

ANTTI PAPPOLA

ALWAYS BOLDLY FORWARDS

ARE'S PART IN MODERNISING
THE WORLD 1924–2024



HELSINKI KUSTANNUSOSAKEYHTIÖ OTAVA

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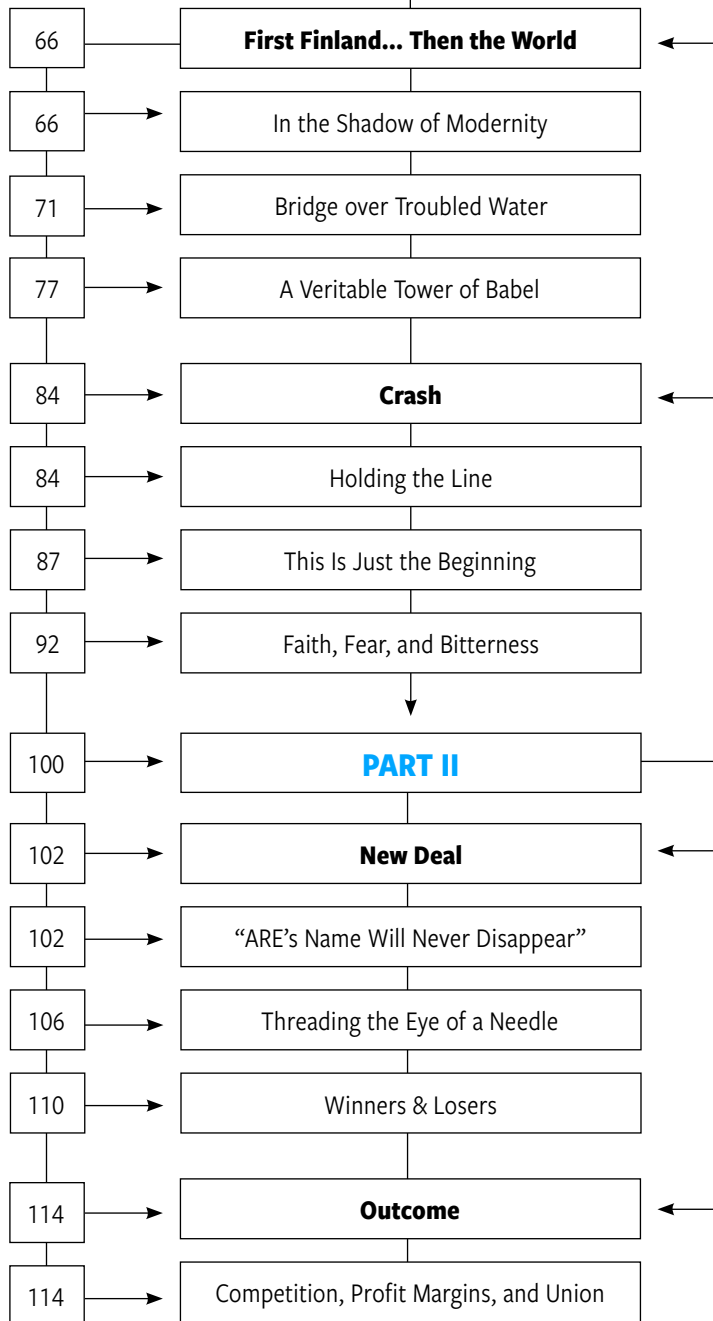
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