The Plan-less House

Shinkenchiku Residential Design Competition
2006

Arch 684

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"Why have I become so sceptical with regard to the descriptive method of walls? It is because I feel a sense of unease with the division of lifestyle, and the corresponding methods of spatial division." –Kengo Kuma[1]

Given the theme of this competition and the problem statement concerning typology and precedent, the following will consider the "plan-less condition" through a series of precedent projects which might be considered to form a tradition of ideas of which the particular design for this competition is working within. The particular design proposal will then be discussed with reference to the precedents.

The problem of the plan is in its prescriptive quality. A plan attempts to set forth a, fixed conception of a future living situation. In the house, such a task assumes a static condition of lifestyle, a configuration of space that will persist. What occurs, however, when as time passes? After construction, when family size, economic conditions, taste, whim or ownership change? What was once (hopefully) a sensible plan configuration at a certain point in time becomes obsolete, unworkable, uncomfortable or simply not to the taste of the present occupant. Apart from the consultation between architect/designer/contractor at the conception of a home, the occupant must relinquish design control and must either adapt their living habits to the plan, or alter the plan to suit their life. The usual response to this situation is renovation, an extremely common occurrence among private homes. Such undertakings often become costly, time-consuming and can impair the liveability of the home during the process, and are often beyond the skill of the occupant to undertake directly. From an architectural standpoint, renovation can also be a challenge to the formal and conceptual clarity of a building, and the results can be an awkward relationship of old and new.

To account for the needs of change, flexibility, future growth/reduction and personal expression of users, certain architects have proposed schemes to build-in the possibility for such unforeseen conditions from the outset. The concept of a structure that can retain a level of indeterminacy, flexibility and ease of alteration has been the theme of numerous projects, of which several will be discussed here. These strategies all try to cope with uncertainty, complexity, and individual choice; they hope to attain a higher degree of longevity (a kind of sustainability) through a prolonged, active process of occupation.

[1] Kuma, Kengo. "Shinkenchiku Residential Design Competition 2006: The Plan-Less House Theme Description." http://www.japan-architect.co.jp/english/5info/index.html 2006)

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One of the earliest realized residential projects to explicitly reject traditional notions of spatial division that, from an architectural and social standpoint, tries to eliminate stereotypical rigid hierarchies and divisions of lifestyle is Rudolph Schindler's own house of 1922. The house is a combination of two dwellings and a guest suite, each of L-shape. They hinge around a central zone containing the shared kitchen –a communal distribution of domestic duties is implied. The actual plan of the house is of less relevance in terms of its description of walls than as a series of living zones or shifts in heights or materials –implied separations in which a reflected ceiling plan or landscape plan is equally important as a floor plan. The most striking feature of the house is its relationship with the site: the house itself becomes part of the entire terrain of the site, conceived as a series of rectangular platforms of slightly varied height that flow from indoors to outdoors, and whose boundaries are implied by changes of ground level, ceiling height, ground cover or material, plantings, or in the case of the interior spatial divisions, by sliding screens (completely removable) or by diagonally offset spaces without formal division. As far as private space is concerned, only the bathroom and the two 'sleeping baskets' – areas on the roof defined only by a redwood frame and canvas for outdoor sleeping- are the only separated spaces of the dwellings. The structure consists of tilt-up concrete panels forming the backs of the dwellings, a roof and sliding glass and light panel screens facing the gardens, allowing complete opening to the outdoors and privacy with respect to the other dwellings.

The design owes something to traditional Japanese house design, his earlier employer Frank Lloyd Wright's open plans and his earlier mentor Adolf Loos' spatially diverse 'raumplan' designs, but is a thoroughly unique proposition. Because the house was so loosely defined it proved flexible: its two apartments became three, after one couple moved out, Schindler and his wife remained; they later separated but continued to live in separate wings. When Schindler died, two apartments were rented out, became offices and residences and the house now functions as a museum and gallery.[2]

 Such a strategy was appreciated by a generation of post-WWII Architects. They questioned the precepts of Modernism, with its functional bias, division of lifestyle into discreet categories, its dream of progress and perfection, its prescriptive nature etc. They emphasised instead: existential, experiential, particular and
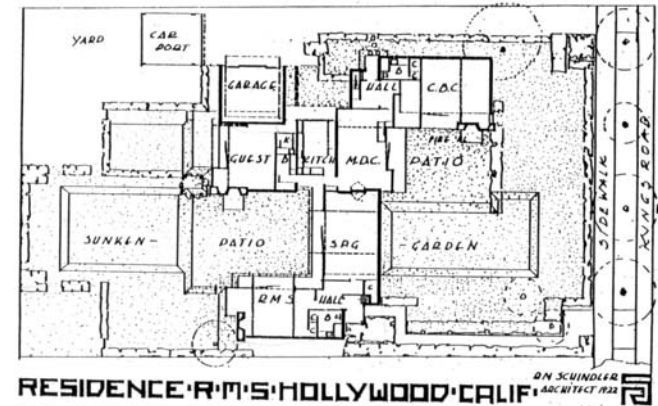

Illustration 1: Schindler House ground plan showing integration of site and house and division into platforms.

Illustration 2: Schindler House

[2] For a full account of the Schindler house, see: Smith, Kathryn. *Schindler House*. New York: Harry N. Abrams, 2001.

specific, individual rather than universal, abstract or technical themes. The group that evolved out of CIAM -Team X- led this critique of Modernism in Europe, but became part of a number of movements and trends worldwide that questioned Modern architecture and planning. This new generation "challenged the categories of the Athens Charter (Dwelling, Recreation, Work, Transportation, and Historic Buildings) and turned to questions such as identity, "belonging", neighborhood, and complexity. With the final congress of CIAM in 1956, the spell was broken, the universalist claims abandoned, and a heterogeneity of voices prevailed."[3]

