

DAYLIGHT &
ARCHITECTURE
MAGAZINE BY
VELUX

SPRING 2006 ISSUE 02 LIVING ENVIRONMENTS 10 EURO

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DISCOURSE BY JAIME SALAZAR

LIVING ENVIRONMENTS

In a time when human technology is nearing the microscopic level in scope and the inhuman in precision, building a house has remained a comparatively rough and unprecise undertaking. Compared to other materialisation processes that are completely computer-controlled, architecture is still a process carried out by people, as it has always been. Our living environments are conceived, built, financed and lived in by people. Ambitions, fears, changes, dreams, frustrations, conflicts and harmonies are decisive elements of the process of building, and part of the life of buildings themselves.

Architecture has always to address the most contradictory of extremes. It has to shuttle between invention and tradition, between the need for the new and the fear of the new. It has to cater for the unforeseeable: for growth and shrinkage of built-up environments as well as for changes in use and in the dweller's mind-set. If there is something that could be described as architecture of the information era, it is a construction that is not considered as finished when the building process ends; it is architecture where information about the future life and use of buildings is fed back into the design process.

One of the obvious efforts of our societies is the assurance of our future in the present. Foreseeing our personal and social future is one of the most important economical – and ecological – factors, and our living environments are a main feature of our intimate feeling of security. Architecture seems more than ever to be a prospective task, rather than a technical one. At the peak of technological progress, mankind is close to developing an artificial nature that echoes the nature from which it evolved; machines are very close to becoming 'animated' and our natural bodies are increasingly subject to a process of artificialisation, of becoming humanoid. Our computer networks are affected by viruses similar in effect to those that invade us. At the same time, we have recognised, after many decades of destruction, the fragility and complexity of our own origins.

In a time where innovation is essential for any practice to survive the pressure of globalisation, architecture cannot be regarded as a mere technical service. Let us understand the act of building as an act of continuous improvement, as a manifestation of human inventiveness and ingenuity: the translation of the incredible complexity of our world into building practice. As it has always been.

Opposite photo by Michael Wolf,
www.photomichaelwolf.com,
Courtesy of Hasted Hunt Gallery, New York,
www.hastedhunt.com

Read more about *Living Environments*,
starting on page 14.

VELUX EDITORIAL

WELCOME TO
DAYLIGHT & ARCHITECTURE
MAGAZINE BY VELUX

In this issue of *Daylight & Architecture* we invite you on a journey through 'the nature of dwellings' and present different angles on the theme of our living environments – housing.

As individuals, we all have relations to housing, so this theme is relevant to us in a very basic sense. Beyond that, knowledge and understanding of the development of how people have lived throughout time and in different parts of the world, and therefore building traditions and trends, are essential to VELUX.

As an international manufacturer of roof windows and skylight systems, it is important for us constantly to seek out and strengthen the relevance of our products to architecture. VELUX wants to play a role by contributing and stimulating aspects that lead to better living environments and we want to strengthen and encourage the role of daylight in design prioritising. This focus is our platform for building and nurturing relations with the building sector – not least with architects.

We want to engage in a dedicated dialogue with professionals about daylight, and thereby

evaluate and strengthen the architectural relevance of our products. We see our daily business as being closely linked to building design, with the overall objective of focusing on daylight and fresh air as means of bringing better living conditions to people's everyday lives.

This objective is the platform from which we present *Daylight & Architecture*. In this magazine – and the issues to come – we seek to bring topics and present views and angles about the past, present and future of architecture with daylight, fresh air and thereby provide a platform for dialogue between professionals. It is our intention to raise questions and by that inspire and facilitate the discourse on architecture through promoting the use of daylight and better living environments rather than to pose answers and statements that are predictable and take us nowhere.

Enjoy your read and please visit www.VELUX.com/da for further inspiration and information.

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NOW

Start of the season in the **Ice Hotel** in Québec, Canada. Tiles and carpets that react to daylight. A 'meaningful' façade by **Diener & Diener** in Malmö. And: The **Traumbaum** (= Dream Tree), a kindergarten in Berlin, has been converted by the student group calling themselves **Baupiloten** (= Building Pilots).



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MANKIND
AND ARCHITECTURE
ARCHITECTURE BY
THE PEOPLE

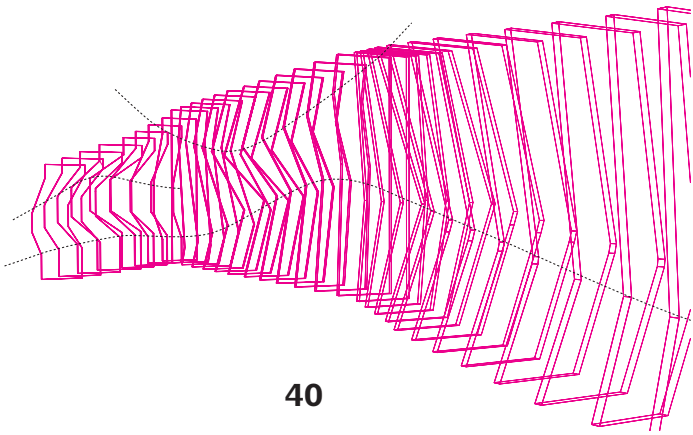
The Austrian **Bernard Rudofsky** (1905-1988) is regarded as the re-discoverer of vernacular architecture. His essay *Architektur ohne Architekten – eine kurze Einführung in die nicht-rassereine Architektur* (*Architecture without Architects – A Short Introduction to Non-Pedigreed Architecture*) has not lost any of its relevance in the 40 years since it was first published.



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LIVING ENVIRONMENTS
HOMO HABITANS

The person and his habitat, the earth: this symbiosis has not always been characterised by harmony everywhere. **Jaime Salazar** and **Jakob Schoof** describe how people made the world habitable and what human living could look like in future: urban but close to nature, manufactured industrially but simultaneously individual, and capable of adapting itself to changing uses and family sizes.



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REFLECTIONS
NEGOTIATE MY BOUNDARY!

In housing construction, architects and clients usually have to depend on experience and rules of thumb when they want to get an idea of the needs of the future occupants. But there is another way of going about this. In ***negotiate my boundary!***, the five young architects calling themselves **RAMTV** design a scenario in which the buyers themselves determine the use, the form and the size of their homes.



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VELUX INSIGHT
SUBURBAN JIGSAW PUZZLE

A health social mix is the beginning and the end of many current housing projects in the Netherlands. In the **SWANLA** estate in Zevenhuizen, the architects **Drost + van Veen** have not only created a living space for almost all social and age groups but have also given the occupants the opportunity to extend their homes themselves at a later date.

VELUX PANORAMA

Clothes make houses – this at least applies to **Hage-
neiland**, the 'hedge island' in Ypenburg in the Netherlands, with its 119 apartments from **MVRDV**. In Ljubljana, **Dekleva & Gregoric** have built a holiday home for an older couple from the country. And on the banks of Lake Mälär, **Tham & Videgard Håns-
son** have re-interpreted the typical wooden red Swedish house in a surprising manner.



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The things that make architecture tick: events, competitions and selected new developments from the world of daylighting.



PHOTO BY JAN BITTER

'DREAM TREE' IN PLAY SCHOOL

A changing group of architecture students at the Technical University in Berlin call themselves 'the construction pilots'. With limited resources and under the guidance of two independent architects, Susanne Hofmann and Martin Janekovic, they brought about the transformation of the 'Dream Tree' day-care center in Berlin-Kreuzberg. As with all their projects, the construction pilots aimed to combine architecture with social needs: The conversion project is set to improve quality of life in a socially problematic part of the city.

The central element of the transformation is the 'Dream Tree', which is a construction made from plasterboard and highly reflective stainless steel in the central atrium. The dream tree captures the imagination of the children, promotes communication and offers various chill-out possibilities: It can twinkle, light up and produce sound. 'Dream flowers' grow from the 'trunk' alongside a type of sitting basket and radiant 'silver leaves', which branch out from the ground floor to the upper floor. A child can sit here and swing to and fro surrounded by the backlit green, blue, yellow or orange dream flowers. Some of the leaves produce comforting 'snores'. If the children move the rocking branch, it 'laughs'.

The leaves cast reflections onto the internal passageways in various ways. The concept is designed for three different scenarios: In winter, the leaves catch the light in the entrance area and cause the leaves on the ceiling of the passageways at basement level to glisten. In spring and summer, the light moves along the passageways through the atrium and bathes it in sparkling light. Additionally, there are six reflective 'day-time leaves' around the glass roof, which cast sunlight on the atrium floor throughout the year.

HIDDEN MESSAGES

Malmö also learns how many of the world's towns currently appreciate being near to water: harbours become populated areas, or – in the case of 'Malmö Lärarygskolan' – educational establishments for prospective teachers. The new construction, named 'Orkanen' (The Hurricane) was designed by the architects Diener and Diener from Basel. The construction, which is not far from the central railway station and was inaugurated in the autumn, fools the visual habits of the observer. Depending on the angle and position of the sun, the five-story glass façade either reflects the blue of the sky or lets the brown clay, which is softened with the green hue of the insulating layers behind it, shine through. 12 millimetre thick cast glass with a prismatic surface structure (type 'Raywall') was used. It is fastened with point holders to the façade of the brickwork. The viewer does not even have to change location to experience the optical effect: due to the lightly zig-zagged shape of the façade, the reflective and translucent glass surfaces can always be seen in one glance. Letters made of gleaming metal are visible from behind the structural glass. These letters always make up the same word, in different languages: Freedom – Freiheit – Vrijheid – Frihed – Inkululeko. An illusion of the architects' design? They write about their new construction: "It is a building without traditional hierarchies [...] The individual areas are put together succinctly, only the main library covers all tracts and takes hold of the whole building." This is also noticeable on the façade with its alternating window heights, which are up to 5 metres high. At first glance, this is exclusively dictated by functional necessity. However, a closer look changes the overall picture seen through it.

"The cast glass, which makes up the outer layer of the façade, sporadically reflects the light and periodically shrouds the gleaming metal writing behind it. In this way, the light is the only material around the building which is forever changing." Roger Diener

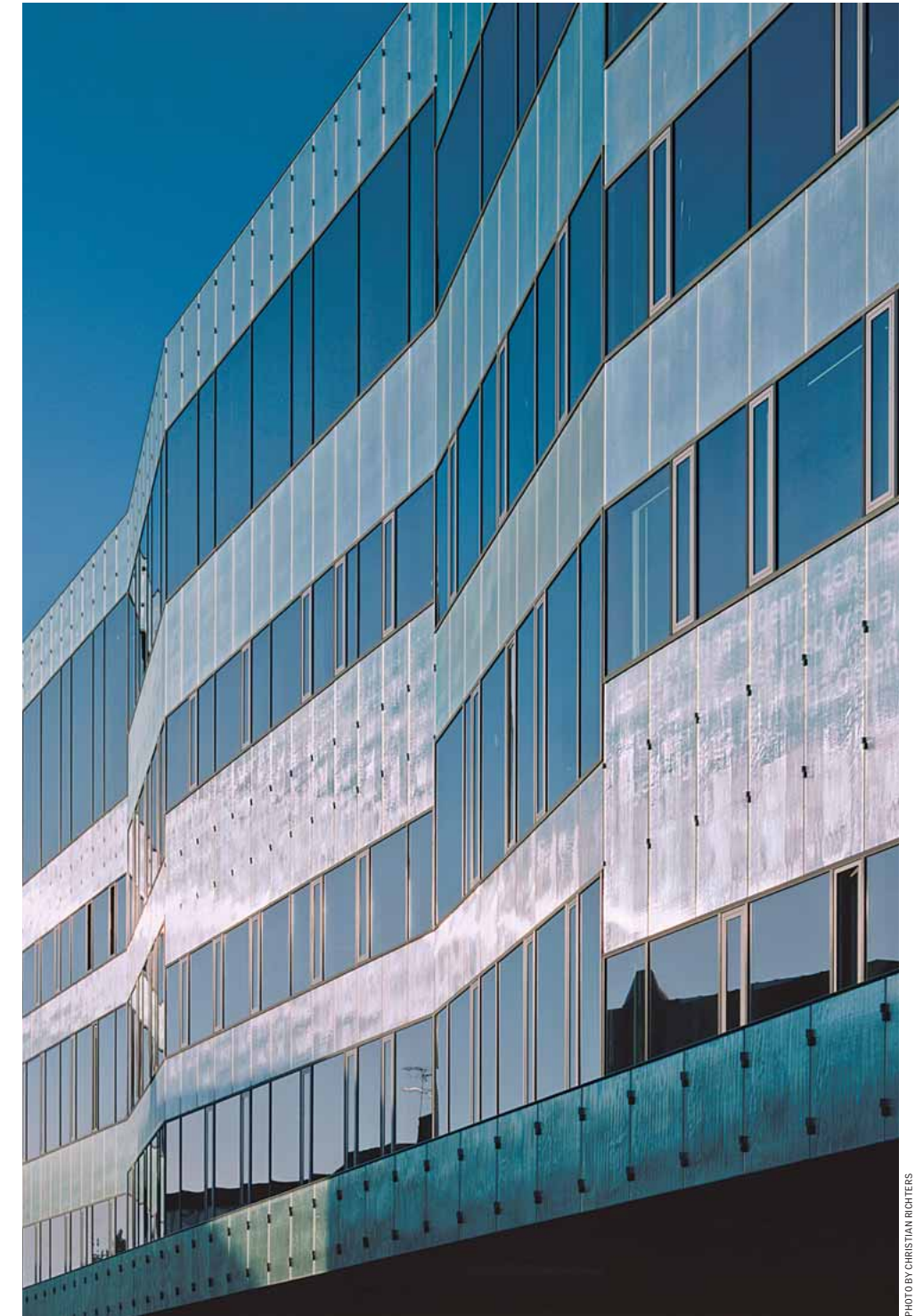


PHOTO BY CHRISTIAN RICHTERS



PHOTO BY SENSITILE

LIGHT REFLEXES AND SHADOW GAMES

It was in his graduate architecture thesis on bamboo that Abhinand Lath was inspired to develop a product which was later to become known as SensiTile: Lath came upon the work of a Japanese poet in which she describes a walk through a bamboo forest that sets the delicate bamboo stalks in motion, creating an environment that gently and quietly responds to her own movement.

SensiTiles create a similarly dynamic effect in tiles that can be applied to a variety of surfaces, from exterior pavements, façades, fountains and swimming pools to interior countertops, tabletops and walls. The tiles are reactive to changes in light intensity and colour. They dynamically ripple, shift and shimmer in a way that is (according to the manufacturer, SensiTile Systems) 'dramatic, sublime and unlike any other tile on the market'.

Comprised of a light conducting matrix and a substrate within which that matrix is embedded, SensiTiles

transport light from one surface point to another by total internal reflection, the same principle by which fibre optics work. SensiTiles either respond to the absence of light (i.e. shadows) or an active and moving light source. In the first case, SensiTiles cause any shadows that fall on their surfaces to shift. In the case of the latter, they redirect and scatter any oncoming light. In an environment with ambient light such as daylight, shadow-producing movements around a SensiTile will produce a rippling effect. In darker environments, beams of light are redirected to emerge from another part of the surface.

If coloured light falls on a SensiTile, echoes of that colour are dispersed throughout its surface. Multiple colours become blended, rearranged and scrambled. Because SensiTile properties are inherent, no power is required; the light effects are created passively from external light sources and they last as long as the material does.



PHOTO BY JAVIER DACHEZ/ICE HOTEL QUÉBEC-CANADA

FLEETING WINTER BEAUTY

The doors of the 'Ice Hotel Québec-Canada' will remain open until 2 April. In what is now its sixth season, the temporary building welcomes its guests with 32 rooms and themed suites and with indoor temperatures of scarcely above freezing. It is based on the ice hotel in Jukkasjärvi in the North of Sweden. The founder of the Ice Hotel Québec-Canada and pioneer of Canadian eco-tourism, Jacques Desbois, studied the architecture of the Swedish Ice Hotel in detail before finally implementing his idea in winter 2000. The surface area of the ice hotel has grown from 1,000 m² in the first winter to 3,000 m². The structure consists of 12,000 tons of snow and 400 tons of ice and features rooms up to 5.4 metres high. Since 2000, approx. 220,000 people have visited the ice hotel, about 11,000 of whom spent a night in one of its rooms, which cost upwards of 199 Canadian dollars per night. Every year in April, the hotel ceases trading and begins to melt, only to be recon-

structed in late autumn of the same year. So you can't get bored with it, the interior decoration is simply modified from year to year. The ice hotel doesn't only contain beds and settees, but also a chandelier made from ice with integrated optical fibres.

The Ice Hotel Québec-Canada is situated in the borough of Sainte-Catherine-de-la-Jacques-Cartier, 30 minutes west of Québec city centre. You can get there by car via Highway 40 or by shuttle bus from the city centre.



PHOTO BY ANNALÖNNERSTAM

SHADOWS ON THE WALL

Light can change the appearance and atmosphere in a space. However it is seldom that a surface reacts to daylight to such an extent as in 'Wallpaper by Shadows' by Swedish designers Front Design: the wallpaper is plain white under artificial light. But as soon as it is illuminated by the sun, violet silhouettes from lamps and other household appliances appear on it. 'Wallpaper by Shadows' is part of Front Design's 'Design by...' series, in which they portray the effect that human actions and natural influences have on the shape of objects. Among other things the series includes a stool which was cast in the mould of an explosion crater, a vase which seems to be constantly about to fall to the floor, and a standard lamp which straightens up if people enter the room and lays down again when they leave.

The photochromic pigments which are used in 'Wallpaper by Shadows' have been around since the 1960s. However, they only really started to

circulate at the beginning of the 1990s. They were first used in the manufacturing of glasses and later on T-shirts, in nail varnish and in various plastic products. In the meantime, the advertising industry discovered photo-sensitive pigments. They only react to UV-radiation and therefore only change their molecular structure (and colour) with daylight and not as a result of artificial light. Unlike common pigments, which reflect part of the light, the photochromic colouring materials partly absorb the light and allow the rest to remain. No effect can be seen against a black background. The background should ideally be light, white if possible, in order that it can reflect and 'colour' the remaining light. However, an ageing effect can be observed with most photochromic pigments: The longer they spend under UV-radiation, the less likely they are to return to their original transparent condition.

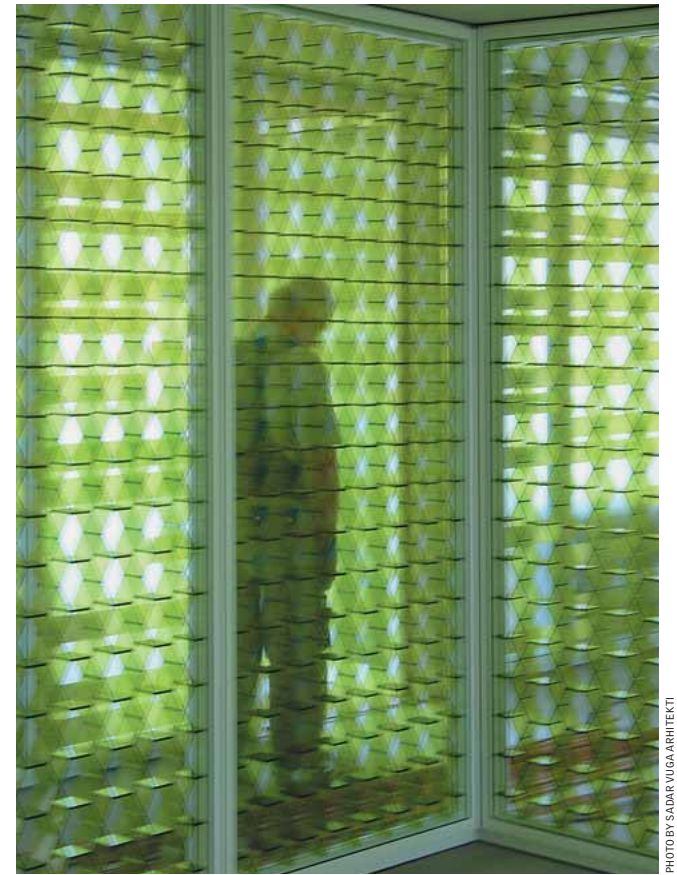


PHOTO BY SADAR VUGA ARHITEKTI

GREEN POLICY

A post-war construction built in an unusual light: the office building in Gregorciceva 25, Ljubljana, which was designed in 1945 and built in the 1950s for the Yugoslav Ministry of Foreign Affairs, is currently being converted by the architects Jurij Sadar and Bostjan Vuga. The Slovenian government will be its new occupants.

Where there were formerly two offices on each of the four floors, the conversion work will produce open-plan offices. As is customary in this type of office, the new central zone will serve as a meeting point for the employees and a break-out area. But it is also a significant part of the 'construction programme' for the new internal architecture. Glass walls separate the offices and meeting rooms from the corridors and at the same time allow daylight to penetrate the office floors. The walls between the offices and the halls are made of matt translucent glass with green, printed stripes as blinds. In the central zone, the dividing walls are constructed

in the same way, but the spaces between the panes are filled with green plastic honeycombs. The translucent honeycombs, which were specifically manufactured for this project, give the surfaces a graphical structure which changes according to the point of view of the observer. When lit from behind, they dissolve in a flurry of lines and surfaces. This confuses the perception of measurements and distances and only provides a dim outline of the employees.



ARCHITECTURE BY THE PEOPLE

Above Cameroon: The picture shows a 'Saré' house, as the occupants call it, in the city of Ngaoundéré in the north of the country. It is covered with straw and belongs to the tribal chief.

Text by Bernard Rudofsky.
Photos by Yoshio Komatsu.

Architecture without Architects – A Short Introduction to Non-Pedigreed Architecture was the name given by the Museum of Modern Art New York to the exhibition on the research work of the architect Bernard Rudofsky, in 1964. In the following piece, taken from the exhibition catalogue, Rudofsky introduces the reader to a fascinating topic which is as relevant today as it was in the past.

ARCHITECTURAL HISTORY, AS WRITTEN and taught in the Western world, has never been concerned with more than a few select cultures. In terms of space it comprises but a small part of the globe – Europe, stretches of Egypt and Anatolia – or little more than was known in the second century A.D. Moreover, the evolution of architecture is usually dealt with only in its late phases. Skipping the first fifty centuries, chroniclers present us with a full-dress pageant of 'formal' architecture, as arbitrary a way of introducing the art of building as, say, dating the birth of music with the advent of the symphony orchestra. Although the dismissal of the early stages can be explained, though not excused, by the scarcity of architectural monuments, the discriminative approach of the historian is mostly due to his parochialism. Besides, architectural history as we know it is equally biased on the social plane. It amounts to little more than a who's who of architects who commemorated power and wealth; an anthology of buildings of, by, and for the privileged – the houses of true and false gods, of merchant princes and princes of the blood – with never a word about the houses of lesser people. Such preoccupation with noble architecture and architectural nobility to the exclusion of all other kinds may have been understandable as late as a generation ago, when the relics and ruins of ancient buildings served the architect as his sole models of excellence (to which he helped himself as a matter of course and convenience). But today, when the copying of historical forms is on the wane, when banking houses or railroad stations do not necessarily have to resemble prayers in stone to inspire confidence, such self-imposed limitation appears absurd.

Architecture Without Architects attempts to break down our narrow concepts of the art of building by introducing the unfamiliar world of non-pedigreed architecture. It is so little known that we don't even have a name for it. For want of a generic label, we shall call it vernacular, anonymous, spontaneous, indigenous, rural, as the case may be. Unfortunately, our view of the total picture of anonymous architecture is distorted by a shortage of documents, visual and otherwise. Whereas we are reasonably well informed about the artistic objectives and technical proficiency of painters who lived 30,000 years before our time, archaeologists consider themselves lucky when they stumble over the vestiges of a town that goes back to the

third millennium B.C. only. Since the question of the beginnings of architecture is not only legitimate but bears heavily on the theme of the exhibition, it is only proper to allude, even if cursorily, to possible sources.

A nation that swears by the Bible also finds it an incomparable book of reference. Alas, the explicitness of the scriptures in matters of architecture is never as disconcerting as when we learn (Genesis IV: 17) that Adam's son Cain built a city and named it after his son Enoch. A one-family town, delightful as it sounds, is a most extravagant venture and surely was never repeated in the course of history. If it proves anything, it illustrates the breathtaking progress made within a single generation, from the blessed hummingbird existence in well-supplied Paradise to the exasperatingly complicated organism that is a town. Sceptics who dismiss Enoch as a chimera will find more significance in the Ark, particularly in view of the fact that it was commissioned by the Lord Himself and built to His specifications. The question whether the Ark ought to be called a building or a nautical craft is redundant. The Ark had no keel, the keel being an intellectual invention of later days, and we may safely assume that ships were not known as yet, since their existence would have defeated the very purpose of the Flood. When Noah landed on Mount Ararat he was 601 years old, a man past his prime. He preferred to devote the rest of his life to viniculture and left the task of building to his sons. The Bible mentions (Genesis IX: 27) Shem's huts – probably put together with some of the Ark's lumber – but the decline in architecture was sealed.

The impious who prefer to turn to science in their quest for the origins of architecture will have to swallow a few indigestible facts. For it seems that long before the first enterprising man bent some twigs into a leaky roof, many animals were already accomplished builders. It is unlikely that beavers got the idea of building dams by watching human dam-builders at work. It probably was the other way. Most likely, man got his first incentive to put up a shelter from his cousins, the anthropomorphous apes. Darwin observed that the orang in the islands of the Far East, and the chimpanzees in Africa, build platforms on which they sleep, "and, as both species follow the same habit, it might be argued that this was due to instinct, but we cannot feel sure that it is not the result



Left Nepal: the main material used for the houses in the Nepalese mountain village Dham-pus, is slate. It is used in partially white-washed walls and for the roofs. Windows, supports and roof brackets are made of carved wood.

Opposite Mongolia: in Mongolia, the yurts are called 'gers'. Felt covers on an artistically decorated wood construction protect the interior against the weather. The ring-shaped opening of the single-family tent remains open for ventilation and acts as a natural source of light.



of both animals having similar wants, and possessing similar powers of reasoning." Untamed apes do not share man's urge to seek shelter in a natural cave, or under an overhanging rock, but prefer an airy scaffolding of their own making. At another point in *The Descent of Man*, Darwin writes that "the orang is known to cover itself at night with the leaves of the Pandanus"; and Brehm noted that one of his baboons "used to protect itself from the heat of the sun by throwing a straw-mat over his head. In these habits," he conjectured, "we probably see the first steps towards some of the simpler arts, such as rude architecture and dress, as they arise among the early progenitors of man." Suburban man falling asleep near his lawn mower, pulling a section of his Sunday paper over his head, thus re-enacts the birth of architecture.

