

DEMOLISHED MODIFIED ENDANGERED

MODELLING AUSTRIAN ARCHITECTURE OF THE 20th CENTURY

> PETRA PETERSSON WOLFGANG LIST

Imprint

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CARL APPEL	ABRAHAM	SCHWANZER	ST. FLORIAN	HUTH

FOREWORD

This project was carried out at the Institute of Construction and Design Principles (KOEN) at the Graz University of Technology. The institute was founded in 2013 and focuses primarily on teaching first year architecture. The interrelationship between the design and construction aspects of architecture form an integral part of both the institute's teaching and research principles. The institute also runs the model building workshop of the faculty and the specialised courses within that field.

This publication is part of an ongoing research project that looks into the possibilities of contemporary model making, as well as its relevance within contemporary architecture education and practice.

We have chosen to show architectural models of 45 iconic examples of 20th century Austrian architecture. The selected buildings have all either been modified, demolished, are endangered or are projects that were never built. The models seek to illustrate the core design principles of each individual project, instead of solely showing a scaled down representation of the buildings.

Analysing the buildings and creating the models allowed for an in depth exploration of each project as well as an experimentation with various materials and methods. Each example is accompanied by a short description that outlines the project as well as the methods and materials used to create the model. This book can act as an inspiration when deciding on suitable methods to illustrate one's own designs. In providing an impetus for students to experiment with material, texture and form, the book can allow students to develop their own individual approach to model making. Almost like a cookbook of techniques, students can pick out ideas and ingredients for models, and are encouraged to find new ways of thinking through model making.

At the same time, this publication is also an architectural guide to examples of lost and endangered modern Austrian architecture. Starting from the early 20th century, and showing a melange of Austrian architects, the book aims to provide a time travel-esque reading of architecture, allowing for the opportunity to learn from history. While some of the featured projects are designed by widely known and well documented architects such as Friedrich Kiesler or Josef Hoffmann, others are by previously known, but now almost forgotten architects like the Atelier Singer Dicker or Bernard Rudofsky.

For a number of the projects, like the Bellevue restaurant by Traude and Wolfgang Windbrechtinger or the Villa Auspitz by Helmut Camillo Wagner-Freynsheim, only sparse documentation was available. The models for these projects were reconstructed only with the help of existing photographs. While this posed a challenge when making the models, it also allowed us to work on the designs more freely and creatively.

Projects like the Mega Bridge IV by Raimund Abraham, The Elements of the Vertical City by Friedrich St. Florian or the Halle im Haupthaus Heriot by Atelier Singer Dicker, have never been realised in the form of an architectural model before, and the models were therefore built based only on drawings and collages.

A few iconic buildings have already been demolished, such as the Haus Albrecher-Leskoschek by Herbert Eichholzer or the Dampferanlegestelle by Eugen Wachberger, while others were designed with the purpose of being temporary, such as the Fremdenverkehrspavillon by Ernst Lichtblau or the Austrian pavilion at the world fair in Paris by Oswald Haerdtl. Some projects, like the Haus Mühlbauer by Ernst Plischke or the Hotel Intercontinental by Holabird & Root and Carl Appel for example, are facing the danger of being demolished.

The process of making the models allowed us to gain a more in depth understanding of each individual project. The act of translating two dimensional information into a three dimensional object is, in itself, an undeniably useful architectural exercise.

We asked ourselves, is architecture only defined as architecture when it is built? How can we reliably and authentically convey a space that no longer exists in its original form? And can these models facilitate an understanding of space that can be used in a design process and in the creation of new spaces?

While architects involved in the process of the digitisation of architectural design are relentless in their efforts to develop programs that simulate the experience of three dimensional space, the hand drawn sketch, as well as the physical, material model, persist as an integral part of the design process.

Whether they are made by hand, or using new technologies such as laser printing, CNC or 3D printing, most architectural models aim to describe or represent an existing building by making a scaled down replica of it. In contrast, this publication focuses instead on working models, or models that describe a concept, and models that invariably contribute to the process of realising a project. These models aim to convey more than the immediately visible elements of a space. This book aims to show how a variety of sometimes unexpected materials can be used to create models that highlight the core design principles and concepts of the building. The Publication was produced by the Institute of Construction and Design Principles (KOEN) at the Faculty of Architecture of the Graz University of Technology and was supported by the Land Steiermark, Department 8 and 9.

Petra Petersson / Wolfgang List

VILLA WAGNER

Year 1905 Status Project Material Paper

> Glue Scale

Model maker Barbara Gruber Otto Wagner was born in 1841 in Vienna. He studied engineering and architecture in Berlin from 1860 to 1861 and then at the Academy of Fine Arts in Vienna from 1861 to 1862. From 1894 to 1913, Otto Wagner was professor at the Academy of Fine Arts himself. Wagner's most famous works are his villas, his apartment buildings, as well as the bridges and the stations for the Wiener Stadtbahn, the St. Leopold church at Steinhof and the Postsparkasse in Vienna.¹

The 1905 Villa Wagner was a project for a building site next to the river Halterbach, on the western outskirts of Vienna. The building was going to be placed on the opposite side of the street to the earlier 1888 Villa Wagner. Wagner designed a free-standing family house. This time, the entrance was asymmetrically placed at one side of the building and not centred as it was in the first Villa Wagner. The ground floor, which contained the dining and living room, was raised approximately two meters above ground level. The private rooms were located on the first floor. According to Wagner, only the most modern building techniques, such as reinforced concrete, with a roof covered in asphalt, were to be used for the project.²

¹ Geretsegger, Heinz; Peintner, Max (1964): Otto Wagner (1841 – 1918). Salzburg, Wien: Residenz Verlag. 9-24.
 ² Nierhaus, Andreas; Orosz, Eva-Maria (Ed.) (2018): Otto Wagner. Wien: Residenz Verlag. 398.







