

The last century has seen vast change to almost every aspect of the way we live. These changes have been motivated by, and been the reason for, increased communications technology, less available urban space, shifting gender roles, and a rapidly disappearing natural environment. Along with the benefits which come from a more open mode of living are a brand new set of problems for designers. As the private dwellings of the middle- and lower-classes decrease in size, we must be ever more inventive of ways to use what space we have both efficiently and effectively. This was the problem statement of the Designboom competition “Your Way to Coway:” essentially, what does the convergence of space mean given the restraints within which the contemporary designer must work?

We found compelling the idea that portable architecture can be used at the small scale to create flexibility in individual rooms as well as at the urban scale to create flexible environments. In this way a single location can be used, either simultaneously or consecutively, for a broad range of programs.

This is not, of course, a new idea. The indigenous populations of North America built structures that were meant to be moved whenever the food supply or climate was no longer capable of sustaining them (Fig.1). More recently, however, examples of movable architecture have incorporated ideas about how a single object – car, chair, mechanical pencil – can house more than one function, such as the historic Volkswagen Westfalia of the 1960s and 70s, which was at once living quarters and mode of transportation (Fig.2). The objects of our daily lives must be both portable and multifunctional in order to be considered practical.



Figure 1 - Tipi of the Nez Perce tribe (i)



Figure 2 - 1974 Volkswagen Westfalia (ii)

Because this need for multifunctionality also applies, increasingly, to the rooms in our homes, there is a need for design solutions which are tailored to our individual living habits and yet still affordable. Companies such as Ikea have tapped into this need by providing low cost products with a moderate amount of customization, such as the “Vika” table system, which offers a series of tabletop and leg options which can be combined to meet the individual’s needs (Fig.3). Products such as this are both mass-produced and custom simultaneously.

This affordable adaptability was one of the initial intentions of our proposal. While the product for sale might be limited in some respects, it is designed in such a way that a range of finishes could be offered so that it appealed to a number of demographics. What is important is that it remains an affordable option for a wide variety of homes.

Also important to our design were portability and flexibility, and it is in these areas that we focused our research and our design efforts. The transformable “Wall” is designed with a number of different “room” possibilities in mind, so that the ever-more-common loft-style living can be achieved without much permanent architectural intervention. For instance, the wall can create, within an otherwise open space, a kitchen, a living room, a home office, or a bar (Fig.4). The user chooses which elements are revealed and which remain hidden in order to define the space they are in.

This method of housing the functional aspects of a piece of furniture behind panels and doors can be seen in such early examples as sewing machines built into desks and stereo systems integral in credenzas. Encouraged by



Figure 3 - A selection of table top and leg options from the Vika table system, Ikea Sweden, 2006 (iii)

the design philosophies of the Bauhaus, which placed equal importance on the newly emerging machine technologies of the future and the vernacular handcrafts of the past, the designers of the last century have frequently combined new technology with custom enclosures to produce objects which are both modern and personal.

Another, more commercial, example of built-in appliance elements can be found in airplanes, where every aspect of the dining service has a place in the aircraft's galley. This does not include only the appliance used to heat the food, but also the food service carts, the beverages, and every other element required by the service staff (ie. flight attendants). Every cart and tray has a specific place in the cabin design so that the space is used as efficiently and as safely as possible. From this example we drew inspiration for many aspects of our product, such as the integral stove, fridge and tv screen, as well as the fold-down table top and counter extension.

Equal with the need for individuality in our design is the need for portability, not just within a given space but also between separate spaces. People are becoming less and less likely to settle in one place for their entire adult lives, moving not just from house to house within a community, but also to many different cities and towns throughout their careers. This new nomadism has inspired a number of designers to present possible solutions to the problem of constantly moving house, often in the form of portable architecture.

Lot-Ek, a firm from New York City, has produced a number of projects which fall into a category they refer to as "mobile architecture." What we found particularly intriguing were projects such as "Bloomberg Mobile Unit," which



Figure 4 - Movable wall in use in livingroom, kitchen and home office, respectively

relies upon standard trailer lengths to house a mobile media centre. Areas of the walls of the trailers fold out to create stairs, seating, shelter and even an informal stage (Fig.5). Other projects by Lot-Ek use similarly ubiquitous items such as corrugated shipping containers to create movable cafes and modest dwelling units. By relying on objects which are already a standard in the transport industry, relocation of any of these projects does not require any special transport considerations; they can be treated as any other shipping container.

In the residential market, a firm from Berlin, Studio Aisslinger, has recently introduced a house intended for repeated short-term installation, entitled “Loftcube.” The dwellings are designed “to suit people of a nomadic lifestyle, living for short periods of time in large cities and dense urban areas, offering both sanctuary and social structure.” (www.loftcube.net) The structures sit on what is currently underutilized urban real estate, ie. building roofs, and can be moved from city to city with the inhabitant (Fig.6). The outer dimensions are fixed to facilitate simple transport and two industry-standard 40ft cube containers can accommodate the entire building. The design is essentially a kit of modular parts, but the materials can be interchanged in a variety of ways to allow the consumer to personalize their cube and maintain a sense of individuality.