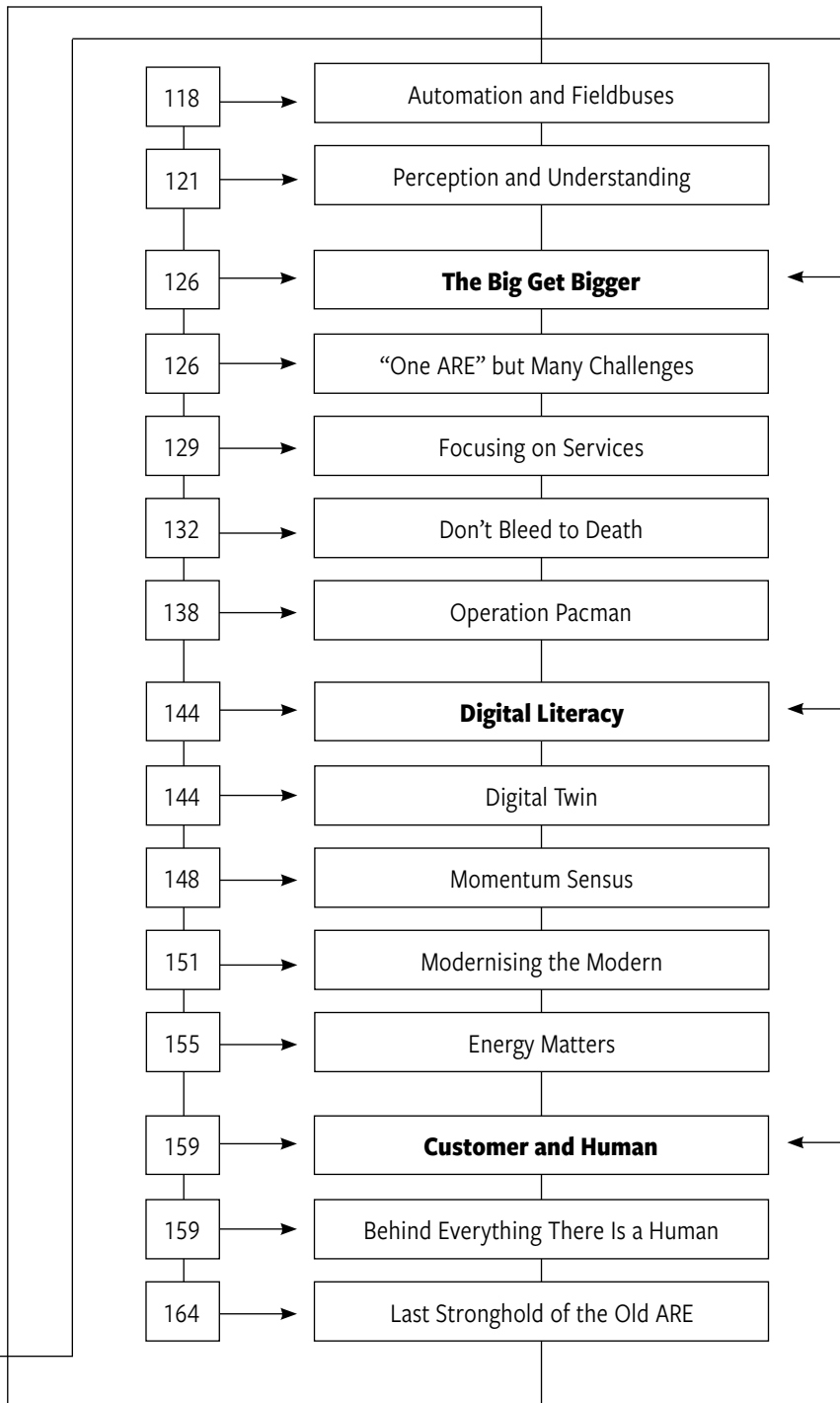
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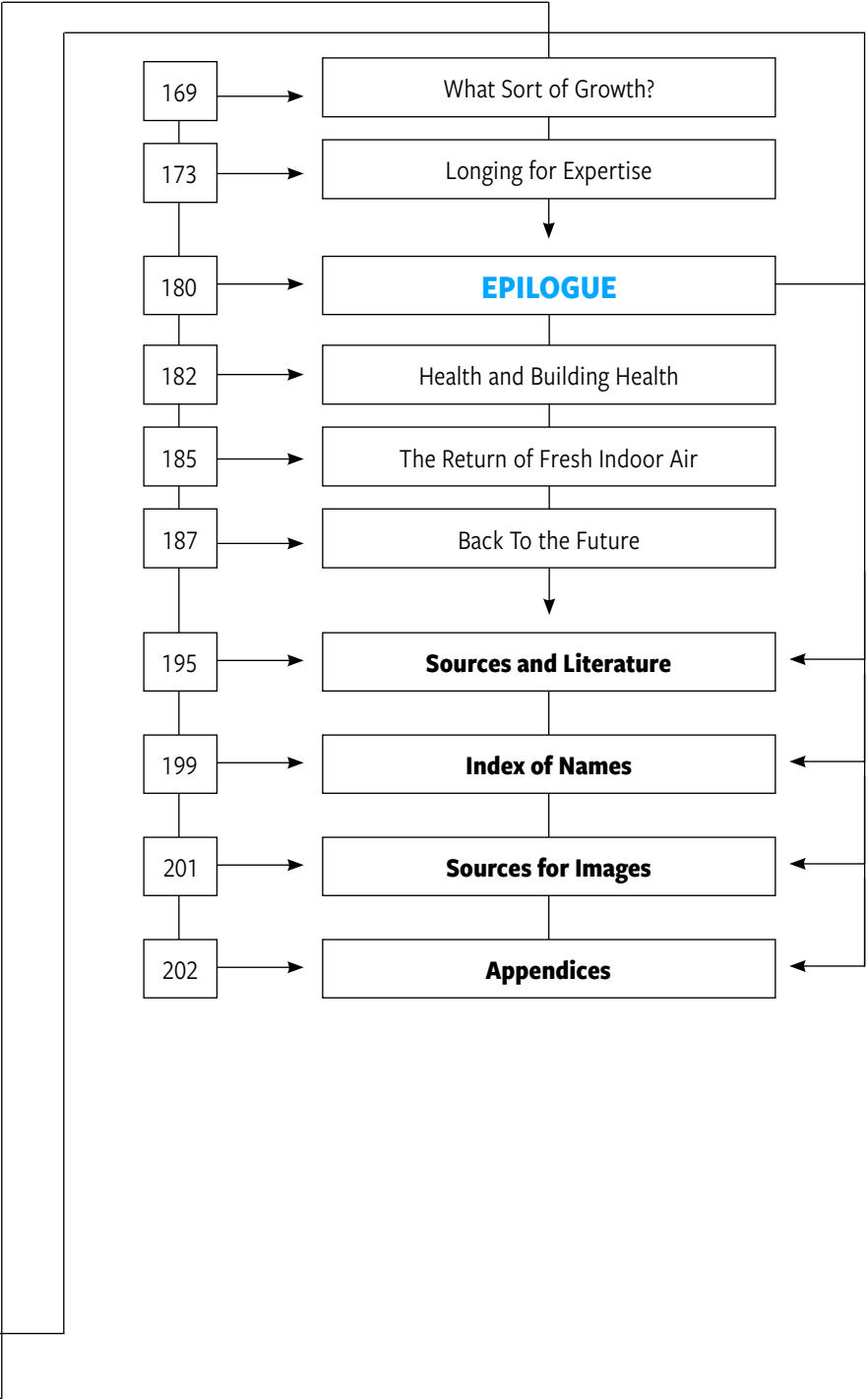