KABARETT FLEDERMAUS BY JOSEF HOFFMANN

Year 1907

Status Demolished

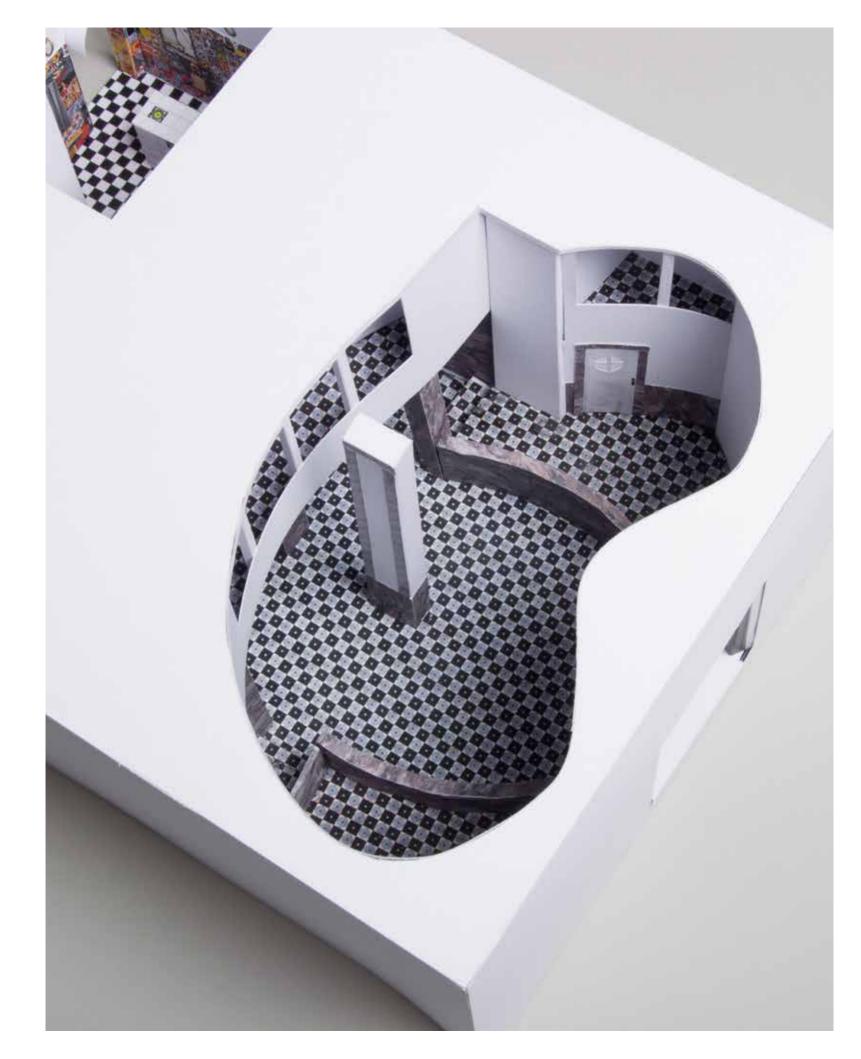
> Material Paper Glue

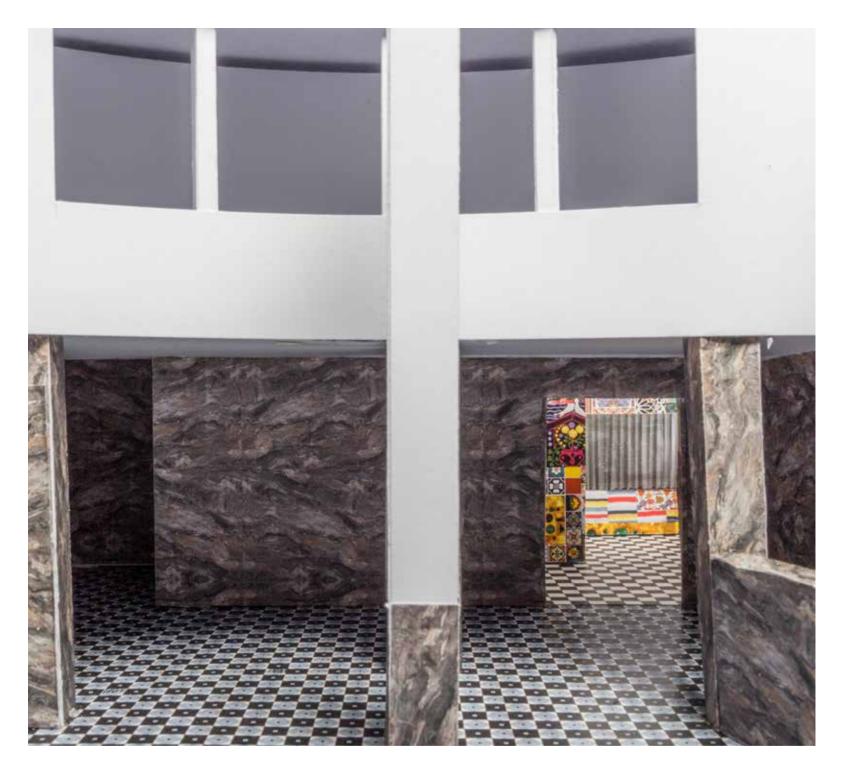
> > Scale 1:50

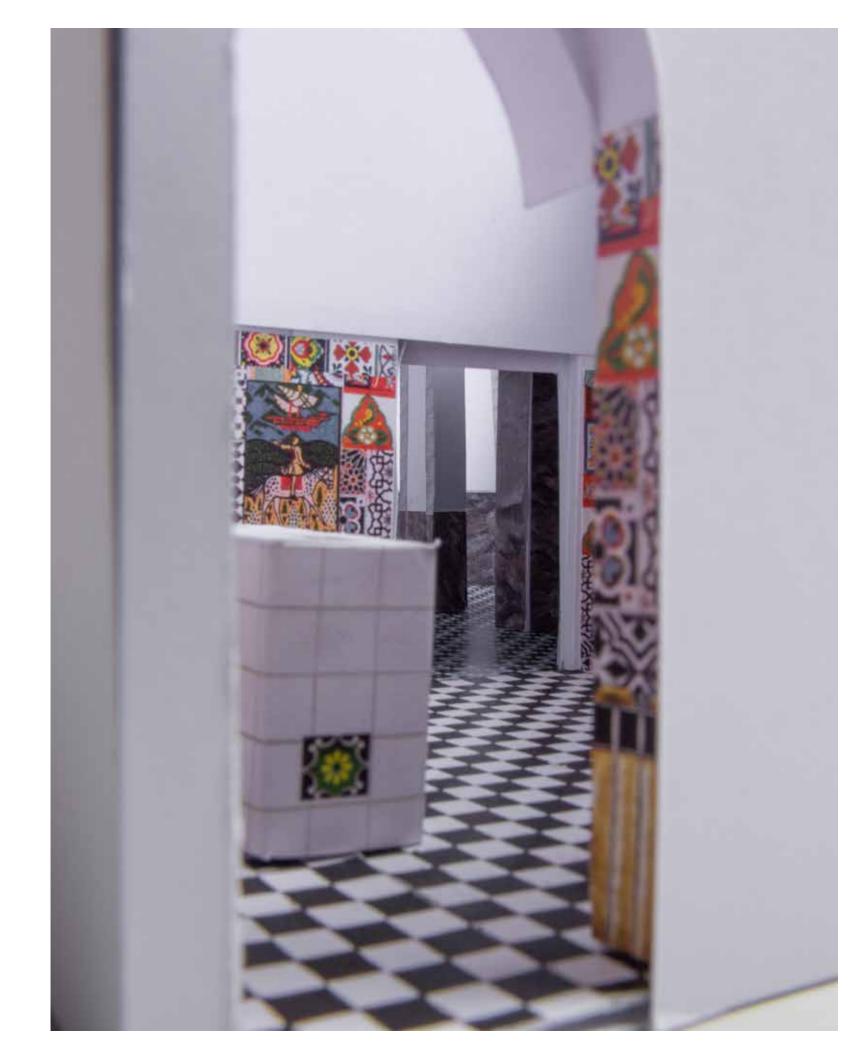
Model maker Barbara Gruber In 1907 Josef Hoffmann designed the Kabarett Fledermaus which was to be built at the corner Kärntnerstrasse and Johannesgasse in the city centre of Vienna. Josef Hoffmann was co-founder of the 1903 established furniture and luxury accessory company Wiener Werkstätte. The Wiener Werkstätte was also the owner of the Kabarett Fledermaus. The establishment was based in the basement of the building and was entered from Johannesgasse via stairs. Visitors passed through the marble covered entrance and arrived in the entrance hall. On a floor plan covering 440m², Josef Hoffmann placed an entrance area, an auditorium with a gallery, a stage, a backstage room, a restaurant kitchen and toilets.¹ The entrance hall included a bar and a wardrobe. The floor was covered in black and white tiles. The walls and the bar were covered in 7000 coloured and ornamented tiles by the artists Bertold Löffler and Michael Powolny. The lower section of the main room was covered in dark grey marble, the rest was painted white. The floor of the main room was covered with a carpet. The Kabarett Fledermaus can be seen as a total work of art. The Wiener Werkstätte, under the leadership of Josef Hoffmann, not only planned the architecture, but also designed the furniture, the lights, the tableware, the posters as well as the invitation cards. In 1913 the Kabarett Fledermaus was sold by the Wiener Werkstätte due to financial problems.² The model is made with the help of a sketch of the floor plan by Le Corbusier who visited the Kabarett Fledermaus in 1907.

¹ Sekler, Eduard F. (1982): Josef Hoffmann. Das architektonische Werk. Monoggraphie und Werkverzeichnis. Salzburg, Wien: Residenz Verlag, 318-319.

² Buhrs, Michael; Lesák, Barbara; Trabitsch, Thomas (Ed.) (2007): Kabarett Fledermaus 1907-1913: Ein Gesamtkunstwerk der Wiener Werkstätte, Literatur, Musik, Tanz. Wien: Christian Brandstätter Verlag. 51-84.







LANDHAUS SPANNER BY ADOLF LOOS

Year 1924

Status *Modified*

Material Waste Cardboard Hot Glue

> Scale 1:50

Model maker Johannes Fritzenwallner Adolf Loos was born in 1870 in Brno, Czech Republic. He worked as an architect and writer in Austria, France and the Czech Republic.¹ His concept of the *Raumplan*, which he materialised in several of his buildings in Vienna, Paris and Prague, became world famous. The Landhaus Spanner was planned and realized by Loos and his assistant Leopold Fischer in 1924. The house is situated in the vineyards of Gumpoldskirchen, a village near the south border of Vienna. The ruin of a house from 1897 was used as the foundation for the newly built countryside house.² The house has two floors and a tower. The ground floor consists of the service rooms and the living and dining room with access to the garden. The first floor has three private rooms and a room for the staff. The tower above the first floor contains a room with access to the roof terrace. Today, a gabled roof, in place of the roof terrace, sits on top of the building. The building is made of bricks, and the upper floors were covered in green and white painted wood.³

¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 413.
 ² Rukschcio, Burkhardt; Schachel, Roland (1987): Adolf Loos. Leben und Werk. Salzburg, Wien: Residenz Verlag. 582.
 ³ Bock, Ralf (2009): Adolf Loos. Leben und Werke 1870-1933. München: Deutsche Verlags-Anstalt. 224.







ÖSTERREICHISCHER PAVILLON WELTAUSSTELLUNG PARIS JOSEF HOFFMANN

Year 1925

Status Demolished

Material Extruded Polystyrene

> Scale 1:10

Model maker Irnes Faktic Delayed by almost a decade due to the First World War, the *Exposition Internationale des Arts Décoratifs et Industriels Modernes* was held in 1925 in Paris. The Austrian pavilion was designed under the supervision of Josef Hoffmann. The location was right next to the Seine river. The main building was made of wood and was plastered and painted in a light red colour. A terrace made of concrete, housing a Viennese coffee house, opened up the to a view of the river.¹ The main building, designed by Josef Hoffmann, was a one storey building that sprawled out in all directions. Consisting mainly of hallways and courtyards, the building was interspersed with elements designed by other architects, such as the bell tower by Oskar Strnad and the glass house on top of the terrace by Peter Behrens. Additionally, the interior was designed with the help of the architects Oswald Haerdtl, Karl Witzmann, Josef Frank as well as the artist Anton Hanak.²

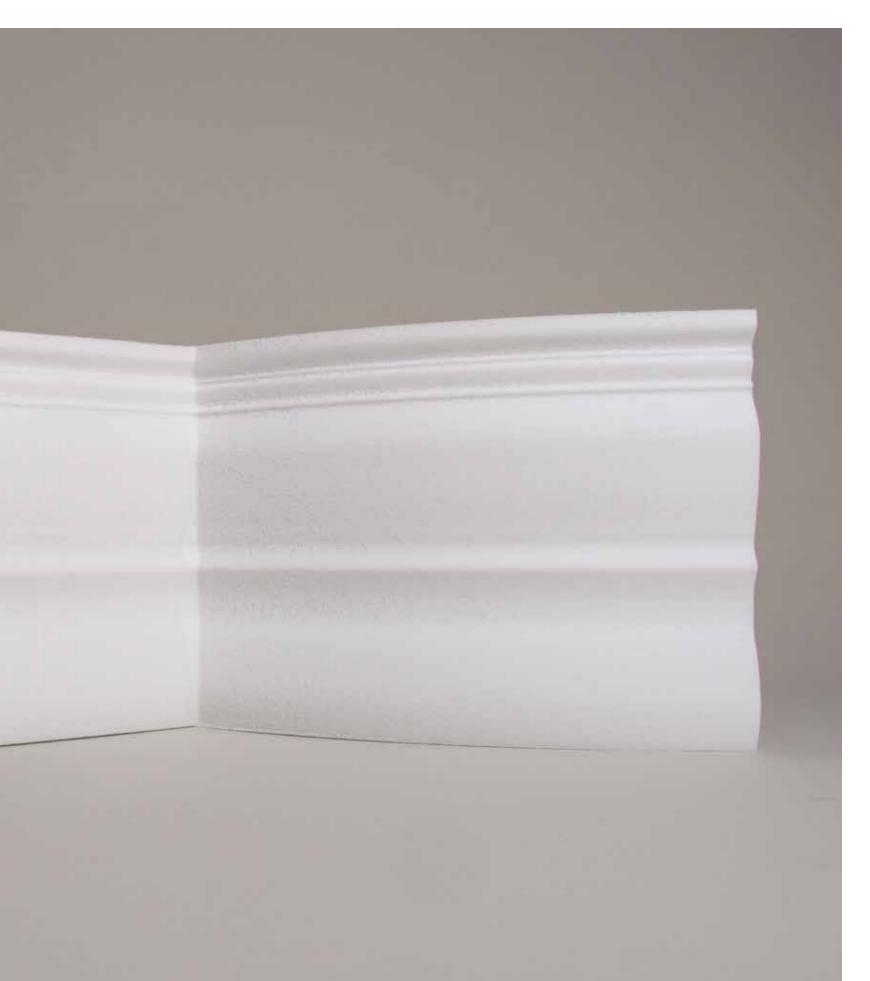
20

¹ Sekler, Eduard F. (1982): Josef Hoffmann. Das architektonische Werk. Monoggraphie und Werkverzeichnis. Salzburg, Wien: Residenz Verlag. 182-185.

² Baroni, Daniele (1984): Josef Hoffmann und die Wiener Werkstätte. Stuttgart: Deutsche Verlags-Anstalt. 155-156.







FRANKFURTER KÜCHE BY MARGARETE SCHÜTTE-LIHOTZKY

Year 1926

Status *Modified*

Material Cardboard Glue

> Scale 1:20

Model maker Barbara Gruber In 1926 the Austrian architect Margarete Schütte-Lihotzky started to work for the building department in the German city Frankfurt am Main under the supervision of Ernst May. Within ten years Schütte-Lihotzky developed a series of ergonomic kitchen typologies for the construction projects of the building department. The idea was to cut Frankfurt's tenants costs by offering flats with inbuilt furniture and kitchens. Schütte-Lihotzky was inspired by the kitchens of restaurant cars as well as the Taylorist theories from the US, which were used to analyse and synthesise workflows in order to improve economic efficiency. Over the years, the building department built almost 10000 kitchens that Schütte-Lihotzky had designed.¹

Most of the kitchens had a direct entrance to the living room through a sliding door. Another sliding door connected the kitchen to the garden or to the entrance room. All furniture was designed in the most ergonomic way so as to save time and make the life of the users more comfortable. In 1927 Schütte-Lihotzky designed a kitchen with the dimensions of only 344cm by 190cm with an area to move around in with a width of only 95cm.²

Western kitchens, as we know them today, are all based on the Frankfurter Küche prototype. While factors such as the dimensions of the furniture, the materials, the size of the floor plan or the kitchen equipment changed, the basic requirements, as well as the kitchen ergonomics that were based on the workflow during cooking, remained the same.

 ¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 330.
 ² Noever, Peter (Ed.) (1993): Schütte-Lihotzky, Margarete: soziale Architektur; Zeitzeugin eines Jahrhunderts. Wien, Köln, Weimar: Böhlau. 88-93.







