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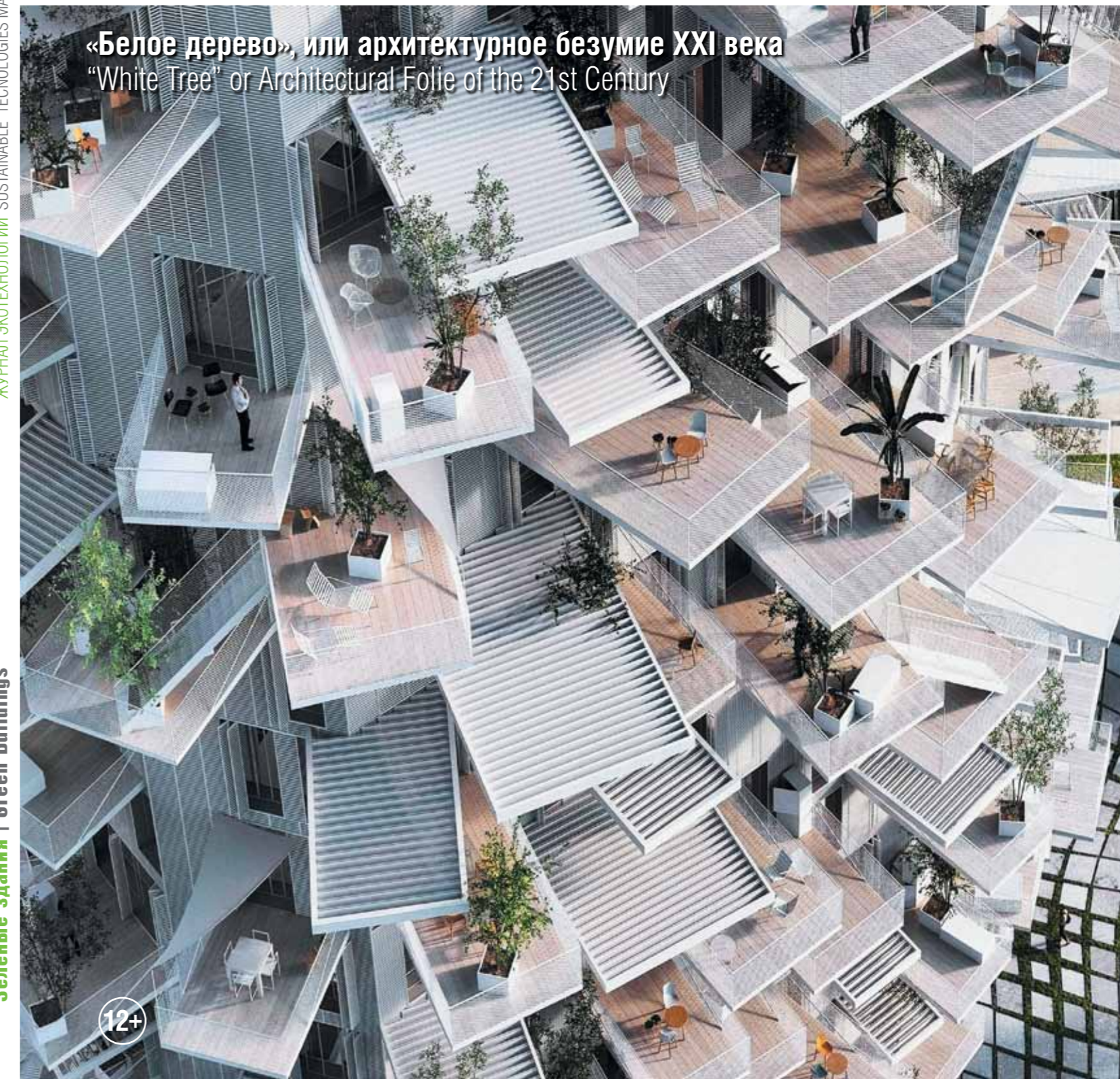
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On the cover: 'L'Arbre Blanc', project of Sou Fujimoto Architects, Nicolas Laisne Associates, Manal Rachdi Oxo architects