One movement associated especially with Aldo Van Eyck, a prominent Team X member and his pupil Herman Hertzberger, is 'Dutch structuralism'. The theoretical basis of this movement draws a parallel is drawn with structuralism in other academic fields such as anthropology, sociology and particularly linguistics. The analogy of structure and infill is likened by structuralist architect Herman Hertzberger to the relationship between language and speech. Language is a structure that is shared in common by the large group and defines the form of all communication. Speech on the other hand is always an individual interpretation of the structure (language) and is as varied as what it expresses and by whom it is expressed. Thus, there is an order and legibility to all speech lent by the language and a variety of individual interpretations possible within it. The same holds true, he would assert, for structuralist architecture and urbanism, wherein an ordering and more or less permanent structure lends legibility –spatial and constructional- while users can continuously reinterpret the particulars (infill) contained within it. This structure might take the form of literal bearing structure with infill components, or as the system of public spaces and streets in cities and the individual buildings that fills in between.[4]

While at a basic level the architectural approach can be over-simplified to structure and infill, the kind of systems proposed by Hertzberger that accomplish this are more nuanced: he referred to such elements and systems as 'polyvalent forms'. These are forms that leave open to personal interpretation what their specific function could be –allowing them to be used in more ways than the one they may have been originally designed for. These spaces are not simply a supporting structure, but forms that create highly articulated zones between objects, and elements that can function in many ways, accepting the human form, and activities

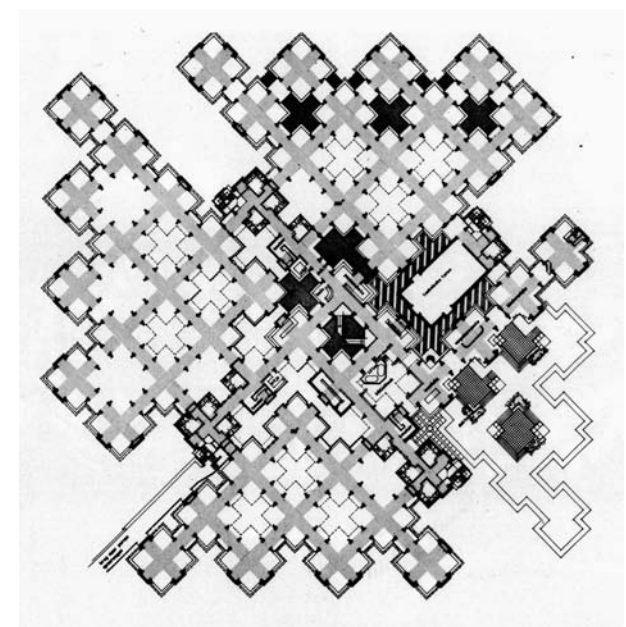**Illustration 3:**Central Beheer Building, Aerial photo

Illustration 4: Central Beheer Building, floor plan

[3] King, Ross. *Emancipating Space*. New York: Guilford, 1996, p. 102.

[4] Hertzberger, Herman. *Lessons for Students in Architecture*. Rotterdam: 010 Publishers, 1991. p. 92

through their topographical quality. He describes the concept as follows: "In the designing of every building it must constantly be held in mind that its occupants must have the freedom that will allow them to decide for themselves the way in which they want to bring into use every space and angle of it. Because it is impossible (and always was) to make the individual setting that exactly suits everyone, we have to create the possibility for personal interpretation, by making the things in such a way that they are indeed interpretable."[5]

One of Hertzberger's best-known and characteristic buildings, that exemplifies the structuralist approach is his Central Beheer Building (1974, Apeldoorn). Here the structure is a conglomeration of similar spatial units arranged to create clusters of offices and support space around a series of open atria into a kind of city of office space, a casbah with its own avenues and neighbourhoods. Each module of the structure is intended to be reconfigurable with minimal effort. Even the surface treatment of the space in rough unfinished concrete block is intended to encourage office workers to appropriate the space and personalize it to make it more inhabitable according to their individual taste. (The premise being that it is at once harsh as is, but also unfinished, not precious, and open to interpretation such that people are bound to change it). The image of the whole complex is independent of any single element, allowing variation within each element, but the relationship between units and the organizing structure remains intact despite these variations.

Another project that is of specific interest as a design for domestic architecture is Hertzberger's Diagoon Experimental dwellings (Delft, 1967-71). Here each house is intended to allow innumerable configurations within the same underlying structure. Different layouts are suggested, but it is open to the individual owner to choose, and indeed to deviate from suggested configurations as desired. By suggesting at least a number of possibilities and showing how they can be achieved, Hertzberger puts more power into the hands of individual users to literally shape their own environment, while also benefiting from the design help of the architect. The materials are modular concrete blocks, which can be handled relatively easily, and are of a manageable scale. Occupants have in fact enclosed previously open terraces, added porches, altered interior layouts, garages etc., while the overall picture of the group of homes remains unified.
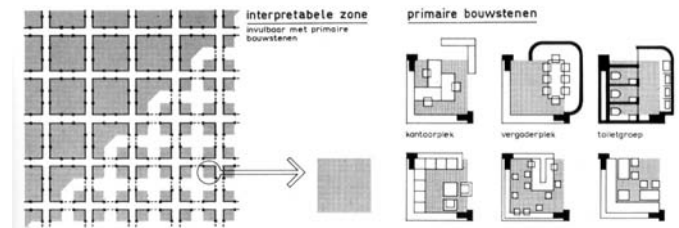

Illustration 5: Central Beheer Building -Diagram indicating interchangeable zones of infill within the structure.