HAUS JOSEPHINE BAKER BY ADOLF LOOS

Year 1927

Status Project

Material Foamboard Paper Acrylic Glass Glue

> Scale 1:100

Model maker Johannes Fritzenwallner In 1927, Adolf Loos planned a villa for Josephine Baker, French actress, show girl, and owner of one of the most famous bars in Paris at the time. The house was not only to be the private residence of Josephine Baker, but was meant to function as a nightclub as well. Only two rooms on the second floor were not opened to the public.¹

The house was 26.5m by 12.5m and had four storeys. The roof terrace could be accessed through a cylindrical tower placed at the corner of the building. The facade of the house was to be covered in black and white marble. The main feature of the building was a partly glazed pool in the centre of the house. The concept of the centrally placed glazed pool was that watching people swimming would become the main attraction and highlight for the visitors.²



ber erblicke darin einen rückschre nicht gelten, der sich in die work be

uf dem lande? Kleider und hausrat gehören diht. Wenn ich ein stück piefes ulturelle entwicklung der völker und der merilt, der über und über mit en tenschen schwer an der gesundheit, am nationn es. Der vertreter des ørnner leichen bedürfnissen, bei denselben ansprüchte, is nicht! Mr rachtet, folgenden vorgang wahrnehmen: der iern s erscheinen: ehme an, daß beide ihren neigungen leben. D sollte diese ausgestopfientet rsparnisse machen. Das gemüse, das ihm murischen entwicklung anidat, i ut, wenn honig und nüsse dabei sind und werie nur verzögern. Wirkönnes em es dem modernen menschen schmeckt, bin. Di unn dir mi ulturellen entwickle cibt! Die englar ab) und der in ient erleidet. Da da ticht mehr eindser lander wölften jer ellt, wird die arbeit des ornamentikers nicht^{a worden} wären. Glüdlichte iedrigen preise, die den stickerinnen und spit^{hen,} nachzügler aus den abn oen eines modernen arbeiters zu erreichen, der ^{ckt} der fasan besser an der ie



TENNISCLUBHAUS HELLER

1928 Status Demolished Material Paper Tape Scale 1:100

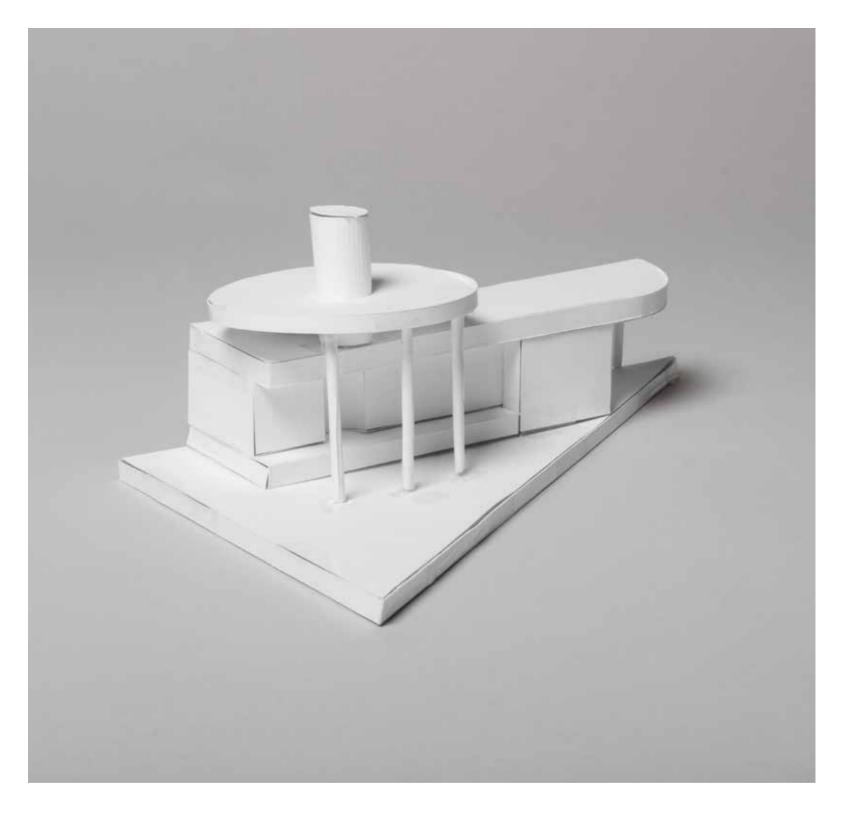
Year

Model maker Barbara Gruber Franz Singer and Friedl Dicker both studied under Johannes Itten at the Viennese Art School from 1917. When Itten was appointed as professor at the newly founded Bauhaus University in Weimar in 1919, Franz Singer and Friedl Dicker followed him there. In 1925, Franz Singer and Friedl Dicker returned to Vienna where they started the architecture studio Singer-Dicker, which quickly became well known within the architecture scene in Vienna.¹

One of their first building projects was a tennis court and a clubhouse for Dr. Hans Heller at the crossing of Reichgasse and Leopold-Müller-Gasse in the 13th district of Vienna. The clubhouse was a one storey building with a flat roof. On top of the roof there was a round platform, which was used as a terrace and was connected to the ground floor by a spiral staircase. The cloakrooms and showers were located around the staircase. The office and the ground keeper's common room was placed in the centre of the building. The tennis player's common room was at the front facing end of the building. This room, with its large glazed doors, overlooked and opened out onto the tennis court. During the Second World War, the clubhouse was used as a storage facility. The building was demolished after the war and had been one of the few typical Bauhaus style architecture projects still existing in Vienna.² The model of the building was reconstructed with the help of some photos and fragments of planning material.

¹ Thun-Hohenstein, Christoph (Ed.) (2013): Wien 1900. Design / Kunstgewerbe 1890-1938. München: Prestel-Verlag. 198.
 ² Hochschule für Angewandte Kunst in Wien (Ed.) (1988): Franz Singer, Friedl Dicker: 2x Bauhaus in Wien. Wien: Hochschule für Angewandte Kunst in Wien. 74.







TANZCAFE REISCH

Year 1928

Status Demolished

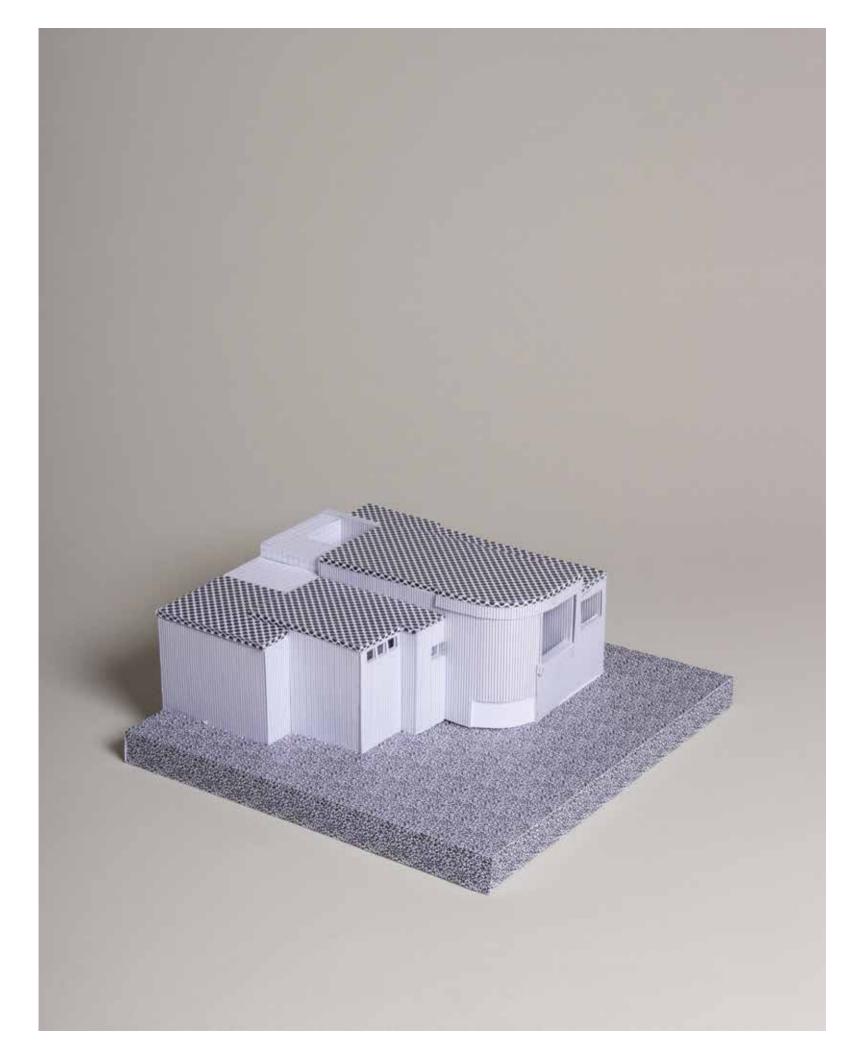
> Material Paper Glue

> > Scale 1:50

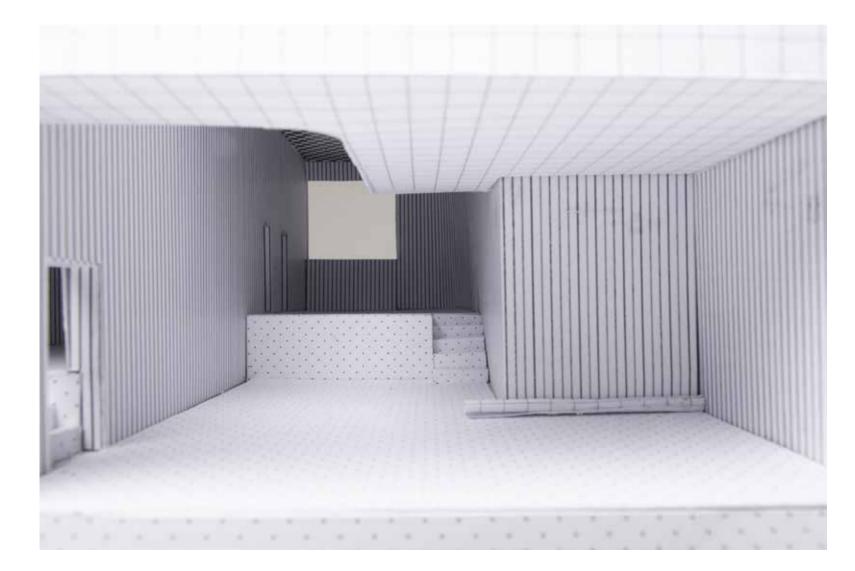
Model maker Barbara Gruber Lois Welzenbacher was born in 1889 in Munich, Germany. Welzenbacher studied architecture at the Technical University of Munich and in 1918 he founded his own architecture office in Innsbruck, Austria. He was appointed as professor at the Academy of Fine Arts in Vienna in 1947.¹ In 1928 Lois Welzenbacher designed a bar and nightclub in the village of Kitzbühel, a famous hiking and skiing resort in Tirol, Austria. An existing building was modified in order to make the bar and nightclub. Through a small entrance and a corridor the visitors were able to reach the main dancing hall in the centre of the building. The main room consisted of two floors on different levels and the space could be divided by a folding wall made of metal and glass. The walls and ceilings were painted white, and the tables and seating was made of walnut wood. The lights were made of metal and, instead of hiding it, the ventilation system was given a level of attention akin to that of an artwork. Over time, the original design by Welzenbacher was modified and eventually destroyed.²

¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 426.

² Institut für Raumgestaltung der Universität Innsbruck (Ed.) (1990): Lois Welzenbacher. 1889-1955. Architekturmodelle. Selfpublished. 64.







HAUS WITTGENSTEIN BY LUDWIG WITTGENSTEIN & PAUL ENGELMANN

1928 Status Modified

Year

Material *Concrete*

Scale *1:200*

Model maker Markus Schaller In 1925 the architect Paul Engelmann, a former student of Adolf Loos, was commissioned by Margarethe Stonborough, the sister of the philosopher Ludwig Wittgenstein, to design her private residence. The building was situated at Kundmanngasse 19, in the 3rd district of Vienna and was built from 1926 to 1928.¹

From the beginning onwards, the architect Paul Engelmann, the philosopher Ludwig Wittgenstein and the client Margarethe Stonborough worked closely together in order to design the floor plans as well as the details of the building. The house was entered through a small room with stairs leading to the main entrance hall in the centre of the building. The main entrance hall was connected directly with the representative rooms such as the dining room, the music room, the living room, the library and the main terrace. A corridor led to a staircase, the glazed lift, the master bedroom, and the private room and office room of a servant. All details in the house, such as the sanded concrete floor, the simple light bulbs used as main ceiling lights, the special heating solutions, the doors and windows usually used in factories, were designed by Ludwig Wittgenstein. Her brother forbade Margarethe, the owner, to decorate the rooms with curtains, carpets and chandeliers. Upon completion, the building was ignored by the press as well as by colleagues of Paul Engelmann. It was not until the late 1960s that the building received any form of recognition.²

¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 314.
² Leitner, Bernhard (2000): Das Wittgenstein Haus. Ostfildern-Ruit: Hatje Cantz. 22-35.