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АНГЛИЙСКАЯ
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АЛЬ ДАКИРА ОАЗИС В ПУСТЫНЕ

► Материалы предоставлены RRC STUDIO

АЛЬ ДАКИРА (AL DAKIRA) – НЕБОЛЬШОЙ, БЫСТРО РАЗВИВАЮЩИЙСЯ ГОРОД НА ВОСТОЧНОМ ПОБЕРЕЖЬЕ КАТАРА, НАХОДИТСЯ ВСЕГО В 60 КМ ОТ СТОЛИЦЫ ДОХА. ВОЗНИКШИЙ В ЕСТЕСТВЕННОЙ БУХТЕ, ГДЕ ПУСТЫНЯ ПРОСТИРАЕТСЯ ДО САМОГО МОРЯ, АЛЬ ДАКИРА ПРЕДСТАВЛЯЕТ СОБОЙ ПЛОДОРодный ОАЗИС, В КОТОРОМ ЦВЕТУТ МАНГРОВЫЕ ЛЕСА, А МЕСТНЫЕ ЖИВОТНЫЕ НАХОДЯТ ПРИУТ В ЕСТЕСТВЕННОЙ СРЕДЕ ОБИТАНИЯ, УНИКАЛЬНОЙ ДЛЯ ЭТОГО КЛИМАТА. В ПОСЛЕДНИЕ ГОДЫ ГОРОД, КАК И ВСЯ СТРАНА, УСТРЕМЛЕН В БУДУЩЕЕ – В 2022 ГОДУ ЗДЕСЬ ПРОЙДЕТ ЧЕМПИОНАТ МИРА ПО ФУТБОЛУ. ЭТО ОБСТОЯТЕЛЬСТВО ЯВЛЯЕТСЯ ДВИЖУЩИМ СТЕРЖНЕМ ПРОГРЕССИВНЫХ ИЗМЕНЕНИЙ ГОРОДСКОЙ СРЕДЫ В РАЗНЫХ РАЙОНАХ СТРАНЫ. ИМЕННО В ЭТОМ КОНТЕКСТЕ ГОРОДСКОГО РАЗВИТИЯ РАЗРАБОТАН МАСТЕР-ПЛАН АЛЬ ДАКИРЫ.



Этот проект определяет правильное соотношение между необходимостью развития города и стремлением сохранить природный ландшафт, защищая территорию от однообразного и некачественного урбанизированного роста. Мастер-план сочетает в себе эстетические и функциональные аспекты, концентрируя внимание на экоустойчивом землепользовании и оптимизации с точки зрения размеров и размещения различных строений для того, чтобы создавать не только устойчивые здания, но и новый образ города, основанный на качественных пространствах и сохранении энергии.

Проект включает застройку новой части города жилыми и коммерческими кварталами площадью 275 тыс. кв. м с постепенно увеличивающейся плотностью в направлении от моря вглубь суши.

На прибрежной территории раскинется парк, который вместит ряд общественных объектов, среди которых музей, мультимедийная библиотека, конгресс-центр. Парк будет связан с ландшафтным поясом из двух природных заповедников в юго-восточной и северо-западной частях города. Эти заповедники очень важны для данной зоны, поскольку именно здесь растут мангровые леса и обитают представители уникальной местной фауны.

НАБЕРЕЖНАЯ ИСТОРИЧЕСКОГО ГОРОДА И ЕЕ ОКРЕСТНОСТИ ПРЕДСТАВЛЯЮТ СОБОЙ ПРИМЕР ГЕОМЕТРИЧЕСКИ ЛАКОНИЧНОГО ДИЗАЙНА

В парке проектом предусмотрены различные участки, одни – более естественны с точки зрения природного ландшафта, другие – в большей степени урбанизированы, застроены объектами различного назначения, но это не нарушает их гармонии с окружающей средой. В юго-западной части парка, где растительность останется в своем первозданном виде, а мангровые леса по-прежнему будут густыми, расположен музей природного заповедника. Благодаря своей форме

и использованным материалам, сдержанная по своей архитектуре конструкция интегрирована в окружающий ландшафт с его тропинками и пешеходными мостиками.