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INTRODUCTION



Technical building services is a field that has grown considerably in importance over the past century. It is no longer an isolated technical subject, but a key and integral part of ensuring the functionality and energy efficiency of buildings and the well-being of those who will use them. This is part of a wider trend where technical solutions are playing an increasingly crucial role in creating buildings that are both functional and sustainable.

ARE has grown into a major player in the Finnish economy. The history of ARE is not only about the company itself, but also touches upon how Finland as a whole has modernised, and how building technology has become a central pillar of our economy. ARE has been actively involved in building what Finland has become today, and the company's journey from small family business to international player shows its commitment and ability to adapt to the demands of a changing world.

None of this success would have been possible without perseverance and teamwork. We continue on that same journey today, proud of our past and excited by the possibilities of the future. Previous generations have done a tremendous job and it is up to us to ensure their legacy lives on long into the future. Family businesses have a responsibility to both honor the work of previous generations and respond to evolving needs as they arise by creating new sustainable opportunities.

The purpose of this book is to preserve the historical legacy of ARE and to show how the work of different generations has created the company we know today. It is a way of celebrating our achievements and giving future generations the chance to experience the colorful and eventful 100-year history of ARE.

I would like to warmly thank all of our employees, customers, and partners whose support and trust have been crucial to ARE's success. Special thanks also to all those involved with the writing of this book for their fantastic work.

Real success comes to those who can work together.

Helsinki, 18 September 2024

Erik Toivanen

Managing Director of Confcap and fifth-generation family entrepreneur

FOREWORD



A modern world is built on modern buildings and the services that furnish them, yet so far, little has been written about technical building services, and how they shape the way we live today. Most building histories or biographies of architects do not go into any great depth about the specifics of this field.

Writing a history of Finland's leading technical building services company thus provides an excellent opportunity to fill this gap. The story of the 100-year-old family company ARE, with all of its ups and downs, is naturally at the heart of the book. However, this book also looks at the recent history of Finland's built environment with an eye towards both building technology itself and those building it. A comprehensive history of technical building services is still awaiting its author, but I hope that this book will help readers begin to understand its complex role in our built environment.

The relative availability of archival sources at ARE certainly helped in the writing of this book. There are fairly comprehensive records up to 1988 that can be found in the Jyväskylä County Archives, and the Central Finland Museum has an extensive collection of historical photographs of the company as well. Material dating from the 1980s–90s, when the company's ownership was being reorganised, is thinner on the ground – but ARE has a comprehensive collection of more recent historical records.

In addition to these archival sources, the book is largely based on interviews, of which I conducted a total of 18. Many interviewees also provided me with photographs, newspaper clippings, and other documents from their own archives, which were a great help in writing

the book. I would therefore like to extend a warm thank-you to all of those whom I interviewed for this book for their help. A warm thanks also to Kukka-Maaria Nummi, from Nordea Bank's Art Foundation, who helped me access relevant ARE documents from the archives of the now defunct KOP bank.

The History Committee – which included Maarit Toivanen (Chair of the ARE Board), Jarno Hacklin (CEO), Maiju Nuponen (Director of Communications and Sustainability), and Erik Toivanen (Conficap CEO) – played a big part in the writing of this book. Among other practical matters, Helena Aarnio at ARE and Sari Lahtinen at Conficap helped to arrange the interviews. I would also like to thank my colleagues at Spiritus Historiae – Laura Puro and Mikko Laakso – for their numerous comments on the manuscript at various stages, as well as Hanna Lundell-Reinilä and Ahto Apajalahti for their excellent research assistance when I needed it.

Tiina Pirttimäki was responsible for the book's illustrations, and her professional approach was very welcome. Thanks also to all the talented people at Otava who have helped in any way, especially the editor Anni-Elina Karvonen, graphic designer Emmi Kyytsönen, and editor-in-chief Eila Rikkinen for transforming this manuscript into a beautiful book. It has been a very rewarding experience working with you!

As a writer, I have really appreciated learning how much more there is to a building than its outward appearance and catching a glimpse of the world of technical building services that lies inside. I hope this book will give its readers a similar experience.

Helsinki, 13 September 2024

Antti Parpola

“The house is a machine for living in”

– LE CORBUSIER (1923), *VERS UNE ARCHITECTURE*
[TOWARD AN ARCHITECTURE].

“The house is a technical discipline”

– ARE (2023).

PROLOGUE

⚡ Weißenhofsiedlung, Stuttgart.
Designed by Le Corbusier in 1927,
this semi-detached house is a
UNESCO World Heritage Site.



