



WOOD ARCHITECTURE

IN KOUVOLA 1890–1950

EDITORS

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WOOD ARCHITECTURE IN KOUVOLA 1890-1950

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FOREWORD

Pekka Malinen, *Project Manager, Wood Academy*

This book is intended for everyone who is interested in wood architecture and the built environment and in preserving their dynamic character. In addition to professional knowledge, the publication offers maps and information for people who want to visit the architectural sites. At the same time it provides an opportunity to study the heritage of wooden architecture in the Kymi River Valley where various influences merge in an interesting way in terms of building methods and styles.

The Kymi River Valley, a melting pot of cultures and populations over millennia, has always been a meeting place of the West and the East. The industrial revolution arrived to both banks of the Kymijoki River when a chain of saw-mills, groundwood plants and paper industry establishments emerged along the river. The industry had a major role in providing, not only housing for the labourers, but also social services and related architecture. The publication presents wooden houses and detached-house areas built around factories, interesting from the viewpoints of architecture and structural engineering. At the same time it provides a unique peek into living village communities in the present-day Kouvola region. Under discussion are areas designed by famous architects, such as Tehtaanmäki by Alvar Aalto, and spontaneously developed villages such as Mäyrämäki in Kuusankoski, a village built in a rocky landscape.

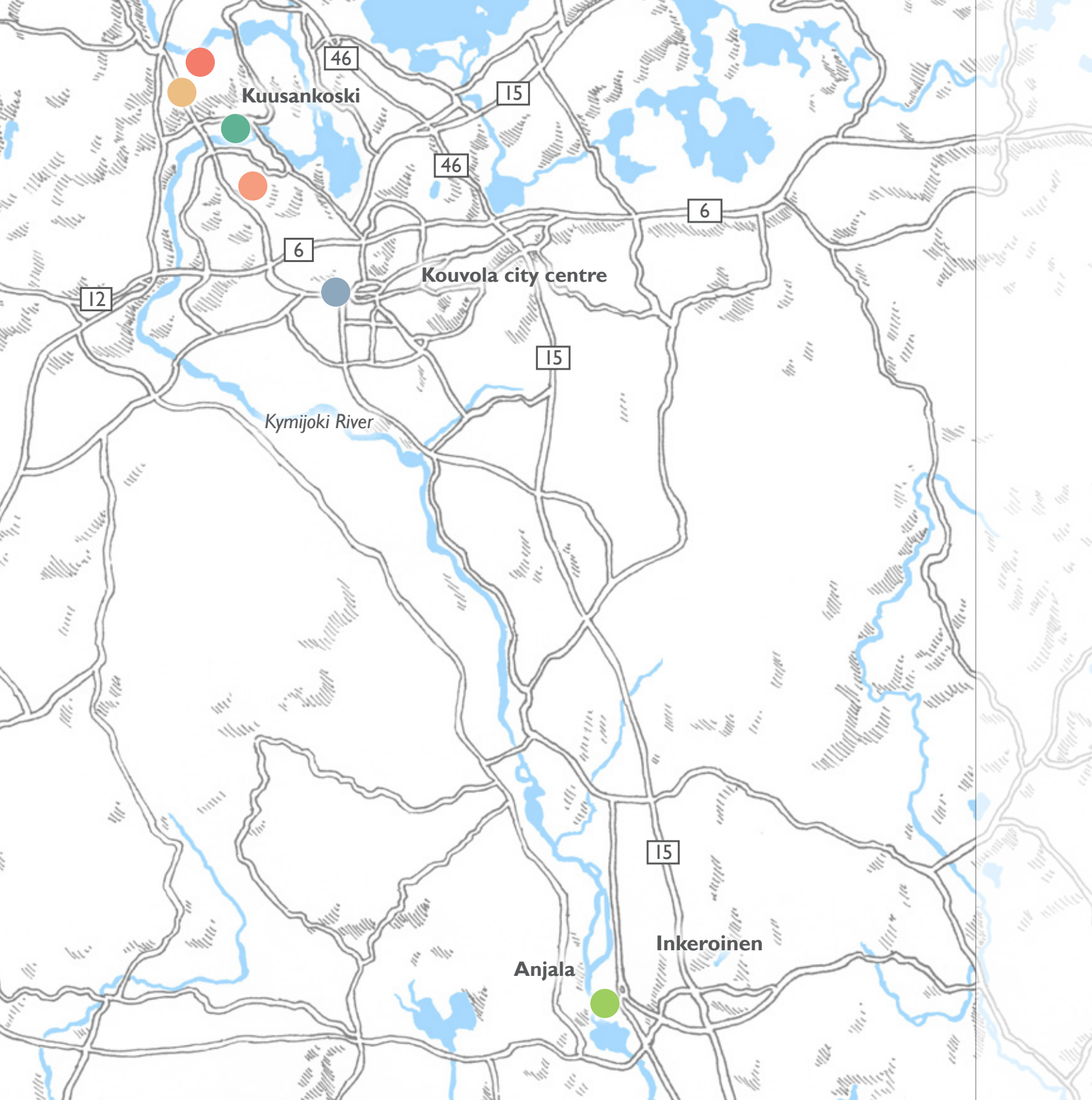
What also makes the villages unique is that having been built during a relatively short period, each of them is a pure representative of the wooden architecture style and tradition of a certain era. The coherence of the neighbourhoods has been preserved, of which the credit goes partly to town planners. The town-planning policy for repair and complementary construction has been aimed at preserving architecturally valuable buildings and environment. However, the biggest credit for preserving the houses goes to the residents of the areas, who have done a great service to future generations and at the same time created a comfortable and dynamic living environment for themselves.

This publication, edited by architect Rurik Wasastjerna and senior lecturer Leena Mäkelä-Marttinen, was commissioned by the Wood Academy project. Special thanks go to architectural researcher Timo Lievonen whose article on wood architecture is the cornerstone of the publication and to Essi Seppälä who has compiled and written the descriptions of the villages. Sami Leminen, Hilla Hyppönen, and Niina Kuusela, who were in charge of the layout and illustrations, and the entire publishing team also deserve big thanks.

I wish you an interesting journey to witness the living heritage of wood architecture!

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CONSTRUCTION OF WOODEN HOUSES IN THE KOUVOLA REGION

Timo Lievonen, *Building researcher, Kymenlaakso Museum*

In the merger of 2009, the municipalities of Kouvola, Kuusankoski, Elimäki, Jaala and Valkeala became the city of Kouvola which, from the perspective of architectural heritage, has many facets. Agricultural regions, major industrial areas, manor house estates, administrative buildings and parish villages were annexed in the merger to Kouvola, an urban town built largely in the 1900s. As is to be expected, all the generally known forms of wood architecture can be found in the area. The tradition of wooden architecture and its phases of transition are manifest in the rustic dwelling culture. The most resilient architectural object is the granary, one of the key phenomena of Finnish timber building tradition. Churches, manor house environments and, in particular, the strong presence of wood processing industry have contributed to the identity of the region, also in the realm of wood architecture. Detached houses and their neighbourhoods characterize the present-day Kouvola and in many ways reflect the history of living in detached houses in Finland. In addition to neighbourhoods built without town planning, the region incorporates old detached-house areas regulated by town planning, consisting of homes and accessory buildings designed as whole entities. Modernist design principles are visible in many areas that today are part of permanent and sustainable wood architecture.

Wood and stone are genuine and natural construction materials that have been exploited for millennia. Houses

made of wood and stone were first built by connecting tooled pieces of the materials. Over time, wood and stone materials have evolved, providing a wide range of construction engineering possibilities for a wide variety of forms. Materials have been tooled in many ways, reflecting social conditions and esthetic ideals of different eras. As building materials, wood and stone have been used side by side, each specializing for its own uses. The tradition of log house building was known throughout the entire coniferous zone of Eurasia, from the Balkans through the Eastern Europe to Finland and the rest of the Nordic countries. The so-called megaron house, a single-room log house, emerged already in ancient Greece. Its descendants include the rustic granary with a gable door, typical to Finnish peasant house courtyards. Later the ancient megaron house, built of stone, became the basic type of classical architecture.

The art of log carpentry arrived to Finland from the southeast, probably during the late Iron Age in the 7th century. A typical European log house was made of timber logs placed horizontally. The corners were notched in a great variety of ways, but the woodworking methods were often very similar even over large geographical areas. The length and shape of timber formed the basis for the size and proportions of buildings. Ancient stone buildings and classicist buildings of different periods also reflect timber material in their structures and shapes.



Photo: Kymenlaakso Museum, Timo Lievenen

The interior of Anjala Church was destroyed during King Gustaf's war and was renewed in the spirit of Swedish neo-classicism. The altar wall representing the Gustavian style and the rococo-influenced pulpit are examples of highly skilled carpentry work. The wood shapes strongly reflect the represented styles.

in Finland timber has been the principal building material in the rural areas and in the towns and cities until the 20th century. In the mid 18th century Finland, aside from stone churches and castles, there were only half a dozen stone buildings located in towns.

Timber log length also determined the overall proportions of towns, giving the environment a coherent and balanced character. In addition, the floor and roof structures of masonry buildings were made exclusively of wood until late 1800s when the use iron floorbeams began. In the beginning of 1900s, floors were already built on reinforced concrete beams.

The art of traditional carpentry can be seen in wooden churches in particular. The oldest churches in the present-day Kouvola region are made of wood. Elimäki Church, one of Finland's oldest churches, was built already in the 1600s. The wooden cruciform church of Anjala was built in 1755–1756. The transepts of the church narrow outwards, creating a false perspective which makes the rather small church feel more spacious. The exterior siding of the church dates to the Empire style period. The bell tower was destroyed in 1790, but a new one – already the third one in order – was built in 1796. Valkeala double-cruciform church was built in 1796. This church, built by Juhana Salonen, was destroyed in a fire in 1920, but the bell tower, representing highly skilled log carpentry, survived the fire. The bell tower of Valkeala church represents the octagonal type of eastern Finland.

Wood reflecting style trends – stone or wood imagery?

In the stylistic shapes of buildings, wood and stone have often been made to simulate one another. It has long been common to aim at raising the status of wooden houses by simulating masonry.

After wood siding in the 1700s had become widespread in the rural areas as well, it became common to hew also the exterior surfaces of logs flat. The wooden frame of a house was protected with wood siding. A stone facade was simulated by colour schemes, by vertical or horizontal boards, and by dividing the facade into segments. Typical colours were red ochre with white corner boards and trim, and yellow ochre with white trim. Renaissance brick and lime stone buildings influenced the colour schemes.

Building regulations were issued by the government already in the medieval period. Specifications were stipulated e.g. for rooms and accessory structures of parsonages. In the 1500s and 1600s house inspection systems were established, and model drawings were issued for military personnel's houses of all military ranks. In the 1700s increasing attention was paid to the statement a building makes about the military stature of its inhabitant. The stylistic influence came from French classicism. As of 1759, approval for the design of wooden churches, also ones built by vernacular carpenters, had to be obtained from the office of Stockholm's chief intendant.

