

## UNCERTAIN BEGINNINGS

Prehistoric builders invent shelter on open lands

## MARGINALIZED BY MODERNITY

Exclusionary laws regulate land use and construction

## INFORMAL BUILDERS

An informal construction economy supports its builders

## INFORMAL STRATEGIES

House-form used to strategically occupy the land

## A HOMEBUILT HOUSE

A house built in a place already occupied as a home

## VERNACULAR OF UNCERTAINTY

Disordered characteristic of a culture of uncertainty

## RESOURCES

Checklist and references for informal builders



# HOMEBUILT HOUSE

## A VERNACULAR OF UNCERTAINTY

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## TO MARGINALIZED BUILDERS EVERYWHERE

*To protect the work of the informal builders included in this book, research photographs from different settlements have been purposely altered and selectively mixed with material from the public domain.*



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*This is a place of chronic uncertainties, a place where an impoverished world view makes it impossible to feel the significance of what we see as harmony and order.*

*Katherine Boo, Behind the Beautiful Forevers, 2012.*

## WHO AND HOW

This book is based on research I conducted at the University of California, Berkeley, and though the conclusions are my own, the results are a reflection of the work of three distinguished professors.

The first was futurist Richard Meier, known for his immersive approach to technical inquiries, adopting the lifestyle of his subjects by living, eating, and enduring the patterns of their lives. The second was archaeologist Margaret Conkey, recognized internationally for her structural interpretations of goddesses, pottery, and other artifacts as the material culture of prehistoric settlements. And the third was Jean-Pierre Protzen, credited with using the anthropological concepts of material culture to reveal the methods used by the masons who built the Pre-Columbian structures standing in the Cusco region of Southern Peru.

My interest in informal settlements began in the Peace Corps when I was exposed to the challenges faced by marginalized people working to find and build shelter in developing countries. Further investigations were inspired by the dwellings I found in squatter settlements along the US and Mexican border. These were homemade shelters, pieced together intuitively, using inventive methods and repurposed materials in ways that are entirely unknown to formal construction practices. Ongoing research evolved in field surveys used to draft



By adopting the point of view of a builder, the walls of an ancient civilization gradually revealed the challenges faced by its prehistoric builders.



The same challenges faced by informal builders can be seen in these floor boards, pieced together with worn tools and random materials.

a hypothesis that proposed that the architecture of informal settlements was shaped not by poverty or disadvantaged economic circumstance, but as the outcome of an uninformed social and technical process. In other words, untutored builders were using the wrong tools and wrong materials for the wrong kind of housing.

To test this pedantic assumption, I began a detailed review of the literature written about the social and cultural context of informal settlements, then mapped the sources of materials for a select group of houses, documenting their assembly in order to trace the social and technical patterns of their construction. Initial field work was based on photographic surveys of informal houses near the maquiladora factories in Northern Mexico, as well as the moveable shelters put together by roadside squatters working the farmlands of Mexico's Baja Peninsula. More detailed research in Central and South America was funded by a variety of sources, including a year as a Fulbright Fellow documenting informal construction methods, mapping settlements, and understanding the technical relationships between builders and suppliers working in an informal economy.

Deconstructible computer models were then used to animate the sequence of assembly and the origin of building materials for a cluster of houses in a single settlement. These models

were the basis of sequence simulations that included tools, fasteners, and a variety of what appeared to be random objects repurposed as building materials. These piece-based models were also the focus of source maps that were important to trace structural relationships identified in aerial photographs. Detailed information about the construction came from illustrated surveys conducted by a research team of native speakers.\* The surveys combined anecdotal comments with photographs and model images to understand the assembly of each piece of seven different houses within a single neighborhood. The objective of the surveys was to identify as much as possible both the skill level of the builders and the motivation, sequence of assembly, and origins of the building materials.

The challenge of course was to gain the trust of these builders. As outsiders, my research assistants and I were a very real threat to the often tenuous possession of informally occupied land. This trust was only gained after long conversations that combined the hands-on passion of a Peace Corps volunteer with the immersive methods of Dick Meier.

*\*Native speakers from the informal community were important in gaining the confidence of builders who would have been suspicious of anyone speaking university taught Spanish. At the same time, my presence in the background as an Asian seemed to automatically assure those being interviewed of the good intentions of "el chino" and not just another intrusive "gringo."*



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Aerial photographs reveal settlement patterns, evolving informally according to face to face negotiations and interpersonal relationships.

In the same way, objective interpretations of the information gathered in these studies required the analytical methods of archaeologists like Meg Conkey. By examining the structural features of the pieces of each house as a material culture, the condition, age, wear patterns and tool marks were recorded as data samples. From this, we visited the forests, salvage yards, mills, and makers of the assembled materials to document the practices and the nature of each technical transaction in the informal supply chain. Once the pieces and their origins were established, the flow of materials and the sequence of assembly were diagrammed on a timeline to visually model the motives, means, and methods of the builders.