MESSENHOFMUSEUM
IN HALLE VON GOTTFRIED SEMPER

“It is a time for revolution and utopias – the truths of the past are no longer believed and the truths of the future have not yet taken shape”

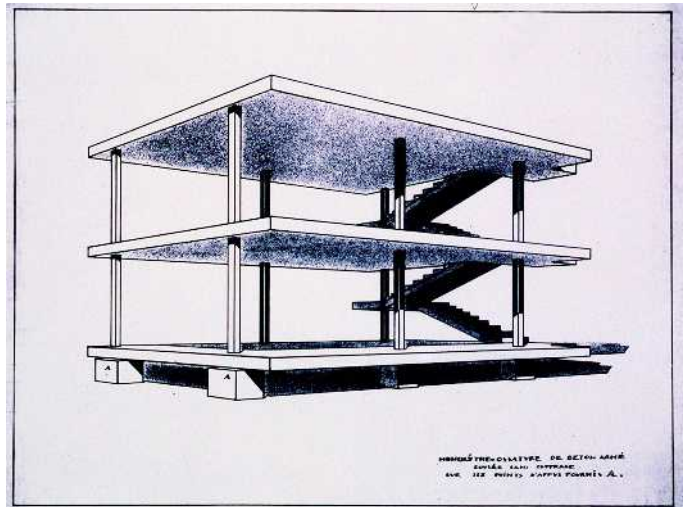
– OLAVI PAAVOLAINEN (1929), NYKYAIKAA ETSIMÄSSÄ

[IN SEARCH OF MODERN TIMES].

ARCHITECTURE OR REVOLUTION

At the turn of the 20th century, what had long been a sacrosanct cornerstone of architecture became suddenly a burden of the past. Up to this point, all buildings – regardless of the location or material they were made from – were constructed according to laws of symmetry that went all the way back to Ancient Rome. Following the teachings of Vitruvius (ca. 80 BC–15 BC), architecture was above all about beauty, durability, and practicality – and symmetry was thought to be the best way of achieving this.

The Vitruvian ideals of symmetry were being followed in architecture right up to the early 20th century, and only started to crack when young architects began looking for ways to break from the past. In the 19th century, the Industrial Revolution had begun to change the face of Europe; swift population growth resulted in a continent with cities fit to burst,



⚡ The Maison Dom-ino from 1914 introduced the basic principle of Le Corbusier's architecture, an open structure supported by concrete columns.

and the class system on which society had been built was beginning to boil over.

Smoke from the chimneys of factories and homes made the air unhealthy to breathe in big cities, and disease spread easily in the cramped tenements. Fresh air and a healthy environment now seemed reserved only for the wealthy, and critics argued that everyone deserved good housing – buildings needed to change with the times.

One of the most vocal of these critics was the Swiss-born architect Charles-Édouard Jeanneret-Gris – better known as Le Corbusier. According to him, old housing endangered its inhabitants by gradually eroding their health “like a lung disease”. In his 1923 pamphlet *Vers une architecture*, Le Corbusier summed up the desire for change that many architects felt in a pithy slogan: “Our times call for a new design”, or, more tersely, “Architecture or revolution”.

Le Corbusier’s new architecture was inspired by technology. In his eyes, the new streamlined ocean-going ships were a sublime feat of engineering, and simple, purpose-built concrete grain silos “the magnificent promise of a new era”. The buildings designed by Le Corbusier were thus more like grain silos than traditional houses. Raised on concrete columns, the structures had no load-bearing walls, the dwellings were one open space, and the ribbon-like rows of windows across the entire façade opened up the dwelling to the outside world.

However, in this new architecture the change went deeper – the exterior of the house was meant to reveal the building’s subversive nature, to highlight how it differed from the past. In place of a living space fixated on form, Le Corbusier wanted to use new technology to build a “haven of light” where “we can see as clearly as in daylight” so that our eyes would not “suffer from poor lighting”. In addition to direct and indirect electric lighting, these living spaces would have easily adjustable indoor temperatures and running water for sanitary facilities. Le Corbusier summed this vision up in another catchy slogan: “The house is a machine for living in”.

Le Corbusier designed his first experimental house made up of modular domino-shaped pieces, the *Maison Dom-ino*, on the eve of the First

World War in 1914. The war, which lasted four years and cost millions of lives, accelerated social change, and when peace finally came in 1918, monarchical power structures across much of Europe were overthrown and replaced by democracies. In this new context, Le Corbusier's slogan of "architecture or revolution" became a rallying cry that took on a wider resonance beyond simply that of housing design.