While the enclosure relies on a modular, mass-produced system, the interiors of the dwellings betray a precise craftsmanship that implies individuality and luxury. Here again, moving parts create flexibility in a tight space. For instance, the showerhead can rotate to water the plants, and the bathroom and kitchen sinks share a single faucet which rotates through a partition wall



Figure 5 - Bloomberg Mobile Unit, closed and open (iv)

(Fig.7). These moments within the interior of Loftcube illustrate how various activities can converge not just in a single space, but in a single fixture.

The design of “Wall” takes this concept to the extreme, by proposing that all the major appliances in a dwelling can be combined in a single movable partition. The various rooms of the home are not individual spaces, but defined by which of these appliances are accessible at a given moment. In this way the gambit of household programs converge into a single element that can be placed wherever it is most necessary at the time.

One side of “Wall” contains the entertainment and leisure programs, defined by a stereo system, tv screen, media storage, bookshelves and side table. The other side contains cooking activities, with a small induction cooking range, built-in fridge, storage for plates, glasses, food and cookbooks, and a bar to eat quick snacks at. As well, the end section, which folds down to create the bar or side table, can be used as a mobile home office, with the rest of “Wall” creating a sense of privacy from the rest of the public space.

Our design was similarly constrained by the dimensions of a standard rental moving vehicle. Companies such as Budget and Ryder have fixed sizes for the vehicles they offer, and “Wall” had to be capable of fitting in them in order to be a realistic option for the potential user. The intention is that in a society where people, especially young professionals, may have to move a number of times early in their careers, any investments they make in their homes should be capable of moving with them. By being able to move the object from place to place, the object becomes a piece of furniture.



Figure 6 - Loftcube on urban roof (v)



Figure 7 - kitchen and bathroom details of Loftcube (v)

At the beginning of the Twentieth Century, Modern architects such as Le Corbusier and Mies van der Rohe suggested that the plan could break free from the constraints of the structural system, and that partitions could be placed wherever the designer pleased. But there was still rigidity and permanence in this sort of design which prevented the user of the space from being able to modify it quickly and easily as necessary. As our world continues to change in terms of social and economic organisation, there is an even greater need for the spaces we design to be flexible. So the design for “Wall” pushes the limits of the free plan, suggesting that the partitions can break free not only from the structure, but from the floor and ceiling, and be moved throughout a space to create greater intimacy or larger gathering space. Now the various functions required of our living spaces can truly converge into a single volume.

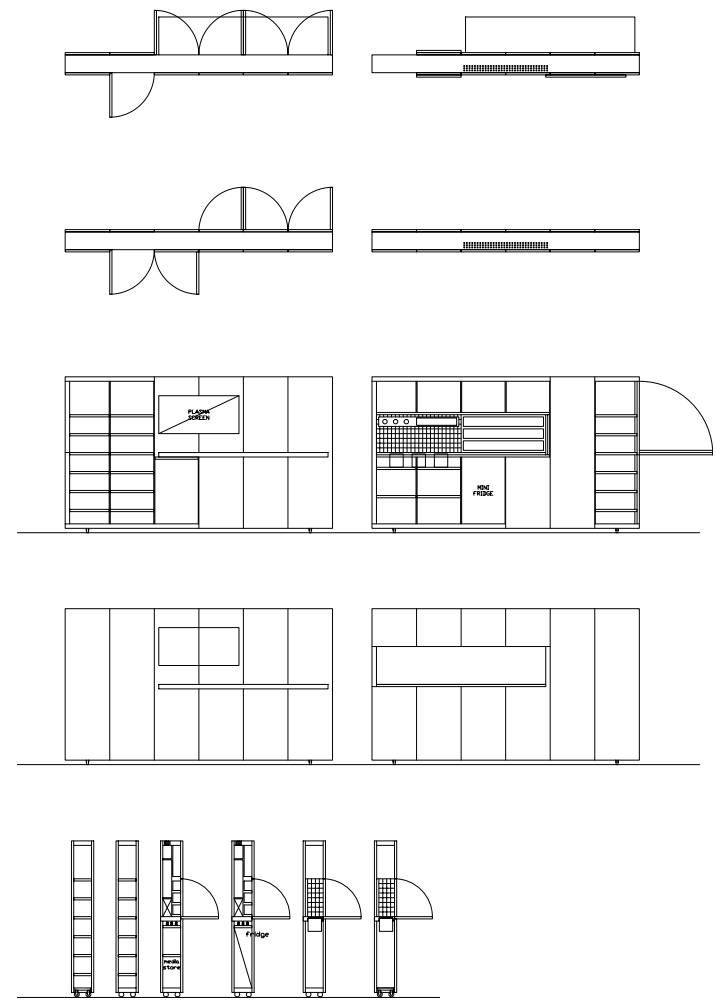


Figure 8 - plans, elevations and sections of “Wall”

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