Центральная часть парка, набережная исторического города и ее окрестности, представляют собой пример геометрически лаконичного дизайна. Эта зона как самая оживленная и живописная часть побережья включает два просторных оборудованных пляжа, разделенных пристанью для туристических судов. Здесь расположены коммерческие объекты, такие как бары и рестораны с террасами, откуда открываются панорамные виды на море, а сразу за парком, в первой зоне застройки – гостиницы. В роскошных отелях есть все, чтобы удовлетворить потребности самых взыскательных клиентов.



А северо-восточная часть парка постепенно становится все более и более природной до тех пор, пока дома и растительность «не растворятся» в пустыне.

Городской дизайн как гармония окружающей среды и архитектуры представлен различными по типологии зданиями и общественными пространствами, где жители могут совместно проводить время или отдыхать. В жилой зоне предусмотрены различные типы кварталов: с отдельно стоящими виллами, много-семейными домами, кондоминиумами и частными комплексами.

В этой композиции на фоне синего неба ярко выделяются виллы ослепительно белого цвета. В качестве технического дополнения они комплектуются перфорированными надстройками, выполненными из переливающейся белой и голубой керамической плитки, вращающейся от дуновения ветра и рассеивающей солнечный свет. Здания, в разной степени закрытые со стороны улицы, раскрываются во внутренние дворы, защищенные и тенистые благодаря растительности, а также специальным архитектурным элементам, которые можно назвать движущимися занавесями.

Кондоминиумы, целиком занимающие городские кварталы, состоят из объемов разной высоты и ширины, способных создавать многообразные пространства. Через узкие проходы можно попасть во внутренние дворы – оазисы, где есть вода и растут пальмы.

Финансовый центр и деловой район города, где находятся самые высокие небоскребы, окружают обновленный стадион. Башни наряду с многоэтажными зданиями, выполненными в той же эстетике, демонстрируют настоящие каменные фасады. Их появление является результатом тщательных исследований потоков света, объемов и глубины апартаментов и гарантирует их надлежащую освещенность, подходящую для любых видов деятельности.

Архитекторы придали зданиям такую конфигурацию, перемешав множество форм и традиционных элемен-

- 1 – Причал для яхт в современной гавани
- 2 – Аль Дакира с высоты птичьего полета
- 3 – Фасады малоэтажных жилых зданий (схема)
- 4 – Фасады многоквартирных домов (схема)
- 5 – Жилые районы



ГОРОДСКОЙ ДИЗАЙН КАК ГАРМОНИЯ ОКРУЖАЮЩЕЙ СРЕДЫ И АРХИТЕКТУРЫ ПРЕДСТАВЛЕН РАЗЛИЧНЫМИ ПО ТИПОЛОГИИ ЗДАНИЯМИ

тов, которые были переосмыслены с позиции конкретных технологических решений, призванных сохранять энергию и обеспечивать городскую и ландшафтную экоустойчивость. Солнце, ветер и вода в качестве определяющих элементов городского дизайна используются в интересах защиты окружающей среды благодаря чувствительному ландшафту и очистным сооружениям.

Форма и расположение домов вокруг стадиона создают замкнутое пространство, своего рода большую площадь, образованную новым спортивным центром, над которым возвышаются коммерческие здания с большими окнами и портиками.

Архитектурный дизайн представляет два различных формальных результата, которые характеризуют интерьер по отношению к площади как прозрачный и проницаемый, а экстерьер по отно-

шению к жилым районам как прочный и основательный, приглашая жителей наслаждаться внутренними пространствами комплекса.

Каждое отдельное здание состоит из нескольких уровней и представляет своего рода «контейнер» для коммерческой и развлекательной деятельности, где наряду с торговыми помещениями находятся кинотеатр, библиотека, выставочные пространства, крытая площадь с ресторанами и барами.