Like Le Corbusier, the architect Hannes Meyer, who became the second director of the influential Bauhaus school, also talked of *die neue Baulehre* (or "new way to build") in terms of a machine – requiring the essential elements of good-quality indoor air, electric lighting, and running water for hygiene and sanitation. In the 1920s, modern housing estates based on these new design principles began to spring up all over Europe. In the words of the Finnish architectural/art historian Riitta Nikula, "the modernist project had begun".

Modernism came to Finland in the early 1920s, but it was not until the end of the decade that the first buildings were actually constructed in line with this new philosophy. The architect Alvar Aalto was one of the first Finnish modernists, and he became acquainted with these new trends across Europe on a study trip in the summer of 1928 which he combined with his honeymoon. On the trip, Aalto met several representatives of the new architectural movement, which changed his style of architecture completely. Before the trip, he had designed the church at Muurame in a classic Vitruvian style, but after the trip, the office and printing house he designed for the newspaper Turun Sanomat clearly represented something quite different.

For the Turun Sanomat project, Aalto used structural solutions made famous by Le Corbusier in his design – in particular load-bearing pillars cast in concrete, which allowed for almost full-width ribbon windows. The most striking detail of the structure's façade was a two-storey high illuminated window that the newspaper's headlines for the day were meant to be projected onto for all to see.

A sense of modernity was certainly already being communicated by this display to passers-by outside, but this only intensified when you stepped inside. The most visible element was the use of light:



⚡ Turun Sanomat's printing house, completed in 1930, was one of the first examples of Finnish modernism.

Aalto had designed it so that light could pass freely between rooms and corridors through the use of glass partitions (manufactured by Crittall in England).

Skylights ensured that even the printing hall in the basement was bathed in natural light, and this brightness was enhanced by highly reflective gloss paint on the ceiling. Hidden away in the building's structure was more cutting-edge technology to ensure good air circulation and plumbing throughout the building – from the print rooms down in the basement right up to the gourmet restaurant on the top floor.

But was this use of the latest technology really all that revolutionary? In Ancient Rome, Vitruvius' manual on classical architecture had also placed great importance on the utility of buildings – not just form and symmetry. For Vitruvius, the most important function of a building was to ensure the health of its occupants, and only when this condition was met could the architect then focus on ensuring the beauty and durability of the building.

To achieve this Vitruvian goal, an architect had to be not only an artist, but also an engineer, doctor, and lawyer. Vitruvius himself had served as an engineer in Julius Caesar's army – building bridges, catapults and siege engines, often in the heat of battle – and Vitruvius advised architects to be similarly well-equipped to multitask both creatively and technically. For Vitruvius, medical knowledge would help architects find the structural solutions most likely to keep people healthy, and legal knowledge would provide the best ways to stay within the confines of the law.

However, by the 19th century this utilitarian side to Vitruvian architecture had become all but forgotten – even as urban populations exploded and the pathogen-infested environments they encouraged made this aspect of architecture more important than ever. Early twentieth-century modernism should therefore be understood with this background of unsanitary urban conditions in mind – utility was once again at the forefront of architectural design.

WHITE MAGIC

A particularly important element in modern housing was electricity, as this powered all of the building's technology and most of its services, from electric lighting to mechanical ventilation and air conditioning – not to mention comfort-enhancing domestic appliances and radios.

Electricity was still new to people in the early 20th century. Previously, electricity had appeared to mankind only in its raw natural form – as lightning in thunderstorms – otherwise seen throughout history and



