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## Il *Tekniska Högskolans Studentkår* a Stoccolma: una spinta corale verso la modernità

### Keywords

Swedish Architecture, Swedish Modernism, 1930 Stockholm Exhibition, Funkis, Neo-Empiricism

### Abstract

The Students' Union Building (THS) at the Royal Institute of Technology (KTH) in Stockholm, inaugurated in October 1930 shortly after the Stockholm Exhibition, is a key work in Swedish modernism. Designed by Sven Markelius and Uno Åhrén after their 1928 competition win, it embodied *funkis* ideals, as a result of a new architectural vision shaped by foreign impulses. Yet the history of the students' hub did not stop there: it spans nearly a century of transformation through architectural competitions and direct commissions. Extensions by Markelius and Bengt Lindroos in 1952, and by Lindroos with Hans Borgström in 1977, reflected evolving paradigms of modernity – from New Empiricism to *spontanitet*. This paper dismantles narratives that isolate authorship and amplify individual architects' aura, overlooking the overall THS's development and collaborative genesis. Drawing on unpublished archival sources, this paper examines the building's evolving identity and repositions it as a layered, interdisciplinary project shaped by multiple actors across architecture, interiors, and planning. Unpacking its architectural stratification reveals how the institution continuously adapted to social change, economic shifts, and broader cultural transitions.

### Biography

Chiara Monterumisi architect and fellow at the International Research Centre CFC, Università di Bologna. Previously, she was a Postdoctoral fellow at EPFL Lausanne (2016-2020), conducting two research projects: one, funded by the Swiss National Science Foundation (SNSF), focused on interwar housing in Stockholm; the other on underexplored pedagogies, such as Kay Fisker. She holds a PhD in Architecture and Design Cultures (2015) from Università di Bologna, co-tutored with KTH Stockholm. She authored Ragnar Östberg. Villa Geber, a house in the archipelago (Edibus, 2017) recasting her PhD thesis, co-edited Kay Fisker. Copenhagen Housing Types (1936) and Row-house Types (1941) (EPFLPress, 2024), and co-guest editor of special issues for Urban Planning (2019) and Planning Perspectives (2025) as well as edited volume Canons and Icons: re-wondering a transcultural contamination (Edizioni Quasar, 2025). She co-curated exhibitions: HOUSING Frankfurt Wien Stockholm (EPFL, 2018), the Swedish section of Good News. Women in Architecture with MaXXI (Stockholm, 2023), and contributed to Archivio Paesaggio (CSAC Parma, 2024).

Eugenio Lux architect and journalist, PhD candidate in History of architecture at Politecnico di Torino with a research project on the interplay between architecture and politics in Social Democratic Sweden of folkhemmet (1932-1976). In 2024 he obtained a double degree in Architecture from Politecnico di Milano and Alta Scuola Politecnica with a dissertation on the modernism's breakthrough in Sweden (1930-1931). He has spent study and research periods at some of Europe's leading universities: TU Delft (2022), KTH Stockholm (2022), EPFL Lausanne (2023), Chalmers Göteborg (2024). He participates in teaching and research activities at Politecnico di Milano, and he collaborates with magazines *Domus, Il Giornale dell'Architettura, ArchAlp* and *Gizmo*. He is the author of the first Italian translation of *acceptera* (1931), the book-manifesto of modern Scandinavian architecture (LetteraVentidue, 2024). He is currently working on the Stockholm architectural guide for *On the Road City* series (Forma, 2025, with Aurora Riviezzo).

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# The *Tekniska Högskolans Studentkår* in Stockholm: A Collective Springboard to Modernity

### Introduction

Only a few days had elapsed since the fading of the lights that had illuminated the shores of Djurgårdsbrunnsviken during the 1930 Stockholm Exhibition (Stockholmsutställningen, 16 May-29 September) when, on 11 October, the inauguration of the Students' Union Building (Tekniska Högskolans studentkår or THS Kårhuset) of the Royal Institute of Technology (Kungliga Tekniska högskolan, KTH) took place in the presence of Sigvard Bernadotte (1907-2002), brother of the King of Sweden and design enthusiast, together with university authorities, students, and alumni. Growing excitement over the rise of the "new architecture" marked the years leading up to 1930, heralding "modernism's breakthrough" in Scandinavia. However, the reception of these fresh impulses northwards was "not primarily the product of a local development, but for the most part the result of a cultural transfer from the countries" in which they had originated (France, Germany, Netherlands, and Russia). Among Sweden's architects, a group led by figures such as Sven Markelius (1889-1972) and Uno Åhrén (1897-1977) stood out for embracing these progressive ideas, with functionalism as a new "working method" for studying building functions and rational organisation<sup>3</sup>. What better opportunity to bring their vision – until then limited to avant-garde journals and private buildings for enlightened clients - than designing a public building with a strong social purpose? These premises guided the architect duo in designing the THS house, one of the "most talkedabout very early functionalist buildings" in Sweden, assimilating many foreign inputs. The project aimed at "fostering and maintaining a good sense of camaraderie among the student members"<sup>5</sup>. It would welcome future generations of technologists (Teknologerna), well-equipped for the upcoming social and economic changes underpinning the Social Democratic vision of the People's Home (folkhemmet). In this model, "equality, kindness, cooperation, and altruism prevail in the good home"6, as emphasized by the leader of the Swedish Social Democratic Workers' Party (Sveriges Socialdemokratiska Arbetareparti). Per Albin Hansson (1885-1946). At the beginning of

Conceived as a venue for the Student Union, the house embodied a negotiated outcome between various parties, notably the association and the Building Committee (*Tekniska Högskolans Student*-

which sparked off "social democratic management of the city"8.

the 1930s, Swedish architecture and politics found themselves "at the crossroads"<sup>7</sup>: on one side,

the rising developments of functionalism, and on the other, the pressing demand for new housing,

All the texts were translated by the authors from Swedish into English. The authors would like to express their gratitude to the archives, specifically ArkDes and Kungliga Tekniska högskolan Arkiv (where most of the Tekniska Högskolans Studentkår collection is housed), for permitting the use of the figures included in this paper. Although the paper is the result of a collective effort and reflects a shared approach in research and writing – as demonstrated in the paragraphs Introduction and Structure of the work and methodology - it is possible to distinguish the individual contributions of each author Chiara Monterumisi is responsible for the following sections: International reception of the building; 1938 proposals for extension; 1950-1952: extended "house" became reality; 1966 proposal of extension and 1976-1977 realisation faded into obscurity: Conclusions, Eugenio Lux, instead, authored: From nations to students' unions: In search of a place the 1913 competition; Towards the first "house": 1928-1930 competition and project.

- <sup>1</sup> Eva Rudberg, *The Stockholm Exhibition 1930: Modernism's Breakthrough in Swedish Architecture* (Stockholmia, 1999).
- <sup>2</sup> Atli Magnus Seelow, "From the Continent to the North German Influence on Modern Architecture in Sweden", *Konsthistorisk Tidskrift* 85, no. 1 (2016): 44.
- <sup>3</sup> Eva Rudberg, *The Stockholm Exhibition 1930*, 27.
- <sup>4</sup> Eva Eriksson, "Uno Åhrén", Arkitektur, no. 10 (1977): 2.
- <sup>5</sup> Tekniska högskolans studentkår, Festskrift utg. av Tekniska högskolans studentkår vid invigningen av dess nybyggnad den 11 oktober 1930 (THS, 1930), 9.
- <sup>6</sup> Speech at the Riksdag, 18 January 1928.
- <sup>7</sup> Helena Mattsson and Sven-Olov Wallenstein, 1930/1931: Swedish modernism at the crossroads (Axl Books, 2009).
- <sup>8</sup> Manfredo Tafuri, *Architecture and Utopia. Design and Capitalist Development* (MIT Press, 1976), 66.

8.1 Stockholm, the facade of the THS building's main entrance, 1930, ArkDes, ARKM, 1962-101-0020,



kår Byggnadskommittén). The THS trajectory began decades before 1930 and extended well beyond the functionalist vision proposed by Markelius-Åhrén. The building's history can be traced back to a competition held in 1913, which served as a concrete starting point. Over the years, the growing student population and changes in the education system repeatedly rendered the building inadequate to meet evolving demands. In 1950-1952, Markelius, alongside Bengt Lindroos (1918-2010), proposed an extension to the original structure embodying the Swedish interpretation of "humanizing the aesthetic expression of functionalism"9, coinciding with the New Empiricism style as coined by the British critic Eric De Maré. In 1976-1977, the sole feature added by Lindroos was a further lower volume, conveying some of the main facets of his architectural vocabulary. "He carries well the mantle of modernism he inherited from Markelius with a penchant for powerful sculptural geometric forms in the spirit"10. It is by no means an exaggeration to regard the *Kårhuse*t as "a collective springboard to modernity" for Sweden – one that reflects the evolving nature of modernity itself, articulated through shifting formal idioms and expressive modes across the decades. The Student Union House in its transformations spans from the early decades of functionalism (or funkis as modernism was termed in the Nordic context, 1930s), through a more undogmatic and sensitive vocabulary based also on material awareness that emerged during the construction of the welfare state, which saw greater intimacy in urban planning and a renewed emotional engagement with form (1940s-1950s). This progression continues into the years of the so-called "double movement" (1960s-1970s), during which two sides of modernism oscillated between "society built on common-sense, specialisation, secularisation and social liberation, and, on the other hand, the aesthetics of autonomy of art and the artist's self-realisation". To thoroughly unpack the various extensions of the THS building is, in effect, to expose the dynamics that propelled Sweden from the status of a "province of Europe" 12 importing foreign impulses, to an inspiring model for the rest of war-ravaged Europe in the immediate post-war period. As a 120-year-old institution, this has striven to keep pace with societal changes, economic opportunities, and labour market demands.