Illustration 6: Central Beheer Building -interior photo

Illustration 7: Diagoon Dwellings -axonometric

[5] Luchinger, Arnulf. *Structuralism in Architecture and Urban Planning*. Stuttgart: Kramer, 1981. p. 55.
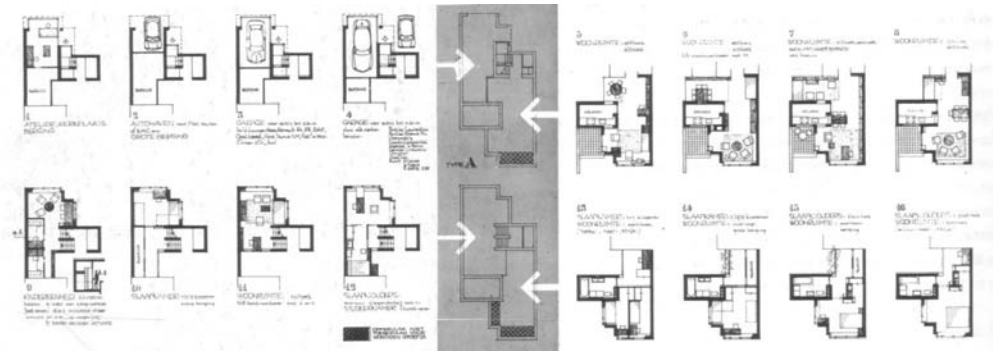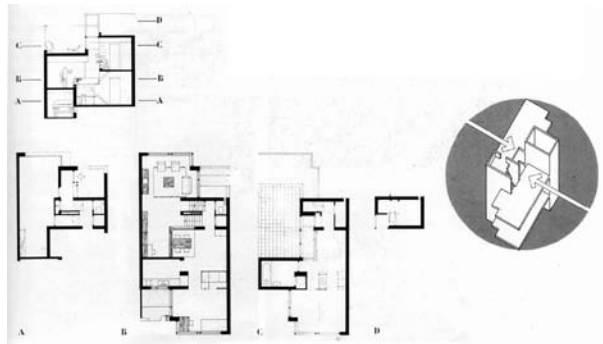
One project that anticipates these kind of trends both formally and conceptually is Louis Kahn's Richards Medical Research Laboratory (Philadelphia, 1956-61). Here a number of strategies that echo structuralism are played out. The structure and work space is similar to that of Central Beheer: an open plan of square laboratory space –conceived as 'artist's studios'- is sized based on lab benches and maximum plumbing runs. No partitions are proposed, preferring instead to allow individual research units to dictate where such divisions are needed.

The flexibility of the work space is allowed for by Kahn's very explicit division of what he called 'served' and 'servant' spaces. The labs are served spaces; they are served by servant mechanical, electrical and circulation spaces. In this case the mechanical space is allowed for in the depth of the Vierendeel trusses that become the ceilings of the labs, and simultaneously eliminate the need for columns. Ventilation is carried in external shafts that have been oversized to allow future expansion and lend visual weight to the composition.

Kahn makes his services visible not from any great enthusiasm for revealing or showcasing of services; it is merely to master them and give them their place within the whole. They are revealed "as part of the life of the building, they unapologetically appear as what they are."[6] As Kahn puts it:

> "I do not like ducts, I do not like pipes. I hate them thoroughly; I feel that they have to be given their place. If I just hated them and took no care, I think they would invade the building and completely destroy it."[7]

The lab-studio modules are arranged stacked vertically rather than serially by
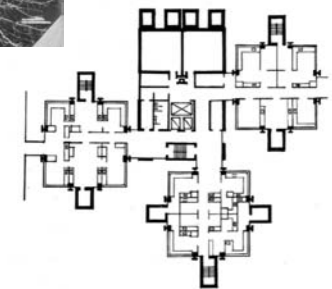
[6] Jordy, William H. <u>American Buildings and their Architects</u>. V.4 New York: Doubleday, 1972. p.407

[7] Tyng, Alexandra. <u>Beginnings: Louis I. Kahn's Philosophy of Architecture</u>. New York: John Whiley & Sons, 1984. p. 26.

horizontal corridors. The vertical stacks are then arranged in a cluster in which each stack has a view of the others, creating a community of forms and of workspaces. Future expansion is allowed by adding further stacks to the cluster, a process which has occurred since the initial construction without destroying the architectural, structural or functional clarity of the original conception.

Another architect associated with Dutch Structuralism is N.J. Habraken, whose writings on housing propose a similar flexibility within any building proposition to allow future and individual interpretation. His main preoccupation seems to aim at an involved, personal connection with one's dwelling. He suggests the only direct input an occupant has on his living environment, is to wear it out:

> Now possession is different from property. We may possess something which is not our property, and conversely something may appear to be our property which we do not possess. Property is a legal term, but the idea of possession is deeply rooted in us…it is therefore important to realize that possession is inextricable connected with action. To possess something we have to take possession. We have to make it part of ourselves, and it is therefore necessary to reach out for it. To possess something we have to take it in our hand, touch it, put our stamp on it. Something becomes our possession because we make a sign on it, because we give it our name, or defile it, because it shows traces of our existence.[8]

By participating in the shaping of your own home, over time, a closer and more meaningful relationship between user and building is achieved. This dialogue he referred to as 'the natural relationship'[9] and suggested it was absent in modern housing proposals. Re-establishing this natural relationship as a process, not a one time design solution, should also contribute to the longevity of the building by encouraging a hands-on attitude to maintenance and improvement, whereby a building adapts and evolves as the life of the occupant changes. Occupants need not move house each time their living/family situation changes. Longevity of the building should be improved by creating a situation in which individual parts and configurations can be updated incrementally while the whole survives largely intact. This recognizes the nature of building elements and systems that age and require upgrade, repair and replacement at different rates, rather than waiting for the whole building to wear out and then be redeveloped,
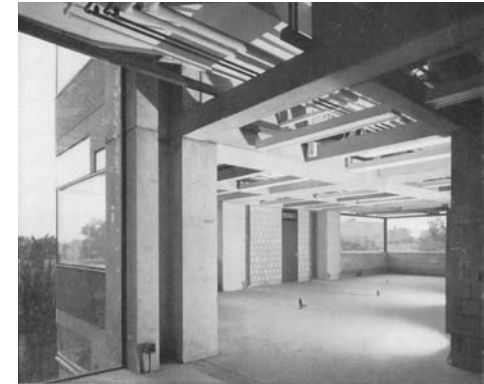

Illustration 11: Richards Medical Building -photo showing services within ceiling trusses and open configuration.
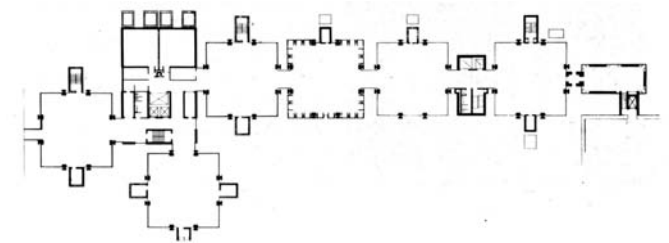

Illustration 12: Richards Medical Building -plan of extended building; the three stacks on the right are later additions.