Yet even before men and beasts walked the earth, there existed some kind of architecture, coarsely modeled by the primeval forces of creation and occasionally polished by wind and water into elegant structures. Natural caves, especially, hold a great fascination for us. Caves, having been among man's earliest shelters, may turn out to be his last ones. At any rate, they were chosen with great foresight as depositories for our most precious artefacts – government and business files. It is of course not within the scope of this exhibition to furnish a capsule history of non-pedigreed architecture, nor even a sketchy typology. It merely should help us to free ourselves from our narrow world of official and commercial architecture.

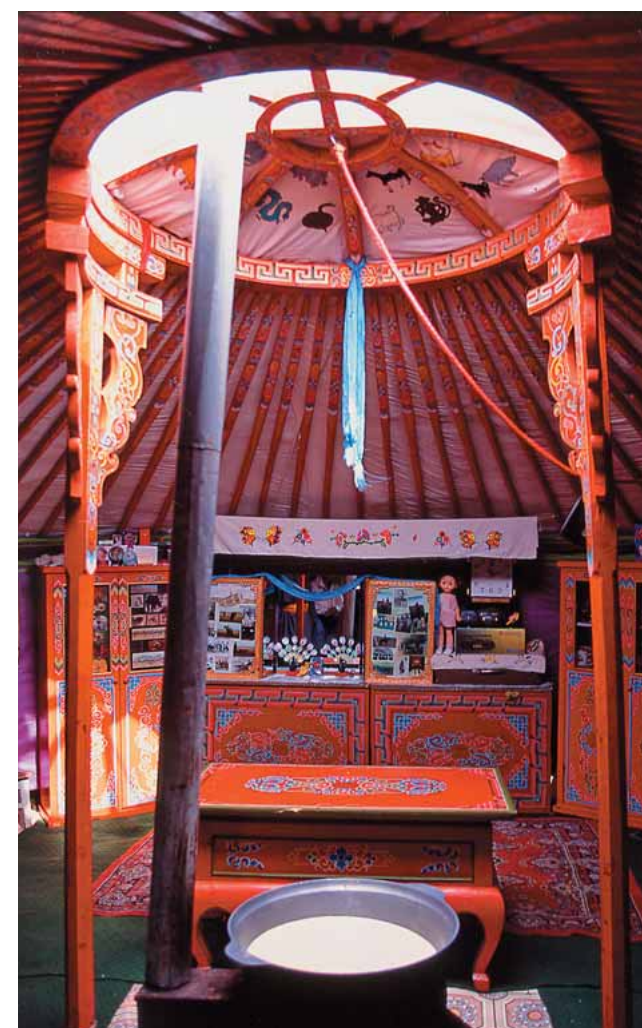
Although exotic arts have long been appreciated in the Western world – not, however, without being cautiously dubbed 'primitive' – exotic architecture (the word exotic is here used in its original meaning, alien) has evoked no response and is still relegated to the pages of geographic and anthropological magazines. Indeed, apart from a few regional studies and scattered notes, no literature exists on the subject. Lately though, ever since the art of traveling has suffered conversion into an industry, the charms of 'picture-postcard towns' and the 'popular' architecture of 'fairy-tale countries' have proved of considerable attraction. Still, our attitude is plainly condescending.

No doubt the picturesque element abounds in our photographs, yet, again, the exhibition is not an exercise in quaintness nor a travel guide, except in the sense that it marks a point of departure for the exploration of our architectural prejudices.

It is frankly polemic, comparing as it does, if only by implication, the serenity of the architecture in so-called underdeveloped countries with the architectural blight in industrial countries. In orthodox architectural history, the emphasis is on the work of the individual architect; here the accent is on communal enterprise. Pietro Belluschi defined communal architecture as 'a communal art, not produced by a few intellectuals or specialists but by the spontaneous and continuing activity of a whole people with a common heritage, acting under a community of experience.' It may be argued that this art has no place in a raw civilization, but even so, the lesson to be derived from this architecture need not be completely lost to us.

There is much to learn from architecture before it became an expert's art. The untutored builders in space and time – the protagonists of this show – demonstrate an admirable talent for fitting their buildings into the natural surroundings. Instead of trying to 'conquer' nature, as we do, they welcome the vagaries of climate and the challenge of topography. Whereas we find flat, featureless country most to our liking (any flaws in the terrain are easily erased by the application of a bulldozer), more sophisticated people are attracted by rugged country. In fact, they do not hesitate to seek out the most complicated configurations in the landscape. The most sanguine of them have been known to choose veritable eyries for their building sites – Machu Picchu, Monte Alban, the craggy bastions of the monks' republic on Mount Athos, to mention only some familiar ones.

The tendency to build on sites of difficult access can be traced no doubt to a desire for security but perhaps even more so to the need of defining a community's borders. In the old world, many towns are still solidly enclosed by moats, lagoons, glacis, or walls that have long lost their defensive value. Although the walls present no hurdles to invaders, they help to thwart undesirable expansion. The very word urbanity is linked to them, the Latin *urbs* meaning walled town. Hence, a town that aspires to being a work of art must be as finite as a painting, a book, or a piece of music. Innocent as we are of this sort of planned parenthood in the field of urbanistics, we exhaust ourselves in architectural proliferation. Our towns, with their air of futility, grow unchecked – an architectural eczema that



defies all treatment. Ignorant as we are of the duties and privileges of people who live in older civilizations, acquiesce as we do in accepting chaos and ugliness as our foreordained fate, we neutralize any and all misgivings about the inroads of architecture on our lives with lame protests directed at nobody in particular.

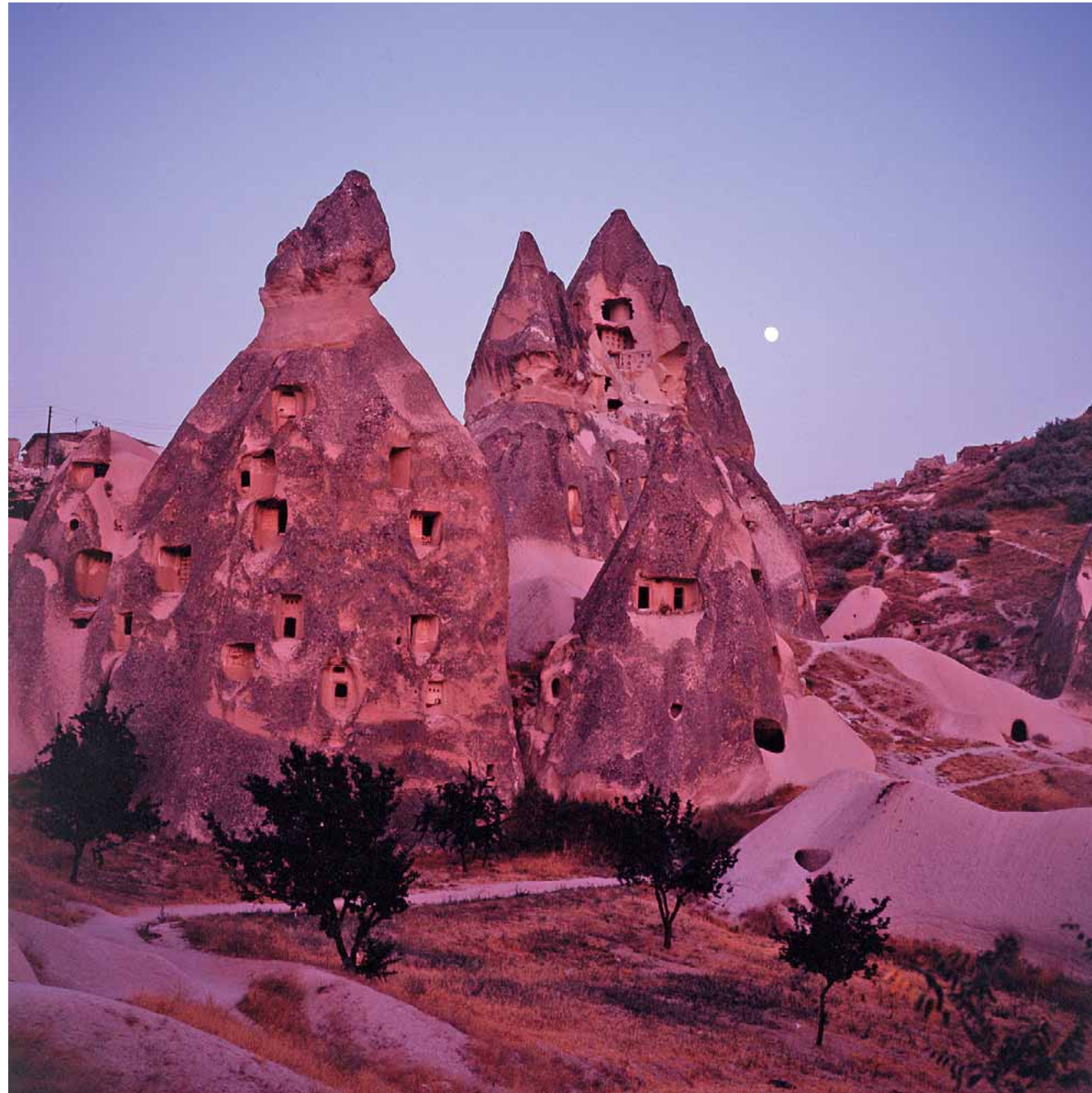
Part of our troubles results from the tendency to ascribe to architects – or, for that matter, to all specialists – exceptional insight into problems of living when, in truth, most of them are concerned with problems of business and prestige. Besides, the art of living is neither taught nor encouraged in this country. We look at it as a form of debauch, little aware that its tenets are frugality, cleanliness, and a general respect for creation, not to mention Creation.

To no small degree, this situation came about through the diligence of the historian. By invariably emphasizing the parts played by architects and their patrons he has obscured the talents and achievements of the anonymous builders, men whose concepts sometimes verge on the utopian, whose esthetics approach the sublime. The beauty of this architecture has long been dismissed as accidental, but today we should be able to recognize it as the result of rare good sense in the handling of practical problems. The shapes of the houses, sometimes transmitted through a hundred generations, seem eternally valid, like those of their tools.

Above all, it is the *humaneness* of this architecture that ought to bring forth some response in us. For instance, it simply never occurs to us to make streets into oases rather than deserts. In countries where their function has not yet deteriorated into highways and parking lots, a number of arrangements make streets fit for humans: pergole and awnings (that is, awnings spread across a street), tent-like structures, or permanent roofs. All are characteristic of the Orient, or countries with an oriental heritage, like Spain. The most refined street coverings, a tangible expression of civic solidarity – or, should one say, of philanthropy – are arcades. Unknown and unappreciated in our latitudes, the function of this singularly ingratiating feature goes far beyond providing shelter against the elements or protecting pedestrians from traffic hazards. Apart from lending unity to the streetscape, they often take the place of the ancient forums. Throughout Europe, North

From *Architecture Without Architects* by Bernard Rudofsky, copyright: © 1964 by Bernard Rudofsky. Used by permission of Doubleday, a division of Random Hous, Inc.

The Austrian architect **Bernard Rudofsky** (Vienna 1905 – New York 1998) worked as a consultant to the Museum of Modern Art New York in the 1960s. During his many research trips and in his studies all round the globe, he documented informal houses, residential buildings and settlements which cannot be classified in the classical canon of architecture. Rudofsky was considered a sarcastic critic of western architecture. As a visionary and pioneer, he recognised the artistic and cultural wealth of traditional peoples who were disrespectfully referred to as 'primitive'.



Left Indonesia: The houses of the Bajau on the coast of the island Sulawesi are made of mangroves. The roofs are covered with palm leaves. The people live from the cultivation and sale of sea algae.

Opposite Turkey: pointed rocks characterise Cappadocia's landscape. The rock is of volcanic origin and is therefore soft and easy to shape. There are fewer and fewer people living in the houses cut out of the rocks. In the fourth and fifth century, the main settlers here were Christian monks.

Africa and Asia, arcades are a common sight because they also have been incorporated into 'formal' architecture. Bologna's streets, to cite but one example, are accompanied by nearly twenty miles of *portici*.

Another alien type of the communal vernacular is the storehouse for food. In societies where food is looked upon as a divine gift rather than an industrial product, the architecture of granaries is solemn. So much so that to the uninitiated it suggests ecclesiastical buildings. Although small in scale, storehouses achieve monumentality, whether in the Iberian peninsula, in the Sudan, or in Japan. In view of their great stylistic purity and precious content, we have termed them quasi-sacral.

Apart from the High Vernacular – the sophisticated *minor* architecture of Central Europe, the Mediterranean, South and East Asia – and primitive architecture proper, the exhibition also includes such categories as architecture by subtraction, or sculpted architecture, exemplified by troglodyte dwellings and free-standing buildings cut from live rock and hollowed out. Rudimentary architecture is represented by wind screens which sometimes attain gigantic dimensions. In Japan they may shield, indeed, envelop a house, a hamlet, or an entire village. Of the architecture of nomads, portable houses, houses on wheels, sled-houses, houseboats, and tents are shown. Proto-industrial architecture includes water wheels, windmills, both vertical and horizontal, and dovecots, those vital fertilizer plants. Being 'contemptuous of ideas but amorous of devices,' we may find the mechanics rather than the esthetics of this architecture more to our liking.

We learn that many audacious 'primitive' solutions anticipate our cumbersome technology; that many a feature invented in recent years is old hat in vernacular architecture – prefabrication, standardization of building components, flexible and movable structures, and, more especially, floor-heating, air-conditioning, light control, even elevators. We may also compare the amenities of our houses with the unadvertised comfort of, say, some African domestic architecture that provides a respectable man with six detached dwellings for his six wives. Or we may find that long before modern architects envisioned subterranean towns under the optimistic assumption that they may protect us from the dangers of future warfare, such towns existed, and still exist, on more than one continent.

There is a good deal of irony in the fact that to stave off physical and mental deterioration the urban dweller periodically escapes his splendidly appointed lair to seek bliss in what he thinks are primitive surroundings: a cabin, a tent, or, if he is less hidebound, a fishing village or hill town abroad. Despite his mania for mechanical comfort, his chances for finding relaxation hinge on its very absence. By dint of logic, life in old-world communities is singularly privileged. Instead of several hours of daily travel, only a flight of steps may separate a man's workshop or study from his living quarters. Since he himself helped to shape and preserve his environment, he never seems to tire of it. Besides, he is largely indifferent to 'improvements'. Just as a child's toys are no substitute for human affection, to him no technical contrivance makes amends for the lack of viability.

Not only is the need for confining the growth of a community well understood by the anonymous builders, it is matched by their understanding of the limits of architecture itself. They rarely subordinate the general welfare to the pursuit of profit and progress. In this respect, they share the beliefs of the professional philosopher. To quote Huizinga, "the expectation that every new discovery or refinement of existing means must contain the promise of higher values or greater, happiness is an extremely naive thought. ... It is not in the least paradoxical to say that a culture may founder on real and tangible progress."

The present exhibition is a preview of a book on the subject, the vehicle of the idea that the philosophy and know-how of the anonymous builders presents the largest untapped source of architectural inspiration for industrial man. The wisdom to be derived goes beyond economic and esthetic considerations, for it touches the far tougher and increasingly troublesome problem of how to live and let live, how to keep peace with one's neighbors, both in the parochial and universal sense.

There is no place that reflects our personality as closely as what we call 'home'. Its basic functions – both physical and psychological – have remained virtually unchanged over the centuries, but its design and construction have become a task for professional architects and builders. It is a demanding task, as Jaime Salazar and Jakob Schoof argue in their article, which demands not only close cooperation between all those involved in the planning process, but also – possibly – new paradigms for the planning itself.

Following spread Apartment blocks in Hong Kong's suburbs. A shortage of development land and an ever increasing population led to population densities of up to 8 000 residents per hectare. The apartment blocks with the euphemistic name 'Harmony Blocks' rise tightly packed on foundations which are several storeys high and have roofs designed as theme parks.

Right Fritz Lang: *Metropolis* (Germany 1926). In his Science Fiction film, Fritz Lang paints the sinister futuristic picture of a society which manifests itself in the capital *Metropolis* where technology has gone awry. The upper class lives in almost paradise-like conditions while the labourers are considered inferior and vegetate in a type of underworld in the bowels of the earth.



HOMOH

HABITANS



THE NATURE OF DWELLING

Right With his vision of the 'primitive hut', Abbé Laugier gave expression to a desire – widespread in the 18th century – to recollect the roots of architecture. Although the primitive hut idea was criticized as being naïve by many contemporaries of Laugier, it is still regarded today as the best known symbol of the natural origins of all building.

Overleaf A Shoal of Jellyfish. Long gone are the times when man roamed around the land without a fixed dwelling. However, man's herding instinct has survived, even if the picture of the human has become increasingly more individualistic in modern society.



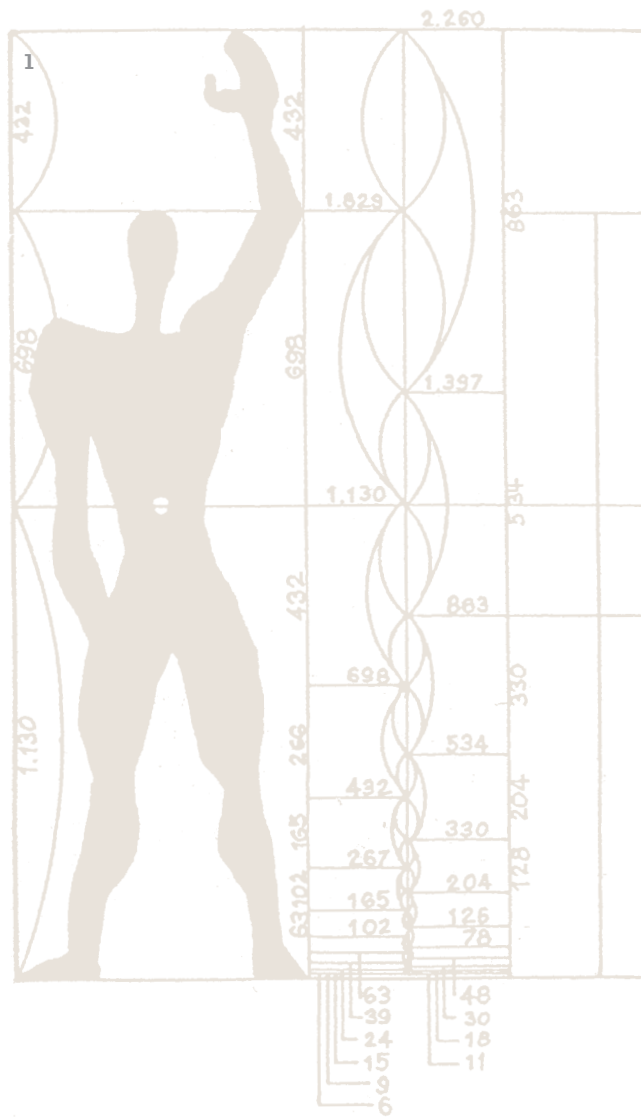
One of the most famous illustrations of the origins of architecture shows a cherub and a lady whose compass and a classical column identify her as a personification of the discipline. They both point back at a wooden structure, supported by four living trees, and covered by a gabled roof formed from their branches, twigs and leaves.

The illustration first appeared in 1753 in the *Essai sur l'architecture* by Abbé Marc-Antoine Laugier, a former clergyman and Jesuit monk. His theory about the 'primitive hut' as the origin of all architecture was a statement against the prevailing style of the time, Rococo, with its exuberant forms and luxuriant decoration. Contrary to this, Laugier's essay was a 'rappel à l'ordre', a call back to reason, modesty, and an attempt to link the current practice of architecture back to its origins, that is to nature itself.

Since antiquity, other prominent theorists had made similar deliberations on nature and architecture. In his *De architectura libri decem*, Vitruvius defined several primordial types of architecture (leaf huts, swallow's nests, and caves), that were imitations or adaptations of natural forms. Like Vitruvius, the Renaissance architects Filarete, Alberti and Francesco di Giorgio Martini pointed out the human body as the most important reference point for architecture in their treatises about proportions and construction. These thoughts all had a striking logic: We do not usually question the laws of nature, but accept them as given. So who would question any architecture that was based on natural laws and proportions? Even modernist architecture, often claimed to be ahistoric and unnatural in its shapes and relationship to the human

body, was based on laws of nature – this time, most prominently, the nature of materials that was to determine all construction and most of buildings' aesthetics. Nature, it seems, has become a rather flexible term, and it is surely one about which every epoch has had different connotations. What does the notion of nature mean to us, then, after the end of the Industrial Era and far into the Information Age?

Our contemporary relationship to nature is the result of a long history of increasing domestication and control. In prehistoric times, the duality of culture and nature as we know it today was nonexistent. Man was a part of nature, and he did not possess the means to control any but the most minute parts of his living environment. With the domestication of fire and with the first permanent human settlements, Man gradually



1. Le Corbusier: The Modulor (1947). Based on two basic measurements (1.83 metres – the human height – and 2.26 metres – the height of one's fingertip when one's arm is stretched above their head), Le Corbusier devised this measuring system based on the golden section for his buildings. In particular the *Unités d'Habitation* are marked by this rule, ranging from the overall proportions to the furnishings.

2. Future Systems: House in Wales (1994). From a distance the house located on the Welsh coast is almost invisible with the exception of a glass façade in which small porthole windows provide ventilation. The roof is turfed with grass and there is no garden. The house is a feature of the landscape, "an eye overlooking the sea", as the architects describe it. Inside, there is a single large room with an open fireplace in its centre. Two free-standing, brightly coloured prefabricated pods housing the bathroom and kitchen are also placed in this space.



began to change nature to meet his needs, and, ultimately, to design it in an artistic sense. By the end of the middle ages, 'natural' nature in most places in Europe had been completely transformed into cultural landscape. In the Renaissance, city walls fell, and in Italy, the first villas outside the city walls and the first major landscape gardening project were implemented.

The transformation of nature then took on a new quality, with the agrarian revolution being replaced by the industrial revolution. Landscapes were increasingly transformed

3. Frei Otto: House for Ted Happold (1995). The house, built of vegetating grid shells on the outskirts of Bath, was designed in such a way that it would not use fossil fuels. Instead, it uses three sources of energy: sun, geothermal energy and wind. Sun energy is gained via collectors mounted on the roof and a mast, a windmill on the house generates wind energy and a geothermal storage device provides warm air which is blown into the house.



4. Robert Bruno: Steel House, Ransom Canyon, Texas, USA (1978-2002). It would be possible to mistake the Steel House high over a canyon for a sculpture. The self-built house consists of hundreds of steel plates, all of which Robert Bruno welded together by hand. The slightly corroded interior is remotely reminiscent of one of Antonio Gaudí's vaults.

5-6. 'Landmark Houses', Lower Mill Estate, England (2005). The 'Lower Mill Estate' in the Cotswolds is Great Britain's largest nature reserve in private ownership. The investor Jeremy Paxton, who owns the land, is now planning to build 46 so-called 'Landmark Houses' based on the designs of international star architects. So far, designs have come from Will Alsop, Piers Gough, Eva Jiricna, Sarah Featherstone and Roger Sherman among others.



"WE OUGHT TO VIEW OURSELVES WITH THE SAME CURIOSITY AND OPENNESS WITH WHICH WE STUDY A TREE, THE SKY OR A THOUGHT, BECAUSE WE TOO ARE LINKED TO THE ENTIRE UNIVERSE."

HENRI MATISSE

lement, form and function, construction and decoration form an integrated whole. This unity is not only a result of centuries – old tradition and maturation, but also of the fact that vernacular houses are designed, built and decorated by the same people – which in turn means that the communication between designer, builder and dweller is of the closest kind we can imagine.

Specialisation in contemporary architecture, in industrialised nations at least, has become a reality in the building sector, and the vernacular approach to planning and

building has become an exception. None the less, even the planning of mass-produced housing could benefit if a similar closeness between all stakeholders, and the unity it generates, were integrated into the planning process.

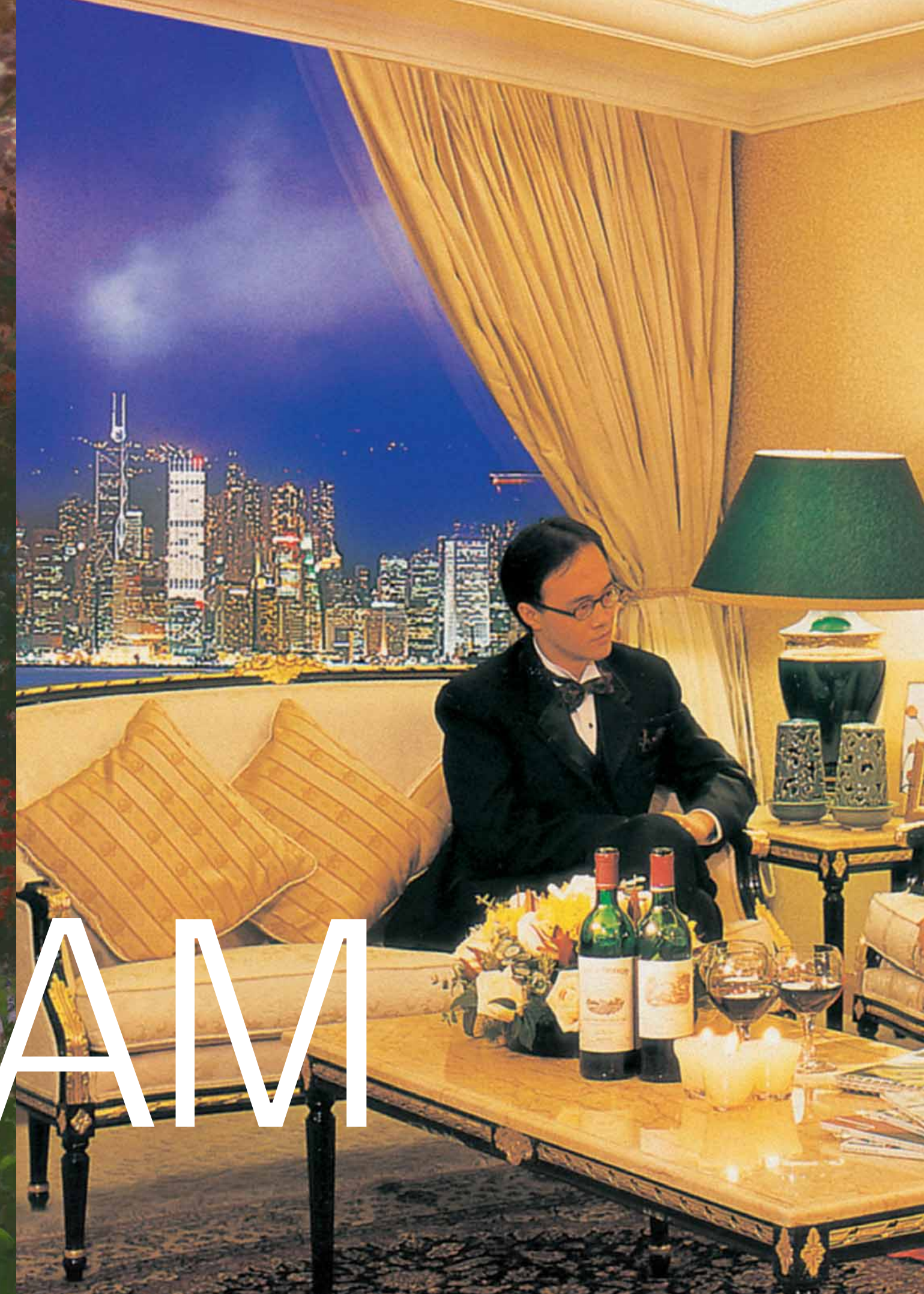


HOME



Victorian Autumn© 2005, by Thomas Kinkade, America's most collected living artist. According to his website, 'coming from a modest background, Kinkade emphasizes simple pleasures and inspirational messages through his paintings'. His paintings of traditional villages and old cottages are so popular that they have even become a paradigm for a 'real' settlement (see page 22).