Photo: Kymenlaakso Museum, Oskari Wikberg



Photo: Kymenlaakso Museum, Timo Lievonen

Valkeala double-cruciform church and bell tower (postcard from early 1900s) The church was destroyed in a fire in 1920, but the bell tower survived.

The wooden arches of the centre dome and transepts of Elimäki church, built in 1679, simulate medieval masonry arches.

An interesting wooden arch simulating stone can be found in Elimäki church built in 1679. The arch has been modelled after the medieval masonry arch.



Photo: Kymenlaakso Museum, Hannu Purho

A good example of the Empire design style is a gazebo at the Moisio Manor. The wooden building bears the hallmarks of a classicist stone house. The photo shows a reconstruction of the original gazebo which has been moved to the Open-Air Museum of Seurasaari.

Early in the 1800s, the most influential and pioneering individual was Carl Ludvig Engel, whose work as architect and intendant marked an unforeseen leap of progress in Finnish architecture. During his lifetime, the Finnish residential log house was also given a new look and several structural improvements. Horizontal siding was adopted to Finnish architecture from Russia. Buildings were equipped with high stone footings, log walls were hewn flat, and before panelling they were protected with tar paper.

Houses with extended corners were no longer desirable, but instead corner logs were squared off and often decorated with pillar or rustic motifs familiar from stone buildings. Many methods of wood siding developed during the empire style period, and exterior architecture borrowed its forms from the tradition of classicism.

Late in the 19th century Finnish architecture became increasingly international and new influences were adopted at an increasing pace. Influences were spread through trade press and literature. Trained architects started to design houses also in rural areas. Railway stations and schools spread influences as real-life models. Several international styles had a simultaneous effect; motifs were found from classicism, from the medieval period, and from the ethnic Finnish past.



Photo: Kymenlaakso Museum

After mid-1800s the so-called Swiss chalet style was adopted to Finland from the German-speaking world. Typical to the new style of carpentry were decorative wooden ornaments and other ornate motifs on facades, balustrades, fascia boards, and roof gables. Flourishes of woodworking created by means of fret-sawing, carving and drilling, are typical to this ornate style. The stone-simulating classicism with its highly plastic forms was superseded by rich decorativeness exploiting the woodworking properties of timber material.

In addition to the Swiss chalet style, the wooden houses also have turned-wood decorations based on motifs adopted from masonry architecture. Turned-wood parts for wooden houses were manufactured also in bulk, separately from house construction work.

In Finland, ideas of art nouveau were adopted early in the 1900s. The style, which was known as jugend in Fin-

land, was characterized by organic forms, plant and animal motifs. Buildings were more unique than previously and designed down to the tiniest detail. The architecture is characterized by a certain optimism. In Finnish wooden houses the style usually manifests itself in simple, plastic forms; timber-boarded segments divided by profiled mouldings; square windows; and increasingly diverse roof structures. Wood was used in a balanced and esthetically pleasing manner. During the jugend period the layout of interior spaces became freer than ever before.

Alternatives of construction engineering

At least two important items of wood architecture were imported to Finland with a Norwegian settlement that moved to Kotka early in the 1870s. Kotka was probably the first place in Finland where houses were built with residual pieces of sawmill lumber – excess bits of panels and planks. The scrap wood walls were laid in the same way as bricks, using clay mortar for joining. This resulted in a functional and low-cost wall structure which has proven quite durable even in large houses. The building method did not spread beyond sawmill communities.

The main building of Anjala Manor represents Gustavian neo-classicism from the turn of the 18th and 19th centuries, but the wooden roof and clock tower of the grain silo bear clear hallmarks of the empire style: horizontal siding, wood mouldings, yellow ochre paint and pleasing proportions.



Photo: Kymenlaakso Museum, Timo Lievonen

Anjala Manor.



Photo: Rurik Wasastjerna

Kotiseututalo (literally "Home-region house") located in Kettumäki, Kuusankoski, is one of the early designs of architect Lars Sonck. The house was originally built as the Kymmene Company primary school, on the edge of Kymijoki River in 1897. This log house, exhibiting the National Romantic style, was transferred to its current location in 1957. In Finland relocating log houses is an old and commonly applied practice.

Manufacture of the other newcomer, the tongue-and-groove panel, started in Kotka in 1872, which was the first operation year of the sawmill founded by Hans Gutzeit. The tongue-and-groove panel was to become one of the most common products of the wood processing industry.

In 1917 Birger Brunila introduced the "plank structure" for the first time, and Varkaus factories had used 4-inch tongue-and-groove board already in 1916. In the 1920s the timber log structure was considered outdated, and in detached houses sawdust-insulated frame structure began to supersede the traditional log structure.

From timber log to framing

As is to be expected, the debate was lively about which one is better, a log house or a light-frame house. Better fire resistance, long life span, compaction, robustness, and the possibility to relocate a house, were considered as benefits of the log house. Drawbacks included "checking", i.e. the tendency of logs to crack when drying, movement of the building, special requirements for building skills, weight and transport costs, and time-consuming settling before laying the siding. Benefits of the board structure include a faster construction process, immobility of the building, and the possibility of standardizing components, resulting in savings for the national economy.

Balloon-framing as a construction method was developed in Chicago already in 1832. In Europe this house type, built using a nailed structure, was first introduced in Paris in 1867. In Finnish literature, framing is first mentioned in A. Sjöström's book "Agricultural buildings" (Maatalousrakennuksia) of 1891. To Finland this "American building method" came when emigrants moved back to the country,

and it was first introduced more extensively in Finland in the *Arkitekten* magazine in 1909. In his article, architect Valter Thomé presented engineer Hugo Lilius's light-frame jugend villa. In the following issue, architect Gustaf Strengell wrote an extensive article, illustrated with structural drawings, in which he highlighted the feasibility of the framing method and the load-bearing and heat-insulation function of the wall. Strengell's article has definitely had a major impact for spreading this construction method in Finland.

The increasing popularity of framing created the conditions for the diversity of building styles in the 1900s. In Finland, detached houses, row houses, small wooden-frame apartment houses, summer cottages and villas, community halls, youth association houses, prayer houses, fire brigade houses etc. are almost exclusively based on the framing construction system. The Finnish forest industry adopted new construction methods open-mindedly, and to the rural areas the new methods were spread by civil servants such as provincial agronomists, by agricultural societies and schools, and by literature.

In the 1910s, the Kymmene Company, the largest paper company in Europe at the onset of World War I, aimed at reducing housing shortage and improving the housing conditions with its own housing production. The detached-house areas, designed by architect Bertel Liljeqvist and built in East and West Naukio, Kuusankoski, between 1919-1923, were breaking new ground. Light-frame design was used in the buildings. New wall structure types, e.g. a hollow vertical board structure was tested, but the buildings were mainly insulated with peat moss and sawdust. The open and park-like town plan was concordant with the garden-city-type design ideology developed by architect Camillo Sitte.



Photo: Kymenlaakso Museum, Timo Lievonen

New uses of wood

The Finnish forest industry greatly influenced the development and manufacture process of detached houses. Industrial communities had access to factory resources from the forests, from sawmill operation, and from structural component production. Transport systems were also ready and available.

Entirely new ways of thinking and technologies were applied to the utilization of lumber already late in the 1800s. There was now a capability to manufacture thin veneers and pressed plywood. The manufacture of the 6 mm Enso cardboard, designed for wooden house weatherstripping, started in 1916.

In the 1930s, the first factory manufacturing proper construction boards made of wood fibre (insulite and masonite) was built in Korkeakoski, in the town of Kotka. Construction boards began to supersede wooden reinforcement boards; and chipboard, the manufacture of which started in 1956, conquered the market. The industrial production of construction boards reflected the fact that house-building was moving into an increasingly industrialized direction.

Prefabricated house industry

An industrially manufactured house is based on prefabricated element technology. The house is manufactured in a house factory, either of parts assembled on site or as prefabricated wall elements. World War II era barracks made with wall element technology and houses donated from Sweden marked the beginning of prefabricated house production in Finland.

The first ideas about industrial wooden house production had been proposed already in the 1930s. The emergence of a prefabricated house industry meant standardization of building components and standardized houses. In the field of architecture, the 1930s was the breakthrough decade of modernism (functionalism). Thus the architectural design of detached houses, too, was based on enduring and high-standard modernism. Sets of standard project drawings for detached houses had been prepared already from the 1920s to late 1930s, but the most commonly pursued alternative of urban housing at that time was the masonry-frame apartment house.

Many Finnish architects designed basic models of detached houses. Alvar Aalto designed his first standardized wooden house in 1937 for A. Ahlström factories in Varkaus. Aalto designed wooden houses also for Tampella factories at Inkeroinen, for company housing needs. For Ahlström's company Aalto's architectural office developed also the so-called AA system which occupies a key place in the Finnish history of prefabricated wooden house.

After Finland's Winter War in 1940, Suomen Puutalo Oy ("Finnish Wooden House Ltd") was founded as a collaboration among lumber companies. Jorma Järvi and Erik Lindroos were hired as architects and N.R. Alenius as engineer. During a 10-year period the company designed more than a thousand standardized house types. The houses were prefabricated in factories and transported to site, where they were assembled on the basis of drawings and specifications.

Photos: Kymenlaakso Museum, Timo Lievonen



An example of prefabricated house production from the Sudeetti detached-house area in Kuusankoski. Uniformly designed areas of detached wooden houses were typical in Finland from early 1900s to the 1960s. In 1970s, brick buildings became the dominant trend. The present-day detached house areas seldom have a particularly coherent character.



The ornate wood carvings of the factory owner's house in Verla reflect the wooden house construction ideals of the period.



The main building of the Lanski farm in Jaala is a typical red-ochre peasant log house with extended corners painted white.

In 1942, the reconstruction office of the Finnish Association of Architects was established, with architects Viljo Rewell, Olli Pöyry and Aulis Blomstedt as designers.

The aim was to create houses fulfilling Finnish needs and requirements. Usually the work resulted in unassuming buildings and detached-house areas well integrated in the Finnish environment. The most common building type was a light-frame house, the rooms of which were placed around the firewall and fireplaces. This was the best way to utilize the heat energy. The walls and floors were usually insulated with sawdust and cutter shavings. Hollow wall structures, with air as thermal insulation, were also used.

Based on pre-war standard project drawings, the one-and-half storey home became a common house type also after the war. The houses differed with regard to their surface materials and details, but the buildings' masses were very similar. The appearance of the detached house neighbourhoods was very coherent, which also reflected social equality.

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WOOD ARCHITECTURE IN KOUVOLA 1890-1950

Rurik Wasastjerna, Architect's Office Rurik Wasastjerna

In this book we have compiled a modest sample of the heritage of wooden buildings in the northern Kymi River Valley. The time span of the portrayed examples extends from the age of industrialization of the late 1800s to the reconstruction period in the 1940s. The social spectrum spans from modest workers' homes to the luxurious villa of the director of a wood processing plant. Represented are spontaneously developed cottage areas as well as entire garden-town neighbourhoods designed by famous architects. We hope that the selected buildings and residential areas provide an insight into the broad diversity within our wood architecture.