HAUS SCHULZ BY LOIS WELZENBACHER

Year 1929

Status *Modified*

Material Pastry Chocolate

> Scale 1:100

Model maker Barbara Gruber From 1928 to 1929 Lois Welzenbacher planned a villa in Recklinghausen, Germany. The building site was at the crossing of two roads. The entrance hall, the service rooms, the rooms for the guests and the staff were all at street level, while the garden was 2.5m higher, facing out towards a public park. The kitchen, the master bedrooms, and the dining and living room were all located at garden level. One of the master bedrooms, as well as the dining and the living room, were orientated towards the south. The living room was connected to the terrace by a large glass window that could be lowered into the floor.¹ The concept for the first floor shows an open and fluid combination of rooms. In contrast, the ground floor is a linear sequence of rooms. The interior, including the furniture and fabric, was designed by Welzenbacher specifically for the house. The facade was made of dark bricks and the window frames were painted white.²







VILLA AUSPITZ BY HELMUT CAMILLO WAGNER-FREYNSHEIM

Year 1930

Status *Modified*

Material *Plaster Pigment*

> Scale 1:50

Model maker Lung Peng In 1929, the architect Helmut Wagner-Freynsheim, a student and former employee of Adolf Loos, built the Villa Auspitz at Wallmodengasse 10 in the 19th district of Vienna.¹ The house was designed as a country house for the banker and art collector Stefan Ritter von Auspitz Artenegg, and was built on the top of the Hohe Warte hill, which is at the foot of the mountains Kahlenberg and Hermannskogel. The villa is a combination of square volumes, bounded by balconies, terraces and flat roofs, with a round structure that opens out westward to a view over Vienna. Now a brick red, the house was originally meant to be painted mainly in orange. Initially, a variety of different surface materials and colours decorated the interior. The walls of the living room were painted green and the wooden ceiling red, the walls of the dining room were painted yellow and the doors and cupboards were made of wood painted blue. The bedrooms were planked in blue painted wood and as for the bathroom, with its green plastic floor, green coloured glass was used.² The original appearance of the house was eventually destroyed by added floors, extensions, winter gardens and balconies.

¹ Achleitner, Friedrich (2010): Österreichische Architektur im 20. Jahrhundert: Ein Führer in vier Bänden. Band III/3 Wien: 19-23. Bezirk. Salzburg, Wien: Residenz Verlag. 103.

² Rosenberger, Werner (2015): Auf der Hohen Warte: Flair & Mythos des berühmten Wiener Villenviertels. Wien: Metroverlag. 215-220.







FREMDENVERKEHRSPAVILLON WERKBUNDAUSSTELLUNG BY ERNST LICHTBLAU

Year 1930

Status Demolished

Material Acrylic Glass Glue

> Scale 1:50

Model maker Lung Peng The Austrian architect Ernst Lichtblau was born in Vienna in 1883. He studied architecture at the Academy of Fine Arts in Vienna under the supervision of Otto Wagner. In 1912 Ernst Lichtblau became a member of the German Werkbund, an association of craftspeople, artists, architects and the industry. He was also one of the founding members of the Austrian Werkbund in 1914. In the same year Ernst Lichtblau opened his own architecture practice in Vienna. Due to the political circumstances he emigrated to the US in 1939. After years of working as an architect and lecturer he was appointed professor for interior design at the Rhode Island School of Design in 1947. Six years later Ernst Lichtblau was elected dean of the architecture faculty there. He returned to Austria for a longer period of time in 1957, where he died in 1963.¹ In 1930 Ernst Lichtblau took part in the Werkbund exhibition, which was held at the Museum of Arts and Industry in Vienna. The main theme of the exhibition was tourism in Austria. Lichtblau designed a pavilion

in the garden of the museum as well as a showroom for music related products in one of the exhibition rooms of the museum. The pavilion was painted white and consisted of a two storey high intricate steel structure. The second floor could be accessed by a large outer staircase. The roof of the top floor was made of fabric. Flagpoles drew attention to one corner of the roof. The whole pavilion was decorated with pictures of Austria.²

¹ Boeckl, Matthias (Ed.) (1995): Visionäre & Vertriebene. Österreichische Spuren in der modernen amerikanischen Architektur. Berlin Ernst & Sohn. 337.

² Sarnitz, August (1994): Ernst Lichtblau: Architekt, 1883-1963. Wien, Köln, Weimar: Böhlau. 58-59







HAUS BEER BY JOSEF FRANK & OSKAR WLACH

Year 1931

Status Endangered

Material Foamboard Pins

> Scale 1:50

Model maker Irnes Faktic Hannes Stockklauser In 1929, Josef Frank and Oskar Wlach were commissioned to design a villa in the 13th district of Vienna by the factory owner Julius Beer. The house was built from 1929 to 1931 and is located at Wenzgasse 12. The floor plan of the house can be seen as an advancement of the Raumplan by Adolf Loos. A generation after Loos, architects Frank and Wlach planned a house, where the main rooms were placed on different levels and were connected to the garden with large glazed windows, terraces and balconies. The ground floor consists of the dining room and the main hall. The living room is raised above ground floor level by a metre, and some steps lead down to the main hall. The mezzanine floor contains a gallery, a music room and a library. The private rooms are located on the second and third floor. The facade of the building is based on a proportionally devised system of squares and their segments, and features openings of different sizes at asymmetrical positions on the building.¹ The main, unique feature of the house is the partially spiral, partially straight staircase that is based in the centre of the house, which has landings on various levels and twists and turns in different directions in order to connect the main rooms of the house to each other. The house is a combination of large connected rooms, oversized windows, curved walls, staircases, columns and beams. The walls of the house were painted white, and, as was unusual at the time, the interior furniture was not inbuilt, or specifically made for the building, but instead freestanding.²

The scale model is a cross section made of foam board and pins and it shows the main staircase connecting the main hall, the living room, the gallery and the private rooms.

¹ Achleitner, Friedrich (1995): Österreichische Architektur im 20. Jahrhundert: Ein Führer in vier Bänden. Band III/2 Wien: 13.-18. Bezirk. Salzburg, Wien: Residenz Verlag. 65-66.

² Weissenbacher, Gerhard (2000): In Hietzing gebaut: Architektur und Geschichte eines Wiener Bezirkes. Band II. Wien: Verlag Holzhausen. 224-227.







HAUS MÜHLBAUER BY ERNST PLISCHKE

Year 1931

Status Endangered

Material Cardboard 3D Doodler Glue

> Scale 1:50

Model maker Barbara Gruber Ernst Plischke was an Austrian born architect who studied architecture in the master class of Professor Peter Behrens at the Academy of Fine Arts in Vienna from 1923 to 1926. In 1938 Plischke emigrated to New Zealand where he started to work for the government housing department before opening his own architecture practice. Ernst Plischke returned to Austria in 1964 and was appointed as Professor at the Academy of Fine Arts in Vienna. He worked as an architect in Austria up until his death in 1983.¹

The Haus Mühlbauer was planned in 1932 as a private residence for a wealthy couple. The house is located in Rosental on the outskirts of Vienna, close to the nature reserve called Vienna Woods. The facade is more closed on the side facing north-west, gradually opening up towards the south-east. The building was surrounded by a garden with a landscape of steps and terraces designed by the longtime companion of Plischke, Anna Lang.²

Explaining the design of the building, Ernst Plischke wrote the following in 1932: It seemed essential to me that the house should in its geometric form fit into the landscape by taking care of the old trees and the outline of the wooden hills. A relation between the angular cubic form of the house and the tree landscape has been attempted with the help of principles of geometric forms such as terraces, loggia and pergolas. The same interplay was in my mind for the floor plan.³

The scale model was made of corrugated cardboard, while the delicate elements, such as the hand rails and window frames, were made with the help of a 3D Doodler, a 3D printer in the form of a pen.

¹ Ottillinger, Eva; Sarnitz, August (2003): Ernst Plischke, Das Neue Bauen und die Neue Welt. München: Prestel Verlag. 267-282.

² Plischke, Ernst (1989): Ernst A. Plischke: Ein Leben mit Architektur. Wien: Löcker Verlag. 139.

³ Plischke, Ernst Anton (1969): Vom Menschlichen im neuen Bauen. Wien, München: Verlag Kurt Wedl. 87.







NUCLEAR HOUSE

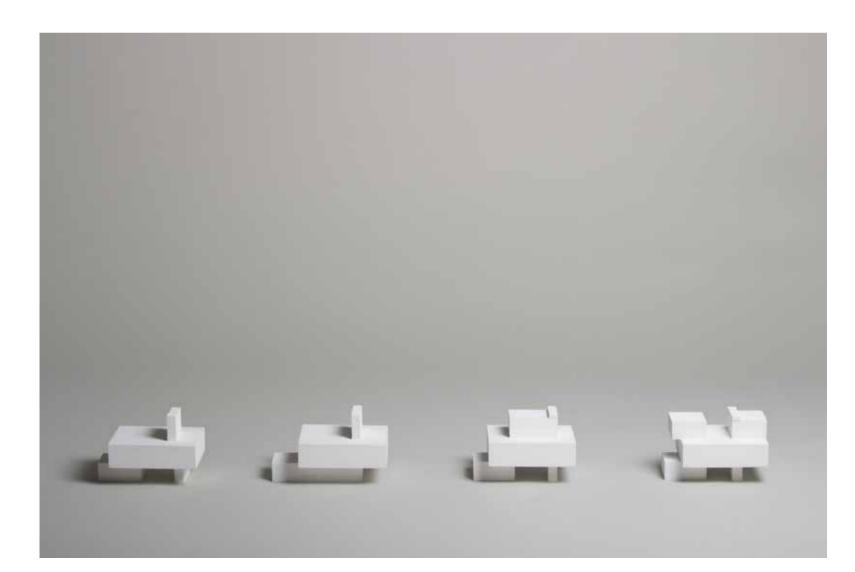
Year Friedrich Kiesler was an Austrian, in Czernowitz, born artist who 1931 worked in the fields of stage design, exhibition design, furniture design, architecture and art. He studied architecture at the Technical University Status and art at the Academy of Fine Arts in Vienna but never finished his Project studies. In 1926 he travelled to New York to exhibit the International Material Theater Exposition, which had been developed, compiled and curated Plaster under his supervision. Kiesler did not return to Europe from the United States, as initially planned. Instead he started to live and work there and Scale ended up staying for the rest of his life.¹ 1:100 The Nuclear House was developed in 1931. Kiesler came up with the Model maker idea of a standardised prefabricated single family house and applied for Lung Peng a copyright for the design. From 1931 to 1933 Kiesler tried to launch the prefabricated houses with the help of the Sears, Roebuck & Co company

based in Chicago. However, the project was never realised.²

 ¹ Bogner, Dieter (Ed.) (1988): Friedrich Kiesler. Architekt Maler Bildhauer. 1890-1965. Wien: Löcker Verlag. 9-77.
 ² Boeckl, Matthias (Ed.) (1995): Visionäre & Vertriebene. Österreichische Spuren in der modernen amerikanischen Architektur. Berlin: Ernst & Sohn. 335.







GARTENHAUS ALICE MOLLER BY ATELIER SINGER DICKER

Year 1931

Status Demolished

Material Foamboard Cardboard Paper Wire

> Scale 1:50

Model maker Barbara Gruber In 1931, the Atelier Singer Dicker was commissioned to design a garden pavilion for Alice Moller right next to the Haus Moller by Adolf Loos. The building site was located at Starkfriedgasse, in the 19th district of Vienna. The walls of the pavilion were made of wood, and were placed on top of a concrete foundation slab. White, fully glazed sliding doors were placed in the front of the pavilion and opened out to the garden that had also been planned by Atelier Singer Dicker. The interior was made of spruce and larch and was completed with chrome-plated, tubular furniture. A roof terrace, which could be reached by an outside staircase from the back of the building, was initially a part of the project but was never built.¹







WERKBUNDSIEDLUNG BY OSKAR STRNAD

Year 1932

Status Demolished

> Material Paper Tape

> > Scale 1:100

Model maker Barbara Gruber Oskar Strnad was born in 1879 in Vienna, where he later studied architecture at the Technical University. He began teaching at the Kunstgewerbe Schule in Vienna in 1909, and was later, in 1914, appointed professor of the architecture course there. Besides working as an architect and realising projects together with Josef Frank and Oskar Wlach, Strnad also worked as a stage designer for the Volkstheater of Vienna as well as for the famous director Max Reinhardt.¹ Under the supervision of Josef Frank, the Werkbundsiedlung of Vienna was designed and built from 1930 to 1932. 31 architects planned 70 houses to be built in Lainz, a district on the outskirts of Vienna. The houses were intended as prototypes for modern living and were seen as alternative designs to the Superblocks, buildings that, at the time, were built for the working class by the Vienna government. The settlement was financially unsuccessful because the houses were too expensive for the working class and too small for those who could afford them.² House number 13 and 14 were designed by Oskar Strnad. A small entrance area, a bathroom, a bedroom, a kitchen and a living room formed the ground floor of the building. The living room was connected to the garden via glass doors. The first floor consisted of a small bedroom, a master bedroom and a terrace. The floor plans of the two houses mirrored each other, and the gardens and terraces of both houses were separated by thin walls. In 1945, at the end of the Second World War, both houses were destroyed by a bomb.³

¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 422

² Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 328.