DREAM



MY HOME IS MY CASTLE



7-8. The Village at Hiddenbrooke, California (since 2000). A village from a painting: The Village in California's Hiddenbrooke counts predominantly fans of the American painter of idylls, Thomas Kinkade, among its residents, since The Village is a reconstruction of the painter's motifs, right down to the smallest detail. There is a choice of four types of ready-made houses which the investor – who is a licence holder of Kinkade's company – has designed based on the cottages in his paintings.

9-11. Jakriborg in Sweden (since 1999). Jakriborg is a contemporary re-interpretation of a medieval Hanseatic town and has been developed by the Swedish Jakri AB in the densely populated plain between Malmö and Lund. Façades and the fitting-out of the town are based on the historic originals right down to the smallest details, however, contrary to the originals, Jakriborg has no access to the sea.

12. Sean Godsell: *Park Bench House*, Melbourne (2002). In Melbourne, which is 'the world's most livable city', according to advertisements, around 1.7 percent of its inhabitants are without a fixed abode. Architect Sean Godsell designed a 'park bench house' for Melbourne's homeless which serves as a seat during the day and as a mini shelter during the night.



13. Rob Krier, Christoph Kohl: *Citadel Broekpolder* in Heemskerk, Netherlands (since 2001). A new urban centre in the style of a Renaissance town, the Citadel Broekpolder is located west of Amsterdam. A characteristic of the development is its relative density with traditional streets and squares as well as a centrally located cultural centre with a tower. The development is surrounded by a water feature which emulates the course of a fictitious town wall.

14. Rob Krier + Christoph Kohl: *Brandevoort*, Netherlands (since 1998). *Instant History* in the south of the Netherlands: Rob Krier's first neo-traditionalist town planning in the Netherlands depicts the growth of the small town throughout the ages. It is for a reason that Brandevoort's town centre bears the nickname *Veste* (=fortress), as it is completely surrounded by a moat. The centre of the small town is a market hall which is on the bank of an artificial pond.



describe in words, but vividly reflecting our own personality. Slowly, over the years and layer by layer, with furniture, decoration, beloved bric-a-brac and cherished memories, we create ourselves a home within our house. According to Juhani Pallasmaa, "home is not, perhaps, at all a notion of architecture, but of psychology, psychoanalysis and sociology". Pallasmaa also describes the essence of home as "a mirror and support of the inhabitant's psyche."¹

As such, a home has to play a threefold role. It acts as a shelter that protects us from the world outside. The more disharmony that life away from home exerts on us, the more we need a home to 'fall back upon'. In his book *Sesame and Lilies* from 1865, John Ruskin makes an observation that is still valid today. He writes: "This is the true nature of home – it is the place of Peace;

body care, family life with all its small dramas and moments of happiness, take place in our homes in the most literal sense. It is clear therefore that the task of providing people with a home demands immense skills and an intimate knowledge of a client's personality from an architect. A place that deserves being called 'home' can only come into existence through a close cooperation with the inhabitant, as Jacob Berend Bakema observed: "We should prepare the dwelling only up to the point at which the individual himself can participate. We want to create a framework in which man will again be master of his own home, his own personal sphere, within the universe."³

Thirdly, a home is a place for harmony and the storage of memories, most noticeably in old houses where countless fine layers and filters of dust reflect what people

unpleasant memories. According to Bachelard, both are needed for our well-being.

As mentioned, a home is far more than just a shelter with four walls and a roof and the geometric space in between. Much 20th century architecture on the other hand – especially post-war modernism – has primarily been concerned with the construction of walls and roofs and the spaces in between. Its design and construction were determined not by the dweller's needs but by the Fordist principles of standardisation and efficiency. As a result, a widespread scepticism has arisen about the ability of modern, mass-produced architecture to provide us with a true 'home'. We seek security, reliability and happy memories in buildings whose iconography has been in use for centuries, and in neighbourhoods with a human scale, human proportions, and a transportation network

based on human (i.e. walking) speed. New Urbanism, a movement that many of these concepts adhere to, started in the USA in the 1980s. Originally, New Urbanism did not intend, and according to New Urbanists still does not intend, to promote specific architectural styles but an urbanistic attitude that promotes human scale, 'walkability' and communal activities as an alternative to the car-friendly, anonymous neighbourhoods of the post-war period. The following excerpt from a speech by HRH the Prince of Wales explains the underlying principles: "I sought at Pound-

planners have coined the term 'simultaneous engineering', the Disney company uses the word 'imagineering' (from 'image' and 'engineering') to describe a strategy that has its roots in the first Disney theme parks from the 50s: a large number of specialists in different fields – architects, civil engineers, marketing specialists – work closely together from the very first planning stages onward, with the goal of providing the later inhabitants and visitors with an experience as intense as possible. Having said this, it must be stressed that New

It is often claimed that, with its many rules, New Urbanism restricts the individual inhabitant's personal liberty. Furthermore, it may be questioned whether New Urbanist schemes really achieve the healthy social mix that its planners aimed for. 'Pepperpotting' affordable housing and market-rate housing is a noble intention, but it is hard – and much harder than the inventors of New Urbanism had hoped – to achieve in practice. One of the reasons is the immense popularity of the neighbourhood. In Seaside, Florida, the oldest New Urbanist settlement in

tribution of numerous specialists from the most diverse fields in order to simulate history as perfectly as possible. The question remains, however, as to whether history, with its slow process of maturation by trial and error, can be replaced by master planning; and whether a team of experts can emulate the 'non-expert' approach to architecture that vernacular builders had for centuries when they built for themselves.

bury, therefore, to create an example of a mixed-use, pedestrian-orientated community that reflected local character and local tradition. [... Poundbury's] lessons are simple: a network of legible, interconnected streets that accommodate the car while celebrating the pedestrian, the centrality of the walkable neighbourhood as a building block, accommodating work, play, shopping and living in a harmonious way; the 'pepperpotting' of affordable housing and market-rate housing; and, finally, the reliance of traditional urbanism, local vernacular architecture and natural materials to restore a sense of harmony, proportion and, above all, something called 'beauty' to day-to-day life."⁴

The planning strategies for New Urbanism, themed neighbourhoods bear different names from country to country, but are based on the same approach. Dutch city

Urbanism does not merely replicate old communities. It combines their appearance with modern amenities – both in terms of technical outfitting and in terms of spatial planning. Parking lots, for example, do exist in New Urbanist schemes – they are hidden away in the interior of urban blocks. This apparent lack of 'truth' and 'honesty' is frequently raised as a point of criticism against neo-traditionalist neighbourhoods. However, in a sense, it only reflects the schism between past and future, between romanticism and pragmatism that is in our minds. We adapt to new technology very easily and like have it in our homes – from the PC to the ubiquitous TV. On the other hand, we still feel a strong romanticism for the living environments that surround us, and like to express this romanticism by 'dressing' our homes accordingly.

the USA (and since the movie *The Truman Show* now one of the most famous) house prices have increased ten-fold since the 80s. Apartments are sold at prices comparable with those in Manhattan.

There are other, equally noble objectives of New Urbanism that have proven difficult to achieve. The movement started out as an alternative to urban sprawl; and yet many contemporary neo-historic settlements have become examples of this very phenomenon – because market-driven economy makes it more affordable to build new houses in suburbia than in city centres. Although urban infill and urban repair were among the overriding targets of New Urbanism, many neo-Classical or neo-medieval neighbourhoods start with exactly the same clean slate situation as their modernist counterparts did. Their planning approach relies on the con-

THIS IS THE TRUE NATURE OF HOME – IT IS THE PLACE OF PEACE.

JOHN RUSKIN, 1865

¹ Juhani Pallasmaa: *Identity, Intimacy and Domicile*, published in: *Arkkittehti – Finnish Architectural Review* 1/1994
² John Ruskin: *Sesame and Lilies*, New York 1891, p. 136f.
³ J.B. Bakema: *Thoughts about architecture*. London 1981
⁴ Speech by HRH the Prince of Wales on accepting the National Building Museum's Vincent Scully Prize, November 3, 2005



Room service in a high-rise apartment building in Hong Kong. The photo in an advertising brochure shows what investors (and many occupants) feel to be their ideal picture of living. The quality and service of the dwellings correspond to those of a luxury hotel, and monitoring systems keep undesirables far away from the residential complexes.

INTERVIEW WITH ALEXANDER ASADOV



In the last 15 years, the Russian housing construction business has completed the change from a state-owned industry to a free market. To what extent has this resulted in the adoption of new architectural values as well? DAYLIGHT&ARCHITECTURE talked to Alexander Asadov, one of the leading architects in Russia, about state regulation, ecology and the weakness of many Russians for historicising styles of architecture.

Mr. Asadov, in your essay 'Alexander Asadov's Credo', which you publish on your homepage, you write that in your country independent creativity has existed since the mid-1990s. What design leeway did architects have before this, at the time of collective building in the UdSSR?

There are two kinds of restrictions: on the one hand, restrictions relating to the specific historical, architectural, economic and social aspects of a project. If these restrictions exist as general parameters from the very beginning but the architect can still make free choices in order to achieve his particular goal, then they are understandable as such and are a form of self-restriction. During the Soviet period, unfortunately, the main restrictions concerned the way in which the architect's goals were achieved. They related to materials and constructions, to planning activity or simply to compliance with fire protection regulations.

The conditions that we had to cope with at that time are now difficult to imagine. I would therefore like to emphasise once again: there will always be restrictions. For instance, the city in which we build imposes restrictions on us because neither in urban areas nor anywhere else is there absolute freedom. But on the other hand, if an architect wants to achieve his goal, he must not be restricted in his use of the instruments that are available.

How has Russian housing construction changed since the end of the UdSSR?

There is a rising demand for detached houses, especially in and around Moscow. In the area surrounding the capital, this trend was detectable at an even earlier stage. On the outskirts of Moscow, we have built a series of very large estates of detached houses for single families and the number of orders has made it clear to us just how strong the sector is moving at present. Unfortunately, detached houses are still very expensive and the costs of upkeep are higher than in many other countries. This is due to such factors as the climatic conditions, the heat loss and the still fairly modest possibilities of saving energy. Due to our continental situation, we also have a rougher climate and colder winter than northern Europe.

In addition to this, there is a strong tendency to cling to the industrialised

concrete-block method of building. In a megapolis such as Moscow where private building projects account for a large proportion of the overall construction volume, success has been achieved in developing the concrete-panel construction industry. This mainly relates to the building of state-supported home construction and, to a less extent, commercial home construction. Commercial developers are buying formerly state-owned production facilities and are successfully introducing progressive and flexible industrial methods of building.

Is the construction of estates composed of detached houses increasing in the areas surrounding large cities in Russia? To what extent is this associated with dissolution, privatisation and individualisation of the community?

There is a clearly recognisable dissolution effect. The lack of homogeneity in society is shown, for example, by the expensive buildings and housing complexes which are being created next to the very cheap and traditionally poor districts on the edges of large cities. In view of the social class difference, extensive security measures are being taken with barbed-wire fences and guards. This underlines the strong differentiation that is taking place. Those who in the West are designated as middle class are only a small percentage here in Russia and are among those who can afford to build cooperative and detached houses.

How individual is the housing market in Russia in reality?

The great progress in architecture is the result of individual orders. This is an area in which, above all, young architects can make a mark for themselves. It is also the area which is least regulated by regulations which require that approval is obtained before a project is implemented. One result of this development is the continually growing number of glossy magazines, which contain many illustrations of first-class buildings. The national prize of ARCHIP, one of the most prestigious national prizes in the area of architecture, is also awarded for private construction projects.

Moreover, a large number of orders from cooperatives for multi-storey buildings in cities are going to private planning offices. Each investment project is set up in such a way that the share of the city, which

includes the land and the infrastructure for the builder, amounts to over 30 per cent of the overall costs. There is also a subsidy from the state, with the rest being generated from investments and private money. And this money is visible – in both the city and the architecture.

Ten to fifteen years ago, when things began to change, one had the impression that the former state-controlled project-planning institutes had simply ceased to exist as the flow of funds from state sources of finance slowed down considerably and the number of privately planned projects started to increase at a fast rate. Now that the amount of available finance has increased, a certain equilibrium has been established.

Understandably, only the fittest survive in the private planning sector. The legislation, which has not sufficiently taken root, unfortunately allows some architects to occupy influential government positions and, as a sideline, to operate private planning offices. Things like this are possible in Russia. At the same time, really strong architects' offices are able to win the struggle to survive and are developing themselves successfully whereas some project-planning institutes have re-oriented themselves and have changed over from one-sided design-related work to a wider range of services. The institutes which have survived are above all those that have specialised in planning the technical side of projects belonging to other architects. The technical planning disciplines are currently in great demand on the market.

In an ideal case, it is possible to set up small, flexible design offices which deal with the creative part of projects as well as structured large companies which elaborate and handle the details of such projects. This symbiosis is entirely possible in the current situation.

How great is the influence of politics on the Russian building sector – either due to legal regulations or unofficial prescriptions?

Nowadays, the influence of legal stipulations is no longer especially great. At the time of state-organised building, legislation exerted a powerful regulatory influence. There was an enormous state apparatus, the Gosstroj (a committee dealing with all questions of building in our country), as 80 to 90 per cent of building was financed from state funds. The pri-

vate building sector was exceptionally modest.

The Gosstroj now no longer exists but the architects have not yet really noticed this. State legislation has been replaced by strong regional regulation. This means that there are now local legal requirements and local standards which regulate the building industry. The number of local offices which have to be consulted and whose stipulations have to be complied with for a project is growing catastrophically. The result is that the planning costs are burgeoning. This is one of the reasons why no well-known architects can find their way around here or work in our 'jungle'. In addition, the Russian building-approval procedure prescribes that Russian government offices always supervise each project.

Neo-historical forms of building are very popular in Russia. To what kind of 'past' do these architectural styles relate?

In my opinion, this is also a well-known problem in the west. People have roots and, with regard to where they live, need to have a reference point of stability in a world which is changing rapidly. As always with us, there are certain special factors. Russia has lived through some turbulent changes in architecture. Everyone is familiar with the Russia at the beginning of the century as the birthplace of constructivism. After this, there was a considerable period of historicism which lasted 25 to 30 years and was referred to as Stalinist architecture. Like socialist realism in painting, it is today evoking a great deal of interest because it was a good school for professional architects. In the course of the subsequent massive industrialization of building, a modern architecture was created in which the craft of architectural design was quickly lost.

In Russia today, there is only a handful of architects who design in the historical style and do so in a living and creative manner. This is possible and the work of such architects as Filippov, Utkin, Brodski and Barchin has shown that the historical school of architects has a certain perspective on its existence as a credible trend in art.

At the same time, a flood of computer-aided designs has broken loose, which we call 'without a tsar in the head'. It is a kind of designing which plays with citations of different

styles, whereby the architect himself is frequently unable to judge what kind of style it is and how its elements are to be combined. This is a unique and special area of the art, namely eclecticism. If, however, the demand for a particular style grows and if the possibilities exist in the form of databases and catalogues of architecture but there are no schools of ability and professional learning, then there is simply a gush of something indeterminate which is reminiscent of historical architecture. It is a shame.

At the present time, many projects in Russia are being planned in the historical style and this practice is being supported by regional and local authorities in many respects. This underlines the widespread need for solidity and stability – and, accordingly, for artificially increasing the age of one's own city, even if it is still young.

Does Russian neo-historicism reflect a deep-seated need for security, and perhaps for sentimentality, on the part of the population? And to what extent does the interior of homes match the backward-looking appearance of the outside?

Let's deal with the second question first. There are impressive cases where the outside and the inside do not match each other. In our practice, we have had projects in which there was a complete imbalance between the avant-garde outer form of the house and the interior design. On the other hand, there are prestige complexes erected in the neo-historic style, whose occupants have surrounded themselves with modernistic or even minimalist interior solutions.

As regards the first part of the question, namely neo-humanism, its roots do not lie in security and sentimentality but in a quite specific, false idea of the prestige, significance and status of the object. The measuring scale for this changes only gradually and very slowly in the consciousness of society.

How high, in your opinion, is the general ability of your fellow-citizens to judge architecture competently?

A small percentage of the population today knows quite a lot about architecture, have seen some good examples of western architecture and would like to live in modern homes. This is a natural process which, in many respects, depends on the spe-

cialists involved, on criticism and on the general architectural situation which generates interest in this area. In this respect, I am very optimistic and hope there will be a long process in one direction. More and more magazines will appear and the number of investors who understand that good architecture is more expensive than bad architecture will increase continuously. The standards of evaluation for architecture will continue to develop in the consciousness of the public.

Is ecology, in general, an issue in Russian architecture or is it only an afterthought which is added at the client's request?

Up to now, ecology has not been seriously demanded by clients. There are certain formal state regulations regarding environmental protection but they are regarded by everyone, including the clients, as irritating obstacles which slow down the building process. People are only gradually getting used to the idea that they should build with environment-friendly materials. For most people, in any case, ecology is not a real design criterion. This, no doubt, has something to do with the conception that our natural resources are inexhaustible. The intellect recognises that there are limits to everything and that the efficient use of resources is a question of justice between generations. But this realisation is not anchored in the hearts or upbringing of either the population or specialists.

What meaning does nature have for you if you build in a city like Moscow where there are millions of inhabitants?

We observe how Moscow's green areas are shrinking like Chagrin leather. This is a somewhat painful but inevitable process. There have been projects which we planned in existing green areas where we suggested that the loss of green area should be compensated for by planted roofs. But we were unable to convince any clients that they should use this as an ecological factor that could enhance the image of the object in question. Unfortunately, life does not force clients and people to take the matter seriously and the authorities only pay attention to the prognosis and evaluation of ecological damage, without forcing the investor to bear the costs of protecting the environment.

THE CELL AND ITS METABOLISM

This page Greg Lynn FORM: Embryological House®™ (1998). According to Greg Lynn's concept, one single computer algorithm generates an infinite number and variety of new houses which can be adapted to the most diverse surroundings and climates.

15. Kalhöfer – Korschildgen: Fahrt ins Grüne, Remscheid (1997). The clients – both journalists – wished to add another study to their timber-framed house. Gerhard Kalhöfer and Stefan Korschildgen designed a mobile and light-weight extension on tracks which can be pushed sideways into the garden in summer to free up the patio for other uses.

16. N55: Spaceframe & Floating Platform (1999). N55's Spaceframe is a modular, light, low-cost living unit for three to four persons. The wall structure consists of regular tetrahedrons which make the dwelling look like a crystal. A platform attached to jetties or boats turns Spaceframe into a floating island.

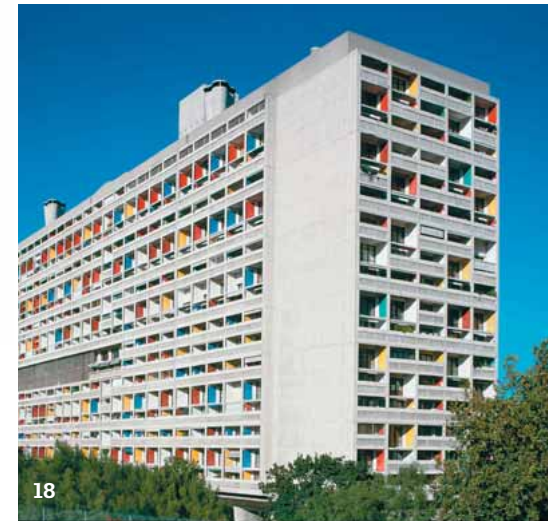
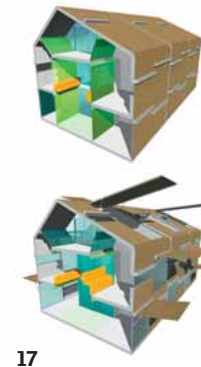
17. Kalhöfer – Korschildgen: Zwischen-Räumen, terraced houses for Salzburg (2002). The architects designed all external and internal walls as mobile rolling shutters. The central hall is conceived as a flexible, adjustable inter-space, which can be linked up to the adjoining rooms as desired. In addition, the house opens up to the outside in any desired combination.

18. Le Corbusier: Unité d'Habitation in Marseille (1946). A whole town under one roof: with its integrated shopping mall, a gymnasium, a swimming pool and a playground on the roof, Le Corbusier's Unité housing around 1 500 inhabitants was planned as a self-sufficient unit. Even the range of dwellings with 23 different types measuring between 32 and 137 m² is reminiscent of a small town.

The search for a 'cell' or capsule that constitutes the smallest inhabitable entity, and its adaptation to ever-varying human requirements have stimulated architectural imagination throughout the last century. The floor plans of houses before the rise of modernism were largely determined by social and representative needs. Apartment houses tended to be designed from the outside in, the facade being considered more important than the ground plan. In middle and upper class apartments, the semi-private living spaces, which served to display social

ridors, but had 'to design a framework for living, the forms of life itself.'⁵ To be able to do so, the scientists concerned themselves with the processes of living. Graphical methods were developed to track the user's movements through his home and subsequently to minimise them by grouping the spaces together differently and by eradicating residual spaces. The old living kitchens, for example, were replaced by minimised, functional spaces in which all elements were positioned ergonomically - but they were mono-functional, useable by only

all interior walls in the upper floor are retractable, enabling the space to be used either as four separate rooms or as one single, amply daylight space in which the water closet is the only fixed and enclosed element. More recent approaches, some of which are shown in this article, include prefabricated housing kits whose parts move, twist and turn to provide ever-varying combinations of functional programmes. After 85 years of experience, however, it seems questionable whether these approaches – often academic – have really been accepted. It appears that



status, were generally oriented towards the front of the house, whilst the private bedrooms and children's rooms, as well as the services, were generally at the back or in the centre of the house, thus indicating their secondary status.

With the advent of modernism in the twenties, a paradigm shift took place. Living spaces were no longer arranged according to social or representative needs, but according to their physical uses, and in turn determined the outward appearance of a house. Inspired by the reformist intention to build dwellings for the subsistence level, a true 'science of floor plans' started to emerge, searching for objective conditions of living that could be generalised and turned into normative values. Floor plan scientists claimed that an architect had not only to think in terms of rooms and cor-

one person at a time and left little space for change and coincidence.

Critical responses to the 'one size fits all' attitude of functionalism were not slow to emerge, as architects realised that they could not design lifestyles as such but only a spatial framework within which they could flourish. The modernist optimism that technological progress would eventually lead to greater equality in living conditions was not generally shared, as many architects feared it would lead to a minimal common denominator in housing standards which left too little room for the individual.

One approach to the demand for more spatial and functional flexibility was the use of sliding partition walls, which were widely used by architects such as Gerrit Rietveld, Mies van der Rohe and Le Corbusier. In Rietveld's Schröder House in Utrecht,

'mobile' living and the potential it offers does not have a great impact on our everyday living. Even our furniture has become more or less static. If major spatial changes in our homes become necessary, we rely on one-off refurbishment rather than spatial changes on a day-to-day basis.

A second approach aims, therefore, at enabling buildings to grow, shrink and change their functions over time according to user needs. The notion of growing and shrinking houses is commonplace in vernacular architecture, including modern vernacular. In many areas of the world, semi-finished houses that have been inhabited for years are not an uncommon view. Often their ground floors are already in use while the top floor is still unfinished. The cultural evolution of housing from the purely practical into the aesthetic and represent-

⁵ Gustav Wolf: Die Grundriß-Staffel. München 1931

⁶ Juhani Pallasmaa: Identity, Intimacy and Domicile, published in: Arkkitehti – Finnish Architectural Review 1/1994

⁷ Udo Kraft, Das mitwachsende Haus, in: Fezer/Heyden: Hier entsteht ..., Berlin 2004

⁸ Nicolaas John Habraken: Die Umsetzung einer einfachen Idee, in: Fezer/Heyden: Hier entsteht ..., Berlin 2004

ative realm, however, has led most dwellers to prefer buildings that look 'finished' right from the start, but still with the freedom for later changes. Architects often tend to neglect such freedom: With the 'Gesamtkunstwerk' as the predominant ideal in mind, houses are designed in a way that they will only suffer aesthetically from later additions. Frequently, they are designed for just one moment in time – their completion, before the inhabitants move in. According to Juhani Pallasmaa, "[...] in our role as architects we aspire for a meticulously artic-

beginning, but with the end in mind – that is, they have to be large enough to cope with the maximum size that the house is likely to attain. Additionally, if this concept is not to end in an enormous amount of landfill, building elements have to be easily and cleanly separated into components that are either recyclable or biodegradable.