Фасад и крыша зданий закрыты модульной оболочкой, выполненной из стали и круглых керамических плиток. При использовании интегрированных технологических систем такое решение позволяет контролировать поступление естественного света внутрь здания, чтобы уменьшить потребность в электрическом освещении.

Кроме устройств управления светом, в зданиях представлены и другие передовые технологические системы, которые отвечают, например, за естественную вентиляцию или контролируют микроклимат помещений, с тем чтобы сделать комплекс образцом устойчивой архитектуры. ■

tem. This can be done manually or automatically according to how light it is outside.

The photovoltaic panels on the top catch and store the solar energy necessary for the instruments on the inside. The electric engines are driven by hydrogen fuel cells that only produce drinking water as waste material, through an electrochemical process. Obviously this makes it a non-polluting project. Thanks to the shape of Trilobis 65 it is possible to assemble more modular units in a ring thus creating floating colonies.

Amphibious 1000
Luxury semi-submerged hotel resort with floating suites
Location: Qatar, Arabia Saudita
Project: Giancarlo Zema Design Group
Client: Seaquest Marine Technology Plc
Engineering: ZLH (Pty) Ltd
Cost: €600 million
Construction: 2022 (planned) ■

MASTERPLAN

Al Dhakira – Oasis in the Desert (p. 74)

MATERIALS PROVIDED BY RRC STUDIO

Al Dhakira is a small city developing on the oriental coast of Qatar, only 60 km far from the capital Doha. Grown on a natural creek, where the sea extends itself to the desert, Al Dhakira holds a fertile oasis where mangroves flourish and local animals can find shelter in a natural habitat unique in this area.

The city, as for the rest of the country, in the latest years is being driven by the future event of 2022 FIFA World Cup pulling together a progressive urbanization of the different urban realities of the country. It is in this context of urban growth that the expansion plan for the city of Al Dhakira is located.

The project is set as the correct mix between the city's need to grow and the will to preserve its natural-landscape value, protecting the territory from the urban undifferentiated growth with no quality. The masterplan combines the aesthetical and functional aspects focalising the attention on the sustainable land use and on the optimization in terms of dimension and settlement of the different constructions, in order to develop not only sustainable buildings but also a new vision of the city based

on the quality of spaces and on energy conservation.

The project involves the development of a new part of the city with residential and commercial settlements of 275.000 sqm and introduces a continuous increase in terms of density starting from the sea towards inland.

The coastal area features a park that hosts several public functions, among which a museum, a multimedia library, a congress centre, connecting in a unique landscape belt the two natural reserves on the south-east and north-west sides of the city. Such reserves are among the most important of the area because they are characterized by the presence of the mangroves and of a delicate local fauna.

The design of the park defines different spaces, some of which more natural, other more urban, filling it with constructions, of diverse destination of use, inserted in harmony within the nature.

In the south-west area of the park, where the vegetation is left wilder and the mangroves are thicker, are located the museum of the natural reserve, with its nature paths and footbridges on the water discovering the uncontaminated, and a resort, with measured constructions which integrates with the surrounding landscape thanks to their materials and forms.

The central part, seafront of the historical city and of the expansion, features a geometrical and neat design. This area, the most lively and picturesque of the coast, presents two wide equipped beaches separated by the touristic port and the by the marina building. In this area of the park are located commercial buildings such as bars and restaurants with seaview terraces and, just beyond the park, in the first built area, the accommodation facilities. Here a luxury hotel is organised with a central body destined to the rooms, main services and several dépendances to satisfy all the needs of a rich clientele.

The north-east side of the park gets back to being more and more natural until houses and vegetation fade into the desert.

The urban design, in harmony with the surrounding and the existing architecture, features different building typology and meeting places in order to promote community awareness thanks to areas where to carry out common activities or relax. The residential area is present in different typologies of blocks featuring detached villas, multi-family residences, condominiums and private complexes.