From this study, three houses were selected for more detailed analysis. Computer animations were then used to test the logic of their assembly by studying the juxtaposition of the pieces, along with the sequence of activities necessary to complete each task. In other words, not only must certain pieces fit over one another, the tools and materials necessary to complete the work had to correspond to what was available to the builders at the time of their installations. This methodology followed the work of J. P. Protzen in Ollantaytambo, Peru. Protzen's research demonstrated an intuitive logic used in the interpretation of the hands-on practices seen in similar archaeological research on pre-historic builders and toolmakers. This physi-



cal approach to the structural data played an important part in understanding the challenges faced by the informal builders.

The results of the research were unexpected. First, an analysis of the timeline for improvements to the houses in this study disclosed the strategic nature of informal constructions. What became clear was that the house itself was no more than a way for its builders to occupy the land and demonstrate a commitment to remain as landholders. As such, the land was home and a house no more than a way to provide minimum shelter while maintaining open and obvious possession.

This house-form was also seen to evolve according to random and unpredictable events. This is important because the events that triggered modifications or changes came in bursts of material motivations. These triggers included recent changes in local politics, unexpected income, or the reluctance of authorities to take action against the builders as squatters. At the same time, political shifts, uncertain employment, and government threats could be seen in hastily applied materials, temporary fixes, and tentative commitments to a house in a place that might one day be taken from its builders.

In this regard, construction was measured in years and decades instead of hours and days because the pace of the work did not follow a plan or any possible predictable schedule.

Instead, the materials themselves were the form givers. This means random objects dictated timing, placement, and their relevance in the ongoing construction. Objects with no immediate application, usually discovered accidentally, were stockpiled as they waited for some unknown event or discovery to prompt their application to an evolving house-form. Until the right combination of materials came along there was nothing that could be built and no way to predict what might be done next in the informal process.

Interestingly, tracing the source of the pieces of the houses lead to a network of otherwise invisible material and service providers. What we found was an industry of informal exchanges that was organized in ways that were exactly the opposite of a formal economy. Materials were traded in a disordered market of bargains and barter. With little or no money, transactions were based on face to face agreements, managed informally through peer pressure and personal reputations without contracts, taxes, or guarantees. This meant social values in the informal economy worked to shape house-form in the same way as a hammer or nail.

With luck and time, house-form evolved almost imperceptibly as an architectural vernacular with distinctly chaotic characteristics following their own sense of order. The result was a resource based approach to housing, assembled intuitively as an openended and uncertain physical form, homebuilt, debt-free, and self-determined.



This is a self-determined house-form, shaped intuitively as an architectural vernacular with its own sense of order.

Research Archives, 2013, *Informalbuilders*



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*Prehistoric builders once occupied open land with shelters to protect themselves and their families*



## 1. UNCERTAIN BEGINNINGS

18 - 33

There was a time when builders were free to occupy land whenever they found a place with the resources they needed to survive. With luck and time, campsites evolved into house-form and settlements, villages, and later towns and cities that required laws and social systems to support further development. As density and demand increased, traditional builders were transformed into an industry of regulated practices.

*Land laws are needed to sustain growth and development and maintain property values*



## 2. MARGINALIZED BY MODERNITY

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Industrialized production processes transformed cultural traditions, causing rapid expansion that threatened further growth and development. To address these concerns, governments passed land laws based on boundary surveys, land and housing then became real estate as a taxable asset, generating wealth for some while excluding others from the opportunities of a formally regulated market. As a result, an informal economy rose to meet the needs of a marginalized community.

*A network of informal builders avoid the formalities that increase the cost of housing*

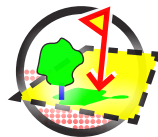


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An informal construction economy makes it possible for self-determined builders to piece together housing for themselves and their families. These builders combine found objects with salvaged materials and simple tools available from resellers, fabricators, vendors, carters, and service specialists, piecing together a house-form that strategically occupies land outside formal regulatory controls.

*House-form evolves strategically to occupy a place that has already been taken as a home*



### 4. INFORMAL STRATEGIES

70 - 95

Informal builders take a strategic approach, occupying a place to live, then signaling their intent to remain with minor site improvements, adding random materials to a simple shelter that slowly evolves into a deeply personal house-form. Some begin alone, using materials to negotiate occupancy, others join mass invasions, forming an entire settlement almost overnight, but most work within existing neighborhoods and infill invasions piecing together a homebuilt house near family or friends.

*A home-built house is a small, simple, self-sustainable, and debt-free housing alternative*



## 5. A HOMEBUILT HOUSE

96 - 119

This is a house-form pieced together in a place that's been informally occupied as a home. Beginning as a small and simple shelter, improvements are made strategically, adjusting almost imperceptibly according to a self-determined premise and an intuitive approach to survival in a very uncertain world.

*This is an architecture in motion, shaped by the uncertainty of life in an informal economy*



## 6. VERNACULAR OF UNCERTAINTY

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What we see in the distinctly chaotic characteristics of this house-form, stems from the slow, measured process of its informal construction. As the product of an uncertain world, the result is a continuously evolving architecture, shaped strategically by builders in a struggle for survival in an economy with its own values and an indeterminate sense of order.

*References for builders following  
their own path to survival in an  
equally uncertain world.*



## 7. RESOURCES

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Homebuilt Checklist

References

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Our Other Books