Turning our spotlight on the Kårhuset and the diverse figures involved in creating, it essential

serves two primary and interrelated purposes: firstly, to dismantle the prevailing narratives that

have heightened the aura of certain individual architects - framing their contributions solely as

rhetoric expression of functionalist language featuring the first 1930s construction - while ne-

glecting the overall evolution of the project and its further architects involved. This includes the

complex interplay of motivations, cross-disciplinary influences, and the often-neglected "grey

<sup>9</sup> Eric De Maré, "The New Empiricism. Sweden's latest style", Architectural Review 101, no. 606 (1947): 199-204. 10 Claes Caldenby, Jöran Lindvall and Wilfried Wang, ed.,

<sup>20</sup>th-Century Architecture. Sweden (Prestel, 1998), 379. 11 Claes Caldenby, "The Time of the Large Programmes 1960-75", in 20th-Century Architecture. Sweden, 159.

<sup>12</sup> Eva Rudberg, "Sverige – provins i Europa", Arkitektur, no. 10 (1987): 40-49. For the English/German translation of the article, see "Schweden - eine uropäische Provinz / Sweden a province of Europe", Bauart 4 (1996): 68-81.

areas of authorial genesis" that shaped the collective aspect behind the building's creation. Secondly, it is crucial to re-situate these contributions within the broader network of collaborations extending across a wide spectrum of professional domains (from interior and furniture design to tiling, architectural detailing, and urban planning) as well as within the intellectual arena, where many of these figures actively engaged in critical discourse as writers and public speakers, often operating beyond the traditional boundaries of architecture.

### Structure of the work and methodology

The novelty of the present paper lies in exploring the complexity of shared practices that shaped the building's conception, construction, and its transformations throughout its entire lifespan, including recent interventions. None of the extension projects materialized quickly; various preliminary proposals and a decade-long exploratory phase preceded each. Markelius alone prepared the 1938-1945 proposal, and with Lindroos carried out the 1962-1966 one, alongside the firm's partner, Hans Borgström (1922-2008). These *interim* stages allowed for the definition of the design program, site planning studies, and cost estimation, which in turn guided the Student Union's fundraising and promotional efforts. After all, planning a student facility involves balancing various needs emerging during multiple discussions within the limits of space and the program. That undertaking offers valuable insights and new experiences across various fields<sup>14</sup>, literally a challenging yet rewarding process. While competitive selections awarded the 1913 and 1930 commissions, the Building Committee entrusted the subsequent designers *motu proprio*.

The methodological approach of the paper centres primarily on reconstructing the decision-making processes behind each project proposal. This investigation draws on a wide range of primary sources – many of them previously unpublished – preserved in various archives in Stockholm<sup>15</sup>. As well as drawings and sketches, the research considered architects' notes, competition briefs and evaluation reports, Building Committee minutes of encounters with Student Union representatives, meeting records between designers and clients, functional programs, service contracts, and land lease agreements – all to provide a multifaceted portrayal of the building process and the cultural context in which it was conceived. Subsequently, the focus shifted toward secondary sources (textbooks, publications of various kinds, journals and newspapers, etc) to assess the building's national and international impact and its critical reception over the decades. Proceeding as it does by a brief contextualisation of the existing literature and an overview of the origins of student unions within the Swedish context, the paper is structured into chronological sections.

### International reception of the building

The 1930 building and its 1952 extension garnered considerable attention in international publications and exhibitions upon their completion. However, in subsequent years, their presence faded from architectural history handbooks and publications – except in Swedish criticism (monographic studies and edited volumes) and, interestingly, some cases in the Italian context<sup>16</sup>. Unlike earlier phases, the 1977 extension attracted hardly any attention in dedicated publications.

here in parentheses.

Tom Avermaete, Irina Davidovici, Christoph Grafe and Véronique Patteeuw, "Authorship as a Construct", OASE 113 (2023): 3.
 Åke von Sydow, "Om planering av ett kårhus", Kårbladet.

Organ för Tekniska Högskolans Studentkår 7, no. 6 (1950): 5. SArkDes (AD); Tekniska Högskolans Studentkår Arkiv; Tekniska Högskolans Studentkår (THS) housed at the Kungliga Tekniska högskolan Arkiv; Kungliga Biblioteket, Svenska Tidningar; Riksarkivet (RA); Stockholms läns museum; Stadsbyggnadskontoret; Stadsmuseet; Stockholms Stadsarkiv. The abbreviations used in the footnotes of the article are shown

<sup>16</sup> For 1930-1932 projects, see: Stefano Ray, L'architettura moderna nei paesi scandinavi (Cappelli Editore, 1965); Manfredo Tafuri and Francesco Dal Co. Architettura contemporanea (Electa, 1976); Marco Biraghi, Storia dell'Architettura Contemporanea I. 1750-1945 (Einaudi, 2008); Luca Ortelli, "Stoccolma", in Architettura del Novecento. Opere, Progetti, Luoghi, ed. Alberto Ferlenga and Marco Biraghi, (Einaudi. 2013). For the sole 1930's one see: Alberto Sartoris. Gli elementi dell'architettura funzionale (Hoepli, 1932); Saverio Muratori, "Il movimento architettonico moderno in Svezia", Architettura XVI, no. 2 (1938); Bruno Zevi, Storia dell'architettura moderna. Da William Morris ad Alvar Aalto: la ricerca spazio-temporale (Einaudi, 1950); Renato De Fusco, Storia dell'architettura contemporanea (Laterza 1977): Gennaro Postiglione, ed., Scandinavia anni Trenta / Nineteen thirties Scandinavia, Rassegna 77 (1999).

If we focus on a few notable cases that significantly enhanced the visibility of the THS, one particularly relevant example is the extensive discussion on student union architecture in Germany, Sweden, and Czechoslovakia curated by Werner Hegemann in *Wasmuths Monatshefte für Baukunst und Städtebau* (1931)<sup>17</sup>. The German journal's editor had long maintained ties with northern Europe, beginning with his role as a delegate at the 1923 IFHTP conference in Göteborg. Equally relevant is the survey of recent university architecture – highlighting examples of campuses, laboratories, and ancillary buildings in Denmark, Italy, Switzerland, Spain, Sweden, the Netherlands, and Germany – authored by Agnoldomenico Pica in *Casabella* (1936)<sup>18</sup>.

A plan and photograph of the 1930 Students' Clubhouse were notably included by Henry Russell Hitchcock and Philip Johnson in the illustration section of *The International Style: Architecture since 1922*<sup>19</sup>, published prior to the Modern Architecture International Exhibition, held at the MoMA in New York in early 1932. That exhibition also drew attention to Markelius and Åhrén's work, presenting their project as a key example of Swedish functionalism<sup>20</sup>, alongside Eskil Sundahl's (1890-1974) workers' terraced housing complex in Kvarnholmen (1929-1931)<sup>21</sup>.

Given Catherine Bauer's involvement in curating the MoMA catalogue section on housing – a research which took her across Europe in 1930, including a summer visit to Stockholm where she met the Kårhuset designers and toured the city with Åhrén<sup>22</sup> – it is plausible to assume that she also visited the nearly completed Student Union building. In this context, her experience most likely contributed to shaping American awareness of contemporary Swedish architecture.

That same year of the MoMA exhibition, Alberto Sartoris published *Gli elementi dell'architettura funzionale*, in which the section devoted to Sweden opens with a photograph of the THS house, which would become emblematic.

The extension designed by Markelius and Lindroos attracted significantly more attention in the architectural press – including *Casabella-Continuità* (1954), *Arkitekten* (1955), *Bauen und Wohnen* (1955), and Architectural Design (1956) – than the 1930 building. Interestingly, photo spreads – mainly by the Swedish photographer Sune Sundahl (1921-2007) – and detailed floor plans documented the project, capturing the architectural evolution from the original structure to its later expansion.

### From nations to students' unions

In medieval Europe, students organised themselves into so-called "nations" according to their regional origins, primarily as means of mutual support within the university context. At Uppsala University, established in 1477, these "nations" continue to play a prominent role in student life. Over the centuries, the concept of "nations" gradually evolved into student unions – formalised bodies tasked with representing students in both academic and political domains. Since 1921, Swedish student unions, coordinated through the Swedish National Union of Students (*Sveriges Förenade Studentkårer*, SFS), have significantly contributed to the democratization and increased accessibility of higher education in Sweden (e.g. free tuition, scholarships opportunities, and student rights, as well as to the promotion of student welfare and access to housing, etc).

<sup>&</sup>lt;sup>17</sup> Werner Hegemann, "Das Studentenhaus der Technischen Hochschule in Stockholm. Architekten Sven Markelius und Uno Ährén, Stockholm", *Wasmuths Monatshefte für Baukunst und Städtebau*, 15, no. 5 (1931): 207-12.

<sup>&</sup>lt;sup>18</sup> Agnoldomenico Pica, "Edilizia Universitaria", *Casabella* IX, no. 99 (1936): 28-31.

<sup>&</sup>lt;sup>19</sup> Henry Russell Hitchcock and Philip Johnson, *The International Style: Architecture since 1922* (W.W. Norton & Co., 1932), 174-75.

<sup>2</sup>º "Photographs in the Exhibition Illustrating the Extent of Modern Architecture", in *Modern architecture; international* exhibition, New York, Feb. 10 to March 23, 1932 (The Museum of Modern Art. 1932), 27.

<sup>&</sup>lt;sup>21</sup> To further explore the international reception of this project, see: Chiara Monterumisi, "Giedion Goes to Stockholm. A Look at Swedish Efforts in the Social and Housing Question", in *La città globale / The global city* ed. Marco Pretelli, Ines Tolic and Rosa Tamborrino (Insights Collection – Aisu International, 2021), 97-113.

<sup>&</sup>lt;sup>22</sup> Peter Oberlander and Eva M. Newbrun, Houser: The Life and Work of Catherine Bauer, 1905-64 (University of British Columbia Press, 1999), 56-57; Frida Rosenberg, "Catherine Bauer. "International Exchanges and Swedish Housing Policy", in Architecture and Welfare. Scandinavian Perspectives, ed. Thordis Arrhenius, Ellen Braae and Guttorm Ruud (Birkhäuser, 2025), 144.