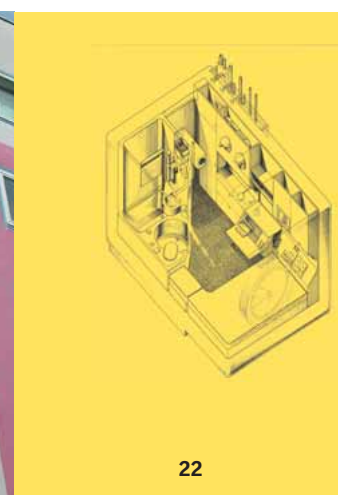
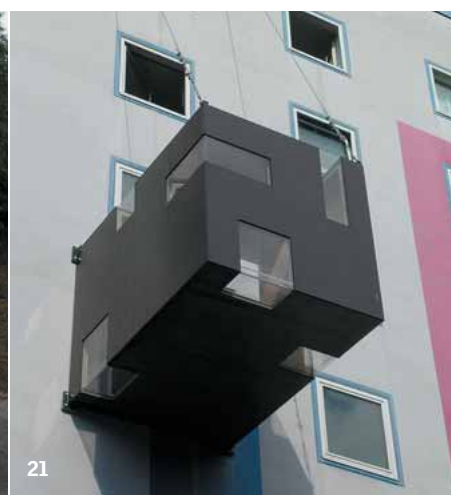
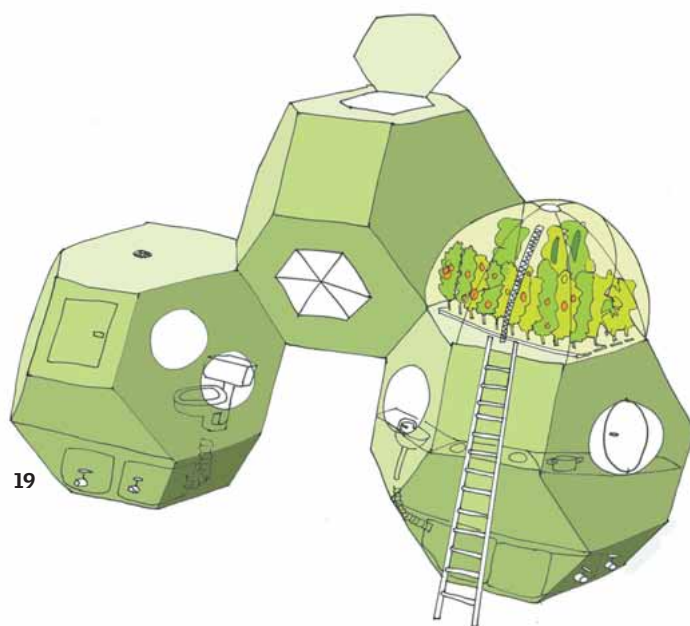
If all these requirements are fulfilled, it should not even be a problem to take our house with us if we have to move. It has been estimated that in a country like Germany, the cost of moving your completely disman-

ern architecture had become academic: It had seized power, but had lost its virtues. More than anything it isolated itself in artificial and autistic techniques. A new fascination arose from the rich variety with which a network of social groups can leave its marks on a site." Concepts like Constant's 'New Babylon', Yona Friedman's 'Spatial City', Archigram's 'Plug-in Cities' or Eckard Schulze-Fielitz' 'Raumstadt' were all based on the duality of a supporting framework and infrastructure, which was provided by public institutions and planned by architects, and

Due to the high complexity of planning processes, architects who frequently moderated projects with a high degree of user participation were among the first to experiment with new, computer-aided planning tools. Today, electronic information and communication technologies have made user participation possible in a wide range of industries. Mass customisation has been adopted, for example, in the furniture, computer and car industries. The most successful example of mass customisation is probably the Internet itself, where every user selects his own infor-

mation or entertainment programme from the almost infinite number of resources available. In the housing industry, however, a common international standard such as HTML is still lacking. Researchers such as Kent Larson of MIT advocate for a 'meaningful customisation' that follows the model of Open Source software, where every user can read the source code of a programme and improve or alter it according to his/her individual needs. In architecture as well as in Open Source software, this improvement work will demand a high degree of knowl-

edge on the part of the user. As users frequently find it hard to clearly express their own preferences, Kent Larson and his co-workers have designed a 'preference engine' that reveals people's needs and values, and a large number of different 'design engines' that each emulate the style of a particular architect. Moreover, Larson is even devising 'computational critics' that provide the user with expert feedback on the choices they make during the planning process.



ulated and temporally one-dimensional environment, whereas as dwellers ourselves, we prefer a more layered, ambiguous and aesthetically less coherent environment." ⁶

The concept of a 'growing' house does not necessarily require cutbacks on aesthetics, but a different concept of aesthetics that can cope better with change and coincidence. Moreover, the construction of growing houses will be entirely different from the way we build our houses today. The interconnections between building elements have to be rigorously simplified, made reversible and standardised in such a way that other elements that fit with the old ones will still be available in 20 or 30 years' time. An exterior wall may have to be turned into an interior wall later on, so cladding and insulation have to be removable. Foundations and heating systems must be planned in the

tleable house 500 or 600 kilometres would be lower than that of selling the old house and buying a new one elsewhere. ⁷

A third possible approach is based on user participation in the planning process. When Mies van der Rohe refrained from predefining any spaces except for the bathroom and the kitchen in his apartment building at the Weissenhof building exhibition in Stuttgart in 1927, he did so because he was convinced that there are certain spaces in a home that cannot be designed by experts, but only by the inhabitants themselves and by those in close dialogue with them. In the 1960s and 1970s, self-build processes were considered an expression of grass-roots democracy and user empowerment - and a counter-movement to the predominant functionalist approach in architecture, of which Lucien Kroll says, "It was the time when mod-

a multitude of temporary 'infills' that constituted the dwellings themselves and were designed by the residents according to their individual needs. It was the Dutch architect Nicolaas John Habraken and his 'Stichting Architecten Research' (SAR) that turned this idea into material reality for the first time. Their system SAR was based on multi-storey, reinforced concrete supports and light infills that were suitable for a self-build process. In a recent interview, Habraken reported that he had to overcome severe scepticism among planning experts who were determined to define the 'ideal' home down to the last detail: "I am not a political person, but I realised that I was demanding that other architects change their way of work and hand over some of their power. And I had to learn that precisely this always raises engenders fierce resistance." ⁸

"THE ARCHITECTURE OF METABOLISM WAS BASED ON THE IMAGE OF THE LIVING CELL. THAT IMAGE ENCOMPASSES NOTIONS OF GROWTH, DIVISION, EXCHANGE, [...] TEMPORARINESS, RECYCLING, RINGS, AND A DYNAMIC STABILITY."

Kisho Kurokawa

19–20. N55: Micro Dwellings (2005). The miniature capsule house by the Danish architects N55 is welded together out of steel plates like a ship. Its interior consists of only a few mobile elements which fulfil a range of uses during the course of the day. N55 do not manufacture the micro dwellings themselves, but offer building instructions (so-called 'manuals') on the internet for self-construction.

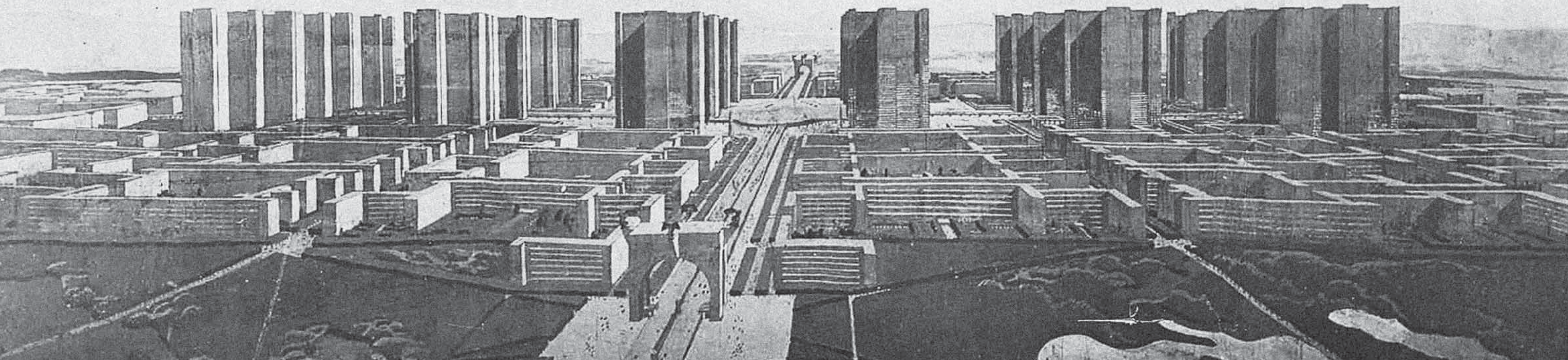
21. Stefan Eberstadt: Rucksack House (2002). Nine square metres of additional space that can be attached to any building

which is strong enough to support it: Stefan Eberstadt's Rucksack House is an architectural 'parasite' which can find itself a new host at any time. Entry is through a window of the house.

22–24. Kisho Kurokawa: Nakagin Capsule Tower, Ginza (1972). 140 capsules including their interiors were prefabricated in a factory, hoisted into place with a crane and attached to the concrete core of the building on the construction site. Even today the capsules, measuring 10m² (4.0 x 2.0 m) each, are used as both apartments and offices.

Le Corbusier: Ville Contemporaine (1922). With his first large-scale vision of a city Le Corbusier painted a picture of the 'opened-up, green town' which was to occupy the minds of generations of modern architects after him. The centre of the town for three mil-

lion inhabitants consists of 24 apartment blocks each 60 storeys high. They are surrounded by six-storey apartment blocks, the so-called 'redents'. On the outskirts his plans showed sparsely built-up garden towns for another 2 million inhabitants.



WE MUST CREATE THE MASS-
PRODUCTION SPIRIT.

THE SPIRIT OF CONSTRUCTING
MASS-PRODUCTION HOUSES.

THE SPIRIT OF LIVING IN MASS-
PRODUCTION HOUSES.

THE SPIRIT OF CONCEIVING
MASS-PRODUCTION HOUSES.

LE CORBUSIER, *VERS UNE ARCHITECTURE*, 1923

NEW PARADIGMS FOR MASS PRODUCTION

The origins of housing prefabrication were somewhat utilitarian and little concerned with customisation or with the dweller as an individual. The first buildings to be mass-produced in Europe were military barracks. In America the civil housing sector also had a long history of mass production. In his 1923 *Vers une architecture*, Le Corbusier advocated the industrialisation of the building sector with the seminal words:

develop the mass-production spirit in the 1920s and 1930s. Since mass production involves not only a rationalisation of production itself, but also of the planning process, architects soon started to lose influence and interest. A sort of two-class architecture emerged, in which only a minority of buildings – public, cultural and office buildings as well as private houses for the affluent – were designed by architects. The great majority of housing was left to the construction companies, to be built according to standardised plans, with standardi-

ween client, architect and builder, in which all parties are well-informed, willing to communicate and have their fair share of influence in decision making. As mentioned here, the ideal has become the exception rather than the rule. Often, one or two parties – the client, the architect, and sometimes even the professional builder – are excluded from the process. Communication, the very factor that constitutes a measure for progress, is no longer considered a necessity.

But could manufacturers of catalogue homes, architects and suppliers not learn

value or non-value of life itself and define the meaning of life.”⁹ Schulze points directly to one of the core competences of architects: enhancing spaces by providing them with experiential value and functional flexibility. It seems logical, therefore, that architects should play a natural part in the new mass-production of homes. If we – investors, architects, builders, suppliers, and clients – increase our capacity of mutual learning from each other, our physical environments can only improve in the future.



25. IKEA/Skanska: BoKlok (since the mid 1990s). Translated literally, BoKlok means 'smart living'. The housing concept was developed in the mid-90s in a collaboration between IKEA and Skanska and has, in the meantime, been exported to five countries. Prices start at €500 per square metre of living space, making the apartments slightly more expensive than a middle-class car.

26–27. BoKlok embraces two types of houses: the single-family house 'Villa BoKlok', which has so far only been offered in Sweden, and two-storey multiple family

blocks with six apartments each. Together with the apartment, each client receives a voucher for €300–€400 and a two-hour consultation session on interior design with IKEA.

28. 'Continental Homes' shortly before delivery, Nashua, New Hampshire, USA. Caravans, which first appeared in the USA in the 1920s, soon developed into the mobile homes as we know them today. As a rule, they are only mobile once in their life, i.e. when they are towed from the factory to their final site.



*We must create the mass-production spirit.
The spirit of constructing mass-production houses.
The spirit of living in mass-production houses.
The spirit of conceiving mass-production houses.*

In fact he was only calling for what had become a reality in North America decades before – 'catalogue housing' based on the balloon-frame construction technique (for example, by Sears, Roebuck & Co.) that had been in use since the mid-19th century. The high-speed construction of entire cities such as Oklahoma City in April 1889 was a powerful demonstration of what prefabrication could achieve. A contemporary report relates, "At noon on April 22, 1889 [...] there was nothing on the site of Oklahoma City but a railroad station and a few wooden buildings. By nightfall a tent town of about 10,000 persons had sprung up." Four weeks later, only the 'balloon frame city' was fully erected, consisting mainly of one-room prefabricated huts.

Le Corbusier's vision soon became a reality in Europe, too. Architects were quick to



sed components, and very little influence by architects.

In the Information Age, the housing industry has taken the next step of standardisation – to a world-wide proliferation of floor plans, independent of site, context, client or contractor. E-businesses have been set up where coming house-owners can buy the construction drawings of their own personal dream home, with styles ranging from neo-colonial to modernist, and sporting up to seven bedrooms and five garages. One set of standard blueprints costs between 500 and 700 dollars – with no architect's fee. All the prospective house-owner has to do is visit his local building contractor with the plans and let him build it.

The classic ideal on how a house should be planned and built – at least among architects – involves a triangular relationship bet-



a great deal from each other? And with their joint expertise could they not develop homes that not only fulfil their function, but are linked to context, culture, time, and flexible enough to adapt to the dweller's needs? There is a widespread understanding that a conglomerate of standardised building parts, assembled according to uniform plans and dressed in appliqué ornaments, is not sufficient to make a house a 'home'. As a consequence, interest among investors and manufacturers to work closely with architects has risen again. With economic growth and cultural evolution, residents have become more demanding. They ask for homes that provide a framework for their self-realisation. The demand for experiences, writes the sociologist Gerhard Schulze, "is moving from the periphery to the center of personal values; they become a measure for



29. Apartment blocks in Hong Kong. The apartment blocks with the euphemistic name Harmony Blocks rise tightly packed on foundations which are several storeys high and have roofs designed as theme parks. Life in the streets is non-existent and monitoring systems keep undesired intruders away from the development.

⁹ Gerhard Schulze: Die Erlebnisgesellschaft. Frankfurt/Main 1997

In his drawing *The Three Magnets*, Ebenezer Howard, the founder of the garden-city movement, points out a duality that is still relevant in our days: We like to live in the countryside, close to what we consider nature, on our own plot of affordable land, in safe neighbourhoods, etc., but we also want the amenities and cultural institutions that a city has to offer, from flea markets to department stores, and from cinemas to museums.

Howard's solution to this dilemma was the 'Garden City': a settlement of limited size, limited density, with a clearly defined cen-

slowed down, but it remains unclear as to whether this can already be interpreted as a reversal of the trend. When we make our choice for a dwelling place, we usually take in account not only the price of a home, its size and physical value, but also 'added value' – factors such as being close to nature (both common grounds and a private garden), good access to public amenities and public transport, a children-friendly, clean and safe neighbourhood, and the opportunity to lead an individual lifestyle in an individualised environment. Urban areas, with

enough to accommodate a large number of people – such as hotel rooms or builders' barracks. In some cases, great care is taken by architects and planners to provide these spaces with at least a minimum level of privacy and personality, so that we accept them, at least temporarily, as 'surrogate' homes.

On the other hand, and probably as a counter-movement to the lack of privacy that nomadic life entails, a growing number of people are opting for an introvert lifestyle, centred on their homes. NIMBY – Not In My Back Yard – has become a prov-

reality. We are permeated with narcissism, the exclusive reference to ourselves, which always asks: What is the relevance of in my surroundings to me? Sennett claims that people lose 'a comprehensive view of society', as well as their sensitivity to the 'body public'. He identifies the city as the place where the 'body public' manifests itself, and suburbia as the arena for our quest for identity.

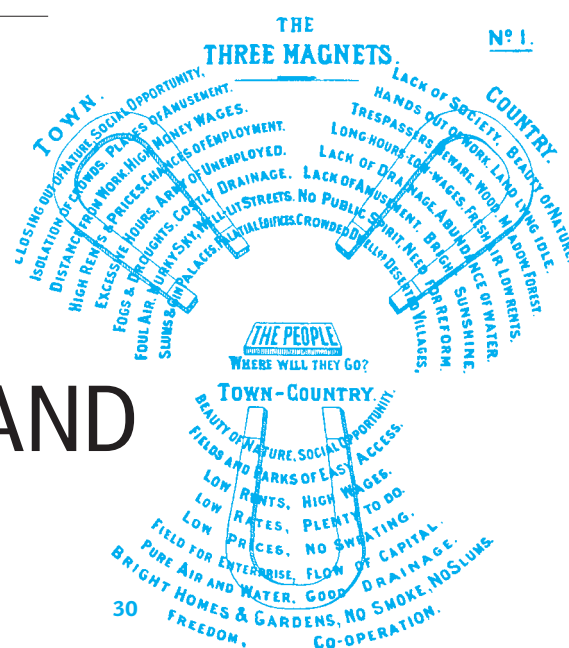
Now let us for a moment imagine that all the 10 billion human beings that will soon populate the planet lived in suburbs of the European or American style. In Cen-

areas are therefore an absolute priority for our future. How to reconcile urban density with the dweller's demand for access to nature, privacy and individuality? The ideas that have been developed over the last few decades are manifold – they range from the New Urbanist settlements described earlier on to patio houses and lofts, from SITE's vision 'Highrise of Homes', with its stacked one-family houses and gardens, to SOLTAG (www.soltag.net), an initiative of four Danish companies that aims at developing prefabricated housing units to be deployed on

municipality is assigned a certain amount of land area that may be used for new construction. Like their counterparts from the Kyoto Protocol, these area certificates may be traded among the municipalities.

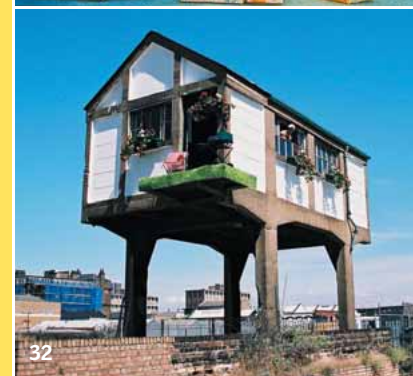
LIVING
ENVIRONMENTS

ME MYSELF AND SOCIETY



30. Ebenezer Howard: The Three Magnets (1898). Living in the town or the countryside? In his diagram, Ebenezer Howard, the spiritual father of the garden-town movement, compares people to iron filings which are drawn by three magnets: the town signifies high wages, a cultural environment and social opportunities, but also a lack of natural surroundings and pollution. He ascribes opposite characteristics to the country. The third magnet, the town-country – Howard's garden-town – is conceived to unify the advantages of both living spaces.

31. Archizoom: Residential Parking / No-Stop City (1971). The *No-stop City* by Archizoom is an ironic criticism of the ideology of modern architecture which has been driven to absurd limits. In place of the town, there is a uniform, grid-like supply network into which people plug themselves in random places and erect informal dwellings. Nature has disappeared, it is replaced by an endless landscape of interiors, similar to open-plan offices, in which humans camp out in tents.



32. Office for Subversive Architecture with Harald Hugues and Trenton Oldfield: Installation Intact, London (2003). An industrial building owned by British Rail is turned into the caricature of a house for the petit bourgeois: in mid 2003, the Office for Subversive Architecture gave a reinforced-concrete shack

in the London Borough of Tower Hamlets a fresh lick of paint, new curtains and a miniature front garden with fresh flowers, artificial lawn and a barbeque. This campaign was intended to draw the authorities' attention to the potential of turning the town's wasteland into desperately-needed living space.

tre and perimeter, inhabited by a community of homeowners. Today, post-war suburbia has replaced the Garden City as the projection plane of homeowners' dreams. It offers limited density and the opportunity to 'build your own', but it lacks what the Garden cities still have: a centre and a perimeter. The majority of urbanists consider sprawl as one of the greatest threats to contemporary cities, nature and human community.

In the continued process of segregation during the last decades, only families with high incomes could afford to remain in the city centres. High housing prices have driven the lower income groups to the outskirts, especially into the large building blocks of the 1960s and 1970s; whereas much of the middle classes have left the cities altogether, heading for suburbia. In recent years, there are indications that this exodus has

their frequent shortage of green spaces and of typological diversity, their high housing prices and their social problems, are not in the best position to compete with suburbia on attracting middle-class inhabitants.

Currently, human lifestyles are diverging towards two extremes: On the one hand, an increasing number of people are becoming more and more mobile. Although nomadism – even in its modern form – is no new phenomenon, globalised economy and increasingly permeable national boundaries have led to the emergence of a new, migrant working class. The world is literally 'on the move',¹⁰ and sociologists are wondering whether the 'century of refugees', as the 20th century has once been called,¹¹ will be followed by a 'century of nomads'.¹² The modern nomads spend much of their time in spaces that are either public – such as airport lounges – or generic

erb for a widespread attitude towards the burdens that life in a society occasionally presents. Sociologists argue that the new culture of introversion has its roots, in part, in the widespread anxiety that has arisen after the attacks of September 11. People tend to go out less, spend less of their time in public spaces and more at home, prefer having fewer (and closer) friendships to many superficial relationships, prefer in-house well-being and body care to adventure sports, and rediscover values such as fidelity and family.

Richard Sennett has written extensively and critically on the subject of this 'quest for identity, composed of elements of the inner world',¹³ and identifies it as the force that causes (postmodern) narcissism. According to Sennett, we resort to the intimate sphere because of the fear of an uncertain

tral Europe, the average settlement area in suburban areas is 800 to 900 square metres per capita. If we multiply this by 10 billion, we end up with a suburbia of nine million square kilometres – roughly the size of the United States covered with living rooms, garages, front lawns, streets and shopping malls. The environmental footprint of this mega-neighbourhood (i.e. the biologically productive areas necessary to continuously provide its supplies and absorb its wastes, using contemporary technology) would be between six and ten times the biologically productive land surface of the earth.¹⁴

So whatever the backgrounds of suburbanisation, the future of the world has to be – and will be – in urban areas. This year, 2006, is the first time in history that more than half of mankind lives in cities. The control of urban sprawl and the improvement of urban

the (estimated) 100,000 m² of flat roofs on concrete apartment blocks that every European capital possesses.

Is the current economic and political framework adequate, then, to make these ideas successful enough to compete with the detached, single-family homes that still constitute the majority of new homes built in most European countries? (In Switzerland, their share has just grown again – from 52 per cent in 1999 to 63 per cent of all new homes in 2003.) Recently, the German region of Baden-Württemberg's Council for Sustainability has suggested a system of 'area certificates' as a political measure against urban sprawl. If the scheme is ever put into reality, these certificates would work in a similar way to the emission certificates that were introduced to implement the Kyoto Protocol. In the case of area certificates, each

¹⁰ Z. Bauman in: Globalisation, the human consequences. Cambridge 1998

¹¹ K.R. Grossman/A. Tartakower: *The Jewish refugee*, New York: Institute of Jewish Affairs 1944

¹² K. Schlögel in: Die Mitte liegt ostwärts, Frankfurt 2002

¹³ Richard Sennett, *Verfall und Ende des öffentlichen Lebens. Die Tyrannei der Intimität*, Frankfurt/Main, 1986

¹⁴ In their report "Ecological Footprint of Nations", Wackernagel et al. estimate the available biologically productive surface of the Earth to be around 1 ha per capita in 2040, with 10 billion people on Earth. At the same time, the average German had an ecological footprint of 5,5 ha/capita and the average American of 10,3 ha in 1997 (see <http://www.ecouncil.ac.cr/rio/focus/report/english/footprint>)

INTERVIEW WIT ANDREAS LAUESEN



Together with Force4 – an interdisciplinary team of eight students from The Royal Academy of Fine Arts/ School of Architecture and The Danish School of Design – Andreas Lauesen has designed 'Boase', a housing scheme for the future which has won the Danish 'Fremtidens Bolig' (Future Home) award in 2001. Force4 are making now their project a reality in collaboration with KHR Architects. DAYLIGHT&ARCHITECTURE asked Andreas about the ideas behind the project.

Your award-winning 'Boase' project is now actually being built. How far advanced are the works on site?

We are still negotiating the price of the building site with the client and the present owner of the site. We expect the building process to start in approximately three months.

The fascinating aspect about your project is its holistic approach – encompassing all aspects from the urban scale to the human body, from community to individual, technology and nature, the ground and the sky. Did you plan this 'big' approach from the beginning or did it evolve over time while you were working on the project?

We started out by undertaking broad and thorough research which we divided into eight categories: community, technology, sustainability, identity, self-sufficiency, dwelling versus home, network living, human beings dynamic versus constant. These eight topics have been the generator and the aim of the Boase project all the way through the process.

What were your three main inspirations for Boase – experts you asked, books you read, existing communities or examples from architecture that you looked at?

Firstly, we went on a field trip to a train factory called Scania in Randers, Denmark. They showed us how to produce room-size volumes with

minimum waste. Secondly, Ulrik Carlsson who is a specialist in phytoremediation. And, thirdly, Morten Lund from the Danish School of Design. He inspired us to keep an open mind in the design process.

In how far will community life in Boase (hopefully) be different from community life in settlements as they are today? And how does the architecture of Boase cater for this?

Community life takes place on two levels: in the public park at ground level, which is open to everyone, and on the raised walkways, which are mostly only used by the inhabitants. Additionally, in each house, there is a large common space through which each inhabitant enters his or her private room. Here you can have a party or just meet your friends and neighbours. This open living/meeting space is a feature that you rarely find in Danish houses otherwise.

In general, do you observe a lack of holistic thinking in architecture today? And could this have to do with the way we are trained as architects?

The Nordic way of thinking architecture has always been holistic. I just think that architects and designers forgot about this during the 80s and 90s. Some of our big Nordic role models have been misinterpreted by those who dominate the architectural scene today.

With Boase, you are actually 'giving something back' to nature – and to mankind. Or, as you once put it, "We reclaim the earth for future generations.". Do you see this as a turning point – away from architecture that usually only ever takes, never gives?

I believe that the interest in the individual human being is generally growing in Denmark. But I do not think the situation will change dramatically in the near future.

The site that was chosen on which to build 'Boase' is highly contaminated. How was it used before?

There was a small oil company on the site that specialised in producing new oil products from crude oil.

You use willows to purify the ground. How long do you estimate it will take to do this? And how do you see this time span in relation to the time it takes to pollute a site?

Our expert Ulrik Carlsson from DMU

expects the cleansing of the soil to take 10-15 years. I think that this is the cheapest way to do it. Moreover, when you do it in the conventional way, you don't solve the problem – you are just moving the dirt to another less visible place.

That's a good point. Pollution often goes unnoticed by the public. And the public is seldom bothered by what it cannot see. Is this 'invisibility' and lack of 'immediacy' a problem when we deal with natural resources, in your opinion?

I believe that people should speak up. Not in a negative way, but rather try to suggest some ways of solving the problems.

