

Small Houses for the Next Century

SECOND EDITION



DUO DICKINSON

Foreword by Jim Cutler, FAIA

Introduction

I. Sequel Reasoning

When *The Small House* was written in 1985, America was on the verge of its greatest residential building boom since the 1950s. Millions of baby-boom-generation households were participating in the inevitable “echo boom” of family creation. As in the 1950s, marriage and the birth of children combined with lowering interest rates and widespread employment and prosperity to foster a rising sense of promise and optimism.

Obviously, this book is being fashioned in the 1990s. It is a time when, metaphorically, the exuberance and optimism of childbirth has been replaced by a somewhat somber focus upon a looming awkward adolescence in the American outlook. It seems we will have to work longer to earn less. Even though the cold war is over, we are left with a foreboding sense that the future has a risky, rather than an energizing, countenance.

Most of the projects included in this book have been conceived and built in this more sober mind-set. Several projects that considerably predate the 1990s are included because they evidence inherent virtues and innovations. When businesses feel threatened, overhead costs are analyzed and reduced. So it is and will be in American domestic life as families look to limit the cost of their accommodation. Whereas in the 1980s it was timeless common sense that argued for the reduction in building mass and square footage as a method to both reduce cost and enhance amenity, in the 1990s it has become an economic and environmental necessity to create homes as efficient as any of the high-tech appliances or automobiles that are being reinvented all around us on a daily basis.

Although technological innovations will be addressed within the book's format on a case-by-case basis, the core concept of this book (as with the last edition) is that houses that are relatively smaller than our recent norms serve their occupants best. America has long been the land of the ever-expanding frontier, with a “homesteading” attitude extending into our perception of what makes homes desirable. Most people have felt, and still feel, that when there is a problem of “fit” in a home, the answer is to expand to provide generous elbow room, rather than to rethink the spatial priorities of the building's essential organization. This open-ended expansionist philosophy serves the purposes of designers who do not wish to think deeply about designing homes.

II. Demographics, Mind-Set, and Fit

The single-family home is often seen as emblematic of the family unit or of an American culture based on a suburban utopia. This picturesque vision has seldom had a hard edge of purely functionalist thinking applied to its design principles. At the other end of the spectrum of public consciousness are homes that receive academic acclaim and architect envy. These projects are often designed as esoteric sculptures in which people happen to live.

It is the premise of this book that truly successful homes for the reality-based twenty-first century will have much tougher design criteria to deal with—the idiosyncratic nature of the way each and every family lives within any

home. The nuclear family is ever present, but its subatomic particulates are spiraling into our culture and will soon become a very large portion of the housing market—if they haven't already. It's always tough to design for individuals, but in a culture whose typical family structure is fragmenting into a wide variety of households, the list of occupant design programs widens to include single-parent homes, multigenerational homes, homes that contain offices, homes that harbor empty-nesters, homes for unrelated individuals living together as a family, and on and on. Microdesigning to accommodate the different use patterns of nontraditional households becomes a necessity because the needs of these households preclude a large segment of available housing stock. Levittown does not fit the 1990s. The idea of small, mass-produced identical houses set row upon row cannot accommodate the extraordinary variety of use patterns homes are put to today. What will not change within the next generation in America is that the freestanding, single-family house will almost always be viewed as desirable over mass-produced common living arrangements.

I believe that there is a growing future for the architect-designed American home. Homes almost always represent a family's largest investment, and a growth industry lies in the accommodation of the widespread diversity of familial definitions that will define our culture in the next century. Extraordinary innovation and architectural exploration occur when the idiosyncratic qualities of particular homeowners mesh with the similarly idiosyncratic characteristics of individual architects. There is powerful synergy present when innovative minds get together to form a short-term limited partnership to build something that is inherently unprecedented. It's long been true that many of the most exploratory and exciting movements in architectural history were tested in the conceptual waters of single-family residential design. The individual home has served as a laboratory for many radical ideas—mostly dealing with abstract aesthetic notions that could be applied to any building, perhaps even any object. It is now time to apply the same sort of creativity in the fitting of homes to their occupants that architects have historically used in embracing new technologies and materials.