The history of THS, KTH Student's Union, deeply intertwines with that of the university. Founded in Stockholm in 1827, the Royal Institute of Technology was established to meet the growing demand for engineers during Sweden's first industrialization, a time of profound transformations for the country. Large-scale industrialization began in the 1880s and 1890s – later than in Britain, Germany, or the United States - and coincided with the Second Industrial Revolution, when electricity and the internal combustion engine rapidly overpassed the pre-existing steam and coal systems<sup>23</sup>. In the 1890s, KTH experienced rapid expansion: in 1892, it had 100 students per year, by 1899, this had risen to 125, and by 1916, to 150. The old premises on Drottninggatan were no longer sufficient, leading to the decision to construct a new campus. By 1902, university students were aspiring to establish their union to make their voices heard<sup>24</sup>. In 1911, Kårhuset rented an apartment at Rådmansgatan 61, giving members access to a common space and dining services. That same year, after much debate, the Swedish Parliament (Riksdag) decided to build a new campus for technologists in Norra Djurgården, north of the city centre, and launched an architectural competition for its design<sup>25</sup>. Erik Lallerstedt (1864-1955) submitted the winning proposal, a design in the then-dominant national romantic style: three courtyard buildings on stepped terraces, featuring traditional brickwork. The complex, as noted at that time by another key exponent of the same movement, Torben Grut, was "a typical example of the best and

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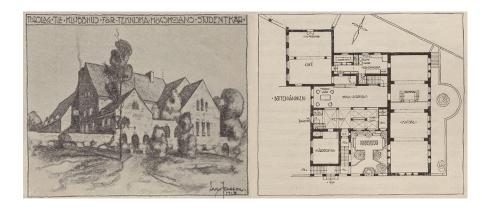
Stockholm, aerial view depicting the KTH campus designed by Lallerstedt. On the bottom left, Markeli-us-Åhrén's THS house and the National Road Research's warehouse, 1936. Johan Oskar Albin Ahrenberg, Stockholms läns museum.

<sup>&</sup>lt;sup>23</sup> Stefano Ray, L'architettura moderna nei paesi scandinavi, 25.

<sup>&</sup>lt;sup>24</sup> Tekniska högskolans studentkår. *Festskrift utg. av Tekniska högskolans studentkår* (THS, 1930), 7.

<sup>&</sup>lt;sup>25</sup> To explore the competition entries, see: Carl Bergsten, "Kungl. Tekniska Högskolans nybyggnad. Pristäflingens resultat", *Arkitektur*, no. 5 (1912): 57-78.

Sven Jonson and Eric Ericsson, perspective drawing and ground floor plan of the winning entry for the Student Union's competition, 1913. *Arkitektur* no. 10 (1913), 131.



most vigorous development currently taking place in Swedish architecture"<sup>26</sup>. The construction of what is still the oldest part of the current KTH campus in Norra Djurgården, Stockholm, began with the laying of the foundation stone on 20 May 1914. The inauguration of the first buildings took place on 19 October 1917<sup>27</sup>.

### In search of a place, the 1913 competition

Nevertheless, from its inception, the Student Union lacked a dedicated space, holding meetings in the university's lecture halls. Technologists initially gathered at Petissan, a café near the old campus (Gamla Teknis), which became an unofficial student hub. In 1912, in parallel with the planning of the new campus, the University of Technology Student Union Building Committee (*Tekniska Högskolans Studentkår Byggnadskommittén*) was appointed. They rejected the Student Union's request for integration into the new KTH facilities and suggested that they should construct their own building. This Committee, led by Lallerstedt himself and assisted by two other architects, namely Lars Israel Wahlman (1870-1952) and Carl Westman (1866-1936), as well as the chemistry professor Wilhelm Palmær (1868-1942)<sup>28</sup>, was tasked with selecting a location for the new student building and organizing a competition for students enrolling in the architecture section, established in 1877. The selection of a location for the *Kårhuset* considered the new campus expansion plans and its proximity to the Roslagen Railway (*Roslagsbanan*), inaugurated in 1885 and subject to continuous developments.

The 1913 student competition brief outlined the architectural program, including room function and size<sup>29</sup>, and was won by Sven Jonson, who in 1921 changed his surname to Markelius, and by one of his classmates at KTH, Eric Ericsson (1890-1924)<sup>30</sup>. The second prize went to Gunnar Wetterling (1891-1967), and the third one to Eskil Sundahl. The winning proposal was "a red-brick building with emphatic volumes and steeply pitched roofs, presented in the form of a beautiful red chalk perspective drawing"<sup>31</sup>, reflecting the national-romantic vocabulary in vogue at the time.

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Newspapers of that period reported that the building would cost 300,000 SEK and that attempts to secure funding had been unsuccessful. Despite the setbacks caused by the war and bureaucratic delays, the Committee successfully secured a plot of land in 1917. It launched a series of fundraising initiatives, including theatrical performances, press campaigns, and direct appeals to industrialists and alumni. By the late 1920s, after multiple negotiations with the City of Stockholm and the State, the Union secured a larger plot of land at a discount lease, while the fund had grown to an impressive 440,000 SEK. These achievements reflected the unwavering dedication of the students and their supporters, whose collective efforts transformed a long-standing aspiration into a tangible reality<sup>32</sup>. During those years, the number of students grew exponentially, reaching 713 by 1925, which led to the abandonment of the 1913 project.

In 1927, on the KTH's centennial celebration and amid growing recognition of women's role in Swedish society, the Women Technologists (*Kvinnliga Teknologer*) group was founded as the school began admitting female students<sup>33</sup>. The occasion also marked a shift in the Kårhuset build-

- <sup>26</sup> Torben Grut, "Kungl. Tekniska Högskolans nybyggnader", *Arkitektur*, no. 4 (1918): 51.
- <sup>27</sup> "Tekniska högskolan" in *Nordisk familjebok* 28, *Uggleupplagan* (Nordisk familjeboks förlag, 1919), 671-72.
- <sup>28</sup> Tekniska högskolans studentkår. Festskrift utg. av Tekniska högskolans studentkår (THS, 1930), 17.
- <sup>29</sup> THS, Stockholm, KTH Arkiv, THS kårhus, F 7a, *Program till tävling om klubbhus för Tekniska Högskolans studentkår*.
- <sup>30</sup> RA, Tekniska högskolan i Stockholm, Kungl Huvudarkivet, Matrikel över ordinarie elever och studerande, 1873-1913, D I a.7, Betygsjournal över ordinarie studerande, 1907-1919, D III a.4, Inkomna skrivelser, äldre serie, 1909, E II:82. For a short report about the competition proposals, see: Carl Bergsten, "Eget klubbhus för Tekniska Högskolans studentkår", Arkitektur, no. 10 (1913): 131-32.
- <sup>31</sup> Eva Rudberg, *Sven Markelius. The Architect* (Arkitektur Förlag, 1989), 14.
- <sup>32</sup> Tekniska högskolans studentkår, *Festskrift utg. av Tekniska högskolans studentkår* (THS, 1930), 18-20.
- <sup>33</sup> Brita Snellman (1901-1978) was the first architect and Greta Woxén (1902-1990) was the first civil engineer to graduate from KTH.



ing project: funds were finally sufficient, but the plot remained unavailable until 25 March 1928, when THS and the Royal Djurgården Administration (*Kungliga Djurgårdens Förvaltning*) signed an agreement. Throughout the 1920s, ongoing discussions on the need for a student building led to the formation of a new Building Committee to assess its technical and financial feasibility.

### Towards the first "house": the 1928-1930 competition and project

The competition was announced on 31 March 1928, with entries due by 1 August. Architectural and technical journals, such as *Byggmästaren* and *Teknisk Tidskrift*, advertised the call for submissions.

The competition brief specified that the building should accommodate three primary functions:

- 1. Facilities for meetings, a library, and the Student Union office.
- 2. Dining and cafeteria areas.

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3. Spaces for Student Union and departmental festivities. Additionally, the design required the possibility of eventually relocating all teaching activities to the Royal Institute of Technology's premises at Valhallavägen, necessitating a future expansion of the Student Union building<sup>34</sup>.

Fifteen years after his previous project proposal, Markelius, together with Åhrén, entered the new competition with one comprising twelve drawings, a written report, and a detailed model. Although they had not crossed paths as students at KTH<sup>35</sup>, their collaboration in the competition was not entirely unexpected given the relatively small number of practising architects in Sweden during the 1920s – a professional community in which most knew one another<sup>36</sup>. More significantly, their joint involvement with the journal *Byggmästaren* – Markelius since 1925, and Åhrén since 1926 – provided a clear point of intellectual and professional convergence<sup>37</sup>. Then in 1928, Åhrén, with Gunnar Sundbärg (1900-1978), "coordinated the research that would establish the typological, geographical, economic and functional parameters" for the Housing Section (*Bostadsavdelningen*) of the 1930 Stockholm Exhibition, to which twenty young architects, including Markelius, Åhrén, and Sundbärg, were invited. As correspondents of *Byggmästaren*, they visited

**8.4**Sven Markelius and Uno Åhrén, maquette submitted to the Student Union's competition, 1928. ArkDes, AM 1972-102 | K1 9.2.10.11.

<sup>&</sup>lt;sup>34</sup> THS, F7a: 1a-7, *Program för tävlan rörande ritningar till byggnad för Tekniska Högskolans studentkår*, 31 March 1928. AD. Stockholm, ArkDes, AM 1972-10-108.

<sup>&</sup>lt;sup>35</sup> Åhrén 1915-1919; Markelius 1909-1913 and KKH (Royal Institute of Art) 1913-1915.

<sup>&</sup>lt;sup>36</sup> "In 1915, [...] Stockholm had about 170 and there were perhaps just over half that number in the country at large, making a national total of just over 250". Eva Rudberg, *Sven Markelius. The Architect*, 18. "The number of architects in Sweden grew quickly from about 200 in 1890 to 500 by the mid-1920s and continued to increase". Björn Linn, "The architect in focus during the first half of the twentieth century", in *Utopia & Reality. Modernity in Sweden 1900-1960*, ed. Cecilia Widenheim (Yale University Press, 2002), 178.