[8] Habraken, N. J. *Supports: An Alternative to Mass Housing* Translated by B. Valkenburg. London: The Architectural Press, 1972. p. 12-14.

[9] Ibid, p. 18.

Habraken proposed a system of artificial sites –raised support structures that would be permanent into which prefabricated elements would be installed. This system of "supports" would allow infinite variety of the nature of the variety of historic cities, by eliminating the uniformity of repeated units. Instead he envisioned a new housing industry based on the industrial manufacture of living components –wherein technical, aesthetic and economic innovation would be fostered by the competitive marketplace in a way similar to automobile and other commercial product manufacture and marketing. In such a system, a plot of artificial land within the support structure could be purchased, and into it could be installed any number of housing configurations and mixtures of components selected by the occupant based on their needs, tastes and budget. This would eliminate uniformity and encourage the kind of upgrading and improvement that are seen in other consumer goods (electronics, cars, etc.) Such a system would allow a mix of users (demographic mix), constant renewal of the built environment, and gradual improvements through the process of learning and adapting.[10]

The actual form of supports was not specifically outlined in the original publication of the concept, beyond the description that they would likely be of a nature of infrastructure such as bridges and roads. The supports would be more or less permanent, expensive and slowly built, providing access, services and structure to individual dwellings, which would be made up of quickly installed prefabricated, precise, infinitely various elemants. Not describing the supports formally is also part of allowing an individual interpretation of the system. Further research was undertaken by Habraken with the SAR or Foundation for Architectural Research in the Netherlands, into what form such supports and infill might take.[11]

Of course such an alternative industry has never entirely materialized, but the concept of a neutral structure with light infill is certainly not new, and has been realized in various projects. A number of projects by LeCorbusier are direct precursors to this kind of thinking: the Dom'ino system (1915) of reinforced concrete structure and various infill, his Unité D'habitation model, in which each unit is conceived as a 'bottle in a wine-rack', where dwellings are conceived of as complete prefabricated units to be slotted into the supporting structure. Also his 'Plan Obus' for Algeria in which a continuous viaduct raised six levels above ground on layers of 'artificial sites' on which individual occupants could construct double-story homes of
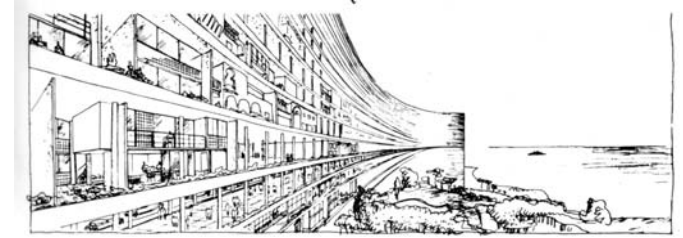

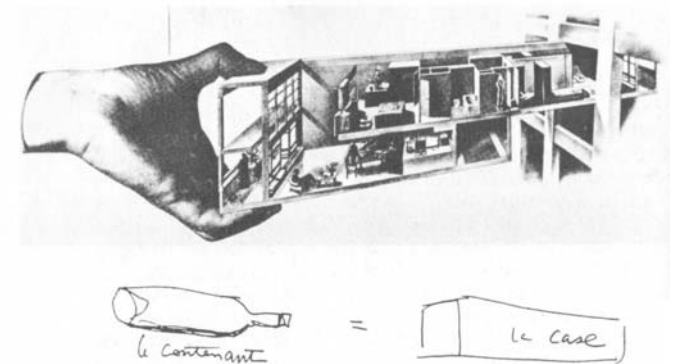**Illustration 13:** Plan Obus for Algiers -note different styles of dwelling within supporting structure.

Illustration 14: Illustration of the Unite D'habitation concept; bottles in a rack.

[10] Ibid. p. 39.
[11] For the physical discussion of the system and method of supports see:
Habraken, N. J., J. Boekholt, P. Dinjens, and A. Thijssen. *Variations: The Systematic Design of Supports* Translated by Wim Wiewel, edited by Sue Gibbons. Cambridge, Mass.: MIT Press, 1976.
-Also a recent project in Japan using this 'open building' concept developed by SAR see
http://www.open-building.org/ob/next21.html -13 different architects designed units with the support structure.

whatever style. Two projects directly inspired by the SAR research are Otto Steidle's Genter Strasse Housing in Munich (1969-75), or Lucien Kroll's Medical Faculty Buildings at Brussels (1970-78).

The Steidle project interprets the concept of supports as a structure of pre-cast concrete columns and beams carrying mechanical services and access routes. Into the structure are inserted living units at varying heights and different configurations. The result is a highly varied, somewhat formless building that seems unfinished, able to be altered and extended using similar elements.

The Kroll project for a series of student residences resulted from a close participation of the student users. It used a robust structure with light demountable infill components. Kroll describes the process of fitting out the building after the structure was complete: "At this stage, in principle, the building is finished: it is only necessary to add demountable window frames, moveable partitions and prefabricated sanitary units, to lay carpets and services (some already included in the shell), to add beds, chairs and tables, and finally students. The structure endures but the infill is soon out of date: thus we make it removable."[12]

The student rooms are made up of demountable wall panels that are configurable by students within a varied column grid. The building is an exercise in variation –the façade and layouts are all a patchwork mosaic of smaller units. The whole site, plan and elevation layout is based on a fine grid (30cm), that regulates all components, but is visually almost imperceptible.