³ Nierhaus, Andreas; Orosz, Eva-Maria (Ed.) (2012): Werkbundsiedlung Wien 1932 – Ein Manifest des Neuen Wohnens. Wien: Müry Salzmann Verlag. 130.







HALLE IM HAUPTHAUS HERIOT BY ATELIER SINGER DICKER

Year 1933

Status Project

Material Paper Foamboard Glue

> Scale 1:25

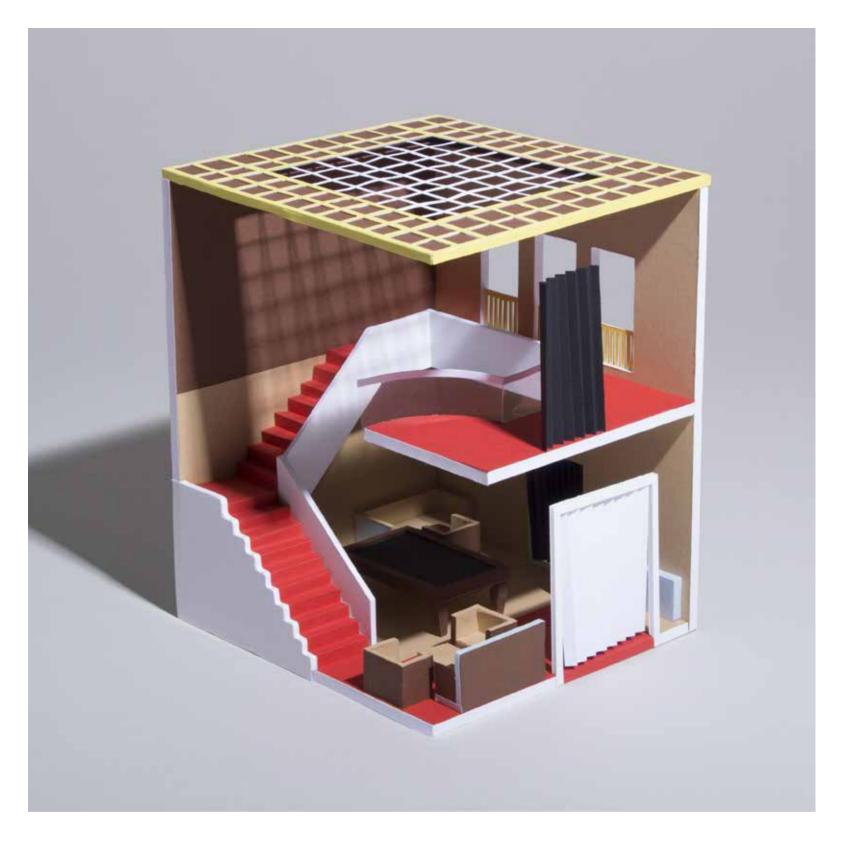
Model maker Barbara Gruber Atelier Singer Dicker designed the entrance hall of the main house of the countess Heriot in 1933, after which they designed and built a guesthouse in the garden of the house Heriot the following year.¹ The main house was located in the 2nd district of Vienna and was close to the Prater, a public amusement park. The house had been converted by the Viennese architect Fritz Reichl some years earlier.² Atelier Singer Dicker's project was never built, but a perspective drawing from 1933 shows a two storey high entrance hall with an L-shaped staircase leading to the gallery on the upper floor. The ground floor entrance hall is furnished with a billiard table, a group of lounge chairs and a coffee table, with a smaller group of lounge chairs and a coffee table, with a smaller group of lounge chairs and decorated in red, orange and brown colours and fabrics.³

¹ Hochschule für Angewandte Kunst in Wien (Ed.) (1988): Franz Singer, Friedl Dicker: 2x Bauhaus in Wien. Wien: Hochschule für Angewandte Kunst in Wien. 52.

² Boeckl, Matthias (Ed.) (1995): Visionäre & Vertriebene: Österreichische Spuren in der modernen amerikanischen Architektur. Berlin: Ernst & Sohn. 338.

³ Hochschule für Angewandte Kunst in Wien (Ed.) (1988): Franz Singer, Friedl Dicker: 2x Bauhaus in Wien. Wien: Hochschule für Angewandte Kunst in Wien. 52.







SPACE HOUSE

Year 1933

Status Demolished

Material Waste Foamboard Glue

Scale 1:100

Model maker Johannes Fritzenwallner In 1933 Friedrich Kiesler was commissioned by the Modern Furniture Company to design the exterior and interior of their shop in New York City. For the main hall of the shop, Kiesler developed the Space House, a full-scale model of a single family house fully equipped with furniture, fabrics and lights designed by the Modern Furniture Company. The facade was made of metal while the interior was of mixed materials in various colours.¹

Since the development of the Nuclear House in 1931, Friedrich Kiesler became interested in the concept of single family houses as representations of the concept of the family being the smallest possible unit of humankind living together. The Space House can also be seen as a shift in Kiesler's architectural work, moving from a more rectangular design to using the increasingly rounded shapes common in his later works.² The floor plan of the Space House also shows the concept of rooms flowing freely into each other with interchanging, varying room heights; these concepts were then finalised in the design of the Endless House.³

¹ Bogner, Dieter (Ed.) (1988): Friedrich Kiesler. Architekt Maler Bildhauer. 1890-1965. Wien: Löcker Verlag. 67.

² Bogner, Dieter (1997): Friedrich Kiesler 1890 – 1965: inside the endless house. Wien, Köln, Weimar: Böhlau Verlag. 10.
³ Bogner, Dieter (1997): Friedrich Kiesler 1890 – 1965: inside the endless house. Wien, Köln, Weimar: Böhlau Verlag. 52.







GÄSTEHAUS HERIOT BY ATELIER SINGER DICKER

Year 1934

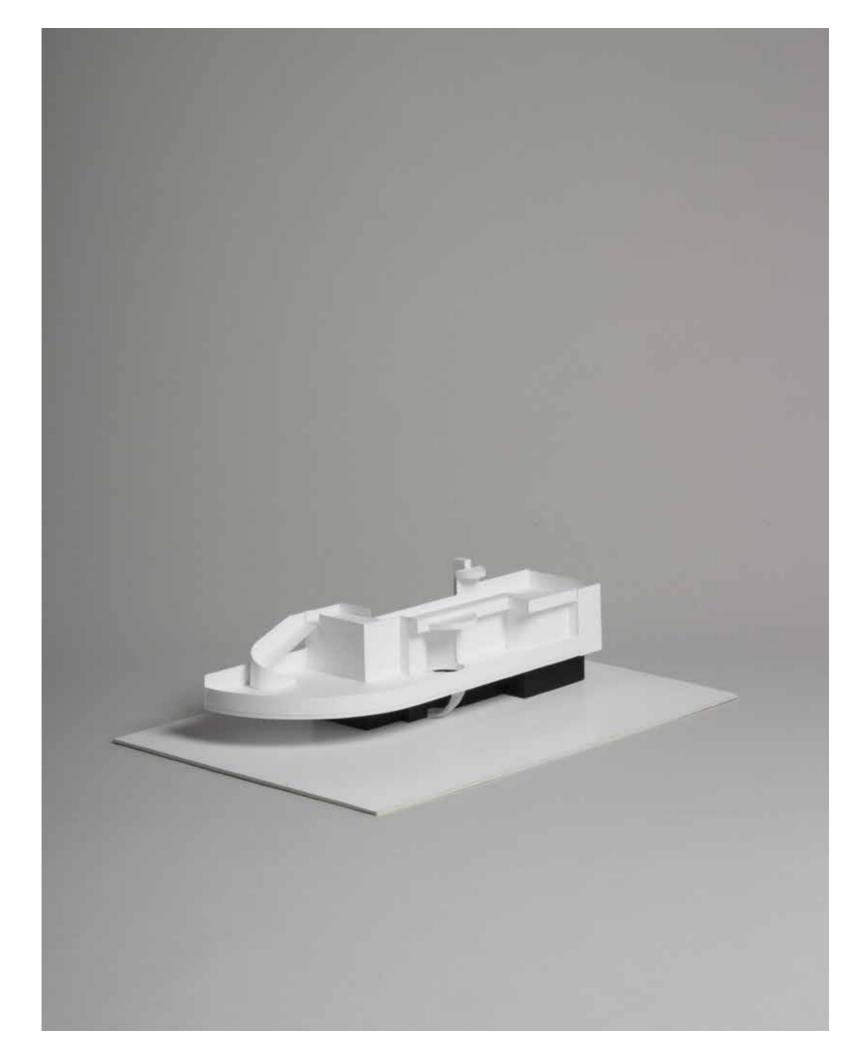
Status Demolished

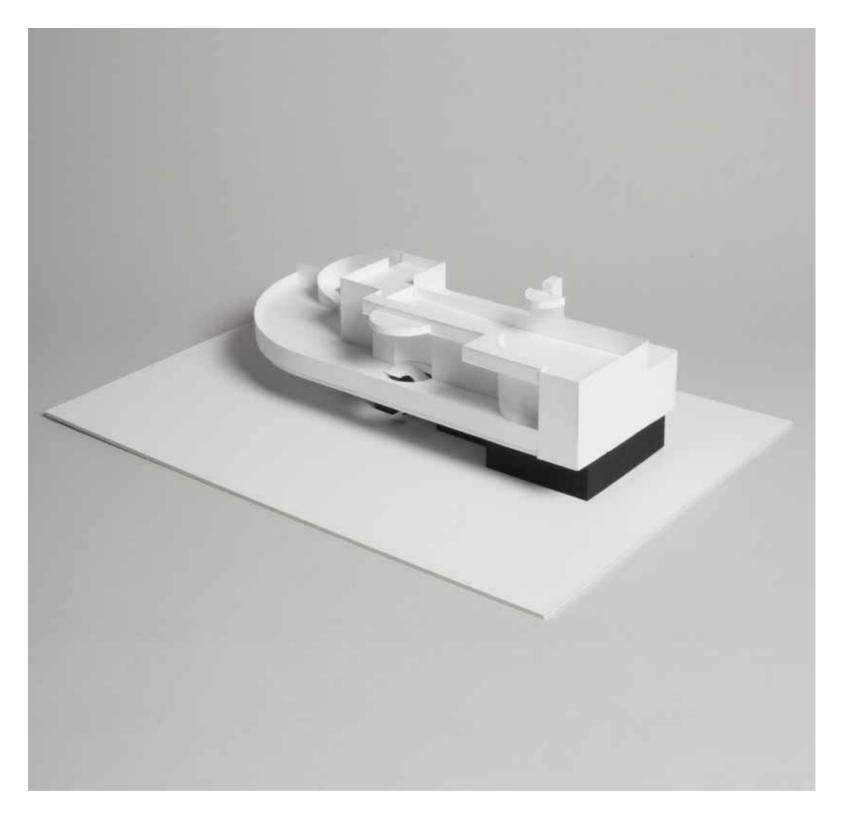
> Material Paper Glue 3D Print

> > Scale 1:50

Model maker Barbara Gruber The architecture studio Singer Dicker designed a guest house for the Countess Heriot in the garden of her residence at Rustenschacherallee in the 2^{nd} of Vienna. The guest house was placed on top of an old, one storey high building from the mid 19th century. The new building, a steel frame construction, was designed with overhanging terraces on the first floor. The original building became the base for the new house, consisting of a garage, a flat for the chauffeur, a room for a servant and cages for the pets of the Countess Heriot: a leopard, a parrot and some dogs. The new building was connected to the basement with a glass lift. A spiral staircase encircled the lift. The guest house offered two big rooms, both for living and for sleeping, two bathrooms, two cloakrooms, two rooms for servants and some rooms for house work. Each big room was equipped with a double bed that could be hidden under a platform by a turning mechanism. On top of the platform was a lounge. The big rooms were connected to the terrace by a winter garden and a large glazed folding door. The architecture studio Friedl Dicker designed all furniture, the light fixtures and even the door handles. A garden terrace was located on top of the building. From 1938 onwards, the building was abandoned and then eventually demolished in 1962.¹

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MARKTHALLE BY HERBERT EICHHOLZER & VIKTOR BADL

Year 1935

Status Project

Material Plastic Cardboard Glue

Scale 1:100

Model maker Robert Anagnostopoulos In 1935 Herbert Eichholzer and Viktor Badl designed an office building and a market hall at the Andreas Hofer Platz in the city centre of Graz.¹ The ten storey high office block by Eichholzer and Badl was situated right next to the modernist headquarters of a gas and electrical supply company, which was designed by Rambald von Steinbüchel-Rheinwall and built only a few years earlier. The office block was connected to the lower, circular shaped market hall by a bridge over the street. The large flat market hall was characterised by its overhanging roof.² The model is made of plastic sheets. The surrounding buildings and the landscape are made of wood and cardboard. The model is a reconstruction of the original project's model.