← To Kuusankoski

Train drivers' neighbourhood

Railway employees' homes



See the map on page 8



12 Kuusaantie road

To Kouvola city centre →

Railway tracks

← To Inkeroinen

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TRAIN DRIVERS' NEIGHBOURHOOD

Railway employees' homes

Essi Seppälä, Bachelor of Culture and Arts

The opening of the Riihimäki–St. Petersburg railway in 1870 was one factor facilitating the birth of wood processing industry at the rapids of the Kymijoki River. Kymi railway station, located in Koria, operated as the loading station of the Kuusankoski and Inkeroinen factories; but the Kymintehdas factory needed its own loading station east of the Kymijoki River. After three years of negotiations, Kouvola railway station was opened in August 1875.

The station building was built in 1887, and in the same year the Finnish Senate chose Kouvola as the departure station for the Savonia railway. The Savonia railway line was opened in 1889 and the Kotka railway line in 1890. Kouvola soon became a busy junction station, providing train routes to all cardinal compass directions. This was a period of rapid industrialization in the Kymi River Valley. The rate of passenger traffic was still quite low. In 1916, the Finnish National Board of Railways raised the status of the Kouvola railway station to Class I, based on the rate of traffic via the station.

The railway station locality had been barren and uninhabited moorland until late in the 1800s, when the National Board of Railways started to build homes near the railway line. Moreover, railway employees themselves were building up a neighbourhood of homes in the adjacent Kaunisnurmi area. Hence the eastern part of Kaunisnurmi is referred to as



Photos: Rurik Wasastjerna



Red-ochre log wall in Veturimiehenraitti street.



A house across the yard in Uudenmaankatu street.



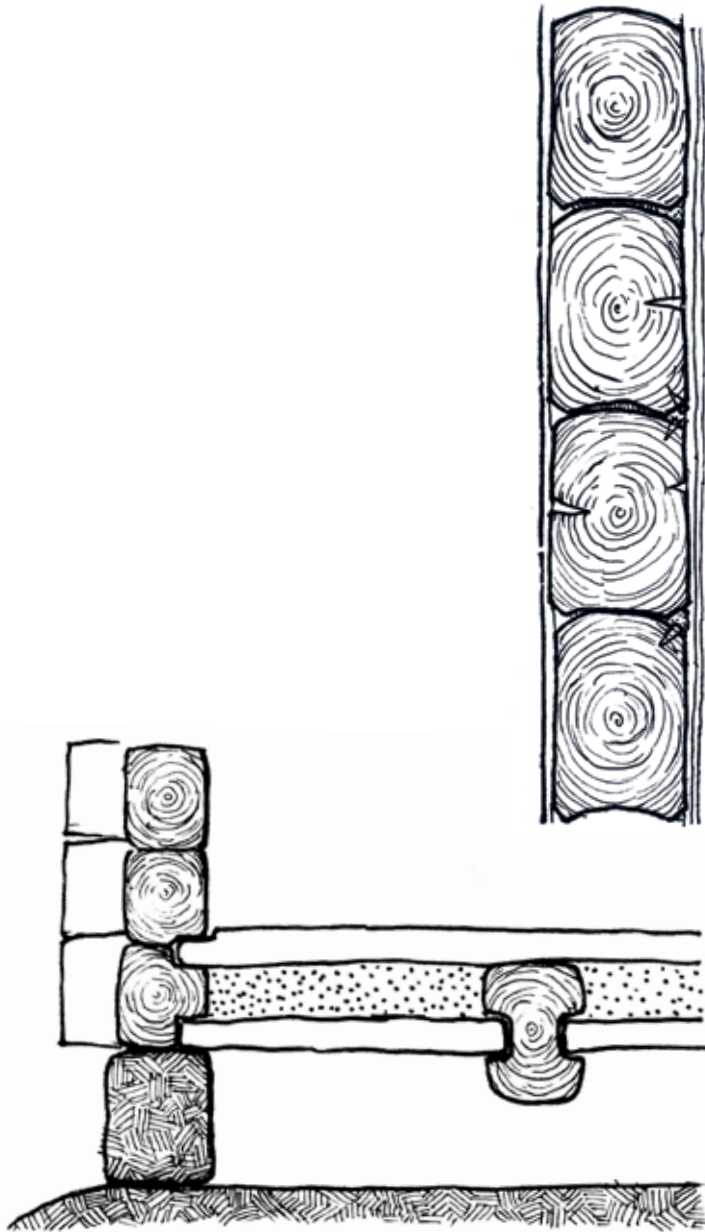
the Train drivers' neighbourhood, as most of the houses were originally built as train drivers' homes. Kaunisnurmi (literally "beautiful grass") was named after an unused road area north of the railway station which over time became overgrown with a lovely layer of grass.

The Train drivers' neighbourhood developed freely without town planning, built by the residing railway employees themselves. The area was already built up before any town planning had been carried out. The first town plan covering the entire old Kouvola was prepared by architect Jussi Paatela, and it was adopted in 1922. The next town plan, prepared by architect Otto-Iivari Meurman, was adopted in 1932. Meurman's town plan forms the basis of the current spatial structure of the city. The western part of Kaunisnurmi was built according to Meurman's town plan, but the Train drivers' neighbourhood was left as it was. Had the original town plan ideas been carried out, also the Train drivers' neighbourhood would have been rebuilt.

The majority of old buildings in the centre of Kouvola were demolished before and during the 1970s. The same fate threatened the Train drivers' neighbourhood. Thus a regional committee proposed that the area be preserved. The preparation of a new town plan started. According to the new plan, part of the neighbourhood buildings were to be preserved near the upcoming Kouvola House. Today the so-called museum

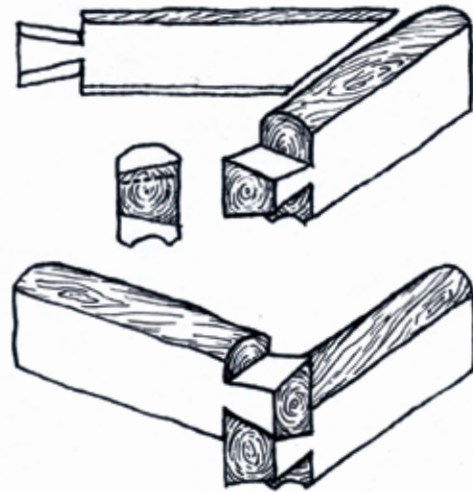
section of Kaunisnurmi, south of the Kouvola House, is one of the residential areas best preserved in its original state. The buildings of the museum section were built in 1890–1927. The buildings range from modest cottages to luxurious villas. The more profuse the decorations of the facade, the higher the social status of the home builder has probably been.

The buildings of the Kaunisnurmi museum section represent traditional log house building. The houses were founded on natural stone footings, they have ventilated ground floors, and the log walls are hewn flat. Traditional insulation materials and wall fillings included natural materials such as clay, moss, linen fibre, peat and sawdust. At the turn of the 1900s, frames of dwellings were principally built of logs. The part of the house above the log frame was usually a frame structure consisting of rafters and trusses. The exterior of the house was clad with board siding. The log frame corners were built as so-called flush corners, either as lap joints or dovetail joints. The hewn log surfaces of the interior walls were either painted, papered or wallpapered. The exterior architecture of the Kaunisnurmi buildings shows influences at least from the neo-renaissance, national romantic and jugend styles. The wooden architecture of towns was strongly influenced by international style trends of which railway employees were perhaps more aware than the average person.

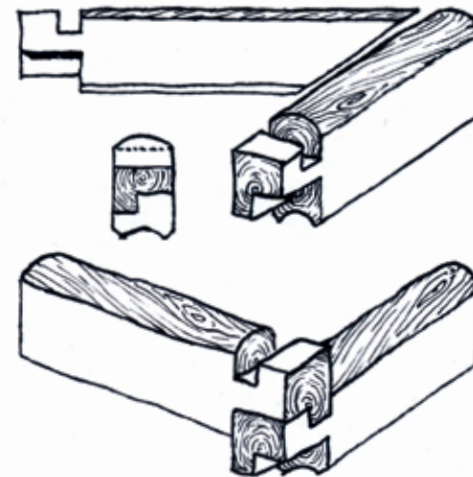


Ventilated ground floor is still considered as the most reliable ground floor structure in log houses. The durability of structures is based on raising the building high above the ground and on effective ventilation. Old ventilated ground floors were built on natural stone footings, either on cornerstones or on blocks placed adjacently. In a ventilated ground floor built on footing blocks, air is ventilated through so-called "cat doors" which are closed in the autumn when lakes freeze over and opened early in the spring after the ice has melted.

Hewing a log surface flat is traditionally done with a hewing axe. Flat wall surfaces came to be esteemed higher than round log walls, hence round logs were first scored with a saw and the hewn flat with an axe. It was also easier to attach cladding materials to hewn exterior or interior wall. Starting from the exterior surface and moving inward, the wall structure was typically as follows: external siding board, tar paper, log frame, heavy building paper, wallpaper. There was no separate insulation material, as the log itself acted as insulation. Sealing was improved by plugging air leaks in corners, in window openings, and in gaps between wall and ceiling/floor, using organic materials.



As board siding became more common, the corners of log frames were made as so called flush corners. Above: dovetail joint. Below: lap joint.





The house exteriors of the Train drivers' neighbourhood exhibit a variety of style trends: the buildings in the top two photos show influences of classicism, whereas in the bottom two photos the small pane windows and ornate arches are characteristic of the jugend style, and the ornamental details are typical of the Swiss chalet style. The colour schemes are varied but harmonious.



The photo shows the Pharmacy Museum facade to Varuskuntakatu street. A typical feature in the buildings of the Train drivers' neighbourhood is the protruding frontispiece, either one or two per facade.

Photos: Rurik Wasastjerna



A selection of window designs.



Lemonade Factory Sampo

Lemonade Factory Sampo, which operated in the 1920s and 1930s, was located in Veturimiehenraitti street in a red-ochre log house in the yard of a now hundred-year-old wooden house. The factory was originally owned by Sylvester Leino from Valkeala and later by his son, railway official Selim Leino. The Leino family eventually lost title to the main

Photo: Kouvola City Museum



building and its accessory buildings, and the current residents have lived in the house for more than a decade. Right from the start, they have been interested in the history of the lemonade factory and keen on repairing the factory building. Due to decades of negligence, the factory building was in poor shape. The building has been repaired by the owners themselves and in collaboration with the Environmental Administration. The repair work has been carried out respecting the old, mostly using recycled materials.

The main building dates back to the beginning of 1900s, making it one of the original houses of the Train drivers' neighbourhood. The building was originally a plain log house painted in yellow ochre, but later the exterior walls were clad with horizontal and vertical siding panels as was typical early in the century. The factory building was probably built early in the 1920s. Half of it consists of a log frame and half of it has a light-frame structure. The light-frame extension was built a few years after the log structure. In addition to the factory building, there used to be a bakery and a baker's shop in the yard but the bakery building was later demolished.

In the 1930's, a habitable room was built in the factory building. At some point, the roof had leaked, damaging a large part of the structures of half of the building and the goods stored in that half. Half of the wooden floor had also decayed. The roof was repaired and covered with new roofing felt. The intermediate floor also had to be fixed. A concrete floor - with an open sewer and traces of the floor layout of soft drink manufacturing equipment - was discovered under the partly decayed wooden floor.