A similar approach to future change has been more recently advocated by Stewart Brand in his book 'How Buildings Learn'. He states quite succinctly that "all buildings are predictions. All predictions are wrong." [13] Brand advocates an approach to design that he calls 'scenario buffered buildings'. This is strategy to design that is intended to foster a 'loose-fit' solution to a building's programme, structure, skin, mechanical services and finish that will better cope with unexpected future scenarios, to maintain some future "manoeuvring room". It differs from traditional programming which, according to Brand, "over-responds to the immediate needs of the immediate users, leaving future users out of the picture, making the building all too optimal to the present and maladaptive to the future."[14]

The technique of scenario planning is borrowed from military and business strategy and is intended to propose, at an early stage of design, a whole array of
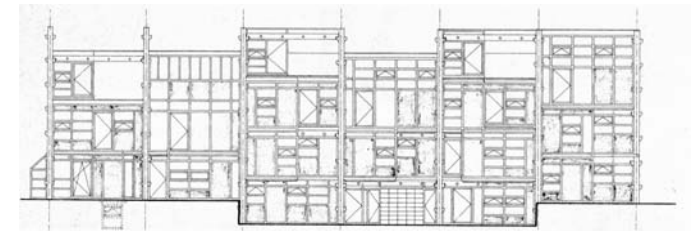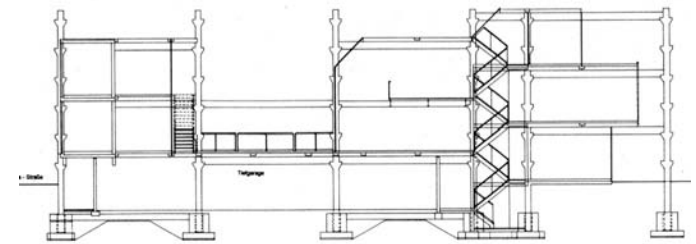
Illustration 15: Genter Strasse Housing -support structure and infill options.

Illustration 16: Kroll's Medical Faculty Buildings -variable facade and photos of students installing partitions.

[12] Kroll, Lucien. *The Architecture of Complexity* Translated by Peter Blundel Jones. London: B.T. Batsford, 1986. p. 45.

[13] Brand, Stewart. *How Buildings Learn*. New York: Penguin, 1995. p. 178.

[14] Ibid. p. 181

possible scenarios, no matter how disastrous or optimistic, and to then devise a strategy, rather than a plan, to deal with as many potential outcomes as possible: "instead of converging on a single path, its whole essence is divergence." The strategies that result most often allow for future reinterpretation by users who adapt the building over time, strategies that put significant design power to individual users while they use the space –realizing that hindsight is better than foresight.

Through time "a building 'learns' only through people learning and individuals typically learn much faster than whole organizations." Thus, it is better to create a loose structure and let people develop a hands-on relationship with the finer grain elements of a building, they will make improvements and "hot-rod" the building in response to actual conditions rather than predicted conditions in the design stage – a "cut and try" approach.[15] Two kinds of building often result: one is a small well finished building that is gradually added to and the other a large raw (unfinished) building that can be gradually finished (grown into), as needed, or as conditions allow.

Parallel to the structuralist movement in the Netherlands, the impulse to flexibility and change in building appear in both in England and Japan, in the 1950's and '60's. Numerous projects that explored either modular 'plug-in' strategies with fixed infrastructure, or indeterminate buildings that used to varying degrees an attitude that the building was not conceived as totally finished, that this would gradually be expanded and changed to anticipate future growth and technological advance. Most often associated with this approach are Archigram and Japanese Metabolism who developed various plug-in schemes using capsules attached to supporting infrastructure. These semi-autonomous prefabricated modules might be mobile, replaceable, detachable or transposable.

The British Architect John Weeks, working with hospitals, whose needs for equipment, services and space is forever growing, evolving and obsolescing, developed what he called "a strategy of indeterminacy" in his design for the Northwick Park hospital (London, 1961-74). The design is based on the idea on "systematic ambiguity", which assuming a world based on probability rather than certainty.[16] The hospital buildings were separated by departments, and were to be a kind of "endless architecture", using a fixed sectional width with bearing structure pushed to the exterior walls whose fenestration was independent of variable interior
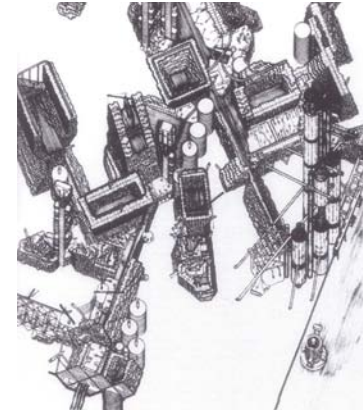
Illust. 17: Archigram/Peter Cook- "Plug-in City" 1964

Illust. 18: Metabolism Kisho Kurokawa, Nakagin Capsule Tower 1972.
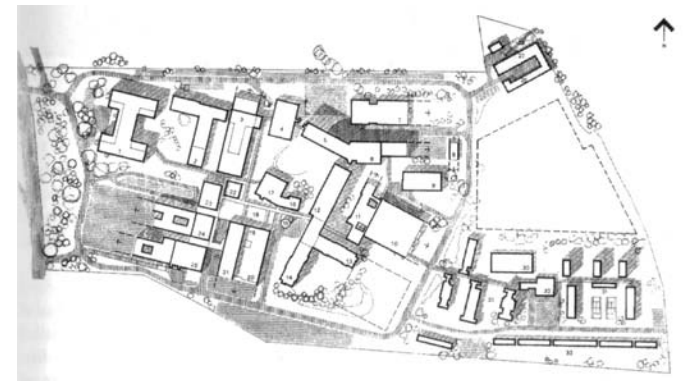
Illust. 19: Northwick Park Hospital -Site plan showing extendable ends of buildings.


Illust. 20: Northwick Park Hospital -Photo of demountable end walls and exit stair.

[15] Ibid. p. 188

[16] Hughes, Jonathan. "The Indeterminate Building." in Non-Plan: Essays on Freedom Participation and Change in Modern Architecture and Urbanism., Edited by Jonathan Hughes, Simon Sadler. Oxford: Architectural Press, 2000. p.97

partitioning. The ends of these caterpillar-like tubes were capped by a light exit stair and removable walls. The site planning allowed each of the endless buildings to extend and branch as required over time by continuing the established pattern. This idea for an endless building can be seen much earlier in LeCorbusier's scheme for "A Museum of Unlimited Growth" which tackled the same question of growth by proposing a square spiral illumin,ated from above and accessed from below, that could continue to spiral outwards increasing the hanging space as needed.[17]