<sup>&</sup>lt;sup>37</sup> From 1929 to 1932 Åhrén served as editor-in-chief of the journal.

<sup>&</sup>lt;sup>38</sup> Lucy Creagh, "At the Limits of Architecture. The Housing Section of the 1930 Stockholm Exhibition", *DASH* 5, no. 9 (2016): 20.



**8.5** Stockholm, the garden bordered by the L-shaped THS building. ArkDes, ARKM.1962-101-0019.

key buildings and exhibitions at the heart of the architectural debate, publishing reviews that helped carry modern ideas northward<sup>39</sup>. Markelius was initially drawn to German influences<sup>40</sup>, notably through Walter Gropius, while Åhrén aligned more with French ideas after meeting Le Corbusier and was the first to introduce the "functional" issue in Sweden<sup>41</sup>.

On 21 September 1928, the jury, composed of KTH Professors Wilhelm Palmaer (electrochemistry, 1868-1942), Erik Lallerstedt, Lars Israel Wahlman (architecture), and Henrik Kreuger (civil engineering, 1882-1953), along with architects Gunnar Asplund (1885-1940) and Paul Hedqvist (1895-1977) and a few students, selected nine entries out of forty submissions. The Markelius-Åhrén proposal (motto *P.Q.R.*) was among those selected for further development, including technical and economic feasibility studies.

On 21 November 1928, the jury announced the winning entry: "following the announced architectural competition, a proposal by Markelius and Åhrén has been selected and recommended for implementation after certain revisions" with the primary objective of reducing the construction budget from the initial estimation of 430,000 SEK to a more acceptable 370,000 SEK. The jury praised the L-shaped proposal for its effective use of the steeply sloping terrain. The building's south-facing courtyard and terraces enhanced both aesthetics and comfort during the winter months, while the library, reading room, and club room were noted for their integration with sheltered outdoor areas. Despite some technical concerns – particularly the window layout and orientation – the jury acknowledged its architectural and functional merit, stating:

Based on this and considering the proposal's outstanding qualities, the jury believes that, despite its currently excessive construction costs preventing it from receiving an award, it should nonetheless be recommended for further development. If the identified shortcomings are addressed, it may serve as the basis for the creation of the Student Union building<sup>43</sup>.

On 1 January 1929, following the jury's recommendation, the Building Committee confirmed the selection of the two architects. Thereafter, they were invited to all meetings, serving as a control point to ensure continuity throughout the negotiation and construction process. Ground-breaking took place on 3 February, and by the end of the month, the architects submitted revised drawings. While they were preparing final plans for submission to fourteen leading contractors, further refinements were

<sup>&</sup>lt;sup>39</sup> To explore this topic further see: Eva Rudberg, *Uno Åhrén:* en föregångsman inom 1900-talets arkitektur och samhällsplanering (Statens råd för byggnadsforskning, 1981).

<sup>&</sup>lt;sup>40</sup> For an in-depth analysis of the German connections, see Atli Magnus Seelow, "Einleitung", in *akzeptiere*. *Das Buch und seine Geschichte* (FAU, 2018), IX-LXXXVII.

<sup>&</sup>lt;sup>41</sup> Uno Åhrén, "Brytningar", *Svenska Slöjdföreningens Årsbok* 21 (1925): 9-11; English translation: "Turning Points" in *Nordic Architects Write*, ed. Michael Asgaard Andersen (Routledge, 2008), 312-14.

<sup>&</sup>lt;sup>42</sup> THS, F7a: 1a-7, *Till Styrelsen för Kungl. Tekniska Högskolan*, 21 November 1928.

<sup>43</sup> THS, F7a: 1a-7, Protokoll, hållet vid pristävling rörande byggnad för tekniska högskolans studentkår, sammanträde, 18 August 1928-21 September 1928.



made<sup>44</sup>. In *Byggmästaren*, the two architects acknowledge the structural and systems engineers, as well as the suppliers. They also credit Sten Höckert (1903-1983), who "was the main collaborator in the preparation of the drawings [...] and he also served as the building's inspector"<sup>45</sup>.

Amid pressing bureaucratic and financial matters, debate among the members of the Committee continued for months around the "overly contemporary architectural style of the proposed exterior design" and the new "building's contrast with its surroundings [i.e., the national-romantic KTH campus by Lallerstedt]"<sup>46</sup>. These concerns ultimately reflected a broader cultural tension beyond the competition itself, mirroring a wider critical divide in Sweden between those who viewed functionalism as utterly un-Swedish and those who saw it as an expression of the spirit of the times. KTH held a public exhibition of the competition entries, where the results "came as a great surprise to many"<sup>47</sup>. Nevertheless, "after extensive deliberation and careful consideration, the Committee decided, at its meeting on 18 April, to give final approval to the drawings and other contract documents"<sup>48</sup>.

The competition program included no requirements on the matter of architectural idiom. At the time, functionalism had yet to gain broad acceptance in the North, marking the selection of Markelius and Åhrén as true "pioneers of rationalism in Sweden" 19. The THS house was the first architectural competition where the new tendency prevailed, becoming "an unequivocal statement of adherence to a style now widespread in Europe" 50. Other projects underway, such as Markelius' own Helsingborg Concert Hall (1925-1932), were not functionalist in their initial conception, but gradually took that course during the design development and construction. When he visited the competition exhibition, Sundbärg noted that Le Corbusier's influence featured prominently among the favoured architectural motifs of many entries. However, he remarked that the competitors had derived little real insight from their study of his work. The reason for this misunderstanding lay:

in a superficially artistic conception of the nature of architecture and the architect's task [...] To create buildings which function as well as the old ones, and to limit our efforts to decorating them according to a new recipe, would be to break the remains of an older cultural form [...] The realisation must penetrate that it is necessary to abandon once and for all the old way of working with imaginary artistic effects, and instead to work out radically, from the outset, the additions in real, tangible usefulness and pleasure that can and should be extracted, and then in the second place to let the external image become nothing but the natural and logical consequence thereof<sup>51</sup>.

8.6

Sven Markelius and Uno Åhrén, revised maquette, 1929. ArkDes. AM 1972-102 | K1 9.2.10.11.

<sup>&</sup>lt;sup>44</sup> AD, AM 1972-10-108, *Undertecknad, som under år 1929 års-berättelse*. 1 January 1930.

<sup>&</sup>lt;sup>45</sup> Sven Markelius and Uno Åhrén, "Tekniska Högskolans Studentkår", *Byggmästaren*, no. 13 (1930): 229.

<sup>&</sup>lt;sup>46</sup> AD, AM 1972-10-108, *Undertecknad, som under år 1929 årsberättelse*, 1 January 1930.

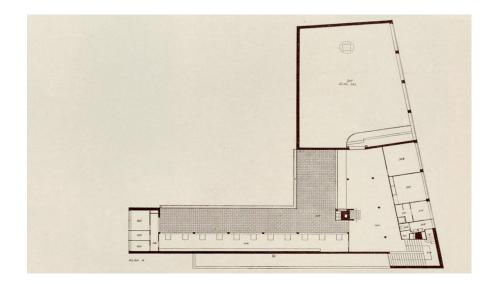
<sup>&</sup>lt;sup>47</sup> Gunnar Sundbärg, "Tekniska Högskolans kårhus. Pristävlan", *Byggmästaren*, no. 10 (1928): 149.

<sup>&</sup>lt;sup>48</sup> AD, AM 1972-10-108, *Undertecknad, som under år 1929 årsberättelse*, 1 January 1930.

<sup>49</sup> Stefano Ray, L'architettura moderna nei paesi scandinavi, 96.

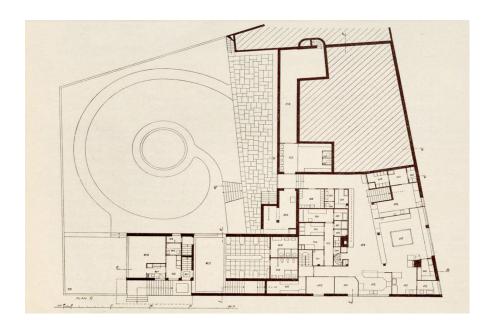
<sup>&</sup>lt;sup>50</sup> Francesco Dal Co, "Can a perfectly functional building be a 'masterpiece'? Helsingborg Concert Hall, Sven Markelius", Casabella 4, no. 956 (2024): 8.

<sup>51</sup> Gunnar Sundbärg, "Tekniska Högskolans kårhus. Pristävlan", 154.



**8.7**Sven Markelius and Uno Åhrén, ground floor plan, 1930. *Byggmästaren* no. 13 (1930), 230.

# **8.8**Sven Markelius and Uno Åhrén, second floor plan, 1930. *Byggmästaren* no. 13 (1930), 231.



What set Markelius and Åhrén's proposal apart from many others was their ability to synergistically integrate the broad spectrum of German and French influences, having fully grasped the true essence of these architectural examples – a quality reflected in the chapters attributed to them in *acceptera*, the book-manifesto of Scandinavian modern architecture published in 1931<sup>52</sup>. This deep understanding enabled them to translate those principles into a rational, unadorned and straightforward organization of both the layout and the façades, effectively responding to emerging Student Union needs.

After negotiations, revisions and simplification of construction methods primarily to cut costs the building site opened in late September 1929. The project initially proposed a skeleton structure with an iron frame and aerated concrete, later explored full concrete with cork insulation, but ultimately returned to the original scheme, integrating solid brickwork<sup>53</sup>.

In early October 1930, the students' club was nearly complete, except for some interior fittings. At the time, the newspaper *Svenska Dagbladet* reported an event that further reinforced the link

8.7, 8.8

<sup>&</sup>lt;sup>52</sup> Eugenio Lux, "acceptera, un nordico «appello alla ragione»", in acceptera, Gunnar Asplund et al. (LetteraVentidue, 2024), XXIX-XXXXI. Alongside the recent Italian translation, the book-manifesto has been translated into both English, ed. Lucy Creagh et al. (The Museum of Modern Art, 2008) and German, ed. Atli Magnus Seelow (FAU University Press, 2018).
<sup>55</sup> See Sven Markelius and Uno Åhrén, "Tekniska Högskolans Studentkår", Byggmästaren, no. 13 (1930): 229-33.

