The Three Stages Of Open Building Implementation

After several decades of successful academic conferences and exchanges, the international Open Building Network is being reorganized to adapt to evolving circumstances. During these decades, what is now formally known as open building has progressed through several stages. A substantial literature now exists chronicling these developments in several languages including English, Dutch, Japanese, Chinese, French, German, Spanish and Finnish.

It has to be said, however, that what is now called Open Building is not fundamentally new. For millennia, built environment had come into existence as a largely local phenomenon, using shared patterns, types and ways of building, and had always gradually transformed itself in congruence with social realities. This changed in the upheavals of the early 20th century, along with the advent of modernism and functionalism. Ordinary environment became increasingly rigid and unsustainable. Gradually, in different places, largely autonomous reactions to this rigidity and uniformity took form. Open Building is the part of that continuing story outlined in these notes.

Initially, what is now called Open Building constituted a set of speculative principles and aspirations that led to research, followed by a number of built projects in several countries in Europe and independently in Japan. In the second stage, open building began to be initiated by clients asking for open buildings – certainly in office and retail markets where this practice has long been conventional and unremarkable – but increasingly in housing and healthcare facilities in a number of countries. In the third stage, open building came to be public policy. During all these stages, research (in academia, government and industry) and teaching has continued on a wide range of open building issues – including design methods, finance, technology, and user engagement.

First Stage: During the exploratory years, studies were undertaken and projects initiated to demonstrate and try out a new practice for residential construction

Of several hundreds of early exploratory projects, the first significant project on record was the 'Molenvliet' project (1974) in Papendrecht, the Netherlands, by architect Frans van der Werf. It features a four-story base building principle that is deployed as a continuous structure on an urban scale, forming streets and courtyards. The users could select the location and size of their subsidized rental units and also could decide on the fit-out of their dwelling units individually as well as parts of the façade of each dwelling. It is still attracting visitors from abroad. Other projects in Japan, Austria, France, Switzerland, the US and Mexico were built during this initial stage.

The apotheosis of the first stage is the internationally famous NEXT21 project in Osaka, Japan. Initiated by the Osaka Gas Company in 1994, it remains an ongoing investigation in energy systems, fit-out, technical adaptation and new ways of urban living. It was designed by a team under the leadership of Professor Yositika Utida, who called the project 'three dimensional urban design' and who, consistent with that idea, invited thirteen different design offices to do the fit-out of the dwellings.

Second Stage: The commercial stage in which the OB approach is demanded by developers and clients for economic and marketing reasons

The path-breaking project in this stage resulted from a competition organized by the city of Helsinki, Finland in 2005. Architect Esko Kahri submitted the winning scheme, in cooperation with Tocoman, a data management company. This team pioneered the managerial and logistical aspects of open building for a for-sale project (Arabianranta) where all units were designed in close collaboration with would-be buyers. The Sato Development Company executed the project. When all units, different in size and fit-out were bought and finished within the budget and on time, Sato offered Kahri a contract for yearly implementation for this approach. Other Finnish architects are doing client-driven and award-winning open building projects as well.

Haseko Development Company in Japan is one of several companies building "skeleton-infill" projects for both the rental and for-sale markets.

The two path breaking SOLIDS projects have been built in Amsterdam West (designed by Tony Fretton from the UK) and IJburg (designed by the Austrian firm Baumschlager Eberle). Initiated by Frank Bijdendijk as director of the housing corporation Stadgenoot, they are based on the potential of open building for long term investment with a base building that will last at least a century.

Also fitting in this stage is an ongoing investigation by the US Government Defense Health Agency to change its methods for acquiring and managing the hundreds of hospitals it runs across the world, from rigid functionalism to adaptation and

sustainability over time. Stephen Kendall, coordinator of the OB network from 1996 to 2015 is leading the research team working out proposals for implementation.

Third Stage: The institutional stage in which the OB approach is translated into formal policies. Giorgio Macchi, director of the Canton Bern Office of Properties and Buildings in Switzerland, which acts as client for all public buildings in the Canton Bern, decided already in the mid '90's to require a distinction of three 'systems' with use-life expectancy of respectively 50, 20, and 5 years - corresponding with base-building, fit-out, and equipment. The INO project at the Inselspital campus in Bern was the first full implementation of this approach. First a competition was called for the base building design without giving a detailed functional program. When the winning scheme was under construction a second competition was held for the fit-out. Later, a third selection was made for the medical equipment. The building has been in use for several years, but in the meantime Macchi had formalized this "System Separation" approach and re-organized the Canton Bern Office of Properties and Buildings to acquire all the buildings under its supervision in the same manner. More than twenty buildings have been acquired this way.

In December 2009 the Japanese national legislature approved the "Long Life Housing Law." It offers incentives for residential construction that can function up to two centuries. The law comes with technical guidelines that define the many sub-systems a building is made of, and seeks to achieve a building stock in which replacement of those subsystems that need to be replaced - for wear-and- tear or to serve user's preferences – can be accomplished with minimum disturbance of other sub-systems. A number of specific technical design suggestions are offered. The owner of a house or dwelling unit that conforms to the law's requirements gets a substantial tax break. By now many thousands of units have been built using this incentive. Initially most applications came from companies building single-family homes, but by now the large building companies have adjusted to the law and are building many multi-family buildings following the new law.

In Tokyo, more than ten companies, some allied with real-estate companies, now offer one-unit-at-a-time residential fit-out in the renovation of existing residential buildings, on time, quietly and on budget.

Recently, the South Korean government has initiated phase-two of a Long-Life Housing research program based in part on Japanese experience. In China, a major governmental agency has already built a half-dozen so-called "Skeleton-Infill" projects modeled on Japanese and international know-how, and is now laying the ground-work for an "infill" industry in China.

Once Open Building had been formalized as a set of principles and methods, it was criticized by some commentators for being a socialist idea, and by others for being slavishly capitalistic. Yet open building implementation is occurring around the world, very often using other terminology and being undertaken by investors and architects who had no idea of similar developments elsewhere. Making an adaptive building stock - balancing permanence and change, and distinguishing what is shared and what is to be individually decided – increasingly seems the pragmatic thing to do.

But much remains to be investigated and worked-out in practice. Additional design and management tools, and new financing and regulatory measures are needed. What sprang up in many places as autonomous responses to real problems of excessive rigidity and uniformity led to theory – that is, an effort to explain what is happening in the real world. These theoretical writings led in turn to practical work, in the best cases backed-up by clear and transferrable methods. Now, what is being done in the field internationally – whether it is called open building or not - requires continual monitoring and analysis, to test the explanatory theories and to thereby develop better ways of working in support of a humane, open and capacious built environment.

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(Written on the suggestion of John Habraken)