One British house project of this same period relates directly to the problem of the plan-less house, and is the final project that will be presented in this tradition: James Stirling and James Gowan's "Extendable House" project of 1957. The premise of this design "is to build a house which can be added to in stages, which will appear an architectural entity at each step, and which is capable all its life of 100% efficiency, with no overcrowded rooms."[18] The design imagines an initial stage of construction in which all bearing walls are present, but only a small living area is finished. The building is able to continue to complete itself gradually as the family grows and contracts, leaving behind functionally discreet living quarters that can be incorporated into one large house or subdivided for rental. This assumes, however, a fairly linear and finite series of outcomes, and its construction method appears beyond a do-it-yourself scope. Nevertheless, it does accomplish much of the unity and expandability it sought.
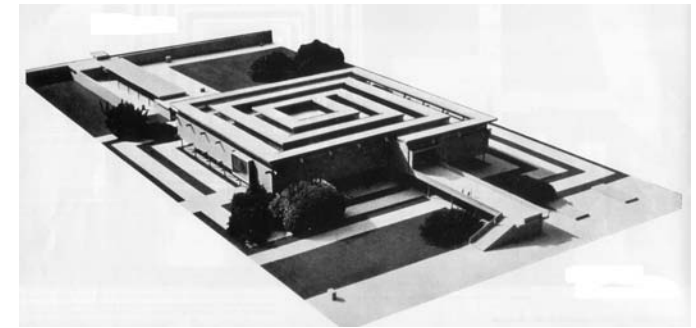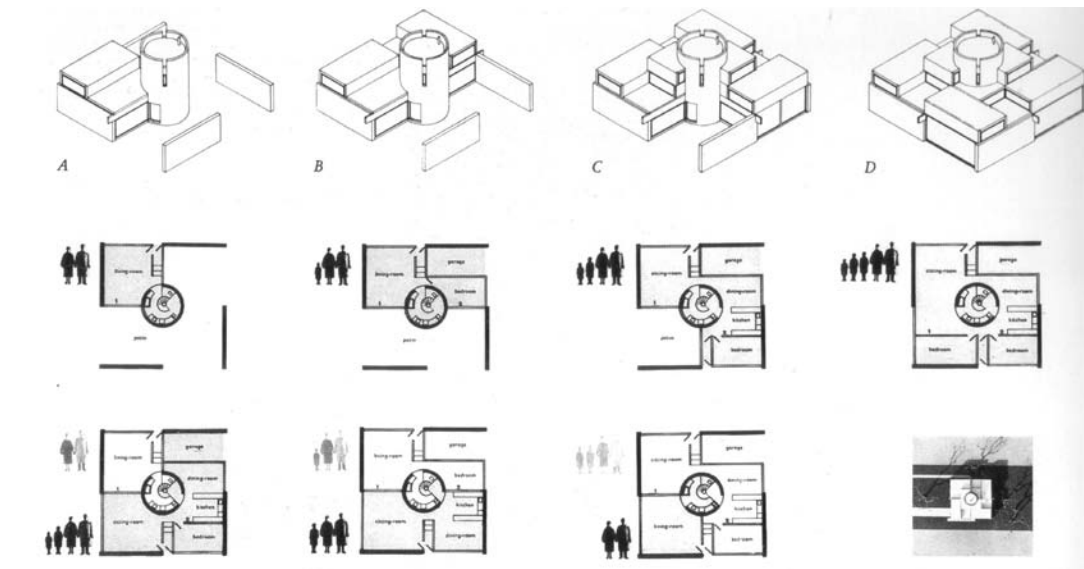
Illust. 21: Museum of Unlimited Growth -future path of building expansion is indicated on the ground plan.
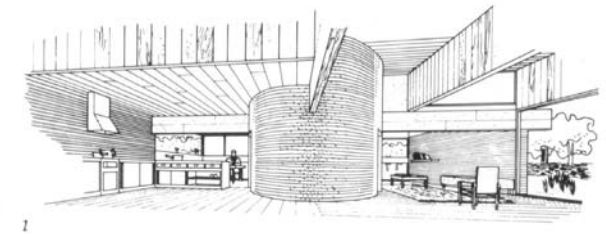
Illust. 22 & 23: Stirling's Expandable house.

[17] LeCorbusier. *Oeuvre Complete 1938-1946*, edited by W. Boesiger. Vol. 4. Zurich: Editions d'Architecture Zurich, 1977. pp.16-21.
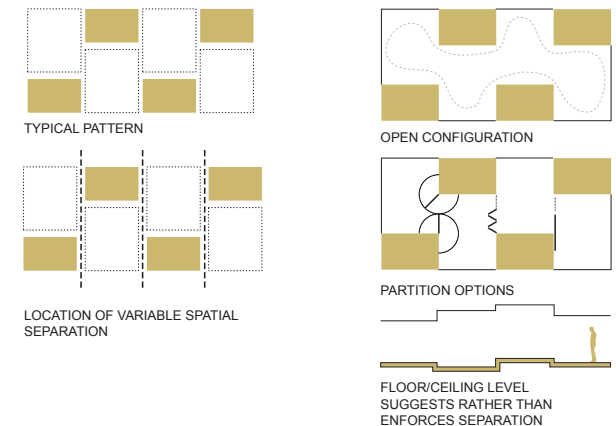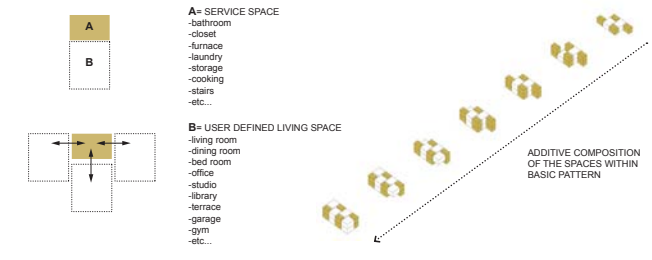
[18] Stirling, James. *James Stirling: Buildings and Projects*, edited by Peter Arnell, Ted Bickford. London: The Architectural Press, 1984.p. 59.

The Design:

The thinking behind the competition entry was to create something like the 'scenario-buffered building' at the scale of a family house. Here the ideas of self-determination and individual control advocated by the structuralists might be incorporated by trying to limit the need for renovation to a manageable scale, using typical stud framing to fill or remove material from small apertures, or change fixtures. The intent is to allow a variety of options of spatial divisions (or none at all), first by suggesting boundary using shifts in floor and ceiling height, not unlike Schindler's work, then by any number of possible physical partitions –partial, sliding, swinging etc.