The unavoidable truth is that the act of architectural design too often exists in a relative vacuum. Its practitioners are often isolated creators looking inward, ignoring environmental or cultural factors that get in the way of aesthetic preconception. Schools have no viable method for utilizing the most important generative aspect of any single-family design, namely, client input. It is almost impossible to find clients in the classrooms of architecture schools. Professors, by necessity, have to set up relatively abstract problems that deal more with hard-edged design criteria such as site limitations and programmatic requirements than with well-understood functions (while eschewing any sense of budgetary constraint). So when any architect (but especially the youthful practitioner) initiates the design process of a single-family home, there is a natural tendency to give client input short shrift and to push a preconceived or thoroughly abstract design product that has been formed "out of the loop" of an open design process. The houses that result from this mind-set often pay only lip service to the accommodation of any client requirements, because these may blunt the spear of an architect's preconceived notion. It's a lot easier to ignore those elements that get in the way of a powerful image. If not a blind eye, then a lazy eye is often cast to integrating clients' "unenlightened" perspectives into the place where they will live.

A secondary value of this book would be to chip away at the conception that architects and clients have an inherently adversarial relationship. Just as a tailor needs to measure an inseam with an accuracy that often creates embarrassment, architects need to gauge and measure a client's heartfelt fantasies and reality-based use patterns to create homes that contour directly to both their personalities and their life-styles.

This extent of deeply personal knowledge can only be conveyed between two open nonjudgmental minds—the client's and the architect's. Having had a prejudicial education and coming into an atmosphere with fewer opportunities for architectural expression, architects today (and in the future) will have to look at house commissions as a growing but slightly daunting area of opportunity. It is rare that the combination of house and occupants is totally successful without direct accommodation of owner input. Whereas in previous generations large quantities of built space compensated for any idiosyncratic use patterns, homes of the present and the future will, by necessity, shrink to fit their occupants, and this customization requires planning and design.

It may be said that the sum total of any architect's experience needs to be brought to bear when incorporating the large number of particular factoids provided by a homeowner. In house design, relatively inarticulate or incoherent musings, dreams, and fears of clients often overlay the entire process, and the designer requires the highest

level of architectural competence and personal confidence to absorb and integrate all these items into a successful home. It might be said that the small home should be the province of our most experienced designers since they possess the tools that allow the most cogent and efficient expression of the personal values of both the architect and the homeowner within the limited palette (and often budget) a single-family home affords. Unfortunately, architects' design fees are always greater than the costs of stock plans or the gratis offering of stock or modified stock plans from a speculative builder. Therefore, the level of service must be worth the cost. And that level of service is directly keyed to the ability of architects to embrace client input.

III. Sizing Up Downsizing

This book displays successful designs that use spatial constriction to their advantage, thus gaining a sense of aesthetic focus that a larger, less rigorously designed building simply does not have.

The adjective *small* is a relative one. Although reviews for the first edition were quite favorable, those who found fault with it could not understand calling a six-bedroom, 3,500-square-foot, house "small." For that reason, this book emphasizes that any home can be deemed to be relatively small as defined by its *total* square footage in relationship to its most essential requirement: bedroom count. A small gymnasium is still a relatively large building. You can have a small six-bedroom home if it contours to a size that is well below expected norms. Therefore, with a few exceptions, acceptance of potential projects for this book has been limited to the following size criteria:

1. One bedroom: less than 1,500 square feet
2. Two bedrooms: less than 2,000 square feet
3. Three bedrooms: less than 2,500 square feet
4. Four or more bedrooms: less than 3,500 square feet

It should be noted that most standard American houses tend to be significantly larger than the sizes given here, and most of the homes presented in this book are far below these maximum square footages.