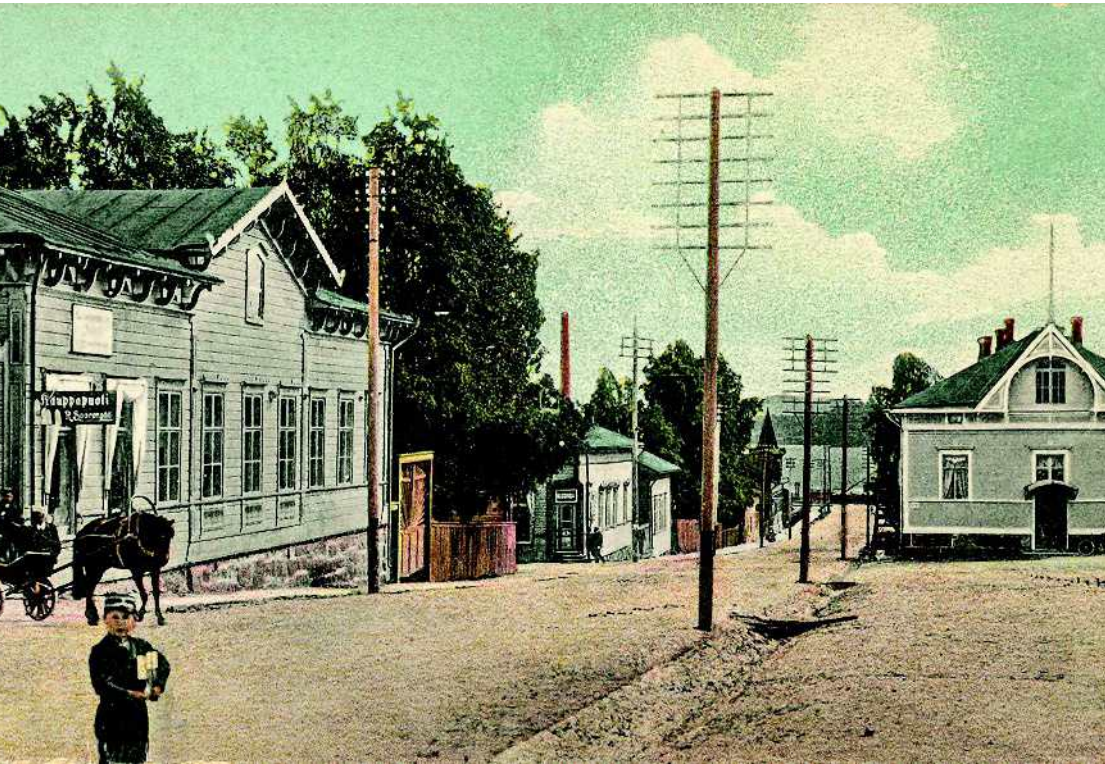
⚡ A factory lamp from the Finlayson textile factory.

across many cultures as symbolising the wrath of the gods. But in the last years of the 19th century, this magical force of nature had been harnessed as a safe source of energy that could power machines, light cities, and provide inspiration for groundbreaking architects. A 1919 domestic textbook on electrical engineering put it this way:

“With the advent of electricity, civilisation has entered a new phase. Indeed, it’s hard to imagine how modern society would be able to function normally anymore without its obedient and powerful servant and companion ‘electricity’ – our winged messenger for carrying knowledge across oceans to other countries and continents in seconds”.

Although science had tamed electricity, it took some time before ordinary people could get rid of their superstitions. For a long time, electricity was still referred to as the “white magic” – to distinguish it from the old black magic, referring to witchcraft. The most tangible manifestation of electricity was the lightbulb – when its filament lit up, it transformed invisible electricity into white-hot light. Perhaps it is no coincidence then that Thomas Edison, the American who invented the electric lightbulb in 1879, became popularly known in the US as the “Wizard of Menlo Park” – Menlo Park being the site of his New Jersey laboratory.

Electric light arrived in Finland almost immediately after its invention. Thomas Edison’s filament bulb was presented to Europeans at



⚡ Kilpisenkatu in Jyväskylä (early 1900s): the electric era comes to town – one pole at a time.

the Paris World Fair in 1881, and by the following year, people at the Finlayson textile factory in Tampere were already working by the glow of electric light. Under the direction of Hungarian engineer István von Fodor, Finlayson had five dynamos (electrical generators) and 150 light bulbs installed. Finlayson is hailed as being one of the first buildings in Europe to use electric lights. Less well-known is the fact that at the same time, in 1882, Julius Johnson, a businessman from Jyväskylä, also purchased an electric dynamo and lighting for his saw-mill at Kuokkala.

Jyväskylä, the biggest town in Central Finland, started to use electric power on a larger scale in the autumn of 1902, when its own power