Stockholm, the procession of students who carried a flagpole from the Stockholm Exhibition to the THS court-yard. *Svenska Dagbladet*, 30 October 1930. Kungliga Biblioteket, Svenska Tidningar.

between the new Student Union building and the recently concluded Stockholm Exhibition, which directly involved Markelius and Åhrén.

Reflecting the complex idea of mass psychology, [....] 40 students marched out to the Stockholm Exhibition's area, in a highly symbolic act, personally dismantled the 25-metre flagpole standing outside the Paradise restaurant, then carried it in a ceremonial procession [...] to its new home, namely in the THS courtyard<sup>54</sup>.

8.9

The topping-out ceremony followed in early spring, and the *Kårhuset* building's inauguration took place on 11 October 1930. Funding and land acquisition were major hurdles, overcome through a wide-reaching self-financing effort, including membership fees, lotteries, events, and the persistence of an association led by professors who secured support from the Royal Institute of Technology. Donations made the project possible, along with negotiation support, and numerous wills that transcended the architectural work itself.

With 750 students enrolled at the time, the project aimed to accommodate around 1,000. The building – "distilling a rigorous interplay of volumes" – offered a variety of facilities: library, reading room, club, meeting rooms, gym, café, kitchen, and dining hall. Soon nicknamed *Nymble* – a blend of *ny* (new) and *Gamble*, the name of the former Student Union building on Drottninggatan,

131

<sup>54 &</sup>quot;Snar premiar for Teknis kårhus", Svenska Dagbladet, 30 October 1930.

<sup>&</sup>lt;sup>55</sup> Manfredo Tafuri and Francesco Dal Co, *Architettura contemporanea*, 244.

which itself echoed *gammal* (old) – the name highlighted the contrast between the brand-new building and its predecessor, reflecting a connection to past eras, a theme central to the architectural discourse of the 1930s<sup>56</sup>.

### 1938 proposals for extension

With the building finally completed, the Student Union entered a phase of intensive work and reorganization. The long-awaited and carefully designed spaces needed to be put into full operation, structured, and managed to support the activities of students across various faculties.

In 1932, KTH saw a record number of 1,500 students, more than twice the capacity available. A key factor behind this surge was the high unemployment rate – a job situation even worse than after the World War I – which led many to pursue advanced skills while waiting for economic conditions to improve<sup>57</sup>. The lingering effects of the global depression following the Wall Street crash, compounded by Sweden's own crisis after the collapse of the Krueger concrete industry<sup>58</sup> – a symbol of international ambition – only intensified the demand for university enrolment. In addition, the progressive relocation of all the departments to Valhallavägen campus generated a greater demand for student facilities and gathering places. From 1932 onward, a future building extension of the Student Union became a topical need<sup>59</sup>. Clause number 3 of the 1928 competition program, outlining future expansion<sup>60</sup>, was now being seriously considered.

In October 1936, negotiations with the Royal Djurgården Administration secured approximately "20 metres of available land in a north-western direction". With this crucial prerequisite for expansion met, they decided to "immediately commission an architect to submit a proposal for the Student Union building"<sup>61</sup>.

The northern portion of the site, left in its natural state (granite rocks and vegetation) upon completion of the building, provided an ideal setting for an extension. The north façade featuring some ribbon windows never appeared among the representative images of the building in any magazine or publication. The existing structure, comprising three floors on half the block with largely windowless northern walls, particularly below the third floor, allowed for a practical and coherent planned expansion.

8.10

Across the years of activity, board members had conducted a thorough assessment of needs, detailed in the meeting minutes and summarized as follows: banquet halls of varying capacities, interconnected as needed and on the same level; a caretaker's residence of at least 50 square metres, with the currently unsuitable space re-allocated as administrative offices; a meeting room for 20 people; an expanded library divided into separate rooms for technical literature and fiction, along with 10 individual study rooms; a music room and a recreational space for board games, both directly connected to the restaurant and a 15-seat presentation room; and an expansion of the student canteen to from 300 to 660 square metres<sup>62</sup>.

Once again, no information about the architectural expression of the new section was disclosed by the commissioners. Unlike the first building, the project was appointed directly, perhaps testifying to the trust the architects had earned, both through the competition and the successful execution

<sup>&</sup>lt;sup>56</sup> For further insight, see: Gunnar Asplund et al., *acceptera* (Tiden 1931) 149-84

<sup>&</sup>lt;sup>57</sup> Suzanne Påhlman, *Osqulda och Osquar: 1902-2002* (Tekniska Högskolans studentkår, 2003), 56.

<sup>&</sup>lt;sup>58</sup> To further explore: Anders Gullberg and Eva Rudberg, "1932-1939. Kris och snabb återhämtning", in *Byggare i Stockholm: Byggmästarerollen under 1900-talet* (Stockholmia, 2001), 38-39.

<sup>59</sup> Åke von Sydow, "Kåren och kårhusfrågan under 50 år", in Kårbladet. Organ för Tekniska Högskolans Studentkår, 7, no. 6 (1950): 3.

<sup>60</sup> See footnote 34.

<sup>&</sup>lt;sup>61</sup> AD, AM 1972-10 57, *Program för tillbyggnad av Tekniska Högskolans Studentkårs Kårhus*, 13 October 1936.

<sup>&</sup>lt;sup>62</sup> AD, AM 1972-10 57, *Program...*, October 13, 1936.



8.10

Stockholm, north façade of the THS building during the construction works. ArkDes, AM 1972-10 Markelius M39.

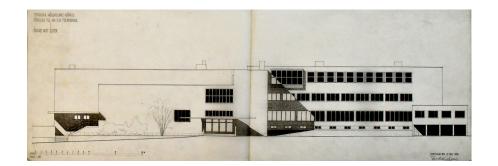
of the initial project. Working on a design they knew inside out was undoubtedly an advantage, allowing for more efficient adherence to the tight deadlines set by the client, as well as greater confidence in decision-making.

However, in 1936, the commission was ultimately entrusted solely to Markelius. Åhrén's career shift from theory to practice may have contributed to his exclusion: he had been appointed City Planning Engineer and Director (1932-1943) in Göteborg. Despite this, Åhrén maintained strong ties with Stockholm, having been appointed the head of Housing Social Inquiry (Bostadssociala utredningen, 1933-1947) and serving as Sweden's delegate at various international conferences, while teaching at both KTH and the Royal Institute of Art's School of Architecture (Konsthögskolans Arkitekturskola). From that point onward, the two would no longer work together on any further projects – neither architectural nor urban planning – despite both continuing to be leading voices in their respective fields. They remained, nonetheless, two figures with a strong social engagement; for example, in 1935 Markelius completed one of his iconic projects in Stockholm, the Kollektivhuset (1932-1935), thanks to the initiative of the professional Women's Club (Yrkeskvinnors Klubb), whose members included the sociologist and politician Alva Myrdal (1902-1986) and Viola Wahlstedt (1901-1992), partner of Markelius. On the other hand, in 1937 Åhrén collaborated with the economist and politician Gunnar Myrdal (1898-1987) in investigating housing conditions in Göteborg. The selection of Markelius as THS designer may have been a strategic choice for the Student Union, which frequently had to navigate complex authorization processes and secure land for construction. His recent appointment as Building Commissioner and Head of the Investigation Division at the Royal Board of Public Buildings (Kungliga Byggnadsstyrelsen, 1938-1942) could position him as a valuable ally in overcoming these bureaucratic hurdles.

At the February 1938 meeting, Markelius presented preliminary project sketches, primarily draft plan solutions, a study maquette illustrating a variation in height among volumes, and a rough cost estimation. The minutes noted:

The interior solution seemed very good to the Committee; one can completely free oneself from the idea that it is an extension of the building upon entering. One of the most delightful aspects is that the kitchen and utility spaces have been entirely placed at the same level as the dining halls. The exterior design of the building, as shown in the model, is far from attractive, but we hope that the completed building will give a different impression than the model<sup>63</sup>.

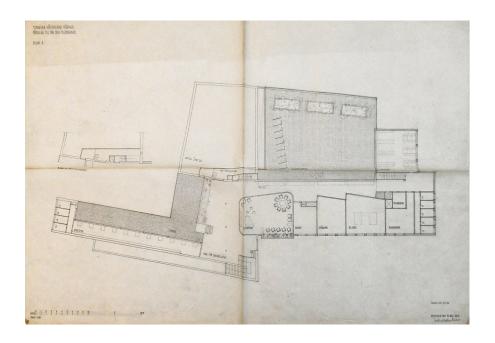
<sup>&</sup>lt;sup>63</sup> THS, 1938 Protokoll, Protokoll, fört vid extra sammanträde med Tekniska Högskolans Studentkårs styrelse, 23 February 1938.



Sven Markelius, proposal for the East elevation, 1938. Ark-Des, ARMK 2006-03 009-010 | 1942-1952.

### 8.12

Sven Markelius, proposal for the second-floor plan, 1938. ArkDes. ARMK 2006-03 009-010 | 1942-1952.



Unlike the two detailed models submitted to the competition and refined phase (1928-1930), Markelius' proposal at this stage took on the character of a study model, aimed at illustrating the compositional layout between the original volume and its extension. The Committee engaged in a discussion with the architect, which led to some new ideas as to the internal layout. Two months later, the architect presented three design variations (A, B, C) featuring some differences in the internal re-modelling layout<sup>64</sup>. A common feature was the alignment of the project perimeter with the study model. The reconfiguration of the north wing was central to all versions, with differences primarily concerning the retention of one or two existing vertical circulation systems.