To emphasize this organizational logic, the projects presented in this book are divided by bedroom count and are presented in order of increasing square-footage. This departure from the first edition of this book responds to the way readers said they used the first book—usually to find an occupancy size that was similar to their own. So, unlike the first edition, this volume mixes full-time occupancy residences with vacation homes, but each project description clearly represents the specific use pattern accommodated.

IV. Limits: Natural and Conspired

More often than not, successful homes plan for their future use as well as their present needs. This often means that master planning at the initiation of the design process will allow for the inclusion of future revisions or expansions. Planning will also have to anticipate that the fossil fuels that we depend on today are at relatively depressed prices and that these prices will increase over the next generation—either because of government-imposed trade sanctions and taxes or because of the vagaries of international politics. Additionally, the relatively accessible fossil fuels we enjoy today will become harder to harvest, and thus inevitably more expensive to develop.

Therefore, it is imperative that beyond the simple act of downsizing to minimize the amount of air mass to be treated, homes of the future (and small homes in particular) will need to embrace the available natural elements that help heat and cool buildings—wind, sun, shade, and the thermal mass of the earth itself—and to aggressively utilize the ongoing development of microprocessor-assisted energy efficiency as well as the material breakthroughs that enhance thermal resistance.

Beyond the undeniable logic of size reduction to enhance efficiency and ongoing maintenance, the nature of available building sites is an ever-increasing influence for the minimizing of a home's footprint. As mentioned in the first edition, sites that are available in and around our major urban centers are typically steeply sloped, wet, or rocky (or all three!). Often, prime sites in urban areas already have a house set upon them that is simply not worth saving

because of its condition or its irrevocably misfitting nature; “teardowns” have become common in coastal areas and will be an ever larger portion of the sites used for new construction.

In the last decade, a large range of zoning and engineering limitations have served to limit the buildable area available on many sites. Chief among these are septic requirements, because municipalities all across the country have realized that the shrinking supply of groundwater cannot tolerate ineffective septic systems nor can the potability of the water table be maintained with full coverage of all available land with developed sites that discharge effluent and increase runoff on an ongoing basis. So in many (if not most) communities, “100 percent reserve” septic designs not only provide for all the area that is required for a fully functional septic system but also segregate a backup area of the site equivalent to the area of the installed septic system to be set aside and not built upon. This area is required as both a backup system location in case the one in place fails and as a *de facto* method of the reduction in site development density, thus serving to limit septic loads and runoff. The practical reality of this imposition is that the space left on the site for building shrinks.

Additionally, towns around major urban centers have seen their infrastructure stressed out by large-sized homes on small-sized lots (even if common sewer systems and common water distribution networks are present). In response, some towns are now employing *floor area ratio*, or *FAR*, site limitations, where the size of the *total floor area of the house* is keyed to the size of the lot. This zoning limitation is almost exclusively applied in commercial or industrial districts and is often used to limit the size of a skyscraper’s projection into the available three-dimensional building envelope provided in most city’s zoning codes.

Beyond that, for coastal and wetlands sites many municipalities have enhanced or increased limitations in terms of setbacks, definitions of wetlands and watercourses, and restrictions on site disturbance as well as the area of the site to be built upon. All these trends combine with a defensive posture many highly developed towns assume when they have been “burned” by for-profit, high-density developments. This attitude preempts flexibility in interpreting the “as-of-right” siting criteria—thus causing many sites to have restrictive limitations on their buildable area, once again necessitating expertise in small house design.

When these code regulations are seen in conjunction with the natural limitations of “leftover” sites of dubious perimeter configurations, topographical variation, or subsoil viability, the nonaesthetic, nonethical, nonfiscal realities of the late twentieth century are trending to compel America’s homes to diminish in size.

This book presents exemplars of homes that respond to all of these criteria and hopefully point to the viability of enhanced amenity despite shrinking expectations.