The manufacturing of soft beverages took place in the log section of the building, and that section also housed a sauna. The factory had two workers: a bottle washer and a beverage maker. The manufacture of the lemonade started by raising water from the well located in the centre of the yard.

Sylvester Leino was the owner of the Lemonade Factory Sampo in the 1920s. The factory operated in the Train drivers' neighbourhood, in the yard of a residential house in Veturimiehenraitti street.

Through a funnel, the water was poured into a pipe through which it flowed to the factory. A hole in the factory wall still reminds us of the pipe. In the factory, colours, flavourings, and carbon dioxide were added to the water after which the lemonade was bottled. The lemonade was sold at least in the market square. Recycled bottles were washed in a wooden tub in the sauna, vigorously shaking a mixture of water, sand and pellets in the bottles.

The lemonade factory manufactured (at least) pear lemonade, lemon soda and red lemonade. Evidence of this was discovered when demolishing the wooden floor: period newspapers, freight documents and soda bottle labels were found under the floor. One bill of consignment referred to a delivery of lemon soda to a local garrison canteen at Utti in 1926. The building's year of construction and the factory's years of operation have been determined on the basis of the newspapers discovered under the floor. The newspapers were from 1923. The factory appears to have closed down by 1936. Thus the factory operated for about a decade. After the lemonade manufacture ended, the building served as a home and as a storage facility. The repair work of the exterior is now nearing completion, and in the coming years work will continue in the interior.



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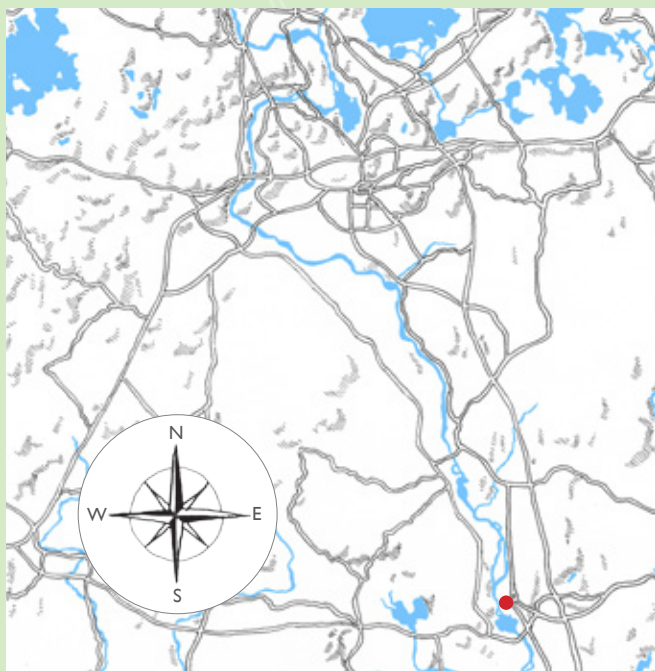
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Photo: Rurik Wasastjerna

Factory housing in Inkeroinen and Anjala

Socially stratified factory housing



See the map on page 8





FACTORY HOUSING IN INKEROINEN AND ANJALA

Socially stratified factory housing

Essi Seppälä, *Bachelor of Culture and Arts*

Sawmill industry emerged early in Ankkapurha, at the Kymi-joki River rapids. With the growing industrialization late in the 1800s, large-scale log driving began, and several factories were founded at the river rapids. The Ingerois Board Mill, the first manufacturer of groundwood in the Kymi River Valley, was built in 1872. Among other products, the factory manufactured tissue paper and newsprint with its two paper machines. After the original factory building was destroyed in a fire in 1881, a new factory and groundwood plant were built. The production of woodpulp, woodboard and rag board began. When the factory was expanded in the 1890s, the first continuously operating board machine was purchased to Inkeroinen. The Ingerois new board mill was built in the 1960s. The Anjala Paper Mill was built in 1937–1938 in the spirit of functionalism, and it was expanded both in the 1980s and early in the 2000s.

Anjala Paper Mill and Ingerois Board Mill, located near one another, form an area that has born and developed in parallel with the growth of industry. The factory area evolved into a community based on a social hierarchy and has stratified in many ways. The houses of the area reflect the layers of the history of building construction and social development. In addition to the factory itself, the area contained homes of the management and employees, service and recreational buildings of the personnel; and a school, a church, a shop and a doctor's office. The factory area stood out from the rest of the region as an independent community and was self-sufficient in terms of services.

The factory community belongs to a group of nationally significant, built cultural environments, with homes of varying ages and coherent detached-house neighbourhoods



forming an essential part of the environment. The late 19th century Pomola (1885) and the present-day Klubi (1892) are among the oldest residential buildings. Originally Pomola was probably one of the army garrison buildings of Mäki-Kouvola.

The house of the present-day Klubi was originally built as a female workers' rooming house, and later it has served as a primary school, a youth association building, and a doctor's office. Varpunen ("Sparrow") and Keltalinja ("the Yellow Line") are workers' homes from the first decade of the 1900s. Varpunen belonged to a set of workers' homes called Punalinja ("the Red Line") adjacent to the Yellow Line. Varpunen, with its accessory buildings the only building left of the Red Line, is currently a museum. Kirkkorinne is a group of three wooden houses built in 1936–1938 as homes for civil servants.

The revivalist-style factory club house from 1894, designed by Gustav Edvard Asp. The primary school of the Ingerois Board Mill was originally founded in the club house building in which it operated until 1940. After that the school operated in the Tehtaanmäki schoolhouse.

The functionalistic style of Alvar Aalto is highly visible in the 1930s and 1950s buildings of the factory area. Typical to Aalto's residential area design was that he placed different building types in the same neighbourhood.

Of the residential areas, Aalto designed Mestaritalot ("the Supervisor Houses") for foremen and Insinööritalot ("the Engineer Houses") for factory managers. The Supervisor Houses are also referred to as Rantalinja ("the Riverside Houses") and the Engineer Houses as Rinnetalot ("the Hillside Houses"). For workers, Aalto designed the Tervalinja ("the Tar Line") and Karhunkangas wooden-house neighbourhoods. Their houses are entirely made of wood, from the exterior cladding down to the frame. Aalto's characteristic manner of combining wood and stone, however, can be seen in the Supervisor Houses and Engineer Houses. In those houses wood has been used mainly in the staircase side lattices and dark wooden details, whereas the frame of the houses is made of bricks.

Aalto designed the Supervisor Houses (a.k.a. the Riverside Houses) in 1938, and ten houses were built. The Supervisor Houses are semi-detached houses, each home having a floor area of roughly 110 m² and a floor layout mirroring its twin. In the houses the fireplace is placed in the gable wall instead of centrally in the building, and the chimney above it has a very pronounced shape. The buildings have white, plastered brick walls; dark wood panelling on the top part; other dark wood details; and a steeply pitched, red-brick gable roof. On one side of the houses there are large windows with a view over the backyard garden, to the Kymijoki river.

The Engineer Houses (a.k.a. the Hillside Houses), built in 1937–1938, consist of three brick homes and a garage. The buildings are placed on a steep slope in a wooded lot, at the highest point of the landscape. The two homes on the sides have an identical layout, each with a floor area of approx. 200 m². Mäntylä, the house in between, the chief engineer's home, is the most spacious and luxurious of the Engineer Houses. The three-storey buildings have been adapted to the contour of the slope. The Engineer Houses have white, plastered walls; a red-brick gable roof; large, light-giving windows; and a terrace. Dark-stained wood has been used to give contrast to the white plastered brick walls.

The Engineer Houses have a three-car garage in which the bays have been placed radially.

The Tar Line, built in 1938, is a row of wooden houses consisting of four four-family houses, designed for machine



A building in Kirkkokuja alley.

Photos: Sami Leminen



Klubi, formerly a workers' tenement house, built in 1892.



One of the several buildings, originally used as tenement houses, in Kirkkokuja alley.



Varpunen ("Sparrow") and its accessory buildings, built in 1909: a former home of a worker and currently a museum.

The Riverside Houses (a.k.a. the Supervisor Houses) built in 1938, comprise five semi-detached masonry houses. Aalto's manner of combining wood and stone is unique. Deviating from the conventional bearing-wall layout, the chimney has been placed in the gable end of the house.



Photos: Rurik Wasastjerna



The Hillside Houses (a.k.a. the Engineer Houses), built in 1938, were adapted to the contours of a slope. Sufficient light and ventilation were among the ideals of functionalism.





Left photo: Tar Line buildings.

Right photo: The head office of the Ingerois Board Mill from 1879 with the entrance canopy and staircase designed by Alvar Aalto in 1938-1939.

operators; and five two-family houses, designed for foremen and shift supervisors. The two-storey houses are made of wood. The terraces and stairs are flanked by a balustrade built of narrow wooden battens. Like the other rows of homes, the Tar Line was named after the colour scheme of the houses. The wood siding of the houses was originally finished with tar paint as the name suggests. One of the Tar Line houses has served as an occupational health centre from 1943, after Aalto made some modifications to the layout. The Tar line area has eventually become smaller, and some of its buildings were demolished in the 1970s and 1980s. However, the area still accommodates a neighbourhood of factory employees' homes.

Karhunkangas, a residential area built by the Anjala Paper Mill for its workers and clerical workers, is located two kilometres north of Tehtaanmäki (literally "the Factory Hill"). The Karhunkangas area was designed already in the 1930s but was built only after the war, beginning in 1945. A total of 75 houses were built. The houses were of the so-called AA type, designed by Alvar Aalto for A. Ahlström Oy. The AA model range consisted of a variety of different house types, with variants for different landscape and family types. The core idea was convertibility, and the point of departure was the house as a basic unit. Each family had an opportunity to customize the house and its size according to the family's needs. The Karhunkangas detached-house area comprised five different house types, with floor areas ranging from 49 m² to 60 m². Even though the floor areas varied, the roof line of the houses was uniform. The Karhunkangas houses were clad with vertical board siding. A bit later Alvar Aalto designed also a sauna, a shop building, and a laundry building for Karhunkangas, each of which was later converted to a home. The Karhunkangas area is characterized by roads flanked by leafy trees and gardens surrounded by hedges. A connection with nature was one of the basic ideas in Aalto's design work.



Photos: Rurik Wasastjerna

The entrance canopies of the Ingerois Board Mill head office

The head office in Tehtaanmäki was built in 1879. Aalto upgraded the exterior of the building in 1938–1939 by designing the new main entrance canopies and a staircase. The main entrance canopy represents clear-cut modernism, and its design reflects influences from the solutions of Le Corbusier, another pioneer of modern architecture. The modern canopy merges seamlessly with the classical style of the old building. The canopy is supported with double corner poles. The front of the canopy arches inward mirroring the shape of the stair stone. Later a third entrance was added, reproducing Aalto's design; and in early 1960s the building was expanded.



Each of the Tar Line houses were designed for four families. Each residence had its own entrance, bathroom and kitchen. The Tar Line houses still serve as workers' homes, and one of them serves as a health centre. After part of buildings have been demolished, the area has become smaller.



