <https://escholarship.org/terms>

Peer reviewed

Review by Lotus Grenier and Zoe Beba

Photographs by Art Gray

Interview with Linda Taalman

Considering *Prefabulous and Almost Off the Grid*

Introduction

Two recent projects, The High Desert IT HOUSE by Taalman Koch Architecture, completed in 2007, and the 2011 Superb-A House, designed by Minarc Architects, exemplify several significant trends in contemporary architecture: both are dwellings employing pre-fabricated construction technologies with an explicit focus on building performance and sustainability. Yet while they embrace new technologies, complex building analysis and construction, their formal approaches pay tribute to the simple modernist box. This union of establishment and cutting-edge ideas begs an investigation of the relationship between the clean, rational parameters of modernism and the analytical, performance based approach of prefabricated architecture. Such buildings have the potential to achieve many Modernist goals, such as the edicts for rational spaces, a truth to materials, and formal simplicity, without the compromises to performance so prevalent within critiques of Modernism.

The Book

Prefabulous and Almost Off the Grid by Sheri Koones

In her most recent book, *Prefabulous and Almost Off the Grid* (Abrams, 2012), Sheri Koones profiles the IT HOUSE and the Superb-A House with a series of 32 projects. The book is the latest text Koones authored that explores the intersections between architectural trends and sustainability, presenting architecture as both a method towards and an expression of environmental equity. *Prefabulous and Almost Off the Grid* assumes an informed audience interested in green building and focuses on the technical aspects of the homes and their pre-fabricated building systems. Not only are these houses set apart in their utilization of prefab technology, they also share the distinction of being “almost off the grid.” As such, these projects generate most of their own energy needs, primarily through PV systems, yet can draw on the existing utility grid for supplemental power, when needed, or supply the grid with excess power, when produced. Thus none of these homes sacrifice a comfortable lifestyle for the sake of sustainability. Because these projects can be so accurately modeled, crafted and monitored for maximized energy use, Koones argues that prefab architecture is one of the central tools to making a commitment to environmentalism through the creation of low-impact, high-performance buildings.

Koones, however, does not discuss the design or aesthetic logic of the projects, and the readers are left to assess their success based on technical descriptions and photographs. The houses presented in the book are stylistically quite diverse, but to focus on Taalman Koch’s and Minarc’s projects grants a perspective on how Modernist principles can be manifested using prefab technology. Both homes display a clear intention for a modern aesthetic, but this aesthetic is the result of thoughtful choices about materials and the impact each choice has on the environment.

The Superb-A House boasts no paint, tile or carpet, a radiant heating and cooling system, LED lighting and natural ventilation. "It is not what the building has, it is what the building does not need," (p.56) reads the design principle of Superb-A House designers Erla Dogg Ingjaldsdottir and Tryggvi Thorstiensson: the basic, natural materials employed throughout their projects are based on the simple logic of prefab construction. Koones discusses the technical and practical aspects of the house, but the lived experience of the space is in the way the bare concrete floors extend past the glass-wall perimeter to bring outside in and fill the house with natural light and air, a central aim of modern design. The structural capacity of the panelized system allows for the openness of the plan; the solar orientation minimizes the number of low energy LEDs needed to supplement natural light; and the maximized thermal performance of the walls offsets the heat lost through glass expanses. All of these elements, together, contribute to an open, well-composed space.

Design success through prefab construction is again demonstrated by Taalman Koch's IT HOUSE IT HOUSE. Manufactured as a kit-of-parts, the IT HOUSE can be disassembled and rebuilt elsewhere. This system serves as the basis for the aesthetic of the space, as the milled-steel connections are revealed, allowing the building's structure to be understood as part of the everyday space of living. Inhabitants are constantly reminded of the impermanent, intentionally tentative relationship the house has with its surroundings, a position that resonates with ideas of sustainability; the solar heated water, photovoltaic panels, passive solar orientation and high-efficiency glass, allow the IT HOUSE to be entirely off the grid and self-sustaining. The Modernist goal of utilizing new technologies in service of a more thoughtful domesticity is achieved.

According to Koones, the technologies that come together within these projects are the most important factors of the design. However, what is clear is how the underlying design intent of simple, rational modern spaces exemplified by the Modern Box, are fundamentally supported by the logic of prefab architecture. While Koones emphasizes the energy saving techniques and various green aspects of the projects, the designers have applied sustainable technology to achieve a synthetic union of functional performance and formal clarity.

The Photographs

Photos by Art Gray

The photographs in Koones' book support her textual emphasis on performance and material considerations. Both the IT HOUSE and the Superb-A House were photographed by Art Gray, an architectural photographer based in Los Angeles. His images communicate atmospheres, the feeling and sense of being in a space, capturing the three-dimensional qualities of space in the two-dimensional medium of photography.