Were there any concerns about public health because you wanted to build on contaminated ground?

Yes, of course. We knew from the beginning that this could be the Achilles heel of the project. Therefore, we contacted the state doctor and an expert in toxicology. They told us to raise the building above the ground so the wind could ventilate the site beneath the building.

This concept of lifting the buildings off the ground reminds me a little of utopias from the past like Constant's 'New Babylon' or Ron Herron's 'Walking Cities'. Were you inspired by their thoughts?

Of course we know these projects, but it hasn't really been an inspiration for the project. Instead, our inspirations are new materials, changes in society and advanced engineering and things like that.

You describe Boase as 'supplementary' to existing cities. Could you imagine an entire city based on the Boase model? And why/why not?

We made some sketches of entire Boase cities on water. We thought that the system could maybe be used in places that are usually flooded – but I think it would be a bad idea because a city should consist of many different people and many different houses and functions.

A remarkable feature of Boase is the fact that the dwellings are entirely pre-fabricated. What does this mean in the context of your project? Do you see a need to 'think greener' in the prefabricated housing industry as well?

The industrial production of the houses is a more resource-efficient

and waste-saving way of building. Therefore, I believe that this method is necessary for building in the future. At the same time, however, you have to consider energy, the environment and the use of healthy materials as well.

In reality, it is still mainly the price that decides which houses are successful and which aren't. Are the Boase houses affordable to everyone?

The houses will be for rent and will cost around 6,000 DKK (850 EUR) per month for each 72 square-metre unit. For a similar new-built flat in central Copenhagen, you would pay much more.

LIVING ENVIRONMENTS

THE FUTURE OF HOUSING

33. Faber Maunsell und Houghton Architects: South Pole Station Halley VI (2005). The new observatory of the British Antarctic Survey goes skiing: its telescopic legs are mounted on skis which enable it to move and at the same time prevent it from sinking in the snow – a fate met by many South Pole Stations before it. The two-storey central module has docking places for smaller living and working units.



The home of the future will have to reconcile apparent antitheses: it will be urban but close to nature, robust, affordable and mass-produced but individual, be able to grow and shrink, provide privacy but also the opportunity to socialise, and give back to the environment more than it takes. Faced with the question how to achieve all these seemingly contradictory goals, we might consider three strategies that have been put forward by leading thinkers in the last decades:

1. Study the way nature grows, builds and evolves. In recent years especially, the living things around us have proven to be one of the richest sources of inspiration to designers, architects, structural engineers and material scientists. In his essay *Lessons From Nature*,¹⁵ the American architect and designer Eugene Tsui mentions twelve underlying principles of natural structures.

Nature, amongst others, economises on the use of materials, maximises structural strength and enclosed volumes, produces extremely high strength-to-weight ratios, creates energy efficiency through form without external power, uses local materials for building, produces nothing that is toxic to the environment and designs structures that can be built by a single organism.

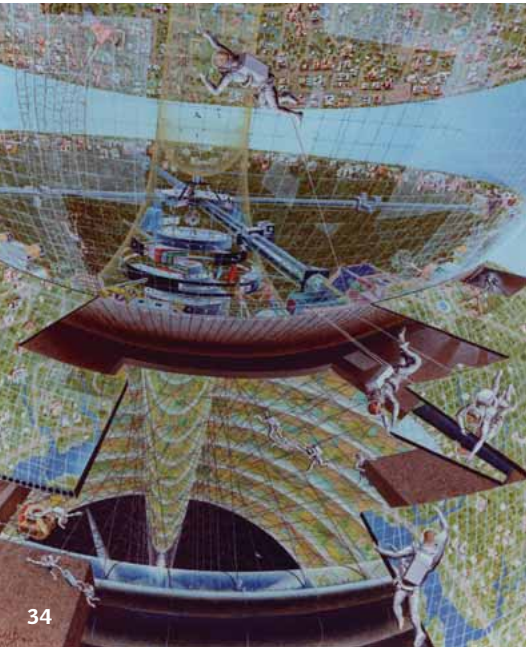
Natural structures such as spider's webs, bird nests and termite hills not only arouse our admiration for their beauty, but also for their incredibly intelligent use of materials. Frei Otto and other engineers have striven to learn from these examples. One of Frei Otto's successors, the German engineer Werner Sobek, compares a house to a 'third skin' of Man – after the first, natural skin and the second, our clothing. He claims that the skin of a house must therefore be as easily capable

of adapting to varying conditions of climate, daylight and ventilation as the human skin.

2. Think in the long term – because nothing lasts forever. In their book *Cradle to Cradle*, the American architect William McDonough and the German chemist Michael Braungart argue that in nature, nothing has only one life cycle. There is no such thing as waste exists as all matter is part of a continuous cycle of growth and decay, of birth and death. Similarly, everything we produce or build should be part of one of two metabolisms: the technical

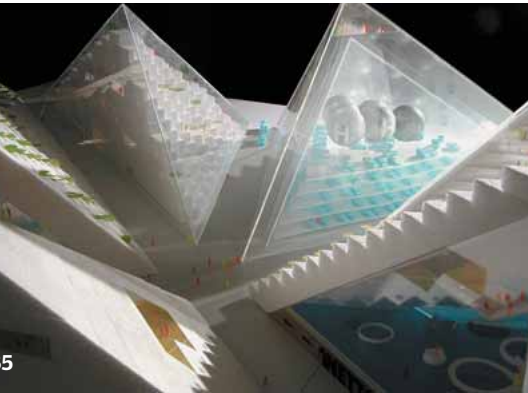
3. Rethink our planning strategies. In nature, simplistic if-then relationships do not exist. Every action provokes not one reaction, but a multitude of reactions. Our ecosystem is not based on deterministic programming nor on central control, but on an intricate network of iterative, recursive control circuits that all interact with one another. Our own brain with its neuronal 'architecture' is an example. In his book *The Art of Network Thinking*, 16 the German biologist and planning theorist Frederic Vester argues that planning must embrace this kind of complexity rather than try contin-

Secondly, we might profit greatly if we rethink the roles of architects, manufacturers and builders. Kent Larson's forward-looking concept of the 'Open Source Building' 17 implies that "[...] Builders become assemblers, architects devise design-engines to efficiently create thousands of unique environments, [and] customers (home-buyers) become 'innovators' at the centre of the process by receiving personalised information on design, products and services at the point of decision." Not unlike Vester's ideas, the notion of 'Open Source' is based on the assumption



ually to reduce it. Vester identifies eight basic rules in bio-cybernetics, amongst which are: the existence of both positive and negative feedback mechanisms, the independence of the system from quantitative growth, a function-oriented rather than a product-oriented way of working, the multiple use of products, functions and organisational structures, and symbiosis – the mutual 'utilisation' of difference by interconnection and exchange.

Now what does this mean in the planning of a home? Firstly, user feedback – both positive and negative – is vital and should directly influence the planning and production process. Will it be possible to turn the mass-production of future homes into a process that constantly, and almost automatically, learns from the user's experiences? If it is, we will have achieved a truly function-oriented way of designing and building homes.



34. Vision of a Space Station (1970). After Apollo 9's successful landing on the moon, NASA scientists planned the first orbital space station: hollow cylinders containing a mini-version of the earth's ecosystem. The architecture of the residential buildings was only slightly different to the standard of American suburbia.

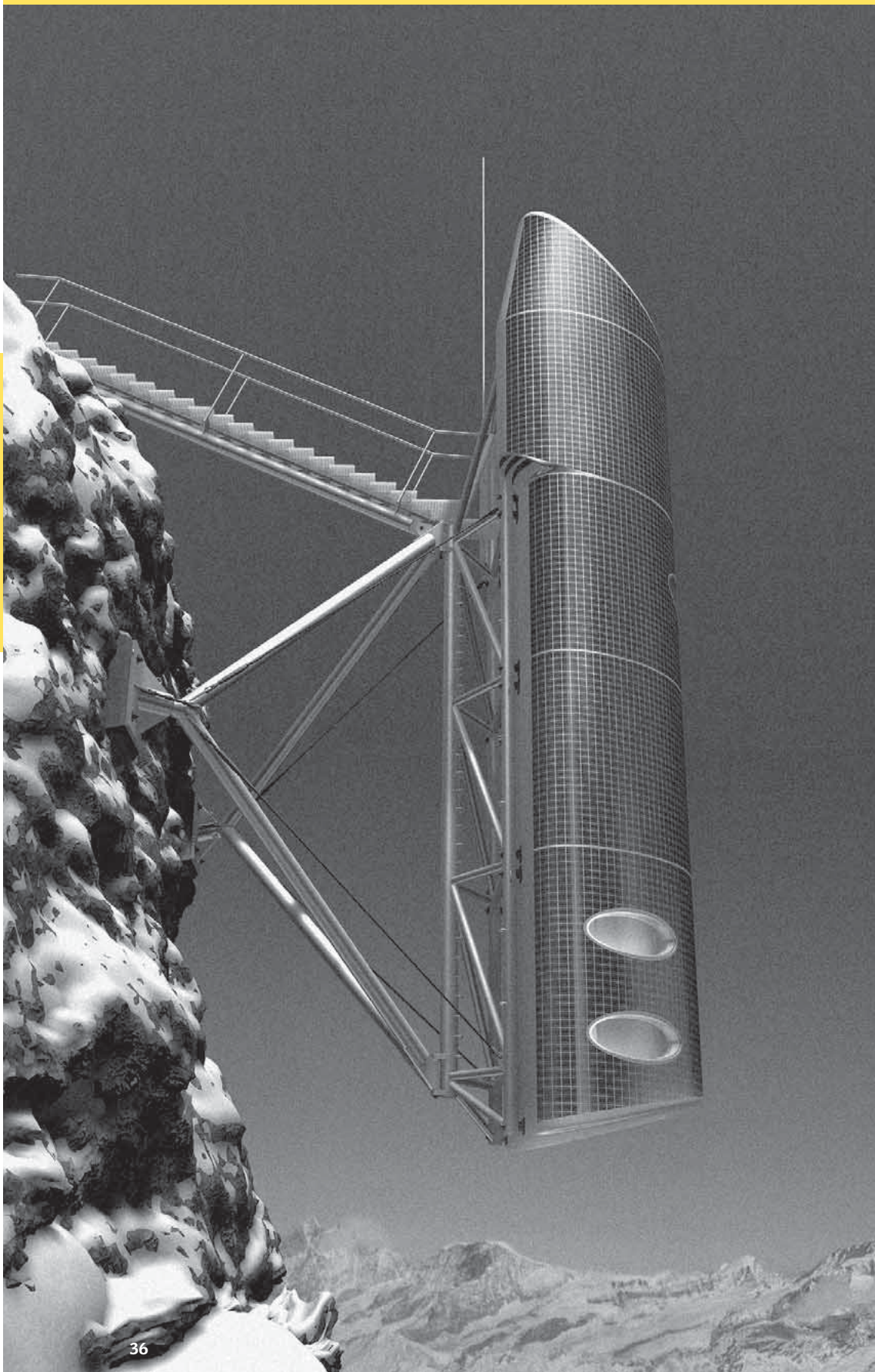
that if we relinquish central control of the planning process and allow a greater degree of unpredictability and 'fuzzy logic', the result will become more individualised, more robust and less susceptible to failure.

Thirdly, the concept of symbiosis leads us back to a point we discussed at the very beginning of this article. The human world has turned into a world of specialists, in which the concepts of individuality and difference predominate. In doing so, we have created the potential to create a multitude of fruitful symbioses, in which each participant can learn and profit from the other. A truly broad-based symbiosis in the planning process, one that is built upon mutual respect, solidarity and close communication, will be a sound foundation for our quest to create living environments for the 10 billion people that will soon inhabit our planet.

¹⁵ See <http://www.tdrinc.com/nataarch.htm>

¹⁶ Die Kunst, vernetzt zu denken. A report to the Club of Rome. Munich 2002

¹⁷ See the article in this magazine.

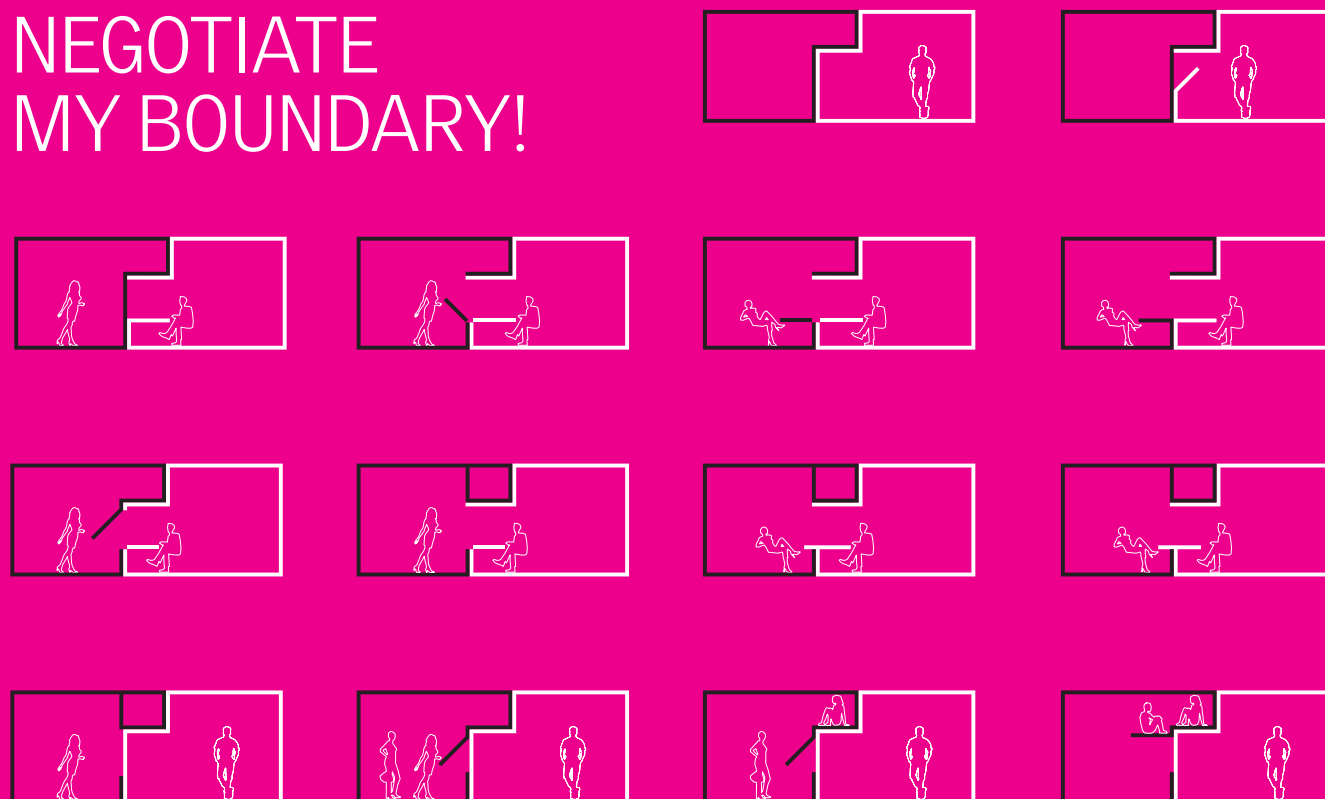


35. PLOT: HySociety (2004). 'What if Denmark had an energy bill of zero?' This was the question the Copenhagen architects PLOT asked with their project for the 2004 Venice Architecture Biennial. The resulting design represents a hydrogen-powered compact urban super block for 1500 inhabitants in which a closed circle of 'energy generators' and 'energy consumers' is created. The main energy source is the sun. Excess heat is used to heat apartments, offices and a swimming pool.

36. Research station Peak_Lab (2003). The research station Peak_Lab on the Kleines Matterhorn is a self-supporting laboratory providing its own energy and water supply. It is assembled using Helicopters. The 'high-flier' is divided into modules which, in turn, allow for a variety of uses. For instance, the kitchen can be converted into a sleeping or living module.

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THE NATURE OF DWELLING
LEFT OF P.18
MARC-ANTOINE LAugier: PRIMITIVE HUT (1755)
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MY HOME IS MY CASTLE
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THE CELL AND ITS METABOLISM
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NEGOTIATE MY BOUNDARY!



Above With *negotiate my boundary!* a wall is not automatically a barrier. RAMTV's storyboard depicts possible ways in which rooms and mobile fixtures can be used together.

Text by RAMTV – Aljosa Dekleva, Manuela Gatto, Tina Gregoric, Robert Sedlak, Vasili Stroumpakos.

What if the shape and size of human dwellings were determined by the inhabitants themselves through a process of negotiation with each other? In *negotiate my boundary!*, their final thesis at the Architectural Association in London, the five young architects RAMTV developed a planning tool that enables this kind of negotiation. The result is a cluster of flats that fulfil not only the participants' individual needs, but also the needs of the community as a whole.

NEGOTIATE MY BOUNDARY! proposes a model for customising and purchasing dwellings via the Internet. Mass-customised collective housing with users' participation is provided through web-based software which triggers intensive interaction and negotiation among future clients. This takes place in a real-time environment with incorporated speculative market-strategies ('stock-exchange' model).

The project investigates how today's evolving social systems and domestic organisations affect urban residential architecture. This research on the 'superordinary' topic of housing is developed through a design project on mass-customisation of a neighbourhood with an 'ambitious' social agenda. The thesis simulates the parametric design process introducing user participation whereby, via a web page, future dwellers participate in the physical and social organisation of the neighbourhood and co-design their dwellings. They select activities that in turn generate the dwelling via digital morphogenetic processes. All these operations occur under a stock-exchange model: before buying, the clients negotiate over the Internet with their neighbours about the shared space. This model integrates principles of simultaneous reaction and responsiveness, which installs real-time interaction and negotiation amongst clients in a real-time environment with incorporated speculative market strategies. The Internet is used as an architectural design instrument with its interactive parametric potential to generate – strategically, spatially and socially. It becomes a medium for a renewed idea of community and a tool, not only to fulfil and enable social patterns, but mostly to stimulate new social interactions. The web 'significantly lowers the threshold of personal communication between users and allows for the development of a certain degree of self-selection and communal self-organisation in a safe and non-committal virtual domain. This is also the domain in which a genuinely participatory design process finally becomes plausible. It is precisely these 'design processes' of choice, articulation and negotiation that become the vehicle for building up the social relations that might lead to new forms of community.'¹

The main focus is the negotiation of boundaries along multiple modes, spatial and social, and on many different scales, from nano-scale to XL. Negotiation becomes a generative parameter for the spatial actualisation of an architec-

tural proposal. The boundaries created within the project do not define public-private dichotomies, but rather gradients of intimacy establishing multiple domains and therefore manifold modes of social exchange. It is not only about separation and privacy, but also about the potential performative effects that interactively relate boundary and dweller.

I. RESEARCH PROCESS

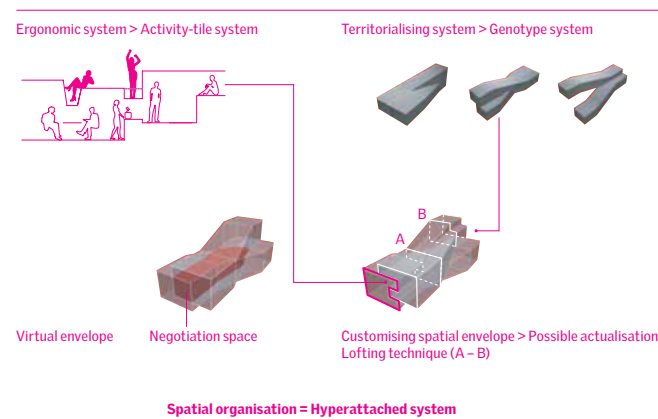
The research was initiated by focusing simultaneously on two autonomous systems – the territorialising system and the ergonomic system – as a framework for analysing Le Corbusier's 'unité d'habitation' as an initial ecology. In parallel, separate research into contemporary social realities gave information on the construction of social scenarios. The intriguing instability of social relations triggered the research into responsive environments to enable spatial responses. New boundary systems are generated to record and evoke social and spatial dynamism. A genotype system (derived from the territorialising system) and an activity-tile system (derived from the ergonomic system) interact and inform each other in ways that allow the emergence of a definitive spatial organisation, a hyper-attached system, which allows it to be mass-customised by potential users on the web prior to the installation of the residential field on a chosen building site.

1. Territorialising system > genotype system

Unité d'habitation was analysed to identify its system of unit types and their combinatory patterns. A high level of general complexity, derived from a range of relatively simple unit types and their combinations, is non-visible from the repetitive pattern of the façade. As the principle of interlocking double units is a key feature of the system, this research generates a genotype system that is focused on double unit negotiations, testing the potentials of the in-between (negotiation space) of two proximate units. It defines the basic geometry, structure, circulation and combinatory (interpenetrating) principles.

2. Ergonomic system > activity-tile system

The ergonomic system research focuses on the relationship between activities and ergonomics – an interface between



the human body and its surrounding domestic environment. Ergonomic positions of the human body defined with activities generate the activity-tile system, developed to challenge the typical section of living spaces through floor-to-ceiling deformation in a continuous variation and modify the interior perceptions in a residential unit.

3. Responsive environments > boundaries

A responsive environment is able to react to stimuli serving as an input for its performance, appearance or arrangement, which in turn are based upon the activities and choices of its individual users. In order to be considered truly 'responsive', such systems must be able to process incoming information and adapt to a condition different from an initial state (including an organisation, arrangement or installation of built elements). Today, systems such as these can be guided by software systems that control new configurations based on information collected from the patterns of human use and behaviour within these installations; accordingly, such environments consist of architectural elements that do more than just 'move'.

Different responsive systems are invented to rework the threshold and view conditions. They also influence the definition and performance of the boundaries – social as well as physical. The project establishes a responsive environment where your behaviour can be under constant evaluation and therefore responsive to scripted elements of architecture, where your flat is breathing with you and learns your habits if this is what you want.

Responsive environments are twofold entities: while they are material assemblages able to be seen, touched, adjusted (they have a physical presence), they are also invisible, in that they consist of networks comprising software controls guided by scriptable performance criteria that ultimately determine how these arrangements respond to specific needs and predefined events.

4. Social scenarios > neighbourhood

Initial research into social realities within the domestic realm became the basis for simulating social scenarios that, in turn, generate the organisational diagrams guiding the development of the proposed responsive neighbourhood, informing the final design while describing its operations. The processes used to

assemble relevant social scenarios run from an abstract matrix of possible members, defining their relations with other members (links – intimate, parental, some) and boundaries ((non-)public, (non-)autonomous) and interactions with other members, to highly specific social scenarios based on real lifestyle stories, which enable ultra-individualised dwellings.

Spatial organisation = hyper-attached system

The genotypes with their defined geometry and possible deformations form a virtual spatial envelope, while the modes of their aggregation (inter-penetration) define the negotiation space (intersectional space between two genotypes). This virtual spatial envelope is a generic, undifferentiated spatial entity set up to be actualised through a mass-customisation process.

II. SOCIAL AGENDA

The potential community is formed via web-based software, first as a virtual entity, before it is actualised on-site. The project is a 'social experiment' responding to and amplifying the existing social trends, not only to fulfil the essential needs for domesticity and privacy, but to encourage new social interaction among future members of the community. It suggests new relations among households, intersections of boundaries and their controlled permeability, sharing and renting spaces, opening up boundaries to make them public.

The boundaries are not defining public-private dichotomies, but rather gradients of intimacy on multiple scales and therefore modes of exchange. The approach challenges the definition of the dwelling as 'all inclusive'² with an 'excluding principle' (e.g. excluding services > a dwelling without a kitchen) and an 'including principle' (e.g. including public extras > a dwelling with a home-cinema). This process attains a highly structured system of dependencies between households and a total inclusion of public space in the private domain, with a network of small-scale public programmes incorporated in the dwellings (e.g. mini cinema, restaurant with home-cooked food), leasing or renting part of the flat (sauna, magnificent dining room, professional kitchen...).

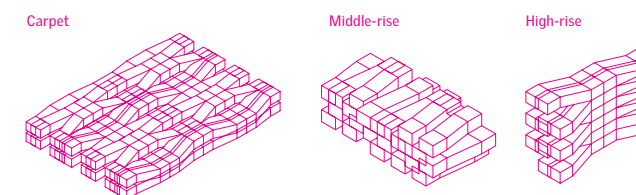
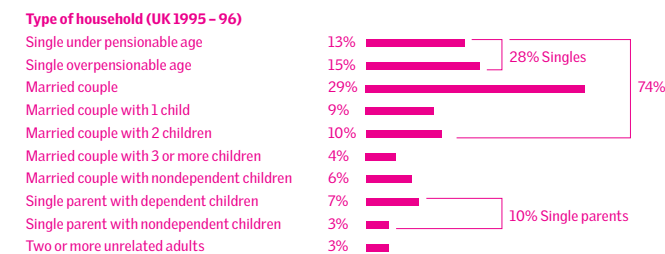
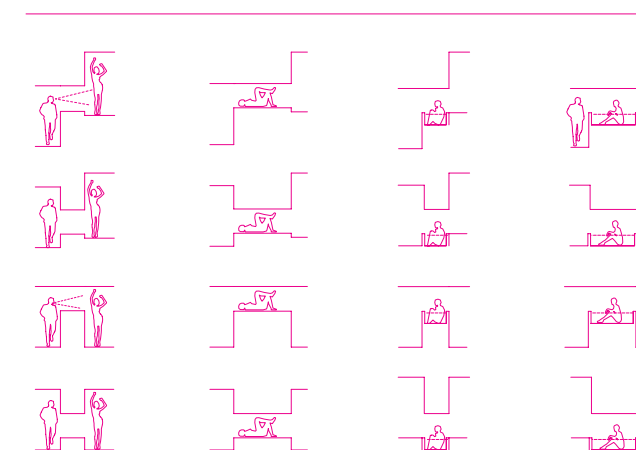
Current social trends suggest that households will be smaller than ever before. What might be called the 'family'

Left Summary of the project *negotiate my boundary!* At the heart of the project, there is an ergonomic subsystem, the 'activity tiles', and a spatial subsystem, the 'genotypes'. Both complement each other to form what RAMTV call a 'hyperattached system'. The actual shapes and sizes of the dwellings are negotiated with the cohabitants and neighbours over the internet.

Below (top) Excerpt from the catalogue regarding possible activity tiles. From left to right: connection between two rooms, tile 'sleeping accommodation' and tile 'bath tub'.

Below (middle) Statistical distribution of household sizes in Great Britain (1995–1996).