Villas arise from the composition of white pure volumes in opposition to the blue sky. Such buildings are completed with pierced and shimmering volumes, made of

technical insert in blue and white ceramic tiles, which rotate with the wind and filter the sunlight. The complexes, more or less closed towards the road, are open to inner courtyards, protected and shady thanks to the presence of vegetation and some specific architectural elements characterized by movable curtains.

The condominiums, out-and-out urban blocks, are composed by volumes of different height and width, able to create multiform spaces. Through narrow passages it is possible to get to their inner court, oasis made of water and palm trees.

The financial and business district of the city is collected around the renewed stadium where the highest skyscrapers of the city are located. The towers, along with multi-storey buildings of similar aesthetical connotation, present a stone facade which, through an accurate study of light, volumes and widths, guarantee the right brightness of the interiors where all different activities can be carried comfortably.

The architectural choices configure the buildings mixing aggregations of forms and traditional elements that are reinterpreted with specific technical and technological solutions committed to energy conservation and to urban and landscape sustainability. The sun, the wind and the water are indeed elements defining urban design and are exploited for benefit of the environment through a sensitive landscape and treatment plants.

Around the stadium the shape and placement of the buildings create a closed urban space, a sort of a big square built around the new sports center where the commercial buildings overlook with large windows and porticoed spaces.

The architectural design indeed presents two different formal results which characterize the interior, toward the square, transparent and porous, and the exterior, toward the residential areas, solid and essential, in order to invite the user to enjoy the interior spaces of the complex.

Each single building, composed of different levels, is set as a container of the commercial and leisure activities, accommodating, besides retail spaces, several activities such as the cinema, the library, exhibition spaces and an indoor square with restaurants and bars.

The building, on the facade and on the roof presents a modular skin made of a steel structure and circular ceramic tiles; this solution, through the use of integrated technological systems, allows the control of natural light into the building in order to reduce the need for electrical lighting.

The building, besides this light control device, presents several other advanced technological sys-

tems which facilitate in example natural ventilation or control the internal microclimatic comfort to make the complex an example of sustainable architecture. ■

PHOTO GALLERY

Alvar Aalto – Architect and Humanist

(p. 78)

TEXT: ELENA GOLUBEVA

Extremely popular in the world, including the Soviet Union, in the 1960s, the Finnish architect Hugo Alvar Henrik Aalto (1898-1976), made a significant contribution to the development of world architecture and design. He is a prominent representative of the organic school of architecture and one of its founders in Europe.

SISÄ-SUOMI

Alvar Aalto, whose full name was Hugo Alvar Henrik Aalto was born in Kuortane, Finland. His father, Johan Henrik Aalto, was a Finnish-speaking land-surveyor and his mother, Selly (Selma) Matilda (née Hackstedt) was a Swedish-speaking postmistress. When Aalto was 5 years old, the family moved to Alajärvi, and from there to Jyväskylä in Central Finland. Aalto studied at the Jyväskylä Lyceum school, completing his basic education in 1916. In 1916 he then enrolled to study architecture at the Helsinki University of Technology. His studies were interrupted by the Finnish War of Liberation, which he fought in. He fought on the side of the White Army and fought at the Battle of Länkipohja and the Battle of Tampere. He built his first piece of architecture while still a student, a house for his parents, at Alajärvi. Afterwards, he continued his education, graduating in 1921. In the summer of 1922 he began his official military service, finishing at the Hamina reserve officer training school, and was promoted to reserve second lieutenant in June 1923. In 1920, while still a student, Aalto made his first trip abroad, travelling via Stockholm to Gothenburg, where he even briefly found work with the architect Arvid Bjerke. In 1922, he accomplished his first independent piece at the Industrial Exposition in Tampere. In 1923 he returned to Jyväskylä, where he opened his first architectural office, under the name 'Alvar Aalto, Architect and Monumental Artist'. At that same time he also wrote articles for the Jyväskylä newspaper Sisä-Suomi under the pseudonym Remus. During this

time, he designed a number of small single-family houses in Jyväskylä, and the office's workload steadily increased. In 1925, he married architect Aino Marsio. Their honeymoon journey to Italy was Aalto's first trip there, though Aino had previously made a study trip there. The latter trip together sealed an intellectual bond with the culture of the Mediterranean region that was to remain important to Aalto for the rest of his life. On their return, they continued with a number of local projects, notably the Jyväskylä Worker's Club. However, the Aaltos moved their office to Turku in 1927, and started collaborating with architect Erik Bryggman.