The primary distinction between the three design variations lay in the access to the new building: (A) from the northernmost corner, mirroring the layout and size of the 1930s staircase, a flat-roofed canopy might cover it; (B) from the east façade along Drottning Kristinas väg, beneath the large window illuminating the straight internal staircase – an iconic element of the 1930 design; and (C) via the existing building. Only option (B) was further developed in elevation and section. Its façade maintained continuity with the existing structure, yet incorporated elements reflecting a shift towards a more undogmatic interpretation of the functional approach. Notable features included the east-facing entrance flat-roofed canopy with its distinct curvature, a subtly protruding bow window on the third floor, and a strip of windows visually distinguished by a recessed or contrasting-material treatment between solid and glazed sections. A more humanised functionalist vocabulary extended to the interiors, particularly on the third floor, where

<sup>64</sup> AD, ARMK 2006-03 009-010 | 1942-1952.

the music room, along with the billiards and games rooms, was designed as fluidly contoured spaces opening onto a free-plan hallway defined by pillars and a fireplace retained from the earlier building.

Following the presentation, Markelius worked on finalizing version (B), incorporating minor layout refinements, furniture arrangements, technical installations, and exterior landscaping – especially the connection between the second-floor terrace of the 1930s building's courtyard side and the surrounding space of the new western extension. However, financial challenges remained unresolved. The outbreak of World War II temporarily stalled expansion efforts, but the treasurer and board members remained optimistic, confident in their ability to manage internal finances and capitalize on funds from membership fees, as well as the satirical student publication *Blandaren*<sup>65</sup>, and the daily *Kårbladet*<sup>66</sup>. Meanwhile, some students were called up for military service, leaving professors to lecture in sparsely filled halls. The country's non-combatant status would eventually allow for a quicker recovery. However, the Student Union's finances had been severely affected by wartime economic instability and a significant loss of income due to the decline in membership and usage of services<sup>67</sup>.

### 1950-1952: an extended "house" became reality

8.12

Once the war ended, the THS extension returned to the Student Union agenda as a more pressing issue, driven by various other factors. In the Union's 50th-anniversary commemorative booklet, Ragnar Woxén (1905-1994), professor and chairman of the Building Committee, states that:

In 1945, student enrolment reached 2,500, and that same year, a report on higher technical education led the Parliament to approve a major expansion, increasing annual admissions by 50%. A survey revealed that half of the students lived further than 2 km from the university, and two-thirds came from rural areas, highlighting the need for a shared meeting space<sup>68</sup>.

On 27 May 1948, the Building Committee met for the first time with its newly appointed members, as decided by the Student Union Board, along with the two architects directly commissioned for the project: Sven Markelius and Bengt Lindroos. In this context, however, the extension project did not begin from scratch; as stated by the architects, "the 1938 study proposal became the starting point for the final building program of the 1950s" <sup>69</sup>.

In the 1930 project, Markelius and Åhrén, both belonging to the same generation, shared a drive for modernity as noted earlier in the paper. By contrast, the 1950s extension project might set the stage for a potential generational clash among the new duo. Lindroos had been working at Markelius' studio since 1941. Thinking at the *Kårhuset*, the same Lindroos stated that he was formally promoted to "partner" for the building extension in 1950, under an unwritten agreement that granted him a share of the profits – but not the losses<sup>70</sup>. The oldest set aside any sense of competitiveness and instead embraced a synergistic and symmetrical exchange reflecting a clear

<sup>65</sup> It is the world's oldest comic magazine, founded in 1863 by KTH students and still published today. Its aesthetics has been described as dadaist, absurdist, satirical and surrealist. Among the many editors, one can mention Erik Gunnar Asplund and Bengt Lindroos.

<sup>&</sup>lt;sup>66</sup> Established in 1943, the newspaper aimed to inform students about meetings and activities. In 1959 it was renamed *Osaledaren*.

<sup>67</sup> Suzanne Påhlman, Osgulda och Osguar, 70-71.

<sup>&</sup>lt;sup>68</sup> Ragnar Woxén, "Karhusbygget vid KTH 1948-1952", in En skrift utgiven av Tekniska högskolans studentkår vid kårens femtioårsjubileum och invigningen av det nya kårhuset (THS, 1952) 18.

<sup>&</sup>lt;sup>69</sup> Bengt Lindroos and Sven Markelius, "Om- och tillbyggnad av Tekniska Högskolans Studentkårs kårhus", *Byggmästaren*, no. 7 (1953): 141.

<sup>&</sup>lt;sup>70</sup> Bengt Lindroos, *Att vara arkitekt kan vara att* (Arkitektur förlag, 2008), 46.

Stockholm, aerial view of the juxtaposition of the two blocks. In the background, the Engelbrekt Church, June 1953. Sune Sundahl. ArkDes, ARKM.1988-111-13383.



collaborative mentality. From the 1940s onwards, "Markelius remained faithful to his principles, while still being receptive to the subsequent evolutions of the modern movement"<sup>71</sup>.

By the mid-1950s, Markelius had established himself as a prominent figure in both Swedish and international architecture, with significant achievements including the Swedish Pavilion at the 1939 New York World's Fair, his involvement as sole Swedish delegate on the Board of Design Consultants for the UN building in New York and its ECO-SOC chamber with Lindroos and the other intern Hans Borgström, as well as his tenure as Director of Stockholm's City Planning Office (1944-1954)<sup>72</sup>. By contrast, Lindroos had only recently completed his studies at KTH (1942-1945). Still, they had already laid a solid foundation for his career, having worked as a draftsman since 1938 for both construction firms and the City Architect's Office in Örebro, east of Stockholm, where he had spent part of his childhood<sup>73</sup>.

Moving to the international reception of the building extension, while Italian and Danish magazines<sup>74</sup> acknowledged the contributions of other collaborators, Swiss and English publications<sup>75</sup> omitted any such references. Nonetheless, the tone of narrative found in some of these magazines conveys what Dana Cuff defines as "the common belief that the quality of a work of art diminishes in proportion to the number of people involved"<sup>76</sup>. Borrowing from Howard S. Becker's framework, any work of art – including the THS house itself – depends on a network of collaborators operating under certain conventions, representing the continuing adjustments of the cooperating parties to the changing conditions in which they practise<sup>77</sup>. The Swedish magazine *Byggmåstaren* provides a complete portrait of collaborators, suppliers, consultants, and building contractors<sup>78</sup>. For example, Wolfang Huebner (1926-2018) and Lars Stalin (1926-1993) were involved as interns at the Markelius' firm, assisting in the preparation of working and detail drawings, Eyjólfur Karl Ágústsson (1922-2002) and Stig Lönngren (1924-2022) took part as furniture architects, while Markelius realized the textile pieces, along with the textile designers Viola Gråsten (1910-1994) and Astrid Sampe (1909-2002).

Designers and clients collaborated with strong synergy towards a common goal. The Committee and Student Board focused on securing additional funding, as private and industrial contributions were insufficient. Much of 1949 was devoted to lobbying state officials, industrial bodies, and foundations. Without favourable economic conditions and permit approval, the extension's future would be far less assured<sup>79</sup>.

To Stefano Ray, L'architettura moderna nei paesi scandinavi, 98.
 To explore it in detail, see: Eva Rudberg, Sven Markelius.
 The Architect, 127-31.

<sup>&</sup>lt;sup>73</sup> To explore this topic further, see: Bengt Lindroos, *Att vara arkitekt kan vara att*, 13-25.

<sup>74 &</sup>quot;Sven Markelius e la sua recente attività. La casa dello studente a Stoccolma", *Casabella-Continuità*, maggio-giugno, no. 201 (1954): 14-17; "Klubhus for de studerende ved den Kongelige Tekniske Højskole, Stockholm", *Arkitekten* no. 7-8 (1955): 7-8: 107-15.

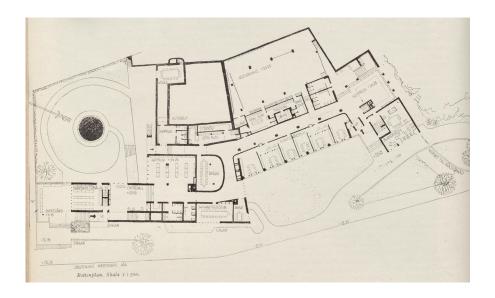
<sup>&</sup>lt;sup>75</sup> Ernst Zietzschmann, "Erweiterung des Studentenhauses der Technischen Hochschule Stockholm", *Bauen und Wohnen* 9, no. 1 (1955): 35-39; "Student Club, Stockholm, Sweden", Architectural Design 56, no. 8 (1956): 262-63.

<sup>&</sup>lt;sup>76</sup> Dana Cuff, *Architecture: the story of practice* (MIT Press, 1991), 73.

<sup>77</sup> Howard S. Becker, Art worlds (University of California Press, 1982), 59.

<sup>&</sup>lt;sup>78</sup> Bengt Lindroos and Sven Markelius, "Om- och tillbyggnad av Tekniska Högskolans Studentkårs kårhus", *Byggmästaren*, no. 7 (1953): 140-51

<sup>79</sup> Ragnar Woxén, "Karhusbygget vid KTH 1948-1952", 20.



# 001

Sven Markelius and Bengt Lindroos, ground floor plan, 1952. Byggmästaren no. 7 (1953), 142.

### 8.15

Sven Markelius and Bengt Lindroos, second floor plan, 1952. Byggmästaren no. 7 (1953), 143.

Meanwhile, Markelius and Lindroos resumed working on the 1938 extension project's floor plans, which, according to the younger architect, posed a "delicate task" given the challenge of integrating it with Sweden's first functionalist public building80.

The floor plan studies conducted in March 1950<sup>81</sup> show that the building's overall cast remained unchanged from the 1938 proposal, ensuring that the west façade of the new structure aligned seamlessly with the north wing of the old building. The concept of the various levels emerged from a synthesis of aspects comprising the 1938 solutions, precisely (A) and the two developed variations of (B). The new entrance ended up along the building's northernmost side. In May 1950, however, the continuity of inclination between the old north wing and the new block was disrupted, introducing a counterclockwise torsion between the two volumes of the new building. As a result, the new proposal deviated from the 1938 building perimeter, marking a significant design shift. This decision required a modification of the previously approved area boundaries (24 May 1939), which had been leased under regulated rent conditions<sup>82</sup>.