Photographs can be more than aesthetic representations of a place, which at times can be grander than the building itself. As we embrace new construction technology, architectural photography can articulate the importance of how something is made. Both the success or failure of an expressive form, as well as the success or failure of a building's construction, can be either emphasized or denied through images. New prefab manufacturing techniques present designers with new opportunities, but these also prefigure both anticipated and unknown challenges. Many claims, such as those made by Koones, about the environmental and financial benefits of prefab are unproven. Photography has the potential to not only show the qualitative aspect of architecture but also to verify the performative and environmental

claims of writers and architects alike. Architectural photography must be able to collect evidence on the success of new technologies while simultaneously capturing the spirit of the design.

Gray's work begins to achieve this broader goal of a comprehensive presentation of architectural projects. His images of Taalman Koch's IT HOUSE highlight technical details such as the joints between pre-fab panels and captures the depth and efficacy of the sunshades in images of the house silhouetted in the sun. Close details of material finishes reveal an attention to craft that indicates an overall quality of construction. Gray's simply composed photographs of the Superb-A House also show the overall quality of the space, lending credit to Koones' technical arguments. Verbal descriptions of the house's passive orientation and native landscaping take shape through the images that illustrate the darkness of shadows and the ease of the transition between inside and out. Gray's photographs communicate the technological considerations fundamental to these projects while still articulating their visual and spatial strength.

In response to a set of questions sent by Room One Thousand (featured below) Linda Taalman spoke eloquently about the role of aesthetics in the context of ecological design, expressing how a building's response to its environment is achieved through both the design aesthetic and the materials used to that end. She stressed how each aspect of the design needs to be in service of the other. Architectural photography can express that balance and demonstrate how building methods contribute to a synthetic whole. The synthesis of text and image in *Prefabulous and Almost Off the Grid* comes together as an expression of the overall design intent of the architects. The simple formal quality of these projects is shown through the photographs and the text explains the technical logic behind the aesthetic. Together they show that visual considerations and environmental concerns can

come together, balanced through a prefab solution to modern design problems.

The Internet

The landscape we navigate is more than just the physical tactile world and a central part of the intersection between the technical and the modern is the digital space of the Internet. Digital space and the architectural representations that proliferate on the Web influence and affect our reading and understanding of projects, old, new, and imaginary. Websites from Archdaily to Pinterest to the commercial websites of firms all offer representations of projects along a multitude of different formats and perspectives which serve a variety of different purposes. Architectural representations on the web often advertise a practice, or a specific building technology, through easy access to extensive imagery and information.

A directed search focusing on pre-fab technologies elicits an emerging community of architects and designers working in this realm and links these designers to the websites of manufacturers and builders. Sheri Koonen writes about the projects in her book *Prefabulous and Almost Off the Grid* as a series of technologies that work together to form each building. The presentation of pre-fab architecture on the Web shows that these types of buildings cannot be conceived of separately from the manufacturing techniques needed for its production. The website of Minarc Architecture (<http://www.minarc.com>) contains a direct link to a manufacturer and, from there, to a builder of their pre-fab and green products. Similarly, the Taalman Koch Architecture website (<http://www.taalmankoch.com>) contains a link to a stand-alone IT HOUSE website (<http://tkithouse.com>), where information can be found on the component building systems plus instructions as to how to acquire an IT HOUSE. The web is a valuable marketing

device for designers, especially those working in pre-fab technology, where a consumer can potentially shop for architecture much like she shops online for shoes. On the web, architectural representation is often used as marketing for a particular practice. The frame and context in which a project is presented informs the consumer to the purpose of the architectural representation, whether it is to display the conceptual thinking of a practice, to advertise a specific building system or technology, to advertise a builder, and so on.

The Interview

Linda Taalman is the co-founder of Taalman Koch Architecture with her partner, Alan Koch, and an associate professor of architecture at Woodbury University. Based out of Los Angeles, Taalman Koch Architecture is an award winning firm that views architecture as a dialog between people, ideas and space. Students from Room 1000 prepared questions for Taalman regarding the role of the architect in building today.

RM 1000: Do you think architects in general are focused enough on the issues of environmentalism and building performance? Or inversely, do these considerations interfere with other architectural investigations?

Taalman: In general, our awareness as a culture of designers and architects is increasing with regards to environmentalism and building performance. Architects are finding that their architectural investigations must engage these issues in order to create structures that perform well AND that can sustain the challenges we must overcome in order to realize a project, including economy and long-term operations of a project. I am particularly interested in creating buildings that are responsive to the environment and integrate building performance into the core design elements. There are many ways to integrate performance.

RM1000: How do you measure the energy performance and comfort levels of these projects over time?