The basic spatial units of the scheme refer to Kahn's Served and Servant space, dividing more-or-less permanent functions like primary structure, electrical wiring, plumbing rough-in, and ducting into thick-walled zones with the ability to be made into stairs, bathrooms or kitchens (depending on fixtures) or simply storage. These servant spaces are then associated with a generic, user-defined living space. By arranging these paired spaces into alternating stacks, they can be stacked like blocks, into various configurations. The arrangement might start with a few of the pairs only and accrete over time into more, completing the form, or it could be complete from the beginning and still allow functions to shift within the system. Like Hertzberger's Diagoon dwellings, while the structure or ordering principle of the whole remains largely intact, any number of configurations could be chosen or evolved over time within the system. The program scenario and approach are similar to the Stirling expandable house, but that project seems to suggest too rigid and linear plan for growth coupled with a heavy construction method. Its form has only one ideal outcome. I prefer a looser strategy to deal with more possible scenarios.

Because the construction method is not dependant on outside prefabricated units (typical building materials –studs, plywood and drywall- are already quite manageable materials), the sizes of each spatial unit is relatively flexible, and there is no need to build identical or strictly diagrammatic interpretations of the basic ordering system. A fair degree of plastic articulation and variation can be achieved through shifts along the planes between paired spatial units, and through the vertical variation of roof and floor. Since zones that connect or divide spaces do not contain the wiring, plumbing or venting, partitions, widows or openings can be added and

A= SERVICE SPACE
-bathroom
-closet
-furnace
-laundry
-storage
-cooking
-stairs
-etc...

B= USER DEFINED LIVING SPACE
-living room
-dining room
-bed room
-office
-studio
-library
-terrace
-garage
-gym
-etc...

ADDITIVE COMPOSITION OF THE SPACES WITHIN BASIC PATTERN

TYPICAL PATTERN

OPEN CONFIGURATION

LOCATION OF VARIABLE SPATIAL SEPARATION

PARTITION OPTIONS

FLOOR/CEILING LEVEL SUGGESTS RATHER THAN ENFORCES SEPARATION
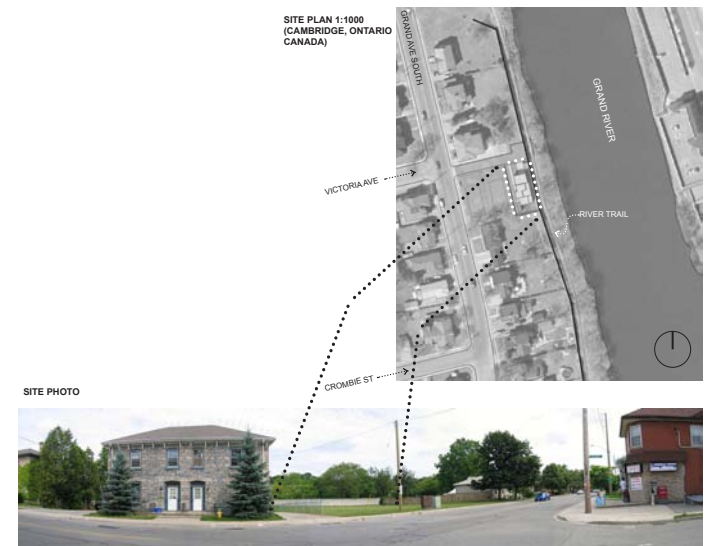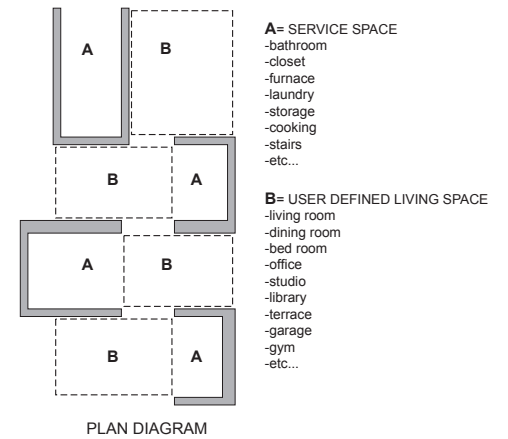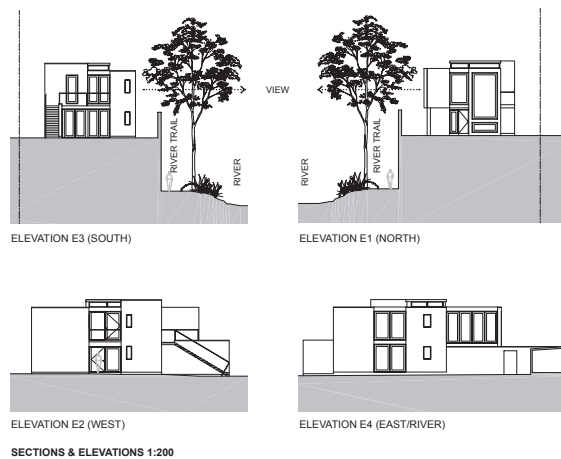
removed without fear of a complicated job.

The design is intended to be fairly generic –flexibility, growth and reconfiguration being its main premises. However, I have presented a specific configuration for a specific site, which could be worked through a hypothetical series of scenario changes in which family size and needs change over time. The cladding of the building, being one of the more often changed/updated aspects of the building has not been emphasized here in favour of emphasizing the organizational aspects of the design.

Site:

The site chosen for this house is located in Cambridge (Galt) on Grand Avenue South, South of Cedar Street at Victoria Avenue. It is currently vacant. It is located directly adjacent to, but above the banks of the Grand River. It is however, deprived of a view of the river at grade by the city's flood retention wall.
First, the site is so large it is here subdivided into three smaller lots running parallel to the river, with an access road effectively extending Victoria Ave. to the river.
The house is to be located on the site nearest the river wall. For this reason, the organization of the layout places the main common living spaces on the second level –allowing view of the river and tree canopies over the wall. Bedrooms are principally located on the ground level. Privacy is maintained in relation to neighbouring houses through a fairly blank face to the West.

A= SERVICE SPACE
-bathroom
-closet
-furnace
-laundry
-storage
-cooking
-stairs
-etc...

B= USER DEFINED LIVING SPACE
-living room
-dining room
-bed room
-office
-studio
-library
-terrace
-garage
-gym
-etc...