¹ Schurz, Peter H. (Ed.) (2004): Wissen aus dem Archiv. Herbert Eichholzer: Architekt (1903 – 1943). Wien, Graz: Neuer Wissenschaftlicher Verlag. 92.

² De Grancy, Antje Senarclens; Halbrainer, Heimo (2004): Totes Leben gibt es nicht. Herbert Eichholzer. 1903-1943. Wien: Springer-Verlag. 151.







HAUS PETER BY ERNST PLISCHKE

Year 1936

Status Project

Material Foamboard Paper Glue

> Scale 1:50

Model maker Barbara Gruber In 1936 Ernst Plischke designed a family house in Hietzing, a wealthy neighbourhood of Vienna. The main concept was to enrich the floor plan by making living at different levels possible.¹ The house was planned for a couple with no children. The floor plan shows a single room concept on four different levels. The concept can be seen as a modern interpretation of the *Raumplan* by Adolf Loos. The areas for dining, making music, resting, reading, working and sleeping are located at different levels separated only by stairs and curtains. Only

the bathroom, the kitchen and the room for the staff are independent elements.²
The facade was planned to be constructed from prefabricated elements made of concrete. Because of the floor plan and the prefabrication, both

made of concrete. Because of the floor plan and the prefabrication, both uncommon in Vienna at the time, the house remained a project and was never built.³

¹ Plischke, Ernst Anton (1969): Vom Menschlichen im neuen Bauen. Wien, München: Verlag Kurt Wedl. 112-113.

² Ottillinger, Eva; Sarnitz, August (2003): Ernst Plischke: Das Neue Bauen und die Neue Welt. München: Prestel Verlag. 81.

³ Plischke, Ernst (1989): Ernst A. Plischke: Ein Leben mit Architektur. Wien: Löcker Verlag. 207.







CASA ORO BY BERNHARD RUDOVSKY

Year 1937

Status *Modified*

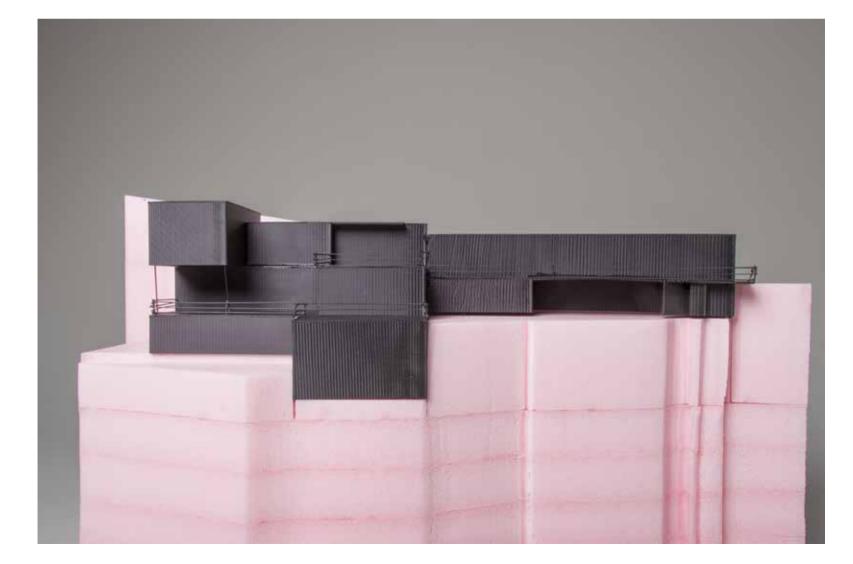
Material 3D Print Styrofoam 3D Doodler

> Scale 1:100

Model maker Robert Anagnostopoulos From 1935 to 1937, and with the help of the local architect Luigi Cosenza, Bernard Rudofsky designed the Casa Oro for the Italian doctor Augusto Oro. The building is situated at the Via Orazio 27 on the coastline, 40m above sea level, and overlooking the Bay of Naples. The plot was long and narrow, 500m² in total, and had its base on the volcanic rocks. The building was not allowed to be higher than the panoramic road, the Via Orazio, that passed behind the site. The wish of the client was to have a 22-room villa with a garden and a garage. The building is defined by gardens and terraces on different levels, some hidden and some exposed. The building was designed around white rectangular volumes. Almost every volume contained a room, similar to vernacular dwellings. The main structure was made of steel and reinforced concrete, which led to a lot of problems during the building process. The pillars, fixtures and parapets were all made of metal. The building was furnished with Viennese-style wooden furniture. Over time, the Casa Oro was modified several times and was eventually divided into two properties.¹ Each element of the scale model was made of 3D printed PLA. Only the shell of each element was printed in order to reduce the printing time. Details such as the pillars and the handrails were made with the help of a Doodler, a 3D printer in the form of a pen. The surroundings of the scale model are made of styrofoam.







HAUS SPITZ BY ERNST PLISCHKE

Year 1937

Status Project

Material Expanded Polystyrene

> Scale 1:50

Model maker Barbara Gruber The Haus Spitz was designed in 1937 by the architect Ernst Plischke for the Italian born psychoanalyst Dr. René Spitz at the lake Molveno in Italy. The project was never realised due to Dr. Spitz not receiving the permission to build. The building site was very close to the Italian border with a good view of the fortifications of the battlefront. At the time Dr. Spitz was suspected to be a spy for a foreign country.¹ The kitchen and dining room were to be situated on the ground floor opening to a terrace facing the lake. A sheltered recess with a fireplace and without windows was located at a split level between the ground floor and the first floor. The music room on the first floor was connected to the dining room via a gallery. A two storey high glass wall opened to a view over the mountains and the lake. The house was accessed from the first floor since the building was located on a slope.² The model is a three dimensional interpretation of a drawing by Ernst Plischke, showing a cross section through the dining room and the music room.

¹ Plischke, Ernst (1989): Ernst A. Plischke: Ein Leben mit Architektur. Wien: Löcker Verlag. 202.
 ² Plischke, Ernst Anton (1969): Vom Menschlichen im neuen Bauen. Wien, München: Verlag Kurt Wedl. 96.







ÖSTERREICHISCHER PAVILLON WELTAUSSTELLUNG PARIS BY OSWALD HAERDTL

Year 1937

Status Demolished

> Material Paper Cardboard Glue

> > Scale 1:50

Model maker Barbara Gruber Oswald Haerdtl was an architect and was born 1899 in Vienna. He studied architecture at the University of Applied Arts in Vienna under the supervision of Oskar Strnad. From 1922 to 1930, Haerdtl was an assistant of Josef Hoffmann, a professor at the University of Applied Arts. Haerdtl himself was appointed professor at the University of Applied Arts in 1935. Additionally, he worked in Josef Hoffmann's office until 1939.¹ In 1936 Haerdtl won the competition that allowed him to design the Austrian pavilion at the 1937 world fair in Paris. The concept of the building was to have a mixture of different sized showrooms around a courtyard. The pavilion was entered through the main exhibition room, an oversized, scaled up display case with a 30m x 10m panorama of the Austrian Alps. A traditional Viennese coffee house was located next to the main entrance.²

The ground floor of the building was made on site out of concrete. The walls and roofs of the pavilion were made of wood. The prefabricated wooden elements were transported from Austria to France by train. The preliminary building works took only twenty days. The pavilion opened on June 1937 and was already demolished in November the same year.³

¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 406.

² Stiller, Adolph (2000): Oswald Haerdtl, Architekt und Designer. Salzburg: Pustet. 231-232.

³ Stiller, Adolph (2000): Oswald Haerdtl, Architekt und Designer. Salzburg: Pustet. 98.