Taalman: Often times, as architects, when the project is finished, you no longer have any interaction with the space or the client, so it is difficult to know how it performs over time. In building the IT HOUSE, we have been fortunate to study the project over a long period of time, and improve upon it. The prototype, Off-grid IT HOUSE is our own house, so we can monitor its performance over time and see how it does and does not work. As the building was for ourselves, we felt comfortable with the idea of being slightly uncomfortable in order to test the limits of the performance. For example, we installed only eight solar panels, as opposed to the recommended 20-25, to see just how few could work. In the end, there may need to be an adjustment to 10 to accommodate the power needs in the coldest weeks, but we have been happily surprised to see that our projections were very accurate. The first off-grid IT HOUSE is relatively experimental, but it has allowed us to improve on future structures we build with clients.

RM1000: What is the relative importance of aesthetic considerations in relation to environmental or building performance concerns? Is there an ecological, "natural aesthetic" present in pre-fab materials?

Taalman: Both aesthetics and environment have to be in harmony in order to achieve a good design. The role of the architect is to find the balance between all the decisions that have to be made and find the right materials to express the design goals and perform ecologically. Pre-fab materials and processes are highly efficient in terms of their fabrication and minimizing of waste, generally, but they are not naturally ecological. One must look at the material properties, the processes used to manipulate them and the ways in which they are placed in the environment.

RM1000: Who needs to be driving the conversations about sustainability in the built environment: the building industry, academia, design professionals, or consumers? What fields are you primarily drawing from?

Taalman: Everyone needs to be driving the conversations about sustainability forward. I am pushing forward the conversation in academia, as a design professional, and as a producer of product. There needs to be increased responsibility at all levels.

RM1000: Taking on experimental projects puts you in direct conflict with existing zoning laws and codes. Does whether your projects will be exceptions to existing rules or whether they will be precedent for new regulations factor into the design intentions?

Taalman: Typically any project will come up against zoning laws and codes, including experimental ones. It is important to work within the restrictions unless those restrictions eliminate the possibility of a good alternative. It is at this point that a new rule might need to be made, or previous rules revisited.

RM 1000: How does craft play a role in pre-fab architecture?

Taalman: Pre-fabrication, as a process for controlling the process of making architecture, is directly related to reengaging with processes of craft. The process of making a building is typically handled on the site where weather interferes and not all tools are available. Through prefabrication, we are able to expand the possible tools we might use by being in a highly controlled environment.

RM 1000: Are there boundaries to the ability to reproduce and/or the applicability of the design strategies you are investigating?

Taalman: So far, as we have explored we have aimed to produce results that are reproducible—the goal has always been to make a system that can have a wide range of applications and can be distributed on a large

scale. There are certain details that we have explored that have been too time consuming, or required too much precision from certain trades, that we have had to modify or adjust, or certain vendors we have worked with have changed or even gone out of business. We are in a state of perpetual development.

RM 1000: Is there anything you would like to say to students just beginning their architectural education?

Taalman: When I was student I thought I wanted to design things for myself—now that I am architect with fifteen years of working on my own, I have realized that the most exciting thing is designing things for people and collaborating with people. The clients and creative partners I have had have expanded my way of thinking and I am always surprised by what each new project brings. I would say to students that you should think about expanding the field of architecture, and always question what architecture can be, there are so many ideas yet to explore. I would also say that working for yourself is not the ideal scenario—go out in the world and engage architecture in as many ways as you can—and this means working for or with others until you have built a network that you find exciting to continue to explore.

Conclusion

Design plays a central role in the practice of being a conscientious citizen through affordable, sustainable, and elegant technologies. In her interview above, Linda Taalman is clear about how important environmental concerns are to the processes of practicing architects today. Such challenges are just one of the many parameters that designers have to work with and which are central to design decisions. Koones' *Prefabulous and Almost Off the Grid* presents architecture as a solution to environmental challenges, focusing on the technical and performative

aspects of building with construction constraints. Behind the sustainable motives of these well-built boxes is an architectural intent that expresses a modern idea of how people might live: in homes that are simply and logically designed to maximize one sense of connection to the world around them. The IT HOUSE and the Superb-A House demonstrate how the analytical fabrication tools now available to designers can lead to a more sustainable built environment, while revitalizing the formal and philosophical principles of Modernism.

References and Links:

Koones, Sheri. *Prefabulous + Almost Off the Grid: Your Path to Building an Energy-Independent Home*. New York: Abrams. 2012

Art Gray Photography: <http://artgrayphotography.com>

Minarc: <http://www.minarc.com>

Taalman Koch Architecture: <http://www.taalmankoch.com>

Photographs by Art Gray

IT House

Designed by Taalman Koch



















Photographs by Art Gray

Superb-A House

Designed by Minarc

