The Tar Line houses were named after the original tar-paint surface finish of the wood cladding. The adjacent Yellow Line houses had previously been yellow, but in connection with Aalto's upgrade they received the same tone as the Tar Line houses. The Tar Line houses had a wooden frame. The terraces and stairs are flanked by narrow wooden balusters, painted white as a contrast to the exterior wall. The use of natural materials enriched Aalto's architecture. He designed houses to make them merge with their natural environment.

Photos: Rurik Wasastjerna



The harmonious Tar Line neighbourhood.



Architect Alvar Aalto

3 February 1898 - 11 May 1976

Hugo Alvar Henrik Aalto completed his basic education in 1916 and earned a degree in architecture at the Helsinki University of Technology in 1921. He opened his own architectural office, first in Jyväskylä in 1923. By 1933 the office had moved to Helsinki. Aalto also acted as the chairman of the Finnish Association of Architects and a member and chief of the Finnish Academy. He also had a tenure as a visiting professor at the Massachusetts Institute of Technology (MIT) in the 1940s and received a considerable amount of honours and awards from around the world during his long career. Aalto's life's work was extensive, and his designs covered a comprehensive range: villas, factory communities, sophisticated private homes, and cultural buildings. The majority of his buildings are in Finland but can also be found elsewhere in Europe and the United States. In addition to buildings, Aalto designed furniture, light fittings and interiors.

Aalto was innovative and enjoyed challenges. He broke away from rigid rules in modern architecture and pursued his own vision of harmony between man, nature and architecture. It is said that Aalto wanted everyone at a workplace to have an unrestricted view to nature. One of the most important works from Aalto's classicist period is the Jyväskylä workers' association house. Well-known build-

ings from the later, functionalistic period include the Turun Sanomat building (1930), the Paimio Sanatorium (1933) and the Viipuri Municipal Library (1935). It has been said that Aalto's most personal works were created in the 1950s, when he often used red brick, pine and copper as building materials.

Functionalism was well-suited for the construction of industrial buildings, and Aalto designed more than forty buildings for the Inkeroinen and Anjala industrial areas during twenty years. Some of them were never realized, such as the fire station and the bus station. In books about Aalto, the buildings of Inkeroinen and Anjala are usually either not mentioned at all, or the information about them is inconsistent. The factories of Inkeroinen and Sunila (In Kotka), which were built at approximately the same time and are geographically close to each other, share many characteristics. In the industrial area of Inkeroinen and Anjala - including the residential areas - there are dozens of buildings designed by Aalto. Some of the industrial buildings have been expanded and modified to such an extent that they have become unrecognizable as Aalto's designs. The Anjala paper mill with its environment is an example of the 1930s functionalistic factory milieu in which Aalto aimed at adapting the buildings to the contours of the surrounding landscape.



Photo: Rurik Wasastjerna
The Yellow Line.

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FACTORY WORKERS' HOUSING IN KUUSANKOSKI

Essi Seppälä, Bachelor of Culture and Arts

The Kuusankoski Company, the Kymmene Company, and the Voikkaa wood processing plants were founded in the late 1800s. Industrialization was a major factor both in the birth of the municipality of Kuusankoski and in the character and development of housing in the area. At the time when the factories were founded, construction of housing for factory workers began near the factory; first only for the most important skilled workers. Spontaneously developed neighbourhoods of homes, as well as areas built by the company and designed by master builders and architects, emerged near the factories, both on flat land and in steep rocky terrain. The first company apartment buildings were tenement houses with as many as 30 one room apartments. Tuberculosis spread in the cramped and deficient conditions, which made the companies address the situation to improve the workers' housing conditions. The companies also leased out plots of land, on which workers could build their own houses with a loan granted by the company.

Naukio landscape.

Photo: Kouvola city archive

LIFE AND WOOD ARCHITECTURE IN KUUSANKOSKI

Heikki Lindroos, *Interior architect, SIO*

On the right, as seen from the ferry harbour, there was the massive vocational school of the Kymmene Company, designed by Selim A. Lindquist, and on the left, the Aronpelto workers' homes designed by master builder Wolmar Forsberg – both of the sites remarkable architectural achievements and neighbourhoods of the era.

I was born in Kuusankoski in 1950. At that time, the Kymijoki River was still crossed with a ferry. On both sides of Lauttakatu street ("the Ferry street") there were several buildings designed by major architects and master builders of the era. The most important of the houses was probably Villa Ruths designed by Swedish architect Gunnar Asplund.

The first 15 years of my life I spent in this neighbourhood, now deeply seated in my mind. My family lived between the two above mentioned sites, in a new house for civil servants. All those buildings, with the exception of the Aronpelto neighbourhood, are still intact. The workers' wooden homes of Aronpelto with their alleys, cherry and apple orchards, constituted a particularly popular playground for the children. The children of workers and civil servants often played together. The most popular games included 12 Sticks on a Board, cops and robbers, and war games of every possible kind. In the winter, Lauttakatu street was one of the best snowy hills, sloping down all the way to the river. Another fierce hill to ride downhill on a sledge or a bobsleigh was the hill sloping down to Tallinmonttu. The only problem arose when the slope was gritted, making the sand quickly abrade the plywood sledge.

The world was so very different then, much less colourful. Cars used to be pale green, blue or grey, and often also stately black. In all, cars were rare, and one of the boys' hobbies was to jot down license plate numbers in small notebooks and to compare their notes afterwards. Today the notebook would be full in a flash. In those days cars certainly were a rare tidbit on Ekholmintie road. One special place for boys was in the Tallinmonttu, and there on the upper floor of the stable where the company's gorgeous luxury cars – big black DeSotos, Chryslers and Mercedes Benzes – were kept. Every once in a while some sympathetic company chauffeur allowed us boys closer, to admire the cars, and we had a chance to compare top speeds on the speedometer scales.

One of our most exciting and scary pastimes was to approach Päkä as close as possible (Päkä was the company's small steam engine that transported both goods and people between the Voikkaa and Kuusankoski factories). At certain spots, Päkä puffed a huge cloud of smoke from its chimney, and we boys were encompassed in opaque smoke and steam for minutes – indeed, once an unfortunate ski cap even ignited from a spark. The said accessory was, however, safely extinguished.

My mother's first teaching job was at the Kymi factory vocational school, and so I often spent time in the magnificent building. Sometimes I was even invited to lunch, and what I found curious as a boy was that the food was served from enamelled metal cups which, I thought, strongly resembled our dog's bowl.

During the war, the school served as a military hospital, its classrooms becoming familiar to many Finns.

My father worked at the Kymmene Company head office forestry department as a shipping clerk. The head office is still at the same location. The building is a handsome functionalistic house, designed by Bertel Liljeqvist, with dark walls exuding dignity. Sometimes on Sundays, my father took me with him to the office in the morning. There were two things I enjoyed at the office. I was allowed to draw on fine grade paper with pencils sharpened with a hand-crank pencil sharpener. However, perhaps the best part was to get a bottle of Coca Cola right from the office refrigerator, an appliance which certainly could not be found in every household in those days.

On Sundays we often took walks in different neighbourhoods of Kuusankoski, studying and comparing buildings which often were made of wood. Perhaps it is just those walks that make me remember those buildings so vividly. My father's family has earned its living in these factory milieus for 300 years; perhaps for this reason I have felt them genetically my own and preferred them to forests and wilderness.

If we compare Kuusankoski homes to corresponding ones e.g. in England, the difference is enormous. In my view the wooden houses truly constitute a restorative environment, and they could act as a model for our time, too. Of course the living conditions in these houses, mostly workers' homes, were somewhat cramped; but their shared gardens



Photo: Heikki Lindroos
The writer in 1953.

and surrounding natural environment were – and still are – very comfortable. The houses shaped people spiritually as well as physically – and few of the buildings have been disfigured with luxury wings.

Mäyrämäki

A diverse area of workers' homes



See the map on page 8





MÄYRÄMÄKI

A diverse area of workers' homes

Essi Seppälä, *Bachelor of Culture and Arts*

Mäyrämäki, located in the Kymi factory neighbourhood of the town of Kuusankoski, was built as a residential area for the workers of the Kymmene Company. The area which previously had been a dark and ripe primeval forest was inhabited during the first decades of the 1900s. Mäyrämäki consists of a hill rising 95 metres above the sea level and a valley under the hill comprising the areas of Koppelinnotko, Mörkölinja and Pokinpelto. The origin of the place name is uncertain. Mäyrämäki (literally "Badger hill") is thought to have served as a habitat for badgers. According to another story, the name derives from a local dweller called Mäyrä.

That people habited the steep and rocky terrain of Mäyrämäki, has been a cause of marvel. The closeness to nature and the peacefulness of the place may have attracted dwellers. In all likelihood, the low price of the plots of land was an important factor for people moving in. On steep slopes plots were less expensive than on flat ground. The forests and rocks of Mäyrämäki were originally property of the "Ruotsula farm owners". A plot had to be bought or rented where available.

The Mäyrämäki dwellers were inventive and resilient builders. Everyone built his house himself, based on his own design, without subsidies from the company or the municipality. Money was sparse, and the building materials were largely improvised. The roads were bad, narrow, and steep until late 1930s. Later, people have marvelled about how all the building materials were transported to the steep building site. Pulling loads up the hill was impossible even for horses.



Photo: Hilla Hyppönen



The houses were built with leftover materials. Waste lumber had to suffice. Moss and dried clay were used for filling and insulation. The homes were often cold and draughty, as the first houses were built on cornerstones, and the ground underneath the house was left open. The windows were draughty and decorated by ice flowers in the winter. The houses were built side by side as if to protect one another. Shingles were originally used as roofing material. The most common roof style was gable roof, but gambrel roofs were also built. In later years, the footings were made of cast concrete. In Mäyrämäki many foundations and shingle roofs were built as voluntary collaboration. At first, the houses were small one-room cottages, but already in the 1920s another room was often added. There were very few large houses in Mäyrämäki. After the house was completed, an accessory building with a sauna was built in the garden. During the first years of construction in Mäyrämäki, many inhabitants did not yet have a sauna, so the inhabitants used to bathe at wherever a sauna had been built. In Mäyrämäki there were no fences surrounding the plots, and the inhabitants were like one big family. As years went on, the barren slopes became productive soil, grew into

lush orchards. Self sufficiency was essential, as the dwellers seldom had any money. Mäyrämäki ended up becoming a diverse and somewhat randomly built neighbourhood, a complete opposite to the regular residential areas built by the company. Even today, the Mäyrämäki area still looks almost the same as when people first inhabited it. The most deteriorated houses were demolished already in the 1920s, and new ones were built at the same places. As challenging as it was to build on a rocky slope, it is also probably one of the key explanations for the houses having remained in good shape. The foundations were laid on bedrock, and the houses were built of logs. In most houses, the log surface was later protected with board siding which was regularly painted from then on. Mäyrämäki is an illustrative example of industrial workers' independent house-construction activity. Preserving the unique character of the area in the present-day changing circumstances is an important and challenging task.

SOURCE

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Photo: Hilla Hyppönen



Photo: Sami Leminen

An accessory building on the Mäyrämäki hilltop.