HAUS ALBRECHER LESKOSCHEK BY HERBERT EICHHOLZER

Year 1937

Status Demolished

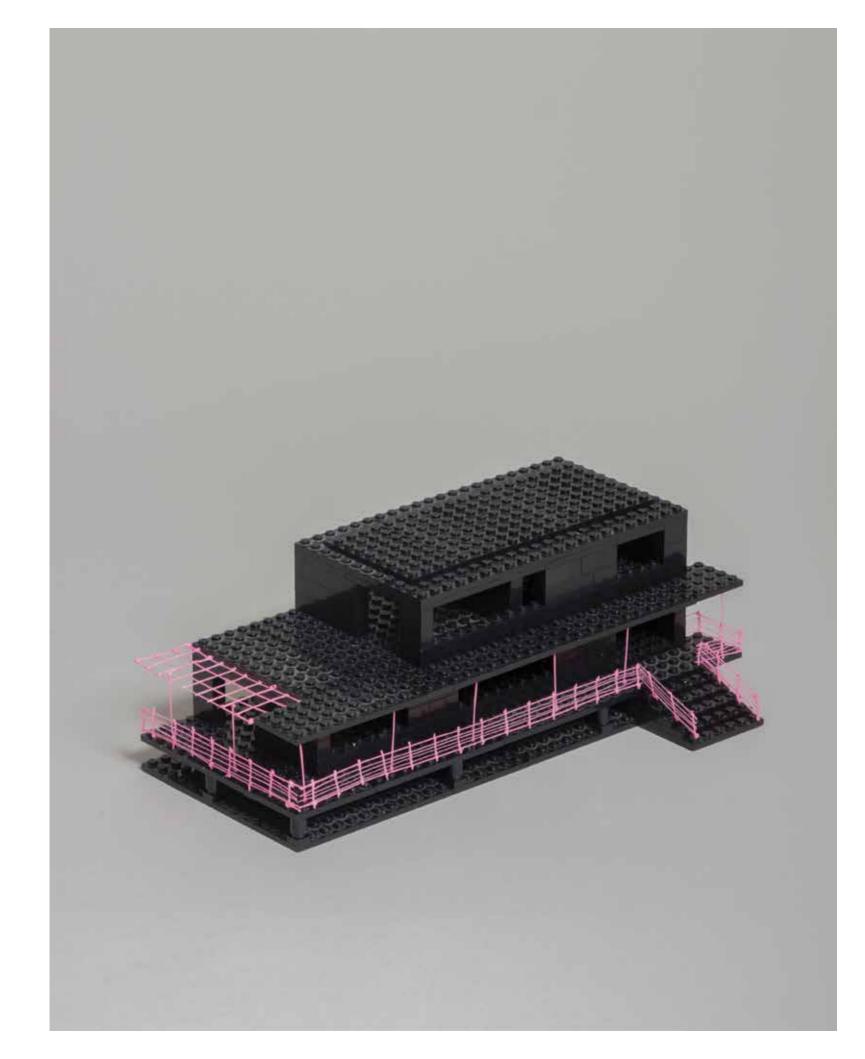
Material Lego 3D Doodler

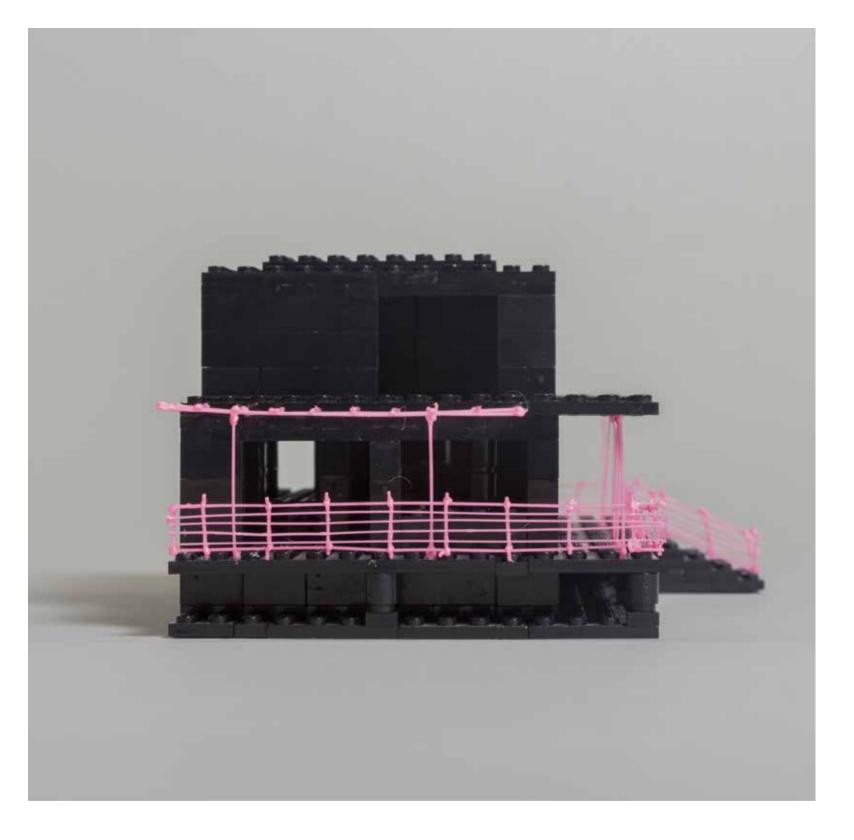
> Scale 1:100

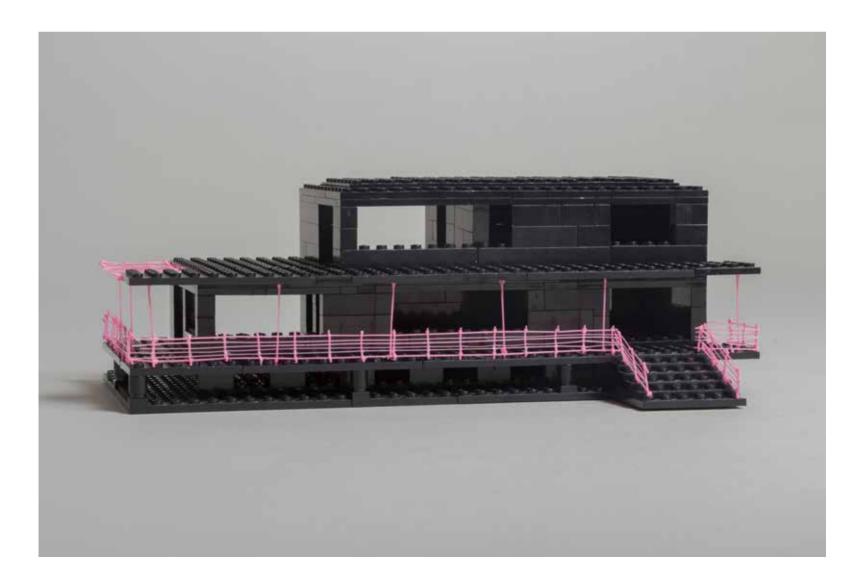
Model maker Barbara Gruber In 1937 Herbert Eichholzer designed a family house for Herma Albrecher-Leskoschek and the painter Axl Leskoschek which was situated next to the lake Hilmteich in Graz.¹ The two storey house was made of two rectangular volumes, the larger one of the two with big windows on the ground floor and a smaller one on the first floor. The floor of the building was raised above the ground on pillars and was situated close to the Lechwald woods.² The ground floor of the house was framed by a terrace facing south-west with an overhanging roof held up by thin grey columns. The entrance was situated on the north facing back of the house. The main facade of the house was the side facing the garden. The ground floor of the house measured 150m². The ground floor consisted of the entrance and the kitchen, which were facing towards the north, as well as the living and dining room, facing south-east. The living and dining room was 75m² in total, and was separated into three parts by a step and a free standing column. In the middle of the room hung a 7m long wall painting by Axl Leskoschek. The rooms could be opened out to the terrace via glazed doors. On the first floor there were two bedrooms, a walk-in cupboard, a bathroom and a room for the staff.³ The model was made of Lego bricks and the delicate structures, such as the columns and the terrace rails were made with the help of a 3D Doodler.

¹ Schurz, Peter H. (Ed.) (2004): Wissen aus dem Archiv. Herbert Eichholzer: Architekt (1903 – 1943). Wien, Graz: Neuer Wissenschaftlicher Verlag, 128-133.

² Marczik, Christian; Mracek, Wenzel (Ed.) (2013): Pavillon - Hommage à Herbert Eichholzer (1903 – 1943). Graz: Edition Keiper. 31.
³ Halbrainer, Heimo; Klein, Eva; De Grancy, Antje Senarclens (2016): Hilmteichstrasse 24, Haus Albrecher-Leskoschek von Herbert Eichholzer. Graz: Clio. 19-42.







CASA FRONTINI BY BERNHARD RUDOFSKY

Year 1941

Status *Modified*

Material Foamboard Glue

Scale 1:100 / 1:50

Model maker Barbara Gruber Bernard Rudofsky was commissioned by Virgilio Frontini to design a house for a family of five in São Paulo. The house was built from 1939 to 1941 on a nearly rectangular plot of 1600m² at the Rue Monte Alegre. The rooms of the building were centred around an inner courtyard which served as the main living room. Similar to a monastery garden, the corridors of the house were located around this patio. The dining room was an exception, as it was directly connected to the courtyard. The central patio had the dimensions of 8.5m x 7m. Three of its sides were bordered by columns and the fourth side was a blind wall with a fireplace in the middle. An oleander tree was planted on the opposite side of the patio. The living room opened up to the garden. The garden was surrounded by walls bordering the neighbours and the public street. The dining room was also connected to the garden by a recessed balcony. On the second floor were the bedrooms and another recessed balcony, closed to the garden but open to the inner courtyard. The building was demolished gradually over several years.¹











ENDLESS HOUSE

Year 1949 Status Project

Material Plaster Wire Wood

> Scale 1:25

Model maker Judith Weiß Jakob Berg In 1949 Kiesler published The Manifesto of Correalism, which can be seen to be the basis for the concept of the Endless House. Kiesler described Correalism as a science that combines all forms of art, the natural sciences as well as non-scientific topics such as myths and magic. While not meant to be a precisely planned building, Friedrich Kiesler followed his vision of a dwelling for multiple generations until his death in 1965. In 1950, the first model of the Endless House was shown at The Muralist and the Modern Architect exhibition at the Kootz Gallery in New York. Over decades, Kiesler created numerous architectural models, sketches, paintings, plans, poetic and theoretical texts which all related to or were of the Endless House. The most famous representation of the Endless House was shown at the exhibition Visionary Architecture at the New York Museum of Modern Art in 1960. The initial idea to show the prototype of the Endless House in the garden of the museum one year earlier was never realised.¹ The main concept of the house was the continuous room plan and an effective use of natural and artificial light. In Kiesler's vision, the spheroid form was the shape most suitable for his ideas. The light was multiplied and reflected due to the curved walls. Additionally, his vision of a fluid and continuous room plan, featuring rooms of different heights, was more easily realised within a spheroid volume. All living areas could be unified into a single continuum, or separated into private rooms. The shared rooms were designed with a higher ceiling height than that of the private rooms. A family of up to three generations could live together under one roof. The Endless House was a means to critique the standardisation and the commercialisation of living.2

¹ Bogner, Dieter (Ed.) (1988): Friedrich Kiesler: Architekt Maler Bildhauer. 1890-1965. Wien: Löcker Verlag. 240-242.
 ² Bogner, Dieter (1997): Friedrich Kiesler 1890–1965: inside the endless house. Wien, Köln, Weimar: Böhlau Verlag. 9-12.







PAVILLON ARABIA

Year 1949

Status Demolished

Material Cardboard Acrylic Glass Glue

> Scale 1:100

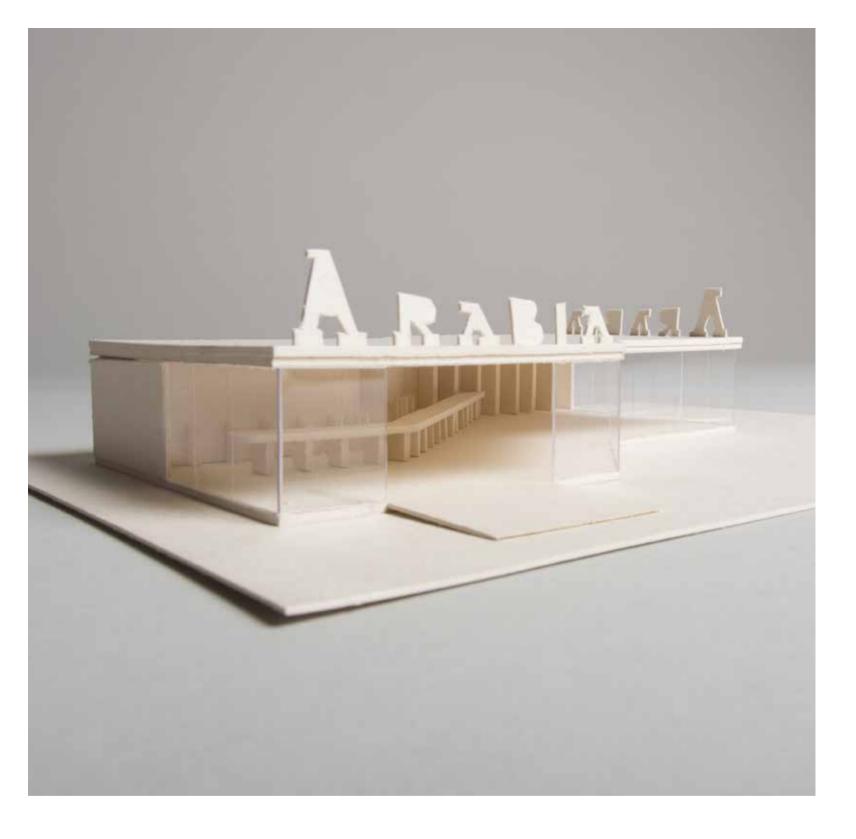
Model maker Hannes Stockklauser The pavilion for the Austrian coffee and tea company Arabia was built in 1949 by Oswald Haerdtl at the fairgrounds in the 2nd district of Vienna.¹ After the Second World War, Oswald Haerdtl was in continuous contact with Arabia and designed and built several coffee houses and pavilions for them. Not only did he design the architectural appearance of the company, Oswald Haerdtl was also in charge of the more general visual appearance of Arabia, such as the clothes for the staff and their printed materials which included menu cards and price tags. Arabia's company logo had been designed in the 30s by the Austrian graphic designer Joseph Binder, who is also famous for the designs he made for the companies Meinl and Semperit.

As with Haerdtl's other works, the company logo played an important role in the design and architecture of the Arabia pavilion. The logo was prominently located above each of the two entrances and a third one was placed on the lawn in front of the pavilion.²

The architecture model of the pavilion was built only with the help of two photographs and fragmentary planning material. The photos and plans depict an s-shaped one storey building, raised slightly above ground, with an entrance at each end. The front facade was glass, while the back of the building was coated with a non-transparent material. The back of the pavilion was also where the bar and storage room were located.

Stiller, Adolph (2000): Oswald Haerdtl: Architekt und Designer. Salzburg: Pustet. 244.
 Stiller, Adolph (2000): Oswald Haerdtl: Architekt und Designer. Salzburg: Pustet. 113-127.