Below (bottom) The way in which the residential area is structured depends on the preferences of the residents regarding access to free space, daylighting and the prospects of the residents: a group of patio houses (left), a terraced housing area (centre) or a high-rise block (right).



is clearly adapting to new social arrangements. The increasing trends are single-parent households and households of singles or couples over pensionable age.

By intensive inclusion of shared households,³ a varied activity community is created, instead of the discrimination effect of separate urban enclaves (maternity homes, elderly residences, etc.). Rather than treating these as separate social phenomena, a new potential for social exchange arises: different lifestyles and timetables give opportunity for mutual help – members performing services to each other or/and fulfilling social needs (e.g. child care).

III. MASS-CUSTOMISATION

Unique life-styles demand highly specific, tailored dwelling units. Today, mass-production is adapting to new market demands in the form of mass-customisation. Universal, standardised products are giving way to personalised, customised products, which are based on new mass-production processes that adjust final designs to owner preferences and desires. Computer-based production allows individualised products to escape the domain of luxury and to enter the everyday domain of economically viable large series. Individualised products are becoming widespread and affordable. The on-line purchase of configurable products is already happening with many consumer goods, from cars and dresses to shoes and mobile phones. This customisation can vary from the most superficial (appearance – colours or initials applied to Nike trainers) to the most essential (structure – a selection of the hardware and software components in a Dell computer). These models of mass-customisation serve as prototypes for how one might design and purchase dwellings today.

An on-line user interface was developed to facilitate the mass-customisation process, in which clients can generate their future neighbourhood, customise their dwellings, spatially and performatively, and buy them. A simulation of the on-line purchase of individual dwellings tests the processes of information-gathering and collective negotiation that modulate and refine the design. This simulation was created in order to explain the dual processes of 'dwelling' and 'unit-generation', including the techniques for arriving at appropriate

designs that are as individual as the preference sets and negotiated requirements of each occupier.

It is a parametric design process that explores mass-customisation on an urban collective residential scale. The fact that the proposed housing units are not suburban villas (e.g. freestanding objects like Villa Savoye), without physical proximity to their neighbours, determines the necessity for mutual effects, where customisation of one unit affects the other.

The mass-customisation process selectively records user preferences and negotiates with design constraints. It is structured at three different levels, with each next level refining the degree of individualisation of your dwelling environment: parametric neighbourhood looks at the various ways in which the project can be specified by clients on an urban level; customising the spatial envelope includes the procedures by which users are able to customise their own dwellings; and customising the boundary defines the interactive systems of responsive enclosures, where clients select and control the shape and performance of their dwelling-unit boundaries.

level 1 > Parametric neighbourhood

The responsiveness on an urban level is determined by the parameters that both clients and planners define. A client's login on a web page is an official entry to the club, one becoming a member of a community, while simultaneously establishing it. The clients activate initial inputs for the parametric neighbourhood by filling in an on-line questionnaire specifying their degree of inter-connection to surrounding neighbours, their relation to the open space, inclusion of public programmes and the range of activities in the dwelling etc. In parallel to the spatial preferences, they are developing their social scenario – establishing links among future members of a community and defining their types of household boundaries, being either autonomous or non-autonomous and either public or non-public. All their choices are saved and used to define the mode of aggregation of the units in a new urban situation – into one non-hierarchical sponge-like spatial organisation.

The planners' task is to define the general envelope of the dwelling clusters with the initial constraints set by a hyper-attached system (geometry, principles of combining units – penetrating one into another) and parameters that guarantee a coherent development of the aggregation, such as daylight conditions, access, structure and contextual influences. The decisions of every party are embodied in a virtual spatial envelope with clearly defined negotiation spaces, which serve as a basis for further customisation and design definition.

level 2 > Customising the spatial envelope

This process of spatial as well as social negotiation allows for several unpredicted results of spatial materialisation of the virtual spatial envelope that were placed on the market through client-defined modes of negotiation about the position, shape and performance of the space among several different parties. A client is invited to negotiate with its neighbours about the negotiation space by choosing preferred activities and their

performance, which are embodied in build sections, defined by activity-ergonomic relations. A process of lofting⁴ connects the chosen sections, creating spatially unique dwellings customised by user inputs and the automated process of connection. Everything occurs in a 'stock-exchange' model: a virtual spatial envelope enables the field of negotiation to occur inside a very specific set of constraints.

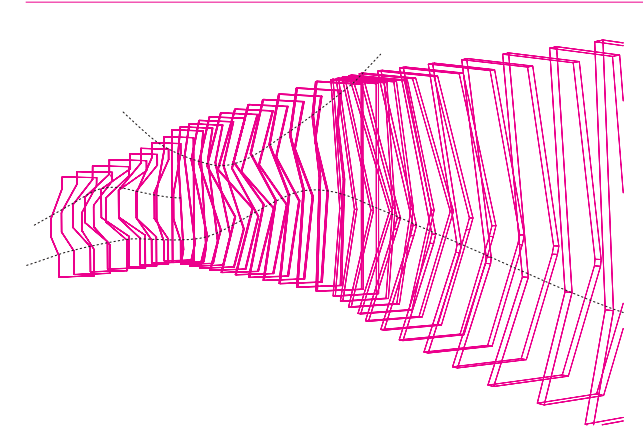
level 3 > Customising the boundary

The last level of customisation focuses on the enclosure systems directly shaping the project's interactive social environments. Different responsive systems are proposed to the clients, who can select and specify their pattern, shape and specific kinetic performances of the boundary that affect the relation to the exterior, to all neighbours and also to the internal space of the dwelling. Two developed interactive systems (louvres system and wire system) are based on the mechanical and software-defined performance of the elements to redress the threshold and visibility conditions, thus controlling the social and physical performance of boundaries, inducing a continuously variable social space.

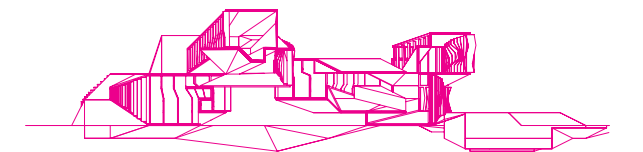
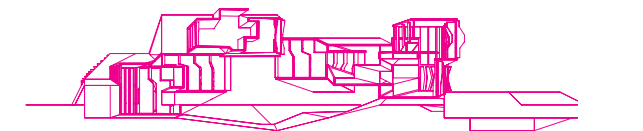
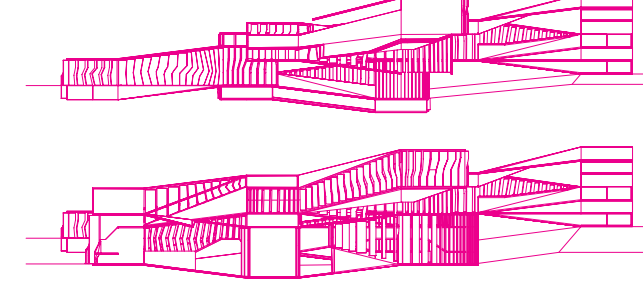
CONCLUSION

Urban residential architecture with negotiable boundaries is a product of today's intricate social situations and interactions. It is a Big Brother situation, where you are extremely exposed (if the nature of your ego allows it) and your facilities and lifestyle are shared with neighbours and a larger public. If you don't fancy the exposure, you can withdraw and remain totally isolated: your home becomes a cocoon. Either way, the setting becomes a responsive environment where your behaviour can be constantly evaluated and adjusted by means of scripted architectural elements. Your domestic space lives and breathes with you, learning from and reacting to your habits – if this is what you want.

The proposal sets up strategies, parameters and regulations. Therefore, a single, definitive outcome in a system is never achieved – rather, the ongoing evolution of the project is continually recorded by on-line information gathering, display and negotiation. There are many possible actualisations depending on social input, negotiation conditions and site specificity. The simulation of real-life scenarios by potential clients has led to a possible architectural materialisation, which renders the output of the 'parametric design process'. The project becomes an ongoing life-game simulation of fluctuating preferences, constraints and agreements.



Plans and sections 1:200



Above (top) The individual façades are individually adapted in the final planning stage. Using a system of vertical louvres, the user can determine which areas of his home should be open to the outside and which ones he wants to be more intimate.

Above (bottom) With *negotiate my boundary!*, the finished apartments could look like this – or they could be completely different. As soon as the negotiations are completed, the Cluster Blaster program automatically generates the working drawings from the cumulative data.

Negotiate my boundary! is a master thesis project developed at the Design Research Lab (AADRL), M.Arch Graduate Design Course at the Architectural Association School of Architecture (AA), London, UK. *Negotiate my boundary!* is also a book, which was recently republished at Birkhäuser Publishers, Basel.

CV

(+RAMTV) is an international team of five young architects.

The five constant members are:

Aljosa Dekleva (Slovenia), Manuela Gatto (Italy), Tina Gregoric (Slovenia), Robert Sedlak (Germany) and Vasili Stroumpakos (Greece).

Aljosa Dekleva graduated from the Faculty of Architecture, University of Ljubljana, Slovenia with a Master of Architecture with Distinction from the Architectural Association Design Research Laboratory (AADRL), London. In 2003, he co-founded the *Dekleva Gregoric arhitekti* architectural office practising in Ljubljana, Slovenia. www.dekleva-gregoric.com

Manuela Gatto graduated from the Istituto Universitario di Architettura di Venezia (IUAV) and in 2002 obtained her Master of Architecture with Distinction from the Architectural Association Design Research Laboratory (AADRL), London. She has taught at the Architectural Association in London and is currently project architect at Zaha Hadid Architects, managing master plans and building work in Spain.

Tina Gregoric graduated from the Faculty of Architecture, University of Ljubljana, Slovenia with a Master of Architecture with Distinction from the Architectural Association Design Research Laboratory (AADRL), London. From 2002 to 2004 she was a lecturer at the Technische Universität Graz, Austria. In 2003 she co-founded the *Dekleva Gregoric arhitekti* architectural office, Ljubljana, Slovenia. www.dekleva-gregoric.com

Robert Sedlak completed a concrete-builder apprenticeship before he studied architecture at the University of Applied Sciences in Nuremberg and subsequently at the Architectural Association Design Research Laboratory (AADRL), London, where he received a Master of Architecture with Distinction. He is practising in Germany as an architect. www.schoeneneuewelt.org

Vasili Stroumpakos has an M.Arch with Distinction from the Architectural Association (AADRL) and an Arch Diploma from Aristotle University. He teaches at AADRL, AA Diploma and Media Studies and has been appointed Head of the AA Digital Platforms Department. In 2002, he launched 00110.org (www.00110.org), an organisation specialising in digital interface and information design. He is currently undertaking research at the London Consortium on Information Surfaces, which will enable him to gain a PhD.

¹ Patrik Schumacher, *Autopoiesis of a residential community*, in B. Steele, ed., RAMTV, *Negotiate my boundary!* (London: AA Publications, 2002), p.14.

² 'A dwelling is structurally separate accommodation whose rooms, including bath or shower, WC and kitchen facilities, are self-contained' (UK, 1991).

³ Shared household includes at least a double boundary (small households within another larger household arrangement – linking of small households (single-parent family, elderly, single) into larger collective ones.)

⁴ Lofting is an automated process of connecting several sections to generate a 3D result, a technique commonly available in all modelling software.



LA TERRA SENZA DOLCEZZA
D'ALBERI, LA TERRA ARIDA CHE
ROMPE SOTTO SIENA IL SUO
MAREGGIARE MORTO
E INCRESTA IN LONTANANZA
È UN LUOGO NON POSSEDUTO DAL
SENSO, UNA PLAGA DIVERSA
CHE LASCIA TRANSITARE I PENSIERI
PERÒ NON LI TRATTIENE,
NON OPERA COME RICORDO,
MA COME ANSIA.

Previous page
S. Quirico D'Orcia, Siena
Photo by Andrea Rontini
www.andrearontini.it

The land unsoftened by trees, the dry land
Whose dead swell breaks under Siena
And reaches its crest in the distance
It is a place not possessed by meaning, a diverse region
Which allows thoughts to pass through
Not holding them back however,
not operating like memory, but like anxiety.

OPEN SOURCE BUILDING



Left Post occupancy,
ad-hoc personalisation of
mass housing in Taipei.

Text by Kent Larson.

The individual design of living space today involves much more than the mere selection of furniture and fittings. Modern interfaces between client, architect and manufacturer allow the customer himself to be the architect of his own idea of how to live. In the following article, Kent Larson from the Massachusetts Institute of Technology in Cambridge, USA, describes a new approach to mass customization in the construction industry.

THE MASS-HOUSING blocks of Taipei, as conceived by their architects, are dreary and monotonous. These banal buildings, however, become the backdrop for extraordinary creative expression. In an ad-hoc and probably illegal manner, windows become bays, bridges are added, and balconies are infilled with an endless variety of forms, materials, and systems. Some show a meticulous attention to detail while others look like death traps. But the whole reveals, at the scale of the city, a powerful desire of individuals to create personal and unique places of living.

While not expressed in the façades of U.S. and European buildings, this desire is revealed in the hundreds of books, magazines, and television programs devoted to home design. Companies like Ikea, Home Depot, and Lowe's exist largely to tap this do-it-yourself market. The housing industry, however, has not found a workable strategy for meaningful customization.

Other industries are rapidly adapting their products and processes to respond to the market demand for customization. Car websites encourage visitors to 'build and price your car'; Dell has become the most successful PC manufacturer by producing tailored computers for individuals; the New York Times allows online members to 'create a customized news alert'; Nokia offers interchangeable faceplates to personalize mobile phones; and clothing and shoe companies can scan your body to create personalized products. Many of these companies are, in effect, integrators who form business relationships with a network of strategic partners and suppliers to offer 'batch quantities of one' personalized products. They provide consumers with increasingly sophisticated configuration and decision-making tools for customization. Speaking at a National Association of Home Builders conference in 2002, William Novelli, Executive Director and CEO of AARP, said the following about baby boomers and housing, "They love choice: set up the smörgåsbord and let them help themselves. They will. They want information – and the more sources the better because they are not afraid to make decisions – but only on their own clock and on their own terms."

The existing process and fee structure of housing development, however, makes it largely impossible to address the unique design problems of individual residents. Architects typically focus on planning and the exterior envelope, while

creating generic living spaces. But the idea for architectural customization is certainly not new. Mies van der Rohe suggested in 1927 that "if one limits only the kitchen and bath as standardized rooms, and the remaining living area with movable walls, I believe that any justified living requirements can be met." Walter Gropius, founder of the Bauhaus, wrote in 1910 that industrialized construction processes could "meet the public's desire for individuality and offer the client the pleasure of personal choice."

Today, the need for meaningful personalization goes well beyond the satisfaction of desire. The home is rapidly becoming a center for proactive health care, distributed energy production, work, commerce, entertainment and learning. Homes in the future will likely contain the most complex activities of any building type. It can be argued that many of the looming societal problems due to demographic pressures and energy shortages must be addressed by finding a new model for the cost-effective tailoring of the form, technologies, and services to meet the needs and values of individuals.

OPEN SOURCE BUILDING

We believe that it is now possible to increase the quality, responsiveness, cost-effectiveness, and formal richness of residential architecture by taking advantage of the new tools of our epoch: inexpensive computation, powerful algorithms, almost-free electronics, the internet, high-performance materials, and new design, fabrication, and supply-chain technologies. We propose a new model for design and construction, called Open Source Building model, with six underlying concepts:

- 1 Integrators partner with developers to offer branded, tailored solutions to individuals
- 2 Buildings are disentangled layers of integrated assemblies
- 3 Manufacturers agree on interface standards and become tier-one suppliers of components
- 4 Builders become assemblers
- 5 Architects design design-engines to efficiently create thousands of unique environments
- 6 Customers (home-buyers) become 'innovators' at the center of the process by receiving personalized information about design, products, and services at the point of decision.



RENDERING BY KENT LARSON 2003. SCALE MODEL MCL ESH 2003

In this chapter, we summarize the work of the MIT House_n Research Consortium to prototype and test selected design, decision-making, and construction systems that support this new model.

CHASSIS AND INTEGRATED INTERIOR INFILL (I3)

GM's well-publicized HyWire concept car is conceived as a standard chassis common across their entire product line, with highly customized 'infill' (the body parts, finishes, electronics, etc.) often provided by 'Tier-1' suppliers. Personal computers are built with a similar strategy. No comparable approach, however, can be found in the design and construction of buildings.

The MIT House_n Group has developed prototypes to separate a building into a 'chassis' (the standardized structure, power, data, and plumbing of a building) and 'infill' (apartment interior fitout that are customized at the point of sale by the individual and connect in standard ways to the chassis).

A variation of the chassis/infill strategy was used to create an apartment-scale research environment to study the interactions of people with new technologies. The PlaceLab, an MIT House_n plus TIAX LLC initiative, consists largely of prefabricated, customized cabinetry components with accessible connections to the building 'chassis'. These components house sensing, communication media, lighting and control systems.

We envision a future where individuals could tailor their physical and computational environment according to their needs and values via customized Integrated Interior Infill (I3) components, each with pre-installed, tailored technologies.

RETHINKING THE DESIGN PROCESS FOR RESPONSIVE PLACES OF LIVING

The customization of homes is significantly more challenging than the mass-customization of individual products since the users of the system have a wide range of age, interests, skills, and cognitive ability. The resulting home is a complex mix of many products, some standard and some customized, that exist in the complex context of architectural form, light, and materials. Since it is not feasible for an individual designer to work closely with each resident of a large housing development, a design interface that provides individual non-expert designers



PHOTOS BY KENT LARSON

with the means to effectively make informed decisions without becoming overwhelmed by the process is essential. This involves much more than simply offering choice since, as Joe Pine writes, "Customers do not want choice. They want what they want (and generally now)."

A good designer has the ability to keep many variables at play simultaneously until converging on an integrated solution – simultaneously solving many problems, from formal to functional. We believe that home-buyers, using sophisticated decision making tools, can become 'innovators' at the center of the process by receiving carefully tailored personalized information about design, products, and services at the point of decision. In our model of design, experts create systems that capture their design knowledge and values. They are used to guide non-expert designers through complex design and decision-making problems – without requiring that one think like an expert. This approach to design decision-making for non-expert designers involves four integrated components:

PREFERENCE ENGINE

A preference engine takes people through a series of exercises or games to uncover needs, preferences, values, and reasonable tradeoffs – what might be called the architectural program. The preference engine builds a user profile that includes family size, budget, aesthetic values, and range of activities. To prototype and test various strategies, we built a digital table that projects images and data from below onto a luminous surface, and uses sensing to recognize gestures and optically tagged architectural component scale models.

DESIGN ENGINE

The design engine is a computational algorithm that makes use of the preference engine data to create a starting point design that the 'designer' (i.e. the future homeowner) then refines.

We envision many design engines, each capturing the unique values of a particular architect. We have experimented with several strategies, ranging from a simple decision that finds a best-fit among a series of pre-developed solutions, to a more complex and unconstrained design system.

Opposite (far left) Scale study model of the building exterior.

Opposite (top right) PlaceLab interior, showing Integrated Interior Infill (I3) fit-out. Each of the 22 interior components contains a micro-controller, sensor bus, and a variety of state change sensors, environmental sensors, and communication devices.

Opposite (bottom right) PlaceLab interior testing one aspect of Open Source Building: Integrated Interior Infill (I3) components with sensing and addressable lighting infrastructure. Shown are hinged, accessible sensor bus raceways. All cabinets use the same embedded connections and technologies, simplifying installation and increasing flexibility. The facility contains hundreds of modular sensors.



PHOTO BY KENT LARSON

Left View from above of digital table showing plan, information display, tagged physical components, and continuously updated feedback about design .

DESIGN ITERATION INTERFACE

Using one of many possible design iteration interfaces, customers can experiment with design alternatives, and evaluate a complex mix of elements including form, finishes, lighting, health technologies, appliances, comfort systems, and services.

House_n researcher T.J. McLeish developed a design interface prototype where the users have various tools to help them understand the design and its implications:

- Conceptual views: diagrammatic floor plans showing the relationship of spaces and elements.
- Tangible objects: optically tagged scale physical objects placed on the plan. These objects provide the means to move architectural elements and furniture to study alternate arrangements. By physically moving or replacing scale objects, the displayed views and information is continuously updated. The views of the design are updated by moving a physical scale figure.
- Perceptual views: as the physical objects are moved, a ten foot-high projected perspective rendering showing form, light and materials is updated in real time. This presents the solutions as perceived by an individual standing at a particular spot at a particular time of the day.
- Data: the alternatives can be evaluated according to cost, performance, durability, etc., including data provided directly from the manufacturers.

COMPUTATIONAL CRITICS

While iteratively exploring a design solution, most non-expert designers will require feedback from experts related to best practices, building codes, and design integrity. Since face-to-face interaction between a skilled architect and client is typically not feasible for housing developments, we envision a system where architects provide software 'plug-ins' that non-expert designers can use to get real-time feedback as they make changes to their designs. While code requirements can be rule-based, capturing the more subjective values of a designer may require a more open-ended approach. Computational critics can provide feedback to the user as incremental changes are made to the design. House_n researcher Reid Williams implemented a prototype of a computational critic system that runs with the design iteration interface described above.

Once the design is set, specifications for standard products can be sent directly to the manufacturer, and machine data can be sent directly to millwork fabricators, for example, for the production of customized or mass-customized components.

STANDARDS

Widely available, highly customized places of living will only be possible if the design and construction industry collectively agrees on standards for how building components and systems connect. This would involve standardized interfaces for power, data, plumbing, and mechanical attachments as is common in the electronics industry. It would allow interoperable assemblies with sufficient economies of scale to increase quality and reduce costs. This approach may transform how homes are created over the next 10–15 years, and create new pathways into this \$300-billion-per-year-market for companies producing materials, products, and services for the home. It could create the ultimate mass-customized product: highly personalized living environments comprised of a complex integration of customized, mass-customized, and standard integrated assemblies.

Kent Larson is principal research scientist at MIT's School of Architecture and Planning. He is director of the Changing Places research group and the MIT Open Source Building Alliance. Larson has practiced architecture since 1981: in partnership with Peter L. Gluck from 1981 to 1995 in New York City, and as Kent Larson Architects, PC from 1995 to present. *Architectural Digest* selected his firm as one of the 100 architects for residential design, and his designs have won numerous awards.

SUBURBAN JIGSAW PUZZLE

Text by Katja Pfeiffer.

Photos by Torben Eskerod & Bert Teunissen.

No two people are identical. This realisation was kept in mind by Rotterdam architects Drost + van Veen when they designed the Swanla estate on the outskirts of Zevenhuizen. Rented and owner-occupied properties, lofts and terraced houses of different sizes – all have been joined together to form two homogeneous compact blocks, which provide a great deal of leeway for users who may want to modify them at a later date.





Previous The fact that the complex includes different types of living arrangement cannot necessarily be seen from the outside. The northern 'living island' shown here mainly accommodates two to three-storey detached and terraced houses.

Left The complex rises to a height of six storeys on the side facing the village. Here, on the south-western end of the large 'island', the rental apartments are located.

Opposite There is parking space either in the underground garage or between the residential units. A brick-red wall makes it possible to see into the courtyard.

Zevenhuizen is one of many small villages in a catchment area in the northern part of Rotterdam. It is 16 kilometres from the city centre and located between two freeways in flat 'polder' countryside. The Zevenhuizen-Moerkapelle has around 1,000 inhabitants, a figure which is rising as is also the number of pensioners, singles and single parents. But there are also families here who want to avoid the noise of the big city, looking for the peacefulness of the green landscape, an idyll between canals and greenhouses, industrial park and freeway.

At the moment, a 'lot of work is being done on the housing market', says the local community in an official statement. And the 'need for high-quality homes is growing'. Such homes are being built in Utrecht, Rotterdam and Amsterdam but you seldom hear of this happening in a small village such as Zevenhuizen on the outskirts of the city. The young Rotterdam architect's office, Drost + van Veen, were willing to take on this challenge. The development company, Woonpartners Midden Holland, invested around 11 million euros in SWANLA, a two hectare residential project on a piece of land which

was formerly used for agriculture located at the edge of the village. Not much money considering the noble ambition of creating something 'completely different'.

The main aim of the programme was to provide accommodation for less well-off people and people with a higher income in one location. Following this plan consistently, the architects designed a jigsaw puzzle of rented apartments, apartments for sale, lofts, single-family houses and terraced houses. The result is a homogeneous and compact urban-planning concept. It generates the impression of a fortress – a strong gesture which combines the different forms of living in a single entity. The social character of SWANLA Catsburg becomes especially clear if the project is compared with other buildings in the surrounding area. The estates developed around the site in past years correspond to the home construction companies' standardised terraced houses which are found all too often in the provinces of Holland.

As winners of a limited competition, (the city invited three offices to present their work), Drost + van Veen started planning in 2000 and, at the beginning of 2005, the

complex was completed. I accompany the architect, Evelien van Veen, on a tour. We approach SWANLA Catsburg from the west and cross a narrow footbridge. The site is surrounded on all four sides by canals. It is only possible to reach it in two places by car, in the east and west corners.

"At the request of the client, people should not park in front of the house. This was something completely unusual for a small village like Zevenhuizen," said Evelien van Veen. And this is what was done. In spite of the unusually wide road, there are no cars in front of the building because most of the residents park their cars in the underground garage of the complex or next to their house. At the same time, the scaled dark roof which almost reaches down to the ground catches the eye. From under it, a wall with a warm brick-red colour protrudes. Generously curved corners complete the façade and give an idea of how big the complex is. With its five floors of apartments, it marks the entrance and, at the same time, relates to the buildings opposite. We walk round the corner, our hands stroking the rough brickwork skin. "Old clinker was used here," said the architect, "only good material."







In spite of tight financial resources, the architect's office paid special attention to the selection of building materials. Brick and stone are typical of the region. Traditional forms of building, materials and context have played a leading role in the projects of Drost + van Veen: the small tiles used for the SWANLA roof, for example, were a response to the village scale of the project. The ceramic shingles have a slightly horizontal bend in the direction of the sky and reflect the sun, although this is rare at this time of year.

The residential complex comprises 48 terraced houses and 41 rented apartments with an effective living area (BVO) of 11,680 square metres. It consists of two 'islands', one being around 50 metres wide and 130 metres long and the other having the same width but being 85 metres long. What is striking is their arrangement: only the end points are on the same axis whereas the edge of the block narrows slightly towards the middle. The large form is retained but is nevertheless pleasingly interrupted when seen in perspective. There was another important reason for splitting into two parts and offsetting the roads, however: they reflect back

on the structure which determines the adjacent rows of houses and the axes of sight into the open meadow landscape.