UNDERSTANDING OF STYLE

Although he is sometimes regarded as among the first and most influential architects of Nordic modernism, a closer examination of the historical facts reveals that Aalto (while a pioneer in Finland) as many others of that generation in the Nordic countries had in common was that they started off from a classical education and were first designing classical architecture, though what historians now call Nordic Classicism – a style that had been a reaction to the previous dominant style of National Romanticism – before moving, in the late 1920s, towards Modernism.

The shift in Aalto's design approach from classicism to modernism is epitomised by the Viipuri Library (1927–35), which went through a transformation from an originally classical competition entry proposal to the completed high-modernist building. Yet his humanistic approach is in full evidence in the library: the interior displays natural materials, warm colours, and undulating lines. Due to problems over financing and a change of site, the Viipuri Library project lasted eight years, and during that same time he also designed the Turun Sanomat Building (1929–30) and Paimio Sanatorium (1929–32). Thus, the Turun Sanomat Building first heralded Aalto's move towards modernism, and this was then carried forward both in the Paimio Sanatorium and in the on-going design for the library. Although the Turun Sanomat Building and Paimio Sanatorium are comparatively pure modernist works, they too carried the seeds of his questioning of such an orthodox modernist approach and a move to a more daring, synthetic attitude. It has been said that his work on two of these three buildings (not the Viipuri Library) showed similarities to Walter Gropius' style, in particular his work on the Bauhaus school of design in Dessau. His work on the Viipuri building started to show his individuality in a departure from the European norms.

Through Sven Markelius, Aalto became a member of the Congress Internationaux d'Architecture Moderne (CIAM), attending the second congress in Frankfurt in 1929 and the fourth congress in Athens in 1933, where he established a close friendship with László Moholy-Nagy, Sigfried Giedion and Philip Morton Shand. It was during this time that he followed closely the work of the main driving force behind the new modernism, Le Corbusier, and visited him in his Paris office several times in the following years.

LANGUAGE OF NATURE

During the 1930s Alvar spent some time experimenting with laminated wood, making sculptures, and abstract reliefs, characterized by irregular curved forms. Concerned with "humanizing architecture", he rejected artificial materials such as steel tubing for his furniture. Wood was for him a "form-inspiring, profoundly human material". Alvar Aalto's organic formal language inspired many designers after him. Utilizing this knowledge he was able to solve technical problems concerning the flexibility of wood and also of working out spatial issues in his designs. Aalto's early experiments with wood and his move away from a purist modernism would be tested in built form with the commission to design Villa Mairea (1939) in Noormarkku, the luxury home of the young industrialist couple Harry and Maire Gullichsen. It was Maire Gullichsen who acted as the main client, and she worked closely not only with Alvar but also Aino Aalto on the design, inspiring them to be more daring in their work. The original design was to include a private art gallery, but this was never built. The building forms a U-shape around a central inner "garden" the central feature of which is a kidney-shaped swimming pool. Adjacent to the pool is a sauna executed in a rustic style, alluding to both Finnish and Japanese precedents. The design of the house is a synthesis of numerous stylistic influences, from traditional Finnish vernacular to purist modernism, as well as influences from English and Japanese architecture. While the house is clearly intended for a wealthy family, Aalto nevertheless argued that it was also an experiment that would prove useful in the design of mass housing. It created zones for different activities within the structure.

