

System patterns in housing.

Institute without Boundaries 2006 - 2007



●●● towards a house that provides clean water ...

●●● towards a house that grows my food ...

●●● towards a house that produces zero waste ...

●●● towards a house that shrinks and expands ...

●●● towards a house that breathes and cleans the air ...

●●● towards a house that creates energy ...

●●● towards a house that creates wealth ...

●●● towards a house that reduces traffic and moves with you ...

●●● towards a house that communicates to/for me ...

●●● towards a house that sustains social interaction ...

●●● towards a house that balances public and private ...

●●● towards a house that is/knows my identity ...

Why this timeline?

The capacity to design our future is informed by an understanding of how we have created our past. We chose to explore the history of housing in this first year of the World House Project in order to understand how the human conception of home has influenced the design of the home through time.

The timeline is not meant to comprehensively outline innovations in history, but rather to identify trends in housing and to explore how culture of the times. The narrative of each system we have explored is not necessarily linear or meant to demonstrate a progressivist viewpoint. Transformations, whether positive or negative, pepper history. They demonstrate instances where the philosophy of a culture calls out for change.

Moreover, it is interesting to note that some housing types, pioneered by some of the earliest cultures, such as hunter-gatherer or nomadic societies, have persisted to this day and have remained largely unchanged. In particular, these housing types are model examples of sustainable, well-strategized solutions applicable to their environment and indicative of their culture. Our research has helped us understand how much we have to learn from all periods of history and all cultures.

How did we set it up?

We have identified 12 systems that make up home, and have researched and analysed how these systems have changed throughout history.

In this timeline, we looked at how different systems, ranging from construction to identity, have been shaping our houses. This timeline aims to tell a story of how dwelling has changed from the dawn of man to the present. Our capacity for design has always shaped how we live. From the first clay pipes that carried water into our homes, to the wood frame walls and roofs that sheltered us, to the way we communicate our identity through the shape of our home, we are constantly immersed in design and are influenced by design in our environment and daily lives.

We approached the home as a system of systems, striving for a holistic view of design in housing. In this way, we investigated the home as an entity influenced by the ebb and flow of the time, location, purpose, form and ideas, manifesting themselves as systems innovations within the home.

How do I read it?

The timeline can be read both vertically and horizontally.

Horizontal Evolution

Each system has a narrative that can be read across the horizontal span of the timeline, as identified by each system's colour.

Following a horizontal axis, we visualized a narrative for each system that emphasizes significant developments or trends. Systems are heavily influenced by political and philosophical developments at specific points in history, then innovations respond accordingly. The timeline reflects this depth and complexity through its layers and hierarchy of text and graphics. Each narrative identifies important transitions or transformations within the development of the system. These are supported by facts and examples ascertained from the research we gathered.

Vertical Integration

Systems interrelate and are incorporated into the home as a whole set.

Additionally, the timeline can be read vertically to demonstrate how the systems were integrated in the development of a specific housing type at a point in history. We looked at how systems interrelated vertically at prominent eras in history and built further on this vertical integration by clustering the tipping points around iconic houses. When systems within the house are viewed as a whole, they have characteristic patterns that are almost instantly recognizable. These integrated patterns of systems create the characteristics of and identity for the home.

What did we observe?

After setting up this historical skeleton of horizontal evolution and vertical integration, we observed a changing hierarchy of systems within specific housing types. Four clusters of three systems were understood to be closely influencing each other over this historical perspective. These observations allowed us to synthesize the design process of dwelling into four questions that summarized our observations about the home and dwelling:

How does my home deal with its terrain?

We saw that the earliest settlements were mostly concerned about pursuing a sufficient food and water supply, resulting in lightweight structures that could easily be transported to the nearest water source or fertile grounds. Water, food and waste systems were primary factors influencing these housing designs.

How does my home deal with its climate?

Once a water and food surplus could be sustained, the attention shifted towards building more durable and comfortable dwellings where construction, air handling and energy became dominant factors.

How does my home deal with its economy?

Small groups of houses started to form villages and eventually towns. Trade between these different settlements emerged, and systems of exchange, like finance, communication and mobility started to shape housing types.

How does my home deal with its culture?

Throughout history cultures have been continuously adapting to settings while influencing them, as well. Culture binds and galvanizes the systems in the home and the philosophy of the times to create a unique social atmosphere, spatial perception and identity for the home.

What did we conclude?

We found that developments in one system often initiated developments or alterations in another. The interplay between systems creates unique 'push and pulls' of influence, so that developments in one system trigger, restrain and symbiose with others, creating tightly intermingling clusters of systems. Observing this, we determined that the design of the home should recognize these interactions and interdependencies, working towards system integration that will capitalize on and make apparent these relationships. In this way systems integration will at once be definitive of the time, as well as timeless. This is what the iconic 'green home' will embody – adaptability, scalability, usability and sensitivity.

Though much of the timeline focuses on housing types found in the Western World, from a Western perspective, we felt that this was indicative of a continuing, ever-mounting trend to adopt a set of Western industrialized culture and ideals. Due to widespread communication and mobility we are amidst an unprecedented level of action-reaction, a part of and witness to the copy/paste phenomenon where knowledge and ideas are spread with uncensored fervor. With that in mind, there is much to be learned and readopted from homes of the past and present. We look at the future of innovative housing design as being a synthesis of age-old wisdom with an appropriate use of today's advancing technology.

Towards an online version.

This timeline is the culmination of one year of student and faculty research during the inaugural year of the World House Project. We view this timeline as an initial proposition and the first expression of an ongoing evolutionary set of iterations. There is still much to be elaborated on and discovered. We hope to learn from and incorporate your knowledge and ideas into our timeline, and so we encourage you to send us comments, suggestions and feedback about our work.

Ultimately, we envision this timeline expanding past us and our year here at the Institute by making it available on the web as a collaborative and integrative knowledge system to be enriched by the expertise and experiences of the world. People are encouraged to add, edit and contribute their knowledge to the timeline. As an online tool, this timeline can become a hub for people from anywhere, at anytime to share, discuss and co-create a new system patterns in housing.

Please visit us at www.worldhouse.ca/timeline

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