We continue walking along the south-east side. After around 50 metres, the building becomes lower. The three-storey terraced houses begin here but the materials remain the same. The dark camouflage-like paneling is in the form of a strip or a monopitch roof accompanying the continuous brick-red base set back horizontally. But, in spite of the differentiated cubature, it is very difficult to distinguish between terraced house, single family house and maisonette apartment. As in the case of the rented unit, glass façades at the entrances and closed anthracite-coloured garage doors alternate with each other. The wooden doors and window frames are painted in the same grey colour. The roof, which can almost be touched, provides us with shelter against the rain. A narrow parking bay between two terraced houses with a monopitch roof interrupts the row of buildings after about 20 metres. Through small openings in the brick wall, we catch a glimpse of the courtyard, terraces, plants and outbuildings.

It stops drizzling when we arrive between the two 'islands'. The playground in the middle of the square is empty. Friday afternoon. An old gentleman is taking his dog for a walk. Most of the residents do not return from work until later.

We enter the glass foyer on the west side of the complex. It was already apparent from the outside that Drost + van Veen had based their work on 'other' design principles here; like randomly thrown down Mikado sticks, the individual staircases intersect with each other, thus creating diverse spatial relationships and angles of view. Thanks to the large panorama windows, the entrance area looks open and light. For the inside of the complex as well, the architects elaborated a functionally and spatially effective concept: a construction made of wood and glass panels protect the arbours against the wind. Like the staircases, they are also made of prefabricated concrete elements – matching the minimal materials used. A bench implies that the place is accepted by the residents. On the ground floor, a similar impression is conveyed: the terraces are open towards each other. Low, soberly designed wooden



troughs mark the dividing line between the private and communal outdoor area, which has now been planted.

The largeness of form which characterises the complex from the outside gives way inside to an almost family-like ambience. Everyone can choose who he or she mixes with socially, or chooses who not to mix with, as the case may be. Within the terraced and single-family houses, the condensing principle rules; garden arbours seam a narrow alleyway in the middle of the courtyard. The terrace between house and outbuilding is completely private.

Most of the people living in SWANLA Catsburg come from the vicinity, namely a lot of older people who, as the architect said, fell attracted by the 'special nature' of this housing concept. The ground plans of the residential units are all based on the standard size of 5.4 m wide and 11 m or 12 m deep. The types of apartment vary between 109 and 190 square metres of living area and the maisonette apartments are between 141 and 196 square metres in size. Access is from the lowest level, with a single flight of

stairs leading to the upper floor. The different ground plans are all based on the same scheme: a spacious living room with an open kitchen, two or three bedrooms, a balcony or loggia facing outwards or a terrace facing the courtyard. Everyone profits from the daylight which comes into the rooms from above through the large glazed fronts and the roof windows. This is especially clear in the corner houses, whose living space is lit up from two sides.

In the plans, the interior fittings were reduced to the essentials. The buyers select the ground plan according to their personal needs and wishes. But not only that; they make the final decision on the individual appearance of their home, for example the garages which can be fitted out to create an additional room. If the financial means permit, the owners can have another floor built where this is possible. This is done by placing a monopitch roof on the already existing floors. In the course of the next few decades, SWANLA Catsburg will change in appearance and even that which is shown by the many design models will not be applicable

or has never existed in such a form. In terms of its shape, the building emanates strength. It is alive.

Opposite The site is surrounded on all four sides by water courses. The longitudinal views of the two 'islands' which form the complex are slightly offset from each other.

Above The rental apartments in the southern part of the complex are accessed from the interior courtyard through walkways protected by glass elements.

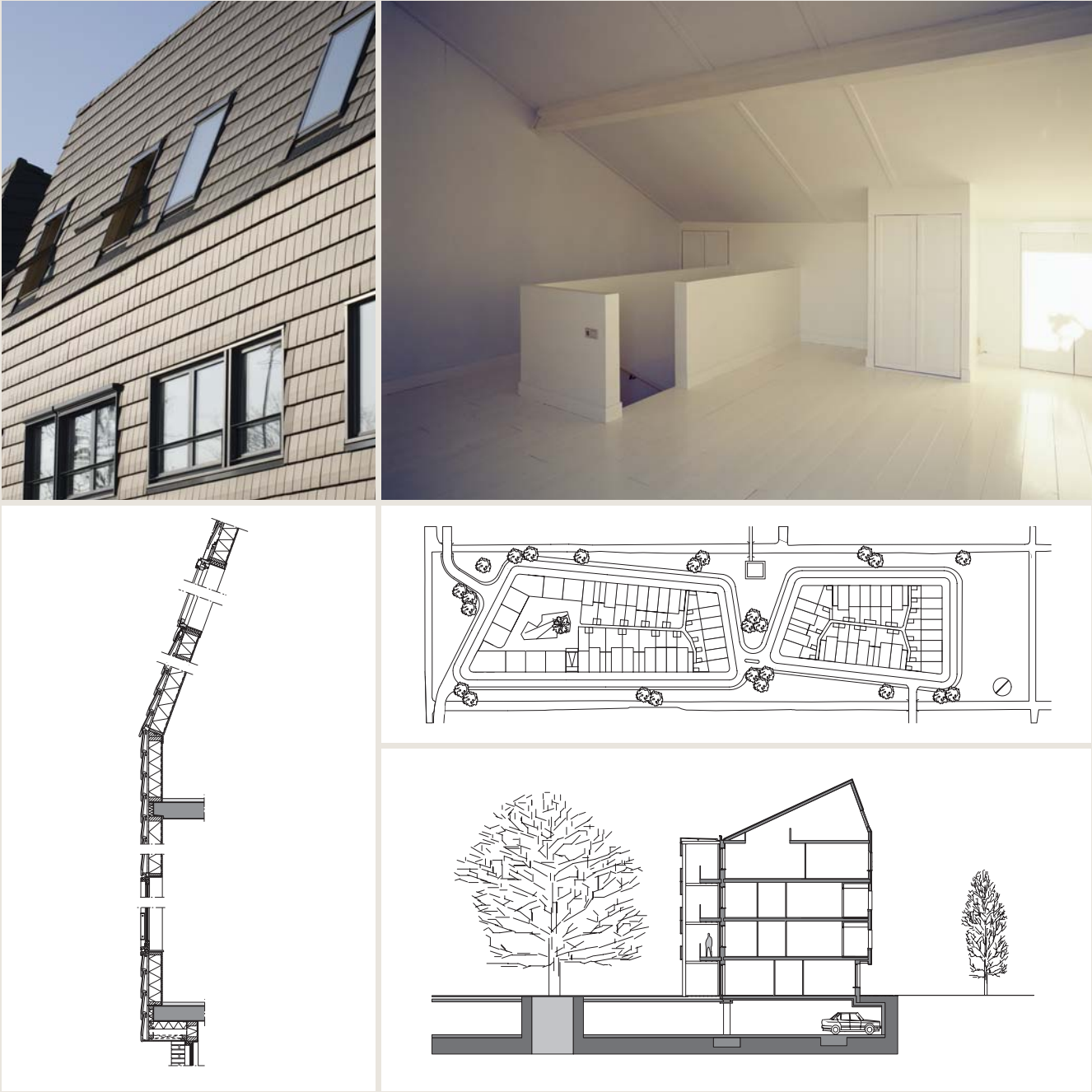
Facts	
Location	Zevenhuizen-Moerkapelle, NL
Type of building	Residential building, (social)rent and for sale
Development company	Woonpartners Midden Holland
Architect	Drost + van Veen Architecten, Rotterdam, NL
Completion date	2005

Previous Four intimate views into the interior: in spite of the outwardly uniform apartments, the occupants and their styles of living differ from each other considerably.

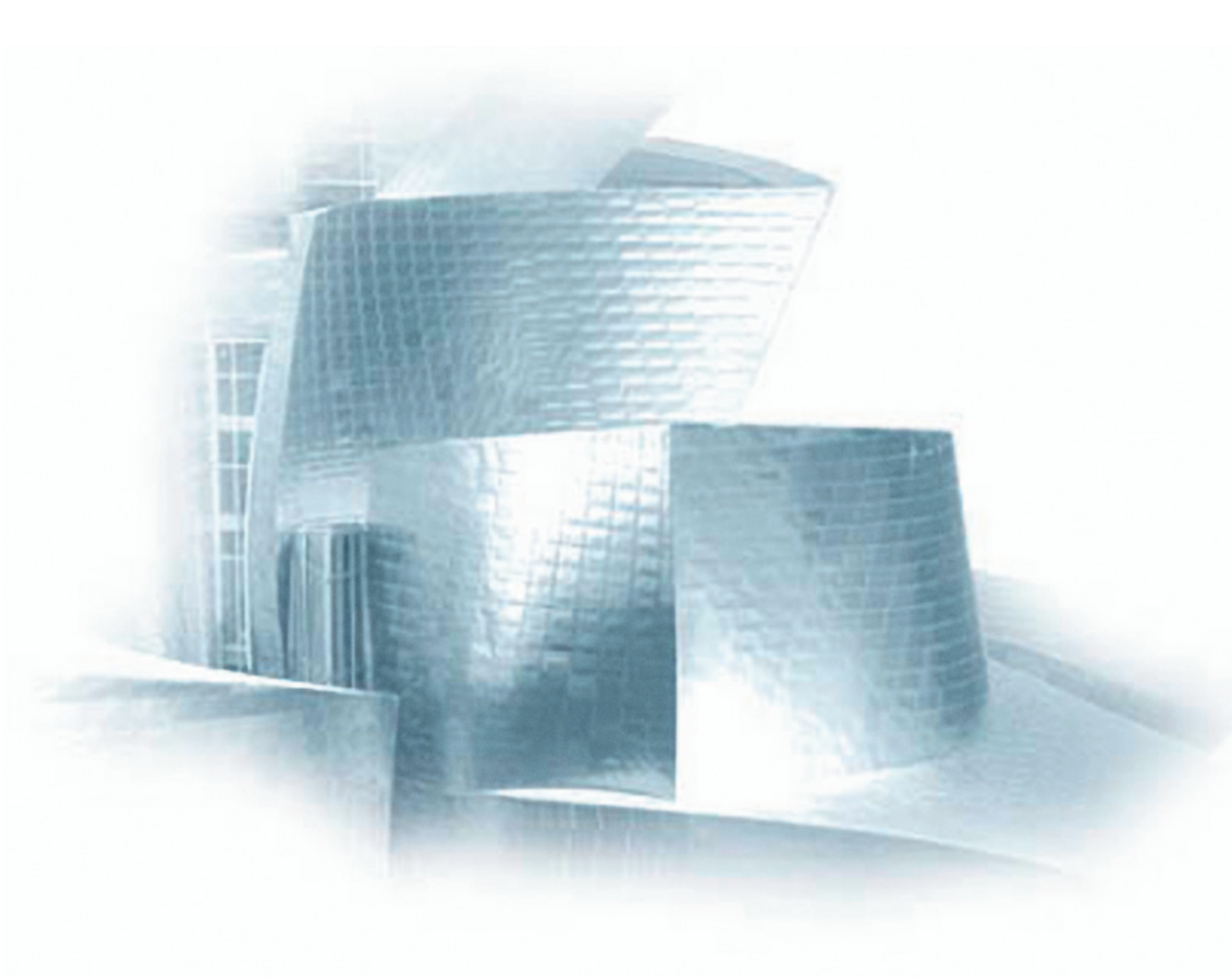
Below (left) The gable roof and façade form a unit. Their surface consists of anthracite-colored ceramic shingles with a slightly horizontal kink that reflects the sun and endows the whole with a village feeling.

Below (right) Additional living space is provided by the monopitch roof which can be placed onto the existing flat roof if required.

Bottom (clockwise from left): Roof facade (vertical section), general plan, cross-section through underground garage and rental apartments with covered access.



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COLOUR MAKES THE DIFFERENCE
HAGENEILAND RESIDENTIAL AREA
IN YPENBURG

Facts	
Location	Siemensvaart Ypenburg, Rijswijk
Type of building	Terraced and semi-detached houses
Investor	Amvest, Amsterdam
Architects	MVRDV, Rotterdam
Completion	2001

Since the beginning of the 1990s, housing in the Netherlands has undergone a radical change. With the withdrawal of the State from domestic construction, prices doubled within a few years. At the same time, thematic residential areas were being developed which were sometimes constructed as parallel worlds, for example as mediaeval forts or castles from the Renaissance period. In the VINEX area in Ypenburg there is an urban extension of approximately 15,000 accommodation units based on the 'countryside' theme. The master planners, Fritz Palmboom and Els Bet, divided the site, which was previously a military airport, into themed areas such as moorland, wood or water. Hageneiland, which can be translated as 'the hedge island', is part of the 'water district' planned by MVRDV. The name stems from the high hedges, behind which the inhabitants' private gardens will disappear. The area is only accessible by foot, the only parking spaces being along the ring road.

In planning the 119 privately owned and rented dwellings, MVRDV were confronted with another peculiarity of the private housing market: the risk of poverty. The floor plans of the dwellings are largely standardised; typological experimentation is not desired and the architect usually designs the façade only. He provides the residential area with its own identity through outward appear-

ances, such as roof shape, window arrangement and choice of materials. MVRDV decided to play the architect's game and reduced the houses externally to their original prototypes – two storeys with gabled roofs, with no apparent gutters, porches or other accessories. Only skylights occasionally interrupt the homogenous roofing casting some daylight inside.

MVRDV fulfil the inhabitants' subliminal wish to have their 'own' house with brand recognition factor through their calculations regarding the choice of materials. The houses are clad in a uniform way from the foundation to the roof ridging. Therefore, no two neighbouring rows of houses ever receive the same façade material. The following materials are used: wood shingle, corrugated fibre cement boards, aluminium sheets, blue and green polyurethane panels and clay roof tiles. The green houses will become overgrown with ivy in the coming years.



1. The 'hedge island' Hageneiland is part of a master plan created by Fritz Palmboom and Els Bet. The proximity to water – as is often the case in the Netherlands – determines the urban planning concept.

2. The interior estate is completely free of cars. The rows are each composed of a maximum of six individual houses and are interspersed with many smaller spaces, which give Hageneiland the appearance of a village.

PHOTOS BY ADAM MORK

MVRDV intentionally dispensed with any kind of extravagance. Only the different facade materials differentiate the buildings.

WEEKEND HOUSE IN THE CITY

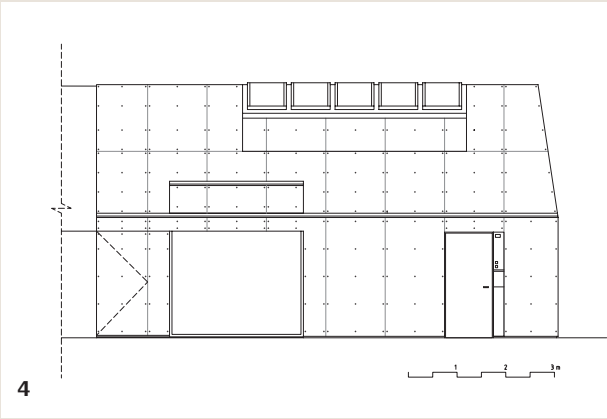
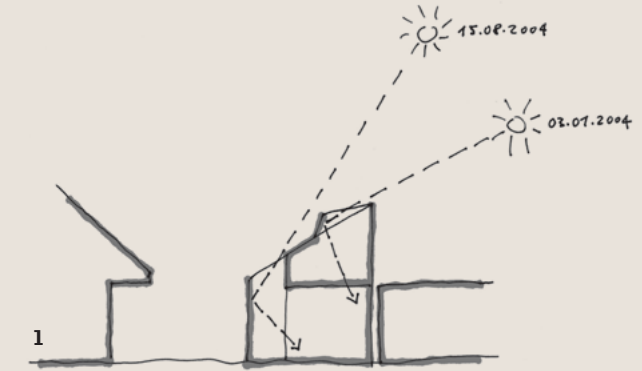
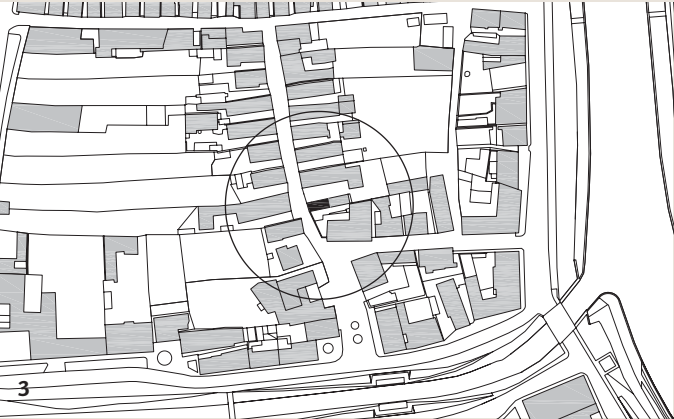
XXS HOUSE IN LJUBLJANA

Facts	
Location	Ljubljana
Type of building	Residential building
Client	Private
Architects	Dekleva Gregori_ Architects, Ljubljana
Completion	October 2004

Anyone who has been to Ljubljana, the capital of Slovenia, will know the picturesque Old Town with its many small cafés dotted along the River Ljubljanica. Not quite so well known, however, is the attractive 'Krakovo' district not far from the Old Town. Originally created as a trading quarter for the neighbouring monastery built in the Middle Ages, it has in recent years become increasingly attractive for people who want to be near city life but also would like to have a house with a garden. Erected in small lots, the country-house style buildings – each adjoined by an elongated garden – look like a green oasis in the most densely populated city in Slovenia.

It was in this environment that the small XXS House, planned by Dekleva Gregori_ Architects from Ljubljana, was built in 2004. The client, the father of Aljosa Dekleva, and an architect himself, helped to finance the young architect's office in its first independent project. The building plan was based on an unusual idea for using the house: the clients lived in the countryside and the couple wanted a 'weekend house in the city' in order to be able to participate in the city's cultural life. The

reaction of Dekleva Gregori_ architects to this idea was a kind of strict minimalism in form and material: the simple 43 square metre cubature of the 'Xtra Xtra Small House', which had to match the preceding building due to local building authority regulations, is emphasised even more by the façade and roof panelling made of large-format fibre-cement panels. The windows, which are flush with the panelling, look as if they were cut out to size with a knife. There are two rooms, one on top of the other – similar to the concept of a hotel suite. Equipped with only the minimum fittings, they perform all the functions – from bathroom to small kitchen – which are necessary for short-time stays. A sculptural steel staircase in the middle of the ground floor leads to the bedrooms on the upper floor. Here, the architects used a trick to handle the north-facing orientation of the roof: the elongated roof dormer does not open out towards the front but upwards, thus admitting a large amount of natural light into the rooms. This makes living in a very small space a unique experience in a townhouse bathed in sunlight.



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1. The building authority regulations, due to which the roof is oriented towards the north, necessitated a special light concept in order to be able to supply the interior with a large amount of natural light.

2. The attractive 'Krakovo' district near the old town is characterised by small housing lots in the country-house style. With its external form, based on the preceding building, the XXS House blends in perfectly with its environment.

3. Location diagramme.
4. Elevation.

5. Thanks to the long roof dormer, the height of the upper-floor room is sufficient. In addition, the shape of the dormer allows the light to enter from above, not from the front.

6. A great deal of natural light enters through the staircase opening and lights up the ground floor. The minimalist staircase looks like a sculpture made of steel. Only a thin piece of steel serves as a handrail.

7. The cubature of the small house looks as if it has been cut out with a knife due to the large-format fibre-cement panels used for the façade. It therefore stands out from its surroundings, especially in terms of the materials used.



PHOTOS BY MATEVZ PATERMOSER

A CONTEMPORARY CLASSIC VILLA KARLSSON IN VÄSTERÅS

Facts	
Location	Tidö-Lindö, Västerås (Sweden)
Type of building	Single-family house
Client	Björn and Berit Karlsson
Architects	Tham & Videgård Hansson Arkitekter AB
Completion	2002

Situated on a small island near the huge lake Mälaren, the red-coloured wooden 'Villa Karlsson' is a modern example of simple family-life planning and co-existence with the wild, Swedish nature. Its shape resembles a traditional Swedish cottage, albeit in an extended, extra long, version.

The brief from the clients, a couple in the mid-sixties with no previous experience with architects, was to create space on the ground floor for themselves; the upper floor should be ready for future extension and be used by visiting children and friends when staying overnight. Tra-

ditional barns, warehouses and other rural buildings in the area have been the primary source of inspiration; a pattern still very common on and around the island Tidö-Lindö.

Rooms en suite in combination with transverse passages offer several alternative ways to use the house. Windows are placed to highlight certain views, e.g. of the garden lake, a special tree or the sky above, as if the windows and the views outside were paintings in a fine art gallery. The use and placement of the windows is a strong and poetic element creating a dynamic contrast to

the solid and prismatic exterior.

On the northern coast of Lake Mälaren in mid-Sweden, the house is situated in a former recreational area where the original, archetypical Swedish cottages have been either extended or replaced by 'ready-made', 'do-it-yourself', catalogue houses.

To keep construction costs low, the modules are based on a standard cc1200 module. Standard building components made the costs extremely low, i.e. 30-50% less than the average cost level. The exterior materials of the Karlsson Villa are

oversized wooden panels made of the heartwood from slowly grown pine. Traditional Falu-red paint creates the prismatic look, at the same time re-interpreting the Scandinavian roof technique used for centuries in the North and on the island of Gotland. All exterior fittings are also painted red to emphasise the traditional, monochrome exterior look of a Swedish wooden cottage. As a contrast to the red exterior, the interior is kept bright monochrome with plaster-white surfaces and modern Scandinavian and international furniture classics.



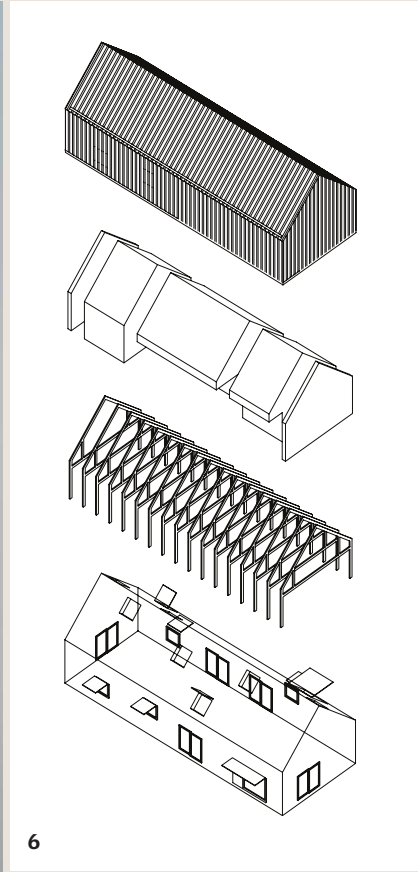
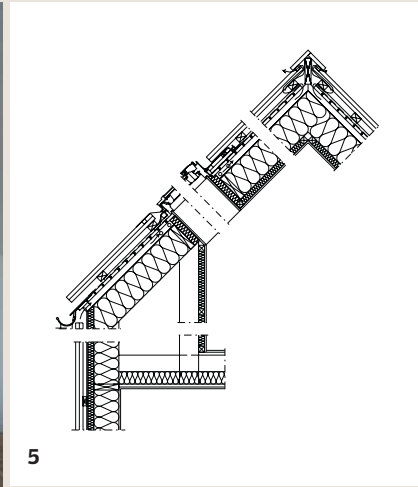
1. Villa Karlsson is set in an area with ample space to the next neighbour, the nearest small town and the sky above.

2. Freely placed windows in a sprawl punctuate the roof and the 'closed' facçades together with the screen-like, fixed shutters. This makes the light inside the house differ and change in a constantly changing pattern of light and shadow.

3. Roof windows placed as light shafts add light to the staircase and to the upstairs living space ready for guests, but not yet furnished apart from a few decorative items.

4. The interior, which is kept bright white, forms a marked contrast to the 'Falu-red' colour used outside.

5. Detailed cross-section.
6. Axonometry of the construction.



IN SEARCH OF A COMMON LANGUAGE

Text by Werner Osterhaus, Symposium Co-Moderator.

To move daylighting design into the 21st century, a common and specific language is required to facilitate exchange and debate between all parties involved in the building industry, along with clearly defined descriptors of the factors responsible for achieving high-quality daylighting applications. Awareness of and easy access to detailed information on successful examples of daylighting design applications are other critical steps in this process. That is the consent reached by daylighting experts – researchers, educators, architects, lighting designers and users of daylit buildings – at a symposium in Budapest.

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There seems to be little doubt that people clearly like daylight and sunlight. They strive to create and enjoy buildings that provide plentiful and visually pleasing natural lighting. Access to good daylight and a pleasant view have almost become synonymous with high-quality buildings and good architecture. Architects attending the symposium and presenting some of their design work certainly demonstrated that they have a strong personal desire, as well as a client-driven mandate, to integrate daylighting and views to the exterior environment creatively into their buildings.

Research from around the world has also identified that good daylighting design can improve worker productivity and student learning, provide a healthier environment, significantly reduce energy consumption, and improve the image of designers and building owners/occupiers as visitors will

appreciate the daylight contribution.

Alexia Monauni of Austrian architecture firm Baumschlager & Eberle offered a number of projects which explored the treatment of building façades to regulate daylight and sunlight with integrated architectural elements of varying context-dependent material qualities. Her firm utilises a layer approach often incorporating sliding panels in the exterior layer, recessed glazing elements in the central layer and curtains or blinds in the interior level to allow the occupants to vary the amount and nature of the daylight or sunlight entering the room (Fig.1). It would have been interesting to see how these strong architectural designs are experienced by the occupants in their daily routine.

Ivan Redi of architectural firm 'Ortlos' (without fixed place) presented his team's desire to explore the new possibilities of the digital age in order to allow architecture and lighting design to move in new directions. Trying to recapture the skills of the old master painters, he essentially suggests that daylighting design in architectural applications is like painting with light and shadow in support of an artist's composition to allow the viewer (or building occupant) to experience a scene or space in a particular way.

In Mr. Redi's view, researchers focus too much on quantifiable aspects or final results and too little on the design process. It is during the design process that decisions are made which significantly affect a building occupant's experience of a space. Mr. Redi also speaks of his clients' dream of liv-

ing in well-designed spaces bathed in abundant daylight and direct sunlight to provide added warmth – both psychophysically and psychologically. He wants to provide for that desire in new ways and is prepared to invest the time and join interdisciplinary teams to make it happen.

But the building users' 'love of daylight and sunlight' is not unconditional, as Peter Boyce, a long-time researcher and consultant on human factors in lighting design, pointed out in his contribution. Others could clearly confirm this. Despite the overwhelming general longing for daylight, buildings users will complain if things are not working well. Building occupants might experience high brightness contrasts between different parts of their visual field, discomfort from glare or veiling reflections at their workstations, overheating due to excessive solar radiation entering their space, or other problems associated with the design of the daylighting system. On the other hand, if daylight and sunlight could reasonably be provided and they are not, then people will complain about the lack of these elements.