Photo: Sami Leminen



Photo: Sami Leminen



2

Photo: Essi Seppälä

The unique character of Mäyrämäki stems from its closeness to nature and its hilly landscape. The small houses are situated freely, the roads curve between the houses, and the landscape is very diverse.



3

Photo: Sami Leminen

"Rötölä"

Directly opposite to Mäyrämäki, across the Koppelinnotko hollow on a steep 18-metre rock, stands a symphatetic little log house. It is one of the original houses of the area and was given the working title Rötölä by its current inhabitants. The current owners discovered Rötölä by accident, looking for a log house for a renovation object near Kouvola. The original purpose was not to make a permanent residence of it. Rötölä's garden was overtaken by wild plants when the current residents bought it. It has taken a couple of years to tidy up the garden, and the renovators have been able to access the buildings. At Rötölä, the aim has been to carry out the renovation work on nature's terms.

The small house has one room and a kitchen. The kitchen has a stove and the room a metal plated masonry stove. The stoves provide the only heating. The Rötölä home was founded on cornerstones, on kerbstones to be precise, between which a concrete footing has later been laid. Despite the age of the house, the bottom logs right above the footing are original and in good condition. The ground floor has a thick layer of insulation made of natural materials. There is no draught inside, even though no extra insulation has been added; and the doors and windows are original. In the renovation process, the cladding has been stripped off the exterior and interior log walls. A red ochre log surface was uncovered from under the exterior siding. The top parts of the log wall were affected by wood rot on account of a leaking roof. As the condition of the roof is known, it is now protected, awaiting the upcoming renovation. When the roof

was examined, a reminder of the historical origins of the area was found: the support planks of the ceiling included resin barrel staves from the paper mill.

In the garden there had been another home that was demolished a few years ago. According to documents, it had been built in 1901. The construction year of Rötölä is not known, but it is estimated to be at least partly the same age. Part of the room has possibly been added later, in the 1920s. In the yard there was also an old storage building previously leaning on a large birch tree. The authorities ordered the storage building to be moved, to help the old birch survive. The foundations of the storage building were moved, and a sauna replicating its predecessor is being built on the foundations. The doors and windows of the sauna building have been purchased pre-used from old buildings.

New flowers and even fruit tree saplings emerge from the garden every year. At Rötölä, it is the environment in particular that has made the inhabitants enjoy the repair work of the cottage. Gardening is a heartfelt matter. The garden and its buildings are restored at a relaxed pace. The first renovation object is the sauna building, subsequently providing accommodation for the upcoming roof repair. The history of the house is still largely unknown to its residents, but a photograph of the former mistress of the cottage was found from the old house demolished from the garden. The photograph was framed, and she is now overseeing the Rötölä home.

Written by Essi Seppälä based on an account by Rötölä owners.



Photo: Rurik Wasastjerna

Koskenranta

A park with wooden villas



See the map on page 8

← Kuusankoski centre



Ekholmintie road

Kymijoki River



KOSKENRANTA A park with wooden villas

Essi Seppälä, Bachelor of Culture and Arts

The first park areas, built on opposite banks of the Kymijoki River, were factory parks. They were commissioned by the factory managers. Well-kept parks were considered to reflect a reliable and positive image of the factory. Originally there were three separate parks on the eastern bank of the Kymijoki river and one unified park area, Koskenranta, on the opposite bank. Koskenranta originated in the early 1870s when Count Mannerheim transferred the buildings he had purchased from Hamina to the Tallimonttu area. Later the office of the Kuusankoski Company and homes of the management occupied the buildings.

The bowling alley of the factory management and the factory workers' dance pavilion were located in Koskenranta. The park became a popular venue for festivities, at which managers and workers alike used to celebrate, for instance, the shared midsummer festival. Later, after workers' associations had built their own conference houses, the significance of factory parks diminished. As a counter-reaction to the workers' association houses, the Kymmene Company had a local event venue built to Koskenranta. The association house, designed by Valter Thomé, was freely rentable by societies and associations, but political meetings were prohibited.

At about the same time, Koskenranta was transformed from a park into a residential area of company clerical workers; and more large wooden villas were built in the area. The construction work took place in the 1910s and 1920s. The villas were designed by architect Selim A. Lindqvist (Villa Polin, 1915), master builder Wolmar Forsberg (Villa Wolmar, 1898),

Photos: Hannu Purho



Left photo: Tennispaviljonki ("the Tennis pavilion") is one of the oldest preserved buildings of Koskenranta. Below: The exterior of Villa Ida of 1920, designed by Bertel Liljequist, exhibits a classicist style. The corner ornaments simulate a masonry building.





- 1 The Tennis Pavilion
- 2 Villa Ruths
- 3 Villa Ida
- 4 Villa Polin
- 5 Villa Bertel
- 6 Villa Wolmar

**For more about Liljequist, see the segment about Naukio.*

architect Gunnar Asplund (Villa Ruths, 1914), architect Bertel Liljequist* (Villa Ida, 1920, and Villa Bertel, 1937) and architect's office Ole Gripenberg (three 1970s buildings).

Villa Wolmar, the first house of the Koskenranta area, built right at the Kymijoki riverside, was designed by Wolmar Forsberg in the late 1890s. The most impressive building, however, is Villa Ruths designed by the Swedish architect Gunnar Asplund and built in 1914.

In its heyday in the 1960s, Koskenranta had almost twenty residential buildings. In addition, the Kuusankoski company office and the youth association house were situated in the area. In the 1970s many residential houses were demolished, only eight remained along with a former stable, the tennis pavilion, and an accessory building of the factory physicians' office.

Koskenranta is still a harmonious and coherent residential area. It is one of Finland's nationally significant, built cultural environments. The majority of the houses were built early in the 1900s. The remaining buildings exhibit classicist features, and some buildings show traces also of national romanticism and baroque. The houses are spaciouly situated in their environment, and the gardens accommodate accessory and recreational buildings as well. The houses are founded on stone



Photo: Leena Niinipuu

footings, and they have log frames. As exterior cladding, vertical board-and-batten siding typical to the period has been favoured in many houses; and the colour scheme harmonizes with the surrounding nature: saturated yellow ochre, orange, green, and shades of grey. Each house exterior combines two (sometimes three) colours: the walls are one colour, and the window frames and house corners are usually white. Circular and semicircular windows are typical on the facades.

Villa Ruths

Gunnar Asplund designed the high-class Villa Ruths in Koskenranta in 1914. It is said to be the only house Asplund designed in Finland. The first resident of Villa Ruths was the technical director Johannes Ruths, who also originally had the house built for himself. Later the building has served as the official residence of company directors. The facade of the

building has been altered significantly, but the style of the architect is manifest in the unconventional composition of the riverside facade where the predominant arched windows have not been placed in the centre of the building.

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Wolmar Forsberg designed to Koskenranta a residential house which is one of the oldest in the area.

Master builder Wolmar Forsberg

Wolmar Forsberg worked as master builder for the Kymmene Company. Forsberg designed mostly workers', foremens' and supervisors' homes for the company. The earliest buildings designed by Forsberg were the Pilkkanmaa Manor and the Koskenranta residential building. In 1914–1919 Forsberg designed for the company several residential areas, in which he developed new housing solutions representing leaps of progress in worker's housing conditions. The Aronpelto and Myllyhuoko areas have been demolished, but the so-called "sugarloaf houses" and the clerical workers' homes in Mustavuori are among the oldest and most valuable remnants of the company's old housing programmes. Forsberg designed buildings also elsewhere in the Kymi River Valley.



Photos: Hannu Purho

Selim A. Lindqvist's jugend-rationalist Villa Polin.

Architect Erik Gunnar Asplund

22 September 1885 - 20 October 1940

Gunnar Asplund is generally considered to have been Sweden's leading architect. Asplund was accepted as a student at the Royal Technical University of Stockholm in 1905 and earned his degree in architecture in 1909. The first buildings designed by Asplund in 1911-1930 represented Nordic classicism. One of his most well-known works is the expansion of the Stockholm cemetery. Asplund designed the expansion in collaboration with Sigurd Lewerentz, and the construction work lasted from 1915 to 1940. In 1994 the cemetery became a UNESCO world heritage site. The Stockholm Public Library is another major work by Asplund. Early in the 1930s, Asplund's design style changed radically, and, inspired by Bauhaus, he became enthusiastic about functionalism. This was reflected in his later architectural and furniture design.

Villa Polin dating from 1915,
designed by architect Selim A. Lindqvist.

Architect Selim A Lindqvist

19 May 1867-17 May 1939

After completing his basic education at Helsingin reaalikoulu, Selim A. Lindqvist graduated as architect from the Polytechnic college (later The University of Technology) in 1888. He was considered a skilful drawer and an open-minded, internationally oriented designer talent. After graduating as architect he acted as drafter for the art history expedition of the Finnish Antiquarian Society, had his own architect's office in Helsinki from 1888, and studied in Germany at an architectural office in Berlin. In addition he worked as a supervisor at Oy Granit company's stoneworks in Hanko and led the construction work of Sandvik Ab company's exhibition hall at the Nizhni-Novgorod World's Fair. In 1902–1910 he acted as teacher of ornamental drawing at the Central School of Industrial Art (currently the Aalto University School of Arts, Design and Architecture).

Lindqvist was interested in construction technology innovations such as concrete structures, which was manifest in his work as a rationalistic trend; and he stood out from other architects of the period who followed the trend of national romanticism. He always wanted to include in his works something new and unprecedented in Finland. His pioneering works in Helsinki included the Lindqvist commercial building in Aleksanterinkatu street and the Suvilahti power station which is considered as one of the earliest stylistically mature concrete buildings worldwide.

In addition Lindqvist designed private homes in Helsinki. They included Villa Johanna, Villa Ensi and Villa Riviera. The Töölö tram halls, the Hietalahti and Kasarmitori market halls, and several apartment buildings were also among his works. A curiosity among Lindqvist's works is Villa Johanna, the Staudinger family's "fairy tale castle" in Laivurinkatu street which proved his mastery over the national romantic style as well.



Photo: Leena Niinipuu

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Naukio

1920s neo-classical wood architecture



See the map on page 8



*A picture of Naukio in 1983
during the Housing Fair.*



Image: UPM Keskusarkisto



Town plan of 1923 for the Naukujanpelto area.

NAUKIO **1920s neo-classical wood architecture**

Essi Seppälä, Bachelor of Culture and Arts

Naukio is located in Kuusankoski, about half a kilometre to the North from the centre, in the former Naukujanpelto area. It still constitutes a coherent workers' housing area representing the 1920s neo-classical wooden architecture. In the general town plan of Kuusankoski, the Naukio area has been designated as a regionally significant cultural-historical environment whose buildings and surroundings must be preserved.

In 1920, the Kymmene Company concluded an agreement on various design tasks with the Architects' Office Lindgren & Liljequist. Liljequist mostly worked independently when designing factory buildings and workers' housing areas. The first plans concerned Kettumäki and the Naukujanpelto area (currently Naukio), the site of the East-Naukio homes which were Liljequist's first design. It was generally considered in the 1910's that in their comfortable garden town environment, the houses of the Naukio area were ideal workers' homes.