PLAN DIAGRAM

ELEVATION E3 (SOUTH)

ELEVATION E1 (NORTH)

ELEVATION E2 (WEST)

ELEVATION E4 (EAST/RIVER)

SECTIONS & ELEVATIONS 1:200

**SITE PLAN 1:1000
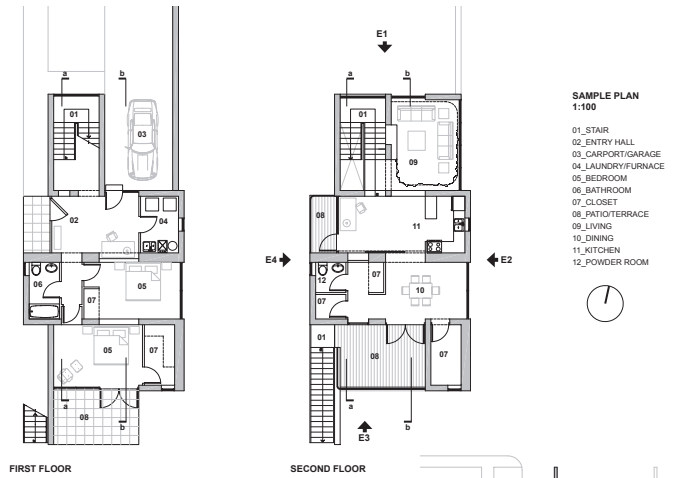(CAMBRIDGE, ONTARIO
CANADA)**

SITE PHOTO

Configurations:

Carport, South-facing terrace and walk-out bedroom patio are provided in the initial scenario with two bedrooms –configured for a small family.
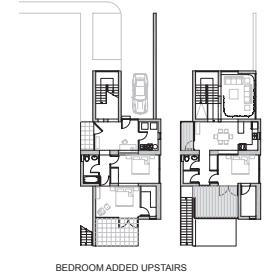
In the second scenario, the upstairs dining room is converted into another bedroom with walk-in closet, while the downstairs bedrooms could remain, or if children have moved out, it can be converted to an autonomous apartment, sharing the entry hall and laundry facilities with the upstairs apartment.

In the third scenario, the carport is closed in creating a home office or studio space. Each time, all living spaces maintain at least one full wall with access to natural light

Meanwhile any other number of scenarios could be conceived of –several are suggested. It is important to not only present a flexible system out of which many configurations are possible, but also to show how these might be accomplished.
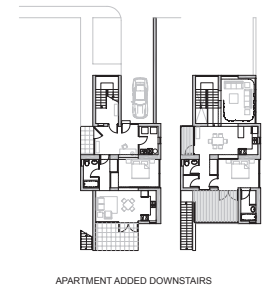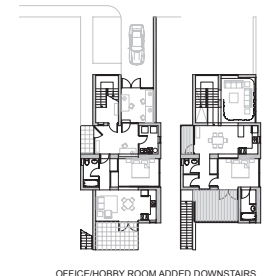

SAMPLE PLAN
1:100

01_STAIR
02_ENTRY HALL
03_CARPORT/GARAGE
04_LAUNDRY/FURNACE
05_BEDROOM
06_BATHROOM
07_CLOSET
08_PATIO/TERRACE
09_LIVING
10_DINING
11_KITCHEN
12_POWDER ROOM

FIRST FLOOR   SECOND FLOOR

Initial scenario.

Second scenario.

BEDROOM ADDED UPSTAIRS

Third scenario.

APARTMENT ADDED DOWNSTAIRS

Fourth scenario.

OFFICE/HOBBY ROOM ADDED DOWNSTAIRS

flr 1 / flr 2
-2 apartments

flr 1 / flr 2
-3 bedrooms

flr 1 / flr 2
-2 bedrooms
-2 terraces

flr 1 / flr 2
-2 bedrooms
-home office

flr 1 / flr 2
-upstairs/downstairs
 reversal

flr 1 / flr 2
-2 bedrooms

flr 1 / flr 2
-2 bedrooms
-void + front terrace

flr 1 / flr 2
-4 bedrooms

flr 1 / flr 2
-5 student rooms
-2 kitchens
-2 living rooms
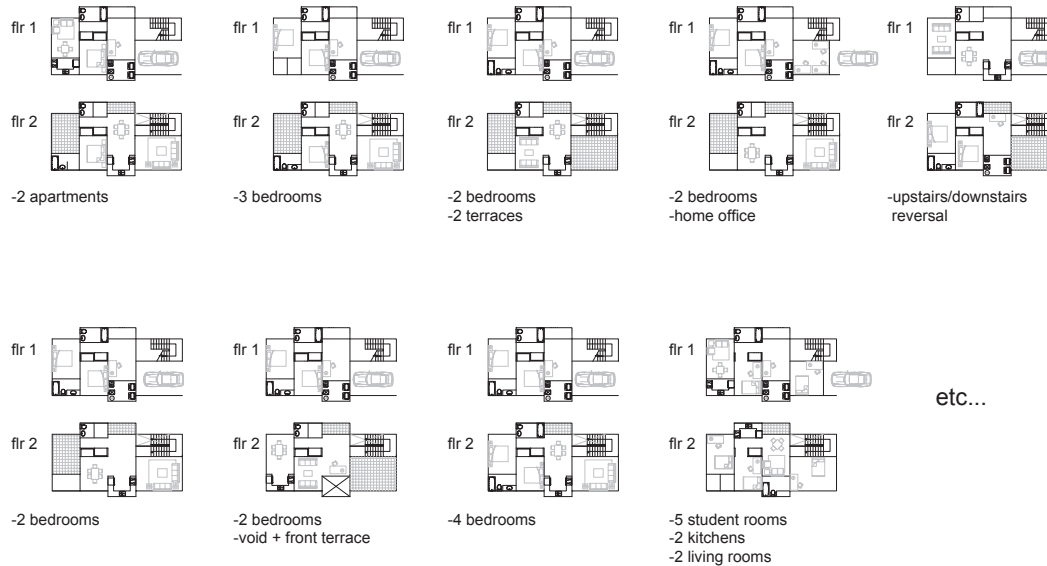
etc...

EXAMPLES OF POSSIBLE CONFIGURATIONS FOR DIFFERENT SCENARIOS

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