Reasons for less-than-optimum daylighting conditions in a building might range from a lack of fully understanding the fundamental premises of daylight and sunlight as form givers in architecture to the inappropriate application of technology on the part of the designer. In addition, the lack of clear definitions and descriptors or indicators for daylight quality impedes the communication between researchers, architects, light-



Fig. 1 (Left)
BTV Building in Wolfurt, Austria.
Layered façade elements are
combined to control daylight
and sunlight in bank offices and
apartments. (Source: Baum-
schlager & Eberle Architects,
Lochau, Austria)





Above & Right Computer-based lighting design simulations for complex (above) and relatively simple (right) environments. (Source: Ivan Redi, Ortlos Architects, Graz, Austria)



ing designers, and building owners or users regarding the goals of daylighting design and how to achieve high-quality daylit buildings.

Current guidelines and recommendations are frequently based on research conducted many years ago with now outdated lighting and control systems or building technology. Offices are a prime example: the critical work surface has moved from the horizontal desktop to the near-vertical computer screen and lighting needs have changed accordingly. These new realities require different approaches to the problem. Many assessment models cannot be adapted to include some of the current (day)lighting technologies. New models are therefore required to close that gap.

Marc Fontoynt, leader of the daylighting research programme at the National University of State Public Works (ENTPE) in France, introduced the symposium participants to daylighting research conducted at ENTPE and within the International Energy Agency Task 31. Key aspects included results from user preference studies regarding daylighting control systems and useful indicators for the cost of light provided by different means. If one can demonstrate that good daylighting can provide cost savings compared with other measures, investors are more likely to support such design. Daylight from windows and skylights was identified as the preferred source of providing light indoors and also the most economic source with 0.35 € for skylights and 1.08 € for side windows per mega lumen hour (Mlmh) of

light provided on the working plane.

Fabio Bisegna from the University of Rome addressed issues of daylighting design from the perspective of Southern Europe and particularly highlighted the connection between daylighting and solar control, a critical issue for energy conservation and human comfort in the Mediterranean region.

András Majoros from Budapest's University of Technology highlighted the dynamic characteristics of daylight as one of the reasons why people enjoy and prefer daylight. Daylight and sunlight vary in intensity and colour throughout the day and seasons. Automated daylighting and solar control systems have been developed in response, attempting to carefully negotiate the fine line between what might be perceived by the occupants as either desirable assistance or removing all control from the users.

Jan Wienold from the Fraunhofer Institute, Germany participates in the ECCO-Build project, an interdisciplinary European research endeavour specifically looking at developing algorithms for user and climate responsive daylight and solar control systems. So far, several important aspects have been advanced through this project, ranging from better means to assess luminance mapping camera images for likely glare occurrences to the proposal of a new discomfort glare formula.

Full-scale mock-up and computer simulation models of the new office building for the New York Times newspaper currently being designed by Renzo Piano's Building

Workshop in conjunction with LBNL occupy much of Eleanor Lee's time these days. The project presents a unique opportunity to assess the many factors influencing daylight quality long before the building goes into the actual construction phase. Exterior and interior façade elements, daylighting and solar control systems, electric lighting integration, furnishings and office equipment can all be tested and evaluated prior to their installation in the finished building design. Nevertheless, LBNL researchers find that existing daylighting metrics are insufficient when it comes to establishing clear design parameters and assessment criteria for the many aspects of this innovative building. Visual comfort experiences often vary greatly from one person to the next. This presents a huge challenge when attempting to design a daylight system that responds to the needs of all building occupants. Nobody really wishes to relinquish control over their personal work environment to someone else.

Marie-Claude Dubois, Université Laval, Canada, presented current research on assessing daylight quality in simple rooms through computer simulation. Simplicity in the geometry of the space, she says, allows the researcher to carefully assess the impact of many individual variables in the computer modelling process through parametric study. Too complex geometries make such studies difficult, as interdependence of variables clouds the picture.

Guy Newsham from the National Rese-



Left Physical model based lighting design simulation for a complex daylight environment in the artificial sky with sun simulator. (Source: Peter Andres, Lighting Consultant, Hamburg, Germany)

arch Council of Canada (NRC) focussed on how new knowledge on occupant responses to daylight in buildings can be incorporated into existing and new design tools. One of NRC's research projects has tracked the movement of individual office workers to correlate their daily routine with information about the various luminous environments in which they move about. Linking both the dynamics of daylight and the behaviour of building occupants can provide new insights when assessing the daylighting performance of a building or space. Ultimately, it is hoped that design tools can dynamically evaluate various possible design scenarios.

Hamburg-based lighting consultant Peter Andres offered the symposium participants a detailed look into his firm's lighting quality assessment process. Both virtual and physical models are part of the repertoire, along with many years of experience. He feels that access to an artificial sky with sun simulator is essential to study the dynamics of daylight and sunlight, especially when unusual geometries are proposed for a specific space. His clients can get a first-hand experience of a model's interior and are able to see the impact of different design solutions. He seems to suggest that physical models are still seen by many as more true to reality than virtual models.

High quality-daylighting, he suggests, can perhaps be best described as the type of daylighting which is sufficient for visual task performance, visually comfortable and glare-free, visually pleasing and appropriate

for the architectural and social context, well-distributed across the space, and supportive of human health and well-being.

Potential, known descriptors for daylight quality include:

- Luminance (adaptation, ratios, contrast, distribution)
- Volumetric brightness (perceived effect of overall brightness of all room surfaces – analogous to mean radiant temperature in thermal comfort assessment)
- Illuminance (ocular, vertical, horizontal, work-plane, scalar, cylindrical, uniformity)
- Daylight factor (average, minimum)
- Correlated colour temperature and spectrum of light source
- Directed and diffuse lighting contributions

Unfortunately, even established designers frequently apply these terms or descriptors incorrectly and without a clear understanding of the underlying concepts. Further education is obviously needed.

In addition, all of the above are still descriptors of measurable quantities, rather than quality. Designers want to know how to set design goals for daylight quality and how these goals can be approached. Good examples are an essential part of this process, as well as design tools appropriate for the complexity of the decision-making process at each step along the way. Simple tools (e.g. rules-of-thumb) are often sufficient early on. Later, more complex design tools allowing spatial (three-dimensional) and temporal (time) representation will be required to make appropriate decisions. Designers are

Werner Osterhaus is an architectural educator and lighting researcher with the Centre for Building Performance at the School of Architecture at Victoria University of Wellington, New Zealand. He can be reached via e-mail at Werner.Osterhaus@vuw.ac.nz.

More detailed information on the individual presentations offered at the symposium can be found at the Daylight Site at <http://193.163.166.242>.



Facts

The VELUX International Daylight Symposium, held on 6–7 November 2005 in Budapest, was the first international academic event to focus exclusively on daylight in architecture. 80 participants attended, representing architects from private companies, public authorities, researchers and teachers from universities and schools of architecture. The symposium included participants from 17 countries on four continents, including 13 key speakers. It was led by two moderators, Marc Fontoynont, Head of Building Sciences Laboratory, Département Génie Civil Urbain et Bâtiment in Vaulx-en-Verin (F), and Werner Osterhaus, Senior Lecturer from the Welling School of Architecture (NZ).

Key speakers

- Marc Fontoynont, Head of Building Sciences Laboratory, Département Génie Civil Urbain et Bâtiment in Vaulx-en-Verin (F)
- Peter Boyce, Consultant, Human Factors in Lighting (GB)
- Alexia Monauni/Elmar Hasler, Baumschlager& Eberle (A)
- Guy Newsham, Institute for Research in Construction at the National Research Council of Canada (CDN)
- Jan Wienold, Fraunhofer Institute for Solar Energy Systems (D)
- Werner Osterhaus, Senior Lecturer, Wellington School of Architecture (NZ)
- Ivan Redi, ORTLOS architects (A)
- Eleanor Lee, Building Technologies, Lawrence Berkeley National Laboratory (USA)
- Fabio Bisegna, Department of Fisica Tecnica at the University of Rome (I)
- András Majoros, Budapest University of Technology and Economics, Faculty of Architecture (H)
- Marie-Claude Dubois, Laval School of Architecture, Québec (CDN)
- Peter Andres, Light Consultant, Hamburg (D)

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BOOKS

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THE PRESENCE OF
THE CASE STUDY
HOUSES

Ethel Buisson, Thomas Billard
Birkhäuser 2004
ISBN 3-7643-7118-8
(French edition: Les éditions de
l'Imprimeur 2004
ISBN 2-910735-51-6)

The 'Case Study Houses' are a part of American architectural history like the famous writing on the Hollywood hills. The architects who designed this unique series of experimental houses have become world renowned: Charles Eames, Eero Saarinen, Richard Neutra and Pierre Koenig, to name but a few. Their buildings epitomise the essence of the 'American dream': the belief in advancement and industrial pre-fabrication and also in steel and glass (apparently) still abounds and because of this, the buildings are expertly embedded in nature. In 1945, John Entenza, publisher of the architecture magazine *Arts & Architecture* invited eight architects, who were native to California or who had migrated there, to build the first eight

houses on the American West Coast. The scheme for fast-selling houses developed later: 28 Case Study Houses were planned up to 1966, but only 20 of these ever materialised.

A few years ago the authors Ethel Buisson and Thomas Billard prepared to update the history of the Case Study Houses to the present time. They visited the houses which were still in existence, took photographs of them and spoke to their current occupants. In addition, they searched for plans and photographs in old editions of *Arts & Architecture*, which they could then compare with their new photos. In their text, they integrated the past and present, architectural documentation and reports in an amusing way. At least as enlightening as the buildings themselves is the description of the building of the housing and the excitement that the Case Study Houses caused in *Arts & Architecture* and other media at the time. In the end, the chapters were supplemented with short digressions into American architecture and contemporary history of the 1940-1960s.

Despite the documentary-style photographs, it is always the architecture and not the established preferences of the inhabitants that take centre stage. *The Presence of the Case Study Houses* is not a book on architecture in the traditional sense, but a report on a present-day expedition to an architectural era, which would otherwise have been considered as obsolete. The book is split into three equal parts: it depicts wonderful, light-filled architecture, portrays an architectural generation and its ideals, and documents how architecture and the media influenced each other in the past.

UTZON'S
OWN HOUSES

Michael Asgaard Andersen,
Tobias Faber
Arkitektens Forlag 2005
ISBN 87-7407-316-8

Jørn Utzon is most widely known as the architect responsible for the Sydney Opera House and the church Bagsværd Kirke in Copenhagen. The Danish Architectural Press and the Louisiana Museum of Modern Art now want to open the Pritzker Prize winner's other, lesser-known buildings to the public in a real 'Tour de Force': before 2007, Utzon's extensive archive comprising 25,000 drawings will be sifted through and his designs will be published in a complete edition.

Utzon's own houses form the prelude to his works catalogue. The very personally coloured strip on the title page was designed collaboratively by declared Utzon connoisseurs, such as Tobias Faber and Christian Norberg-Schulz, who died in 2000. However, this is not the only reason that the book is easy to handle. It shows how Utzon, spending time working in his office, started with examples such as Wright, Asplund and Aalto and with great constructive clarity developed an architecture of his own. At the end of the 1960s, he lost his interest in industrialised buildings and developed his own timber construction system for residential premises, which he christened 'Espaniva'. However, his buildings always remained committed to people and their requirements. His basic themes were the original purposes of house building: a place for people to congregate around a fireplace, a retreat into the protective grotto and a design that allowed sunlight to be cast into the building.

Utzon's approach to the origins of architecture becomes particularly clear in his Mallorca houses, which take up a great deal of space in this book. With them he reverted to regional construction techniques so skilfully that a native architect later wrote Utzon had taught him to look at his own homeland in a new way.

Utzon's houses always developed directly from the building process. In the introduction to the book, Kim Dirckinck-Holmfeld and Martin Keiding sum up his attitude entirely, "The construction is the architecture, everything else is lipstick". Characteristically, in 1952, he only drew up the plans for his first house in Hellebæk after it was completed. Utzon's houses are examples of architecture that requires a second glance: except for his opera house design, they are not eye-catching due to their concise shaping, but due to the use of space, perspective, light and attention to detail. The book's readership is drawn in by numerous detailed drawings and excellent, in print however somewhat lifeless, colour photographs by Søren Kuhn and Tobias Faber. Further findings from the archive research also rouse curiosity.

UNMODERN
ARCHITECTURE

Hans Ibelings
NAi Publishers, 2005
ISBN 90-5662-352-4

If you ask Dutch people about the state of architecture in their country today, sooner or later two reactions will inevitably come up. The first is a general lament about the decreasing architectural quality in what had hitherto been the model coun-

try for neo-modernism. The second is amazement about the triumphal procession of a new traditionalism which enjoys great popularity, particularly when it comes to house building. In fact, the Netherlands has developed a new centre for 'New Urbanism', partly in the slipstream created by the British and American precursors. Entire small towns were, and still are, based on the examples of villages, fortified towns or castles, with or without moats, from the Middle Ages.

Architects have at their mercy the devotees of neotraditionalism and the like, who are irreconcilably against even the term 'traditional', which is like a red rag to them. To that effect, genuinely objective, impartial surveys are rare. Hans Ibelings, author of the much-discussed book, *Supermodernism*, attempted to carry out such a survey. He accepts the possibility that the number of readers who have a strongly neutral attitude towards him may not be decreasing. However, he retorts: "Just as I wished to document supermodern architecture out of curiosity, I now attempt to provide a picture of another phenomenon in contemporary architecture, which fascinates me to the same extent and which I sum up under the name 'contemporary traditionalism'."

At the beginning of his book, Ibelings compares traditional architecture with biological nourishment: in the past nothing else existed. However, at the moment, because architecture was practically eliminated due to the effects of industrialisation, people must seek to reinvent it under another name. And traditionalism in architecture is considered to be like 'organic' when it comes to food – something which is a way of life or more superficially a lifestyle. Ibelings noticed that in a time when holding

onto designs which have stood the test of time is viewed distrustfully, traditionalists must avail themselves of more radical, provocative views than their neomodernist counterparts – 'precisely because they dare resist this tradition of the new'.

In *Unmodern Architecture*, Ibelings describes the development of 'contemporary traditionalism' and its main representatives in Holland, Rob and Léon Krier, Adolfo Natalini, Vera Yanovshtchinsky, Sjoerd Soeters and Molenaar & van Winden, to name but a few. In doing so, he makes it clear that they were nearly all trained in the tradition of post-war modernism and are now making up for what to a large extent passed the Netherlands by at the time: postmodernism. Ibelings keeps to the book's promise by describing things impartially and therefore the book sometimes shows neotraditionalism in a new and unusual light. Unfortunately however, in doing so, he almost exclusively presents the views of the architects. The 'fellow players' have been faded out, despite the fact that without them the architectural movement would never have developed to such an extent. This included the housing industry, which gave contracts for the buildings, and the 'man on the street' as the buyer, the wishes of whom the new-old architectural style attempts to fulfil. Therefore, possibly inadvertently, *Unmodern Architecture* portrays neotraditionalism as something that it never was: an autonomous art (of building), which is practically detached from market forces.

BUILT BY HAND –
VERNACULAR
BUILDINGS AROUND
THE WORLD

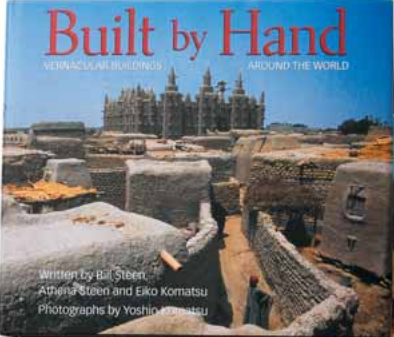
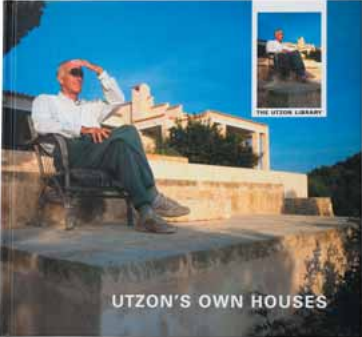
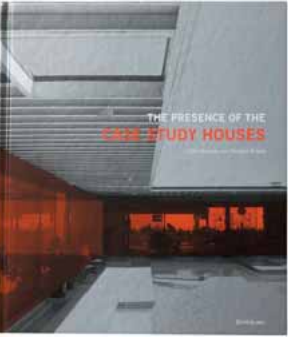
Authors: Bill Steen, Athena Steen
and Eiko Komatsu
Photos: Yoshio Komatsu
Gibbs Smith, Utah, USA 2003
ISBN 1-58685-237-X

In 1989, the two authors Athena and Bill Steen of Indian, Mexican and European ancestry, founded the Canelo Project, a non-profit and community organisation in the pasture lands of Tucson, Arizona. They had already made a name for themselves, particularly in the USA, with their self-built houses made from straw and other natural materials.

The book, *Built by Hand*, published in 2003, gives a comprehensive overview of their activities throughout the project and how the architecture was constructed by hand using traditional materials and techniques which were typical to the area. However, the real author of *Built by Hand* is their Japanese friend and photographer, Yoshio Komatsu. He and his wife Eiko were off round the world, making pictorial records of indigenous buildings and their inhabitants, who were also architects.

The chapters entitled Earth, Stone, Wood, Bamboo and Straw constitute the introduction to the 472-page document. Short texts introduce the respective construction techniques. There are other sections dedicated to buildings: On the Water and In the Earth, Mobile Homes and Building in Response to the Climate. Grain storage, places of worship, roads and entrances, windows, handcrafted details and ornamental art can likewise be found in the picture

book: there is a picture of a building in Cicmany, Slovakia alongside houses in Al-Hajjara, Yemen. Frescos in Holzgau, Austria, and in Ardez, Switzerland follow splendiferous murals in Valledupar, Columbia. In the epilogue, Yoshio Komatsu writes, "When I find a beautiful house, my heart beats faster as I get feelings from its shape, materials and settings". It is beauty in simplicity that fascinates the photographer and surely also the reader. The hospitality of the residents who inhabit many of the large, colourful photographs should also not be forgotten. Despite the variety of buildings, materials and locations that they present, the authors do not claim that this is exhaustive – they could not fulfil this anyway. In a world increasingly controlled by Western consumerism, *Built by Hand* is a collection which inspires courageousness as it reflects the wealth of cultures and exhibits new 'old' methods: not every 'roof over the head' that provides warmth, protection or simply gives pleasure has to be built from glass, concrete and corrugated iron.



BOOKS

RECOMMENDATIONS

European architects recommend their favourite books in D&A.



- 1 **Guillermo Vazquez Consuegra**
- 2 **Peter Ebner and Franziska Ullmann**
- 3 **Nabil Gholam and Aram Yeretdzian**

1 GUILLERMO VAZQUEZ CONSUEGRA RECOMMENDS

Alejandro de la Sota

Publisher: Moisés Puente Rodríguez
Gustavo Gili
ISBN 84-252-1880-2

Alejandro de la Sota (1913–1996) ranks among the masters of Spanish architecture of the 20th Century. However, despite the fact that his buildings were well publicised, his written works are still largely unknown. De la Sota's texts from 1951–1996 have been compiled for the first time in Moisés Puente Rodríguez's volume, which also contains a lot of until now unpublished material. One section of the book is dedicated to the essays of the architect, a second recounts several discussions with de la Sota and a third contains transcriptions of a number of lectures that he gave throughout his long career.

Pensar la arquitectura (Thinking Architecture)

Author: Peter Zumthor
Gustavo Gili
ISBN 84-252-1992-2

Peter Zumthor is one of the prominent heads in contemporary Swiss architecture. Even in times of globalisation the architect, who was born in 1943 and is a qualified cabinetmaker, has proven his down-to-earth attitude. His work is based on the use of material and construction, not on formal trends, as well as respect for our cultural inheritance. Gustavo Gili has now released a collection of texts, which Zumthor composed during the last 10 years, in the 'Arquitectura con Textos' series. They form a rare and valuable testimonial to the architectural thinking of the headstrong Swiss, who has been teaching at the Academy of Architecture in Mendrisio (Switzerland) since 1996.

18 años con al arquitecto Louis I. Kahn (18 Years with Architect Louis I. Kahn)

Author: August Komendant
COAGalicia (purchase from publiarq@buildnet.es)
(English edition: Aloray Publishers, ISBN 0-913690-06-6)

In this book, the engineer August Komendant allowed the revue of his 18 year work, which he carried out together with Louis Kahn, and of the numerous buildings that emerged during this time. In so doing, the Salk Institute, the Olivetti Underwood Factory, the seat of government in Dacca/Bangladesh and the Kimbell Art Museum make new ways of doing things accessible to the readership. The Galician architectural association, the publishers of the Spanish licensed edition, consider the book to be of 'cultural value' as it contains valuable insider knowledge into the work of one of the major architects of the 20th century.

Inquietud Teórica y Estrategia Proyectual (Theoretical Anxiety and Design Strategies)

Author: Rafael Moneo
Actar
ISBN 84-94941-68-1
(English edition: The MIT Press, ISBN 0-262-13443-8)

Rafael Moneo has dedicated a large amount of his time as an architect to teaching and architectural criticism. In this book, which developed from a lecture course at the Harvard Graduate School of Design, Moneo analyses the works of eight contemporary architects and their theoretical positions: Herzog & de Meuron, Rem Koolhaas, Frank O. Gehry, Alvaro Siza, Peter Eisenman, Aldo Rossi, Venturi Scott & Brown and James Stirling. The book, which incorporates 600 illustrations, does not only give the reader a great insight into the work of eight prominent architects, but also provides just as much information about a ninth – the author himself.

2 PETER EBNER AND FRANZISKA ULLMANN RECOMMEND

Frei Otto – Complete Works

Publisher: Wilfried Nerdinger
Birkhäuser Verlag
ISBN: 3-7643-7233-8 (German)
ISBN-10: 3-7643-7231-1 (English)

No German architect has gained so much international recognition in the second half of the 20th century as Frei Otto. Last year, in celebration of Frei Otto's 80th birthday, the Architecture Museum of the Munich Technical University dedicated a comprehensive exhibition and a monograph of more than 200 pages to the great engineer and architect. In it, his companions of many years describe the most important aspects of Frei Otto's works, in particular the constant tendency to learn from nature that lead to him becoming one of the precursors of ecological architecture in the 1980s and 1990s. The volume ends with a detailed list of his 200 buildings and projects from 1951 to 2004.

Der Baron auf den Bäumen (The Baron in the Trees)

Author: Italo Calvino
dtv Verlag
ISBN 3-423-10578-X
(Italian original edition: Italo Calvino
IT'ART
88-04-37085-8)

In his novel which was first published in 1957, the Italian author, Italo Calvino, tells the story of a really remarkable recluse: on 15th June 1767, the 12 year old Cosimo Piovasco di Rondo climbs a tree in his garden in protest against his parents, and never returns to the ground again in his lifetime – not even in order to die: he gets swept out of his tree by the land anchor of a Montgolfier, and vanishes out to sea. In the book, Cosimo's younger brother and companion for many years, Biagio tells the story of his life in the trees. Italo Calvino's book ranks among the greatest examples of the 'adventure novel'. It is written in an amusing way, but nevertheless with great depth.

Olafur Eliasson Surroundings Surrounded

Publisher: Peter Weibel
MIT Press
ISBN 0-262-73148-7

Essays on Space and Science is the sub-title of this unusual exhibition catalogue by and about the Icelandic artist Olafur Eliasson. Although the exhibition of his work, *Surroundings Surrounded*, which first took place in 2000 in Graz and 2001 in Karlsruhe was made up of notes from Eliasson's works, the artist renounces the otherwise usual documentation and instead reveals the theoretical background to his work in the catalogue. The 704 page book contains 56 essays by natural and spiritual scientists, architects and art theorists. 30 of these were published for the first time in this book.

basics – Grundformen der Architektur (basics - Basic forms of Architecture)

Author: Franziska Ullmann
Springer Verlag
ISBN 3-211-83800-7

"What is a solitaire? What makes a solitaire into a monument? Why is a building profane? What makes a space into a sacred space? Why do Zaha Hadid's buildings have a dynamic effect?"

Franziska Ullmann answers these and many other questions on architecture and spatial perception in her book, *basics*. In direct comparison with texts and pictures of international buildings, she researches the meaning and influence of basic architectural elements individually and in compositions. Her starting point is Wassily Kandinsky's fundamental work *Punkt und Linie zu Fläche (Point and Line to Plane)*, in which the painter makes a similar analysis for painting elements.

3 NABIL GHOLAM AND ARAM YERETZIAN RECOMMEND

Traditional Domestic Architecture of the Arab Region

Author: Friedrich Ragette
Axel Menges
ISBN 3-932565-30-4

For probably the first time, Friedrich Ragette's book systematically presents the traditional residential architecture of the Arab world from the Atlantic to the Persian Gulf. The author, who was employed as an architect in the Arab world for more than 30 years, analyses the climatic and cultural factors which influence construction in the Arab world and presents the designs for residential buildings from nomadic tents to densely-built cities. In addition to the analytical part of the book, Ragette presents a collection of more than 200 examples of traditional architecture from all 13 countries in the Arab region.

Beirut City Center Recovery

Author: Robert Saliba
Steidl
ISBN 3-882243-978-5

In his picture book, Robert Saliba describes the reconstruction of two of the most popular quarters in the Lebanese capital after the Civil War from 1975 to 1990. The real estate company 'Solidere', founded by the late Lebanese Prime Minister and building developer Rafik Hariri, played a key role. At the end of the Civil War, it drew a master plan for the reconstruction of the devastated and divided city centre. The book takes on an unexpected current political meaning due to the recent assassination of the 'inventor' of modern-day Beirut. However, even without this, the book brings the *Beirut City Center Recovery* into discussions about future town construction in the Middle East.

Living under the Crescent Moon: Domestic Culture in the Arab World

Authors: Alexander von Vegesack and Mateo Kries
Vitra Design Museum
ISBN 3-931936-41-1

Living under the Crescent Moon – Domestic Culture in the Arab World depicts residential cultures in the Arab world: Nomadic tents of the Tuareg and the Bedouins, Moroccan Kasbahs, magnificent houses with courtyards in towns like Marrakesh, Damascus or Cairo and 20th century buildings by the architects Hassan Fathy, Elie Mouyal and Abdelwahed El-Wakil. The Arab habits and ways of life are imparted to the reader using ceramics, textiles, tool and architectural elements. With numerous internal photos of private houses, the book offers a portrayal of the spheres of the Arab world which is rarely seen as they are generally robustly protected from outsiders.

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