Photo: Kouvola city archive

A horizontally clad two-family house from East-Naukio.

Photo: Leena Niinipuu



Naukio was built for the workers of the Kymmene Company, and the area is located midway between the Kymi and Voikkaa factories. In its time, the Naukio area differed from the previous building policy, as the area was located somewhat far from the factories. Workers commuted by train. The railway divided the Naukio area into eastern and western parts. The establishment of the Kymmene Company through a merger of three factories in 1904, created a need for a better railway access to the Voikkaa factory. The improved access was not realised until a private local railway was opened for traffic in 1920. After road access had improved, the railway track dividing Naukio was demolished in 1960, and the passage was paved for bicycle use.

An East-Naukio single-family house clad with vertical siding boards. The single-family homes of the area were originally painted in red ochre, but later the old houses of the area were given a yellow finish making them stand out from the new buildings of the neighbourhood. The vertical board structure used for the walls of East-Naukio had been discovered cold when West-Naukio was built. Hence, sawdust-insulated walls were used when building West-Naukio.

Photo: Leena Niinipuu



In the 1970's, town plans were prepared for building apartment houses in the area, but due to opposition from the National Board of Antiquities and the Ministry of the Interior, the plans were amended to preserve the area. In connection with the 1983 Housing Fair, the East-Naukio area was supplemented with new buildings adapted to the existing proportions of the area.

East-Naukio was built in 1919–1920. A total of twelve wooden residential houses were built in two rows parallel to the railway. The houses were of two types: the houses at the ends of the rows were single-family homes while the houses in-between were two-family homes. The single-family houses have vertical siding with corner pilasters, and

West-Naukio.

Photo: Rurik Wasastjerna



the two-family houses have horizontal siding. The wooden corner adornments simulate rustic masonry cladding. The single-family houses and the accessory buildings of the area were originally painted in red ochre and the two-family houses in yellow ochre. The houses had a vertical log structure.

At the lot border, the homes had a root cellar shared between two families and an accessory building with a woodshed, an animal shelter, and an outhouse latrine. The houses had one room and a farmhouse kitchen, and on the second floor a spacious open attic which could be converted to an additional room. The plots were large, with an area of 1,600 square metres.





West-Naukio was built in 1923. The porch decoration profiles are a typical feature in the West-Naukio houses built in the 1920s.

Photos: Rurik Wasastjerna



Photos: Top row: Original 1920s houses of West-Naukio. Bottom row: Simpler style homes of the 1940s.

- 1 Metsälehmukseentie 1
- 2 Puistolehmukseentie 5
- 3 Naukiontie 23
- 4 Kunnanpellontie 2



In the 1980s, a decision was made to redevelop East-Naukio and build supplementary houses for the upcoming Housing Fair, at which time the town of Kuusankoski bought the area from the Kymmene Company. At present, the old houses of the area are painted yellow, which makes them stand out from the new buildings of the neighbourhood. In connection with the Housing Fair of 1983, new homes were built in the border areas of the neighbourhood, and plots of land were divided with fences to form three-house lots, which altered the spacious, garden-like appearance of the area.

The West-Naukio area was built after East-Naukio, in 1922–1923. The construction work was delayed due to modifications in the wall structure designs. The vertical board structure used for the walls of East-Naukio had been

discovered cold, and the wall structure had to be redesigned. A sawdust-insulated light-frame structure was chosen. As with East-Naukio, the construction materials were transported to the construction site by rail, and carpenters erected the buildings after the foundations had been laid. The pace of construction was brisk; and the entire West-Naukio area, consisting of 28 semi-detached houses with accessory buildings, was built during 1923. The homes included accessory buildings of four different types depending on whether the house had spaces for one, two, three, or four apartments. The accessory buildings were placed at lot borders. No shared root cellars were built in West-Naukio, but each house had a cellar of its own. The lots were a bit smaller than in East-Naukio. The houses were of two types



Puistolehmuksentie road.



Photos: Rurik Wasastjerna



differing with regard to exterior details. Differences can be seen in the capitals of the corner pilasters, in the eaves, in the porch side-opening diagonal latticework, and in the porch decorative mouldings.

The homes built late in the 1940s in the south side of the area essentially resembled their 1920s model but represented the simpler architecture of their own time. To tackle the housing shortage, each house was originally built for four families. After the housing shortage eased, or when a resident family became wealthier, the attic home was sometimes connected to the lower floor home. In the 1940's, the empty plot of land at the end of Puistolehmuksentie road, originally intended for a sauna and laundry building, was also supplemented with a new house. Eight buildings were demolished from the north side of the area, to make room for a vocational school in the 1970s and 1980s.

Structures

Ground floor and foundations

The East-Naukio houses built in 1919–1920 were founded on natural stone footings. The ground floor structure (from the bottom upwards) was as follows: a 20 cm layer of sand, a concrete slab laying on the ground, studding in the ventilation gap, a couple of layers of brown paper, and floor boards on top. There was no other insulation in the ground floor except insulation sand beside the exterior walls on

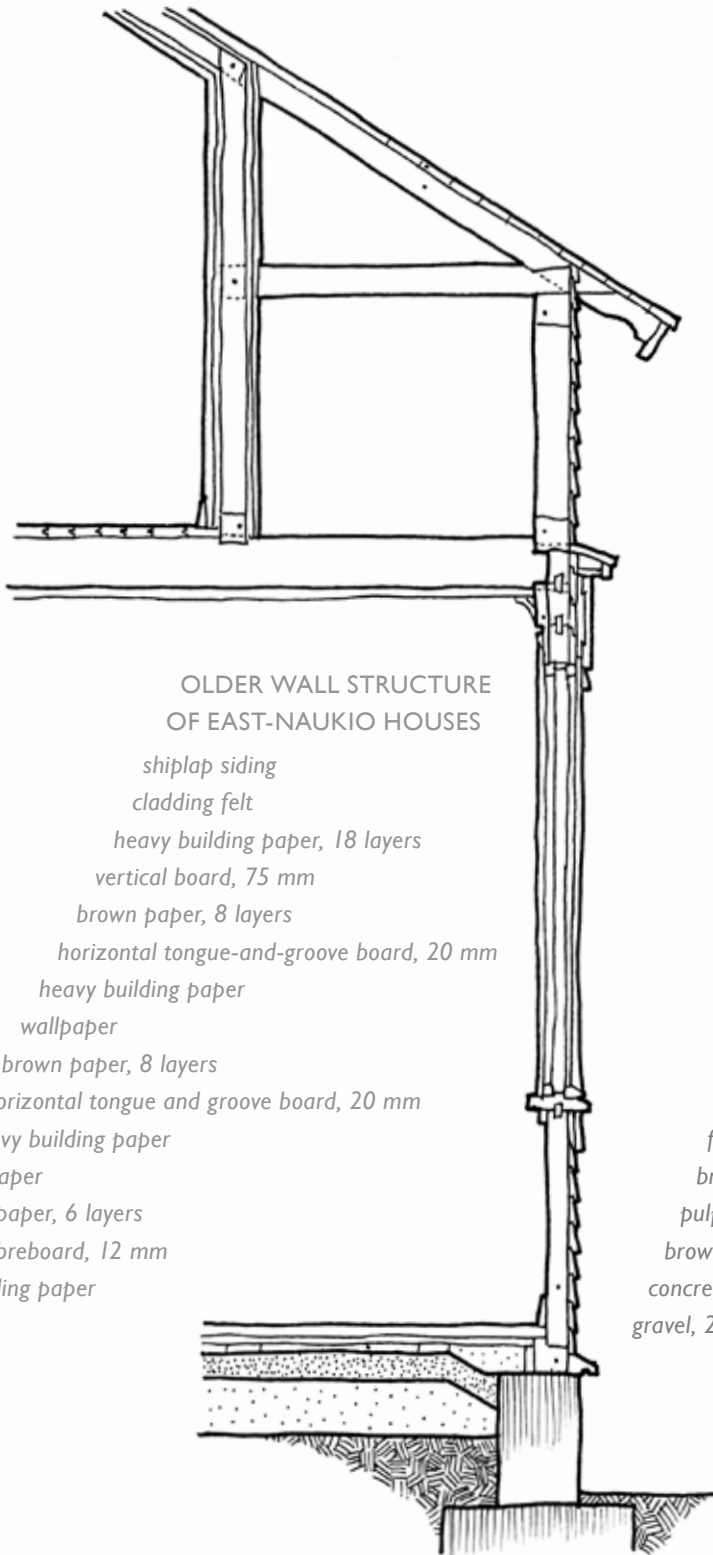
the slab. Obviously, the structures had to be modified when the poor thermal insulation properties in wintertime were discovered.

During the construction work in 1922–1923, the foundations were still built on natural stone footings, and a concrete cellar was built under each house. The ground floor structure had been improved from the one used a few years previously: the underside of the ground floor was ventilated and insulated with sawdust. In other words, the traditional ventilated ground floor structure was again used.

In the 1940s, the use of concrete as a foundation material begun. Sawdust insulation was used for the ground floors under construction, and the sawdust insulation of older houses was increased to 10 cm.

Walls

During the first years of construction the exterior walls of East-Naukio houses had a vertical plank structure, i.e. they were built of three-inch thick and six-inch wide planks mounted vertically side by side. The vertical planks had been fixed at the top with small metal fastenings to form a continuous wall. A couple of layers of brown paper and, depending on the house type, either a horizontal shiplap siding or a vertical board-and-batten siding was laid on the vertical plank structure. The building model came from Denmark. However, the structure was discovered impracticable in the Finnish winter, and additional insulation was needed.



OLDER WALL STRUCTURE
OF EAST-NAUKIO HOUSES

- shiplap siding*
- cladding felt*
- heavy building paper, 18 layers*
- vertical board, 75 mm*
- brown paper, 8 layers*
- horizontal tongue-and-groove board, 20 mm*
- heavy building paper*
- wallpaper*
- brown paper, 8 layers*
- horizontal tongue and groove board, 20 mm*
- heavy building paper*
- wallpaper*
- brown paper, 6 layers*
- porous fibreboard, 12 mm*
- heavy building paper*
- wallpaper*

OLDER FLOOR STRUCTURE

- floor plank, 40 mm*
- brown paper, 5 layers*
- pulp board fillers, 4 pcs, approx. 80 mm*
- brown paper, 9 layers*
- concrete slab on the ground, 100 mm, tar pitch top surface*
- gravel, 200 mm*



Photos: Rurik Wasastjerna

During the construction work in 1922–1923, the vertical plank structure was discarded, and in the houses of West-Naukio, walls were filled with peat moss and sawdust. The thickness of the insulation layer was approx. 10 cm. The exterior wall was built of diagonal boarding, a layer of paper, and a vertical board-and-batten siding on top.

A similar type of exterior cladding was still used in the 1940s. The interior wall was built of diagonal boarding, paper, and vertical boarding.

Roofing

Right from the first years of construction, the bottom roof layer of both East and West Naukio houses consisted of peat moss with a layer of dried clay as weight on top. In the 1940s, when sawdust insulation layers were built thicker in the walls, sawdust was added also to roofs.