In Byggmästaren, the two architects present a clear, side-by-side comparison between the 1930s layout and the new design, highlighting the need for significant re-modelling of the old building's 8.14, 8.15 sections adjacent to the extension. This involved great demolitions, room relocations between the old and new structures, and vice versa. The two dining halls mark the junction between the two

November 1950.

<sup>80</sup> Bengt Lindroos, Att vara arkitekt kan vara att, 46.

<sup>81</sup> AD. ARMK 2006-03 009-010 | 1942-1952.

<sup>82</sup> THS, Till Styrelsen för Tekniska Högskolans Studentkårs, 23

8.16

Stockholm, the dining hall of the 1952 extension, January 1953. Sune Sundahl. ArkDes. ARKM,1988-111-12181.



parts, separated by sliding panels<sup>83</sup>. The core of the new building is undoubtedly a new dining hall or event space, bathed in natural light from a skylight, spanning two floors, and seamlessly connecting to a long row of large windows serving the upper games gallery. This comprises a music room of perforated brick blocks and textiles for sound absorption, a radio and gramophone room, and a club room.

After a great effort in finalizing the architectural plans and examining the possibilities of obtaining the building permits as soon as possible, in June 1950, the Student Union approved the drawings and the building estimate at 1.6 million SEK.

Project development continued over the following months with progressive refinements made to both the plan and the elevation. The new building integrates well with the existing one while "still maintaining both structures' individual identities" Looking at the elevation layout and the building material contrasts, the "new building clearly reflects the two and a half decades of Swedish building development that have passed since 1930" which means a real maturing of functionalism in line with more nuanced expression. The discreet presence of wood, brick and usage of boldly patterned textiles "accentuates a powerful, elusive atmosphere" In the meantime, two building permits were submitted. In August 1950, the first approval for blasting works was granted, followed by one for the superstructure on 2 December. This made the new Student Union building likely to be completed by 1952, coinciding with the 50th anniversary of the Student Union87.

Accordingly, in January 1951, the architects delivered the architectural implementation drawings, while the structural plans, prepared by engineer and KTH professor Henrik Nylander (1914-1993), followed in July<sup>88</sup>. The time gap between the completion of the blasting works in early spring 1951 and the commencement of construction work in July 1951 resulted in certain economic losses and additional costs. In July 1951, the submission of a further building permit concerned the final layout of the garden planning works. The building's structure utilizes reinforced concrete with external *siporex* insulation. The façades are partly of a skeleton construction with pale terrasite rendering in the jointed block adjacent to the 1930 building, and at specific points infilled with brick or timber cladding. The colour scheme is restrained, grey, white, and black. From the façade's rationale and materials points of view, "the connection between the northern gable of the original building and the long façade of the new structure is subtle and reserved, which, besides high ambitions, also conveys a sense of humility"<sup>89</sup>.

83 "Sven Markelius e la sua recente attività. La casa dello studente a Stoccolma", *Casabella Continuità* 201 (1954): 14.

8.16

8.17

<sup>&</sup>lt;sup>84</sup> Gotthard Johansson, "Tekniska högskolans nya kårhus", Svenska Dagbladet, 28 November 1952.

<sup>&</sup>lt;sup>85</sup> Ernst Zietzschmann, "Erweiterung des Studentenhauses der Technischen Hochschule Stockholm", *Bauen und Wohnen* 9, no. 1 (1935): 37.

Eva von Zweigbergk, "Teknis får spellgalleri. Klosterlika studieceller i Markelius nya kårhus", *Dagens Nyheter*, 23 November 1952.

<sup>&</sup>lt;sup>87</sup> THS, Protokoll 1951, *Styrelseberättelse för år 1950*, 1 January 1951

<sup>88</sup> Stockholm, Stadsbyggnadskontoret, 11D1 51.

<sup>&</sup>lt;sup>89</sup> Gotthard Johansson, "Tekniska högskolans nya kårhus", *Svenska Dagbladet*, 28 November 1952.



Stockholm, the music room on the second floor. ArkDes, ARKM 1962-101-2143

On 6 December 1951, there was the topping-out ceremony – turning out to be a delightful gathering for the construction workers and other guests. The rest of the finishing and furniture work was completed over the following year, and the inauguration took place on 28 November, 1952<sup>90</sup>. The King, the Bishop, government ministers, and representatives from other student unions were among the distinguished guests in attendance.

### 1966 proposal of extension and 1976-1977 realisation faded into obscurity

Two years on from inauguration, the paths of the two architects began to diverge. Markelius retired in 1954 from his position as City Planning Director, allowing him to finally devote himself entirely to his private practice. By Lindroos' side, there was now Hans Borgström, a former intern and classmate at KTH (1943-1948), as well as a fellow member of the editorial committee of the magazine *Blandaren*. Towards the end of his studies, Borgström began working at the office of Sven Backström (1903-1992) and Leif Reinius (1907-1995), and in 1950, he joined Markelius' studio. Markelius' departure from his public role implied that the office no longer needed Lindroos or Borgström. Consequently, they decided to establish their own firm (1954-1968)<sup>91</sup>.

In the meantime, the number of university students reached 4,500 – but it was only from 1960 that Rector Ragnar Woxén and other KTH officials resumed discussions around the need for a further expansion of the building, with projections reaching 6,500 members. Already back in 1950, the "westward strip of land currently separating the Student Union plot from the Roslagsbanan railway" had been the subject of a formal request submitted by the Board and Building Committee to the Royal Djurgården Administration. The goal was to secure the area for either potential future THS extensions or for the construction of student housing<sup>92</sup>.

However, the land issue remained unresolved for over a decade. Negotiations with the Swedish State Railways (*Statens Järnvägar*) took eight months in 1962, followed by the need for authorisation from the Royal Djurgården Administration, to which Lindroos submitted a draft proposal in 1963°. Although the response was favourable, formal approval was delayed for several years. At the same time, Lindroos and Borgström were designing the Kaknästornet telecommunications tower (1962-1967) in Djurgården – a key landmark of 1960s Stockholm technological, modernisation expressing a certain brutalist influence. The square tower features diagonally projecting concrete antenna platforms atop a low base structure, half-embedded into the hillside°4.

<sup>&</sup>lt;sup>90</sup> THS, Protokoll 1952, *Styrelseberättelse för år 1951*, 1 February 1952.

<sup>&</sup>lt;sup>91</sup> Bengt Lindroos, *Att vara arkitekt kan vara att* (Arkitektur förlag, 2008), 64.

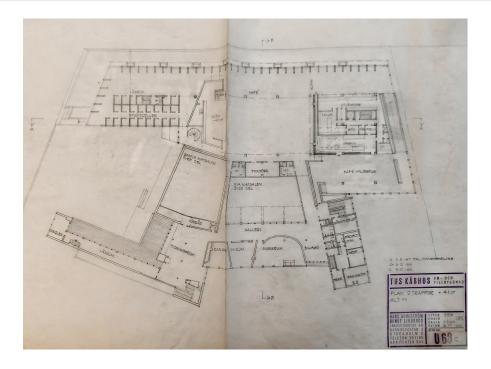
<sup>&</sup>lt;sup>92</sup> THS. Protokoll 1950, *Styrelseberättelse för år 1950*, 1 February 1950.

<sup>93</sup> Suzanne Påhlman, Osqulda och Osquar, 102.

<sup>&</sup>lt;sup>94</sup> Anders Wilhelmson, *Bengt Lindroos och sa vidare* (Privattryck Anders Nyborg, 1989), 18.

8.18

Bengt Lindroos and Hans Borgström, proposal for the second-floor plan, 1966. ArkDes, ARMK 2006-03 022 | 1962-1968.



A new THS Building Committee was formed in 1963, and in 1964 the Royal Djurgården Administration received a renewed request for the same strip of land. However, it was not until 1966 that they signed the land lease agreement<sup>95</sup>. In May 1966, one of several meetings on the new extension marked an official handover among the project architects. In the presence of the Student Union representatives and the Building Committee, Markelius, Lindroos, and Borgström attended, during which the former "confirmed that architect Borgström was assigned to oversee architectural planning" The THS representative had invested significant time and effort in developing the program, which was then submitted for review by the Building Committee. The expansion priorities focused on restaurant facilities, self-study areas, and administrative offices.

8.18

8.19

In 1966, Lindroos and Borgström proposed several designs for a new building of ribbon development along the granite ridge near the railway. During this period, plans were also being discussed for expanding the KTH campus<sup>97</sup>. As a result, the nearby National Road Research Institute (Statens Väginstitut) and its warehouse became part of broader site revisions, with demolition proposed to free up space. Though tasked with exploring long-term solutions for multiple extensions, the architects ultimately put forward only one design: an extension directly aligned with the two existing buildings<sup>98</sup>. The new building juxtaposed the original buildings' western façades and part of the northern façade of the 1952 dining hall, both of which lose visual autonomy due to the new structure matching their height<sup>99</sup>. The connection zone between the three buildings became a central design focus. Rather than overlapping volumes, most proposals favoured a buffer zone to facilitate circulation. Numerous perspective drawings explore the relationship between the existing buildings and the new, imposing stereometric volume at the rear, as seen from Drottning Kristinas väg. Others show the view from the railway tracks. A clear contrast emerges between the two façades: the railway-facing side features a bold screen of giant pilasters with the expressiveness and brutality of untreated concrete supporting a top floor. In contrast, the elevation facing Drottning Kristinas väg echoes the architectural language of the adjacent 1930 and 1952 façades 100. The winds of student protest in the late 1960s reached the North, though with less intensity than at their source. Interest in Student Union activities gradually declined, prompting the adoption of

a representative system in which student parties – modelled on national political ones – would

govern THS. Notably, in 1969, a woman was elected president for the first time<sup>101</sup>.

<sup>95</sup> AD, Exposé över Tekniska Högskolans Studentkårs kårhustillbyggnader, ARMK 2006-03 022.

<sup>96</sup> AD, ARMK 2006-03 022, Protokoll 19 fört vid sammanträde med Programkommittén för kårhustillbyggnaden vid THS, 23 May 1966.