Alvar Aalto also designed the Finnish Pavilions for the 1937 Paris Exposition and the 1939 New York World's Fair. In 1938 the Museum of Modern Art in New York mounted the first large-scale retrospective of Alvar Aalto's work, followed by others in 1984 and 1998. Starting with the influence of the Arts and Craft and the International Modern movements with overtones of

Finnish National Romanticism with its preference for natural materials, Alvar Aalto arrived in both his buildings and his furnishings at an interpretation of functionalism that was distinctively his own.

HUMANIZING OF ARCHITECTURE

It was not until the completion of the Paimio Sanatorium (1932) and Viipuri Library (1935) that Aalto first achieved world attention in architecture. His reputation grew in the USA following the critical reception of his design for the Finnish Pavilion at the 1939 New York World's Fair, described by Frank Lloyd Wright as a "work of genius". It could be said that Aalto's international reputation was sealed with his inclusion in the second edition of Sigfried Giedion's influential book on Modernist architecture, Space, Time and Architecture: The growth of a new tradition (1949), in which Aalto received more attention than any other Modernist architect, including Le Corbusier. In his analysis of Aalto, Giedion gave primacy to qualities that depart from direct functionality, such as mood, atmosphere, intensity of life and even national characteristics, declaring that "Finland is with Aalto wherever he goes".

The early 1960s and 1970s (up until his death in 1976) were marked by key works in Helsinki, in particular the huge town plan for the void in centre of Helsinki adjacent to Töölö Bay and the vast railway yards, and marked on the edges by significant buildings such as the National Museum and the main railway station, both by Eliel Saarinen. In his town plan Aalto proposed a line of separate marble-clad buildings fronting the bay which would house various cultural institutions, including a concert hall, opera, museum of architecture and headquarters for the Finnish Academy. The scheme also extended into the Kamppi district with a series of tall office blocks. Aalto first presented his scheme in 1961, but it went through various modifications during the early 1960s.

Only two fragments of the overall plan were ever realized: the Finlandia Hall concert hall (1976) fronting Töölö Bay, and an office building in the Kamppi district for the Helsinki Electricity Company (1975). The Miesian formal language of geometric grids employed in the buildings was also used by Aalto for other sites in Helsinki, including the Enso-Gutzeit building (1962), the Academic Bookstore (1962) and the SYP Bank building (1969).

Following Aalto's death in 1976 his office continued to operate under the direction of his widow, Elissa, completing works already to some extent designed. These works include the Jyväskylä City

Theatre and Essen opera house. Since the death of Elissa Aalto the office has continued to operate as the Alvar Aalto Academy, giving advice on the restoration of Aalto buildings and organising the vast archive material. ■

KNOW-HOW Architecture and the Utility of the Earth

(p. 86)

MATERIALS PROVIDED BY NIKKEN SEKKEI
TEXT: HIROSHI YOSHINO

We continue to serialize chapters from the book "Sustainable Architecture in Japan: The Continuing Challenge 1900–2010 & Beyond", published to coincide with the 110th anniversary of Nikken Sekkei. In the previous issues of our magazine ("Green Buildings", 2013, № 2-4; 2014, № 1), we brought to your attention the chapters dealing with the projects, in which design were used natural phenomena such as light, heat, wind, and water. Now let's focus on the underground architecture and use of geothermal energy.

The growing interest in the environment brings attention to subterranean architecture – a design strategy inextricably tied to the conservation of energy and landscapes. Underground buildings have long been connected to the discourse on sustainability, with a distinct history and a body of research that helps explain its features and contemporary iterations.

THE HISTORY

The temperature variation within a day or a year gradually diminishes as you go deeper into the ground. At around 50cm below grade the temperature hardly fluctuates within a day, and at 10m the ground condition remains constant throughout the seasons at the yearly average air temperature. Underground shelters are therefore well insulated and suitable for storing heat. Even today, historic subterranean shelters are inhabited throughout the world. Most of these are found in hot and dry climates with dramatic diurnal and seasonal temperature changes. However, studies show that the original purpose of seeking shelter in the ground had less to do with the climatic benefits than with the more practical reason of lack-