The outer skin of the roofs of both residential and accessory buildings was made of shingles during the first years of construction. Later, in the houses built during the 1920s, baked red-clay roof tiles were used. In the 1940s, roofs were covered with red-dyed cement roof tiles.

Naukio dwellers

"At the meeting of the board of directors of the Kymmene Company, on 13 September 1920, a resolution was taken to hand over the workers' homes built in the same year at Naukujanpelto and Kallioinen, both locations comprising 20 homes, without charging rent, to certain groups of workers who were to accept the specific rules concerning the area. Workers had already been notified about the homes offered as employees' residences for skilled workers without charging rent. The applicants were to have families and be from the following groups of skilled workers: paper machine operators, cyl-



East-Naukio before the Housing Fair.

Photo: UPM Keskusarkisto

inder operators, roll machine operators, calender machine operators, pulpers, acid cooks, lead solderers, train drivers, repairmen, electricians, senior skilled construction workers and hollander beater foremen." (Karhinen 1978: 126)

Architect Bertel Liljequist

1 July 1885–17 June 1954

Bertel Karl Liljequist graduated as architect from the Polytechnical college in 1908. He worked in collaboration with architect Gustav Strengell in 1910–1912, after which he worked in his own office, supervising the construction of the Estonia Theatre in Tallinn. After returning to Helsinki, Liljequist went into politics and collaborated with architect Armas Lindgren for about a decade, before founding his own architectural office in Helsinki in 1926. Later, architect Arne Helander became a partner in the office.

Liljequist's works covered a broad range. He designed a great number of both private and public buildings, either alone or in collaboration with his partners. His well-known works include the Hanko town hall, the primary schools of Kuopio and Kuusankoski, and the churches of Säynätsalo and Kuusankoski. In addition, the St. Paul's church, the Helsinki crematorium, and several apartment buildings in Helsinki are designed by Liljequist. Liljequist was also a talented designer of furniture and interiors. He designed furniture also in collaboration with Gustav Strengell.

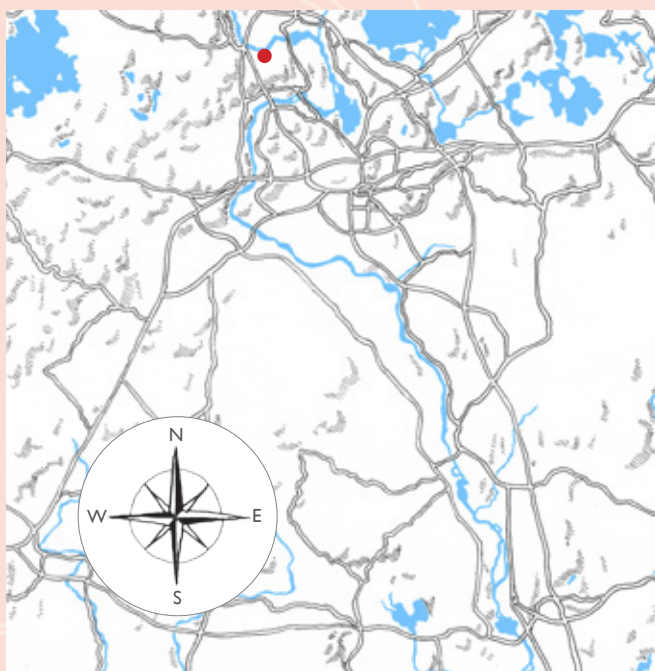
The buildings designed by Liljequist in Kuusankoski and Voikkaa were mostly built in the 1920s and 1930s. In the 1930s, Liljequist abandoned the classicist style and started to design simpler buildings.

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Sudeetti

The pinnacle of workers' housing programme



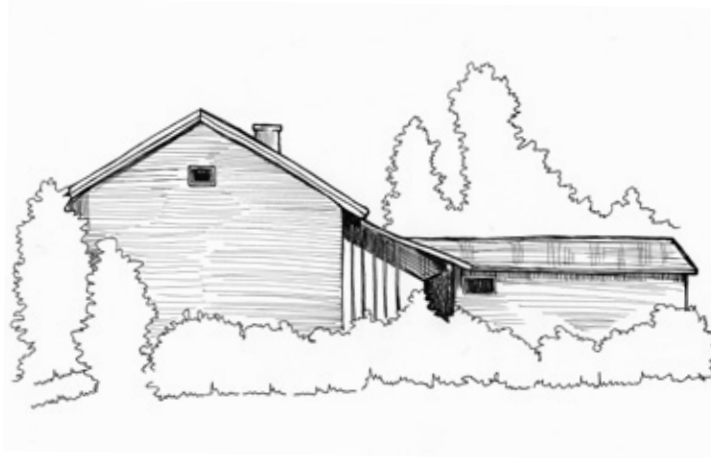
See the map on page 8



Kymijoki River

Tähteentie road

To Ekholmintie road →



SUDEETTI

The pinnacle of workers' housing programme

Essi Seppälä, *Bachelor of Culture and Arts*

The Kymmene Company's own housing construction programme came to an almost total halt for the period from 1925 to 1944. However, workers' own home-building projects were supported. After the war, the company abandoned its previous cautious housing policy and sold so-called "One Markka lots" to builders, as suggested by their nickname, at the price of one Finnish Markka. It soon turned out, however, that the do-it-yourself building activity was not sufficient to eliminate the post-war housing shortage. The company decided once more to become a housing developer.

The construction of a new residential area was launched at Tähtee, approximately midway between Voikkaa and Kuusankoski factories, in northern Kuusanniemi. According to Gunnar Willman, the name Tähtee (literally "Residue") derives from the place having been part of the residual backwoods of a Kyöperi farm in the village of Kyöperilä. The official name of the new area, used by the company in its public announcements, was Tähteenranta. The new area, annexed to the factory community through the construction project, was nicknamed Sudeetti by the local folk, after Sudetenland, the Czechoslovakian regions annexed to Germany at the onset of Second World War.

The layout of the area is based on Carolus Lindberg's and architect Heimo Kautonen's Kymenranta–Maunuksela–Kuusanniemi–Ruotsula construction plan prepared in 1941 and adopted in 1943. The designs of the Sudeetti houses were commissioned from Architectural Office Bertel Liljequist & Arne Helander. Arne Helander had become Liljequist's business partner in 1942.

A total of 60 single-family houses were built in Sudeetti in the mid-1940s. In the planning of the area, the ideal of single-family house was implemented in Kuusankoski for the first time in the workers' housing construction programme of the company. The size and home types of the area are similar to the Karhunkangas area in Inkeroinen, designed by Alvar Aalto. The difference is that the Sudeetti houses were designed separately for each site and built with traditional methods on site. At Karhunkangas, standardized houses and prefabricated manufacturing had been used. Sudeetti had two house types with their respective mirror images. The two types differed only with regard to the size and layout of kitchen and living room. Company workers were provided with an opportunity to examine the houses beforehand with the help of life-size model houses erected in the paper hall.

Photo: Sami Leminen



Sudeetti's clear streetscape.



Sudeetti's special character is remarkably well-preserved, both with regard to the buildings and the town plan. The houses are placed at a 30-degree angle relative to the street, which creates a "sawtooth effect".



Photo: Leena Niinipuu



Sudeetti was built in the mid-1940s. The home types and the size of the area are similar to the Karhunkangas area in Inkeroinen. But Sudeetti houses were built with traditional methods on site, utilizing prefabrication technologies.



Sudeetti's special character is remarkably well-preserved, both with regard to the buildings and the town plan.

The houses are placed along four roads, in six rows, with gardens between the houses. The houses lie in a north-south direction and on a 30-degree angle relative to the street. This creates a sawtooth effect enlivening the streetscape. The lot sizes vary from 900 m² to 1700m²; and as with Naukio, gardening was encouraged by the company. The Sudeetti houses represent the early one-storey type of the post-war reconstruction period, which differs from the later typical one-and-a-half-storey houses for war veterans. A special feature in the houses is the long and narrow accessory building placed perpendicularly to the main building. Between the acces-

sory building and the home there is a covered passage with the home entrance and a staircase to the cellar. An important and unconventional solution is the use of two groups of flues, which allowed more freedom for the design of the layout of the spaces. Hence the houses have a modern feel and are largely in line with contemporary ideas about the relations between the spaces and functions of a home. The Sudeetti houses were considered luxurious and spacious in comparison with the general housing standards of the era. The floor area of the houses is 56 m², and they have three rooms and a kitchen. The houses had plumbing and sewerage, but no sauna was built.

The Sudeetti houses were built by teams of the Kymmene Company carpenters. Manpower that had been transferred to



Sudeetti houses have a characteristically unassuming look.

the construction department was available at the paper mills. In spite of the general post-war shortage, the construction work progressed swiftly. Sixty houses were built in less than two years. With a wood-processing company as a builder, the lumber material at least was of top quality. It came from the company's own sawmill in Koskenranta. The doors and windows, moreover, came from the Halla Sawmill owned by the company. The post-war shortage of materials was manifest mainly in the poor availability of iron and cement. Part of the nails were made by cutting pieces out of wire-netting fence.

The quality of construction is said to have varied according to the team of builders, and the future inhabitants had a very clear idea about which houses were the best finds. The

differences mainly concerned the quality of insulation. The ground floor was sometimes considered cold, which may be due to the fact that cinderstone was mixed into the ground floor sawdust insulation. The Sudeetti houses are a typical example of the 1940's sawdust-insulated light-frame structure. The sparse details are typical to the era. The exterior cladding consists of horizontal shiplap siding without corner boards. Due to shortage of glass, the windows are rather small, undivided standard windows. The weatherboards are narrow battens. The exterior paint is said to have been manufactured at the company factory and to contain tar. The paint came in three shades of brown. The window weatherboards were white and the window frames reddish brown.



Characteristic of the 1940s and in spite of the sparing and rationalist design, apt choice of materials and clever details have made Sudeetti a comfortable milieu. The tiled roof extended over the outdoor living space, the protected outdoor space between the main building and the accessory building, and the entrance wooden lattice are examples of the economical but effective solutions. Sudeetti can be considered as the pinnacle of the Kymmene Company's housing construction programme in Kuusankoski.

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POSTSCRIPT

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Our story comes to an end in the post-second-world-war era when Finnish wood architecture attained the goal pursued by architects, by influential individuals of the society, and by common folk ever since the beginning of the century: a type of family home available to all social classes – the single-family house. The house type developed at that time was functional in the deepest sense of the word: taking into consideration the economic resources, the stage of technological development, and the local climate, the house fulfilled the period's housing needs optimally. This modest but functional and flexible house type has occupied a prime position in the Finnish consciousness as the archetype of home. At the same time it epitomizes the turning point of a certain development. The agricultural society based on small-scale farming had come to the end of its road. At the beginning of the 1960s Finland was in the middle of its second and decisive era of industrialization. The scale of social changes reached a new order of magnitude and called for new approaches. Quantitatively, wood architecture became marginalized for a long time. This does not mean that no significant development has taken place in the field of wooden-house construction during that period. Now, half a century later, wooden-house construction is experiencing a revival. It is time to examine the development of wood architecture up to the present day and to assess its possible future prospects. This is the task for the next book.



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Leverage from
theEU
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