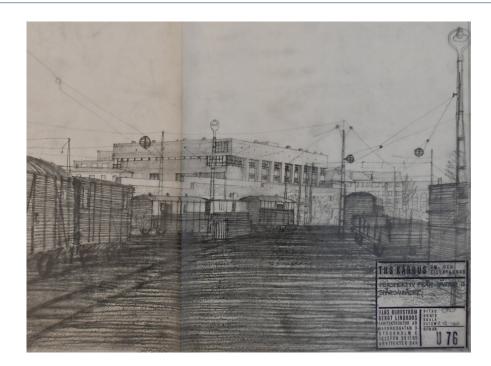
<sup>97</sup> Suzanne Påhlman, Osqulda och Osquar, 104.

<sup>98</sup> THS, H1:11b.

<sup>99</sup> THS, H1:7c.

<sup>100</sup> AD, ARMK 2006-03 022 | 1962-1968 Lindroos.

<sup>101</sup> Suzanne Påhlman, Osqulda och Osquar, 109-10.



Bengt Lindroos and Hans Borgström, perspective of the West façade from the bedrock along the railways, 1966. ArkDes, ARMK 2006-03 022 | 1962-1968.

The extension project, however, stalled once again and remained on hold until 1971, when "a working group re-evaluated the program and concluded that only expansions for dining and study areas were necessary, while other spaces were of lower priority [...] The revised proposal, signed solely by Lindroos, was submitted to the Ministry of Education on 17 May 1972, replacing the original 1966 proposal"<sup>102</sup>. The commission was once again awarded through direct appointment. The partnership with Borgström had already ended in 1968, and in 1972, one of the key figures behind the THS building trajectory, Markelius, passed away.

From that year onward, Lindroos continued to work on the project. The most notable changes included: a reduction in height – the new building was now a single story, no longer blocking the strip of windows in the 1952 gallery – and a more organic border where it met the older structures. "As a single-story structure, the new building was clearly separated from the older part by a glass lantern" loss placed in the in-between space. This design approach emphasized the autonomy of both the new and existing parts. The layouts from over two decades earlier proved inadequate for evolving needs: the kitchen, dining hall, staff rooms, and storage areas now lie on the same level. Striking the unusual balance of power characteristic of any architectural process, the Student Union requested an intervention – an oval structure in the old dining hall, replacing the original balconies, which, according to Lindroos, "destroyed the original room" loss."

8.20, 8.21 In 1975, Lindroos produced several perspective drawings – mirroring the 1966 viewpoints – and final elevations. In early versions, the sculptural screen of pilasters either lost its solidity or appeared detached from the ground. The final design emphasized material contrast: a rust-coloured strip of wooden panels running between the roofline and windows, set against light clay brick façades and a concrete base finished with wooden formwork. The result turned out to be much more in line with the lasting influence of a more genuine approach (spontanitet)<sup>105</sup>, implying an empirical interpretation of the functionalist architecture – the tradition in which Lindroos had been trained – with a touch of structuralist thinking for the cafeteria as a glass lantern. On 1 September 1976, the building permit was granted. The estimated construction time extended to ten months, and the cost reached 11 million SEK. The building was inaugurated later that autumn, without marking any Kårhuset anniversary.

<sup>102</sup> AD, Exposé över Tekniska Högskolans Studentkårs kårhustillbyggnader, ARMK 2006-03 022.

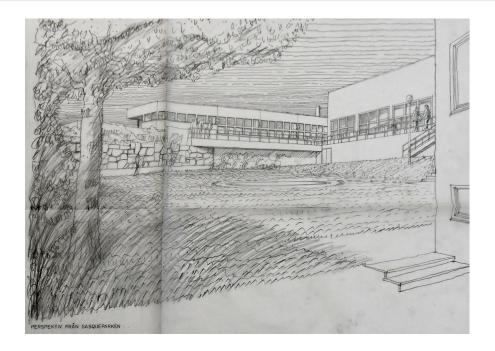
<sup>&</sup>lt;sup>103</sup> Rolf Eppens and Christer Pettersson, "KTH, Stockholm. Ombyggnad av kårhus Arkitektens beskrivning", *Arkitektur*, no. 1 (2000): 40.

<sup>&</sup>lt;sup>104</sup> Bengt Lindroos, "Projekt 1949-1988. Om- och tillbyggnad Kårhuset, KTH, Stockholm 1977", *Arkitektur*, no. 6 (1988): 39.

<sup>&</sup>lt;sup>105</sup> Stefano Ray, L'architettura moderna nei paesi scandinavi, 7.

8.20

Bengt Lindroos, perspective of the new building from the southern garden area of the 1930 house. ArkDes ARMK 2006-03 021 | 1975.



### Conclusions

In the following decades, the THS building remained a work in progress, but the rationale of involving those who contributed to the previous projects as depositaries of solid building knowledge was unfortunately lost. As a result, during the 1980s and 1990s, alterations and modifications obscured its original qualities<sup>106</sup>. Even Lindroos voiced his concern in *Arkitektur*, lamenting that the changes and demolitions had occurred without his prior consent<sup>107</sup>.

In 1994, to counter this decline, the THS Board appointed a "Student Union Architect" to conduct a detailed inventory of the building's history, complexity, and key qualities and draw up future guidelines. The task was entrusted to Rolf Eppens (1965-) and Christer Pettersson (1946-), who actively engaged Lindroos as a mentor<sup>108</sup>. This initial research phase led to a comprehensive renovation and reversal of previous alterations (1994-1998), supervised by the three architects in their roles as designers and project leaders. In 2012, the National Heritage Board designated the *Kårhuset* building as having exceptional cultural-historical value – a status hoped to discourage future interventions driven by a lack of understanding of its architectural complexity, its rich cultural stratifications, and the formal ramifications of modernity.

The goal of this paper is to "shift the attention from the architect as a single figure, and the building as an object, to architecture as collaboration" which Beatriz Colomina noted concerning recent scholarship. Accordingly, the perspective moved to engage with the complex and often fragmented realities of the design process, taking into account a broader constellation of contributors, many of whom remain largely unknown outside the Swedish context. The plural nature of the client also required particular attention: the members of the Student Union and Building Committee emerged not merely as a recipient but as "an active intelligence and collaborator with the architect, as well as subject of the architecture itself" 10.

The interventions (1930, 1952, and 1977) engaged multiple generations of prominent Swedish architects, each contributing distinct aesthetic, technical, and social visions to the work designed. Markelius and Åhrén, in particular, sought to align architecture with the ideals of a new society, using the building as a vehicle for their theoretical and political commitments. The intermediate phase, developed by Markelius and Lindroos, can be understood as a moment of convergence – Markelius ensured continuity with the ideological ambitions of post-war discourse, while Lindroos focused more on realizing and refining an architectural expression attuned to its time. Lindroos'

Jan Lisinski, "KTH, Stockholm. Ombyggnad av kårhus. I förhållande till det befintliga", Arkitektur, no. 1 (2000): 45.
 Bengt Lindroos, "Projekt 1949-1988", 39.

<sup>&</sup>lt;sup>108</sup> Rolf Eppens and Christer Pettersson, "KTH, Stockholm. Ombyggnad av kårhus Arkitektens beskrivning", *Arkitektur*, no. 1 (2000): 40.

<sup>&</sup>lt;sup>109</sup> Beatriz Colomina, "Collaborations: The Private Life of Modern Architecture", *Journal of the Society of Architectural Historians* 58, no. 3 (1999): 462.

<sup>110</sup> Colomina, "Collaborations", 465.



Bengt Lindroos, proposal for the second-floor plan, 1966. ArkDes, ARMK 2006-03 021 | 1975.

later approach (including his collaboration with Borgström) on the final extension appears less ideologically charged, engaging more with aesthetic discourse than with a political one<sup>11</sup>. This generational shift reflects a broader transformation in Swedish architectural culture, shaped mainly by planning and housing policies and marked by a growing disruption between early modernism and the approaches of the 1960s and 1970s in theory, practice, aesthetics, and political engagement, along with a redefinition of the architect's role in society<sup>112</sup>. Consequently, the international recognition of both the 1930 and 1952 buildings stems not only from their architectural qualities, but mainly from their integration with broader theoretical debates, which amplified the cultural resonance of their message.

To conclude, the writer Gotthard Johansson (1891-1968), one of the prominent voices in introducing functionalist principles to a wider Swedish audience, states that "the 1930s old building was one of the most debated examples of a radical break from tradition. The additions, completed in 1952, blend almost imperceptibly with the older parts, revealing the deep connection between the fundamental concepts of both eras while also reflecting the evolution that took place in the interim – towards a more expressive and nuanced architectural language" These words can extend even further in time, likewise, encompassing the third expansion phase of 1977, as an architectural expression of that decade.

This century-long journey, spanning not only Sweden's architectural history but also the transformation of the architect's authority *vis-à-vis* society and the workforce, clearly illustrates what architect and critic Erik Thelaus (1919-2005) once observed with regard to *Tekniska Högskolans Studentkår*: "building, like politics, is an art of compromise, but for those who have only seen the final result, the new house has no visible signs of compromise" – a reflection that sheds light on the collaborative processes underlying the successive extensions examined thus far.

<sup>&</sup>lt;sup>III</sup> "Lo Studio di Bengt Lindroos/The Bengt Lindroos studio", *Abitare* luglio-agosto, no. 287 (1990), 105.

<sup>&</sup>lt;sup>112</sup> For deepening such controversial debate, see: Christina Pech, "The Great Betrayal. A Swedish Critique of Welfare State Architecture", in *Architecture and Welfare. Scandinavian Perspectives*, ed. Thordis Arrhenius, Ellen Braae and Guttorm Ruud, 257-70.

<sup>&</sup>lt;sup>113</sup> Gotthard Johansson, "Sven Markelius. Architetto svedese e internazionale", Casabella-Continuità, maggio-giugno, no. 201 (1954): VI.

<sup>&</sup>lt;sup>114</sup> Erik Thelaus, "Reflexioner kring ett kårnhus", *Bygg-mästaren*, no. 7 (1953): 139.