PAVILLON FELTEN & GUILLEAUME

Year 1953

Status Demolished

Material Foamboard Acrylic Glass Glue

> Scale 1:100

Model maker Hannes Stockklauser The showroom for the Austrian company Felten & Guilleaume by the Austrian architect Oswald Haerdtl, a student of Josef Hoffmann, was located close to the fairgrounds in the 2nd district of Vienna. The building was made of two rectangular volumes, a tall square one and a second lower one which was cut in half by the larger square. The topmost roof was carried by four columns, one in each corner. The roof of the lower volume was attached to the columns with console brackets. The three main sides of the buildings were made of glass. The back of the building was covered with metal sheets. Due to its unique appearance, architecture critics in the 1960s referred to it as one of the most representative modernistic buildings after the Second World War.¹

Felten & Guilleaume was a producer of metal wire and accessories. The three main sides of the showroom, completely covered in glass, functioned as a large glass vitrine. On the inside of the glass building the floor was separated into two levels. The raised level was for the products and the lower level for the visitors. Two conference rooms and the bathrooms were placed in the back of the building, separated from the main room by a wall with photographic prints. The company lettering and the logo were placed on top of the main roof and the porch roof, and their design were an important part of the architectural and visual appearance of the pavilion. This can also be seen in Haerdtl's other projects as well as his extensive portfolio of graphics and design works.

In the late 80s, during the replanning and reconstructing of the Viennese fairgrounds, the building was demolished.²







DAMPFERANLEGESTELLE DDSG

1956 Status Demolished Material Lego

Year

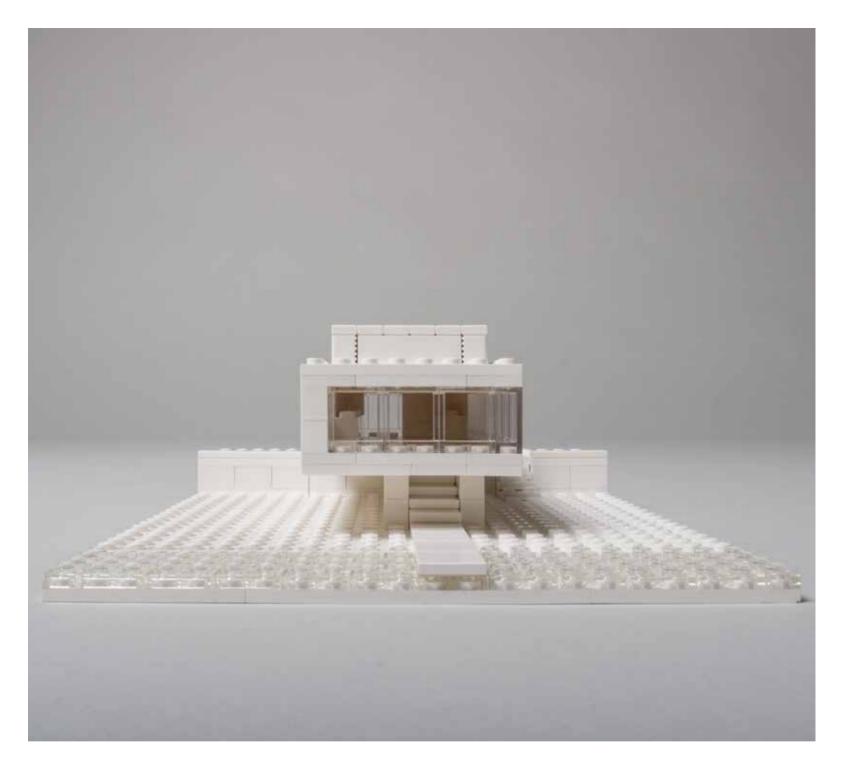
Scale 1:100

Model maker Barbara Gruber The landing pier for the Austrian shipping company DDSG was designed by the architect Eugen Wachberger and completed in 1956. The pavilion was situated at the Donaulände 1 in Linz, next to the Danube. The building was placed slightly above the top of the flood protection wall. Like a draw bridge, the stairway that connected the waiting room inside the pavilion with the river bank could be raised and lowered. The building was demolished in 1999.¹ The scale model of the building was an experiment to see whether it is

possible to use toy bricks like Lego to build architectural models. While it was not possible to accurately transfer the original scaling and size relations due to the nature of the toy bricks, it was nonetheless possible to approximate the outside look and to reach a similar feeling to that of the original design. A benefit of using building bricks for architectural models is the quick and interactive building procedure.

The one storey pavilion with glass walls on both sides, a waiting room, and a small bar inside was reconstructed with the help of only two photos, one of the outside and one of the inside view.







ÖSTERREICHISCHER PAVILLON WELTAUSSTELLUNG BRÜSSEL BY KARL SCHWANZER

Year 1958

Status *Modified*

Material Paper 3D Doodler

Scale 1:500 / 1:200

Model maker Barbara Gruber In 1958 Karl Schwanzer designed the Austrian pavilion for the world fair in Brussels. The pavilion was designed to resemble a bridge; a metaphor for Austria as the political, economical and cultural connection between the north and the south and the east and the west.¹

The pavilion was a steel frame construction. Without any walls, the ground floor was interspersed with steel support columns. The centre of the building was an open courtyard. The exhibition rooms were based on the first floor and around the courtyard. The pavilion was dismantled at the end of the world fair and was rebuilt from 1959 to 1962. It was placed in the Schweizergarten, a public park in the 3rd district of Vienna, and opened as the Museum of the 20th Century. For its use as a museum, a glass facade was built that encased the ground floor and covered the courtyard.²

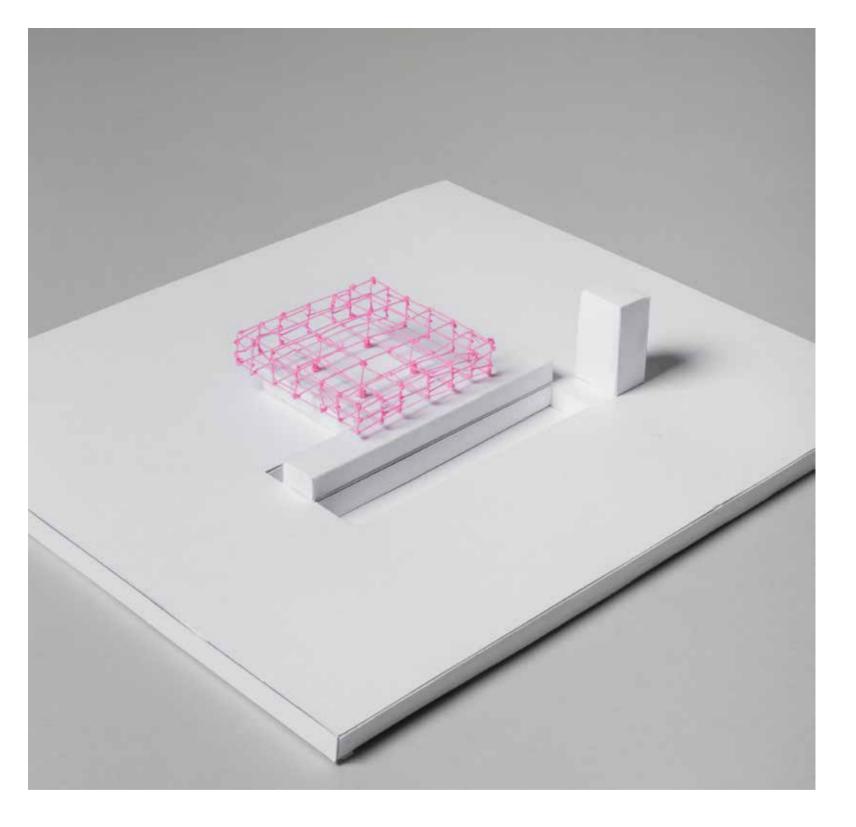
In 2003 the architect Adolf Krischanitz won the competition for the museum's renovation and extension. In 2011 the museum reopened as the *21er Haus*.³

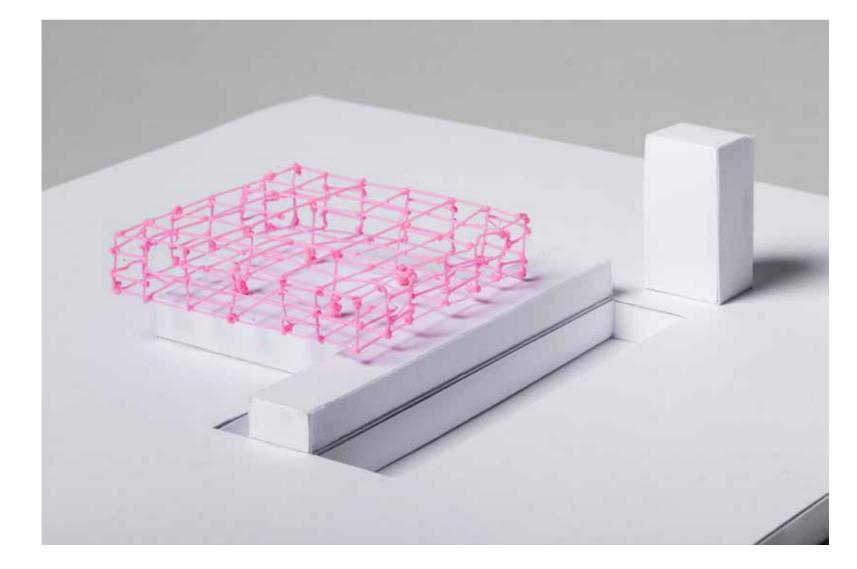
¹ Schwanzer, Karl (1973): Architektur aus Leidenschaft. 25 Jahre Arbeit Karl Schwanzer. Wien, München: Modulverlag. 38.

² Achleitner, Friedrich (1990): Österreichische Architektur im 20. Jahrhundert. Ein Führer in vier Bänden. Band III/1 Wien: 1.-12. Bezirk, Salzburg, Wien: Residenz Verlag, 118-119.

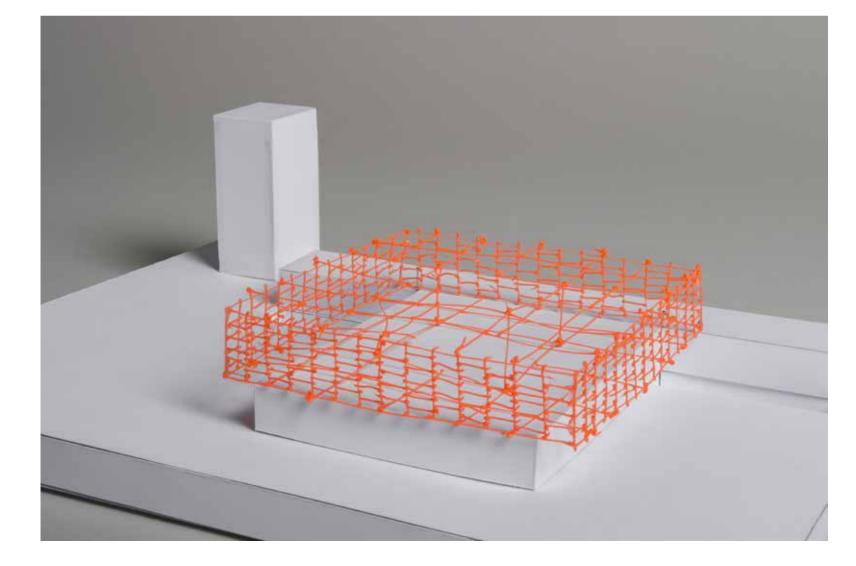
³ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 154.











BELLEVUE BY TRAUDE & WOLFGANG WINDBRECHTINGER

Year 1963

Status Demolished

Material Cardboard Modeling Clav

Scale *1:200*

Model maker Robert Anagnostopoulos

The scale model is a reconstruction of the Bellevue restaurant by Traude and Wolfgang Windbrechtinger, which was designed and built between 1960 and 1963. The scale model of the building was made with access to only a handful of photos as well as a plan of the side view of the building. The building was located at Himmelstraße 150 in the 19th district of Vienna. The architects were commissioned by the municipality of Vienna to design a popular restaurant destination in the location of an old, destroyed castle. The building site was located on the Cobenzl, a mountain on the outskirts of Vienna with an ideal view of the city. Traude and Wolfgang Windbrechtinger designed a modern interpretation of the classical Viennese restaurants, known as the Heurige, which were owned by winegrowers and were located in the vineyards along the peripheries of the city. Using a scale much larger than the archetype they were drawing inspiration from, the architects added elements such as rooftop terraces, areas for relaxing, and courtyards. The building was made of exposed, white painted concrete, the floor was made of red clinker bricks and the ceiling was planked with natural pine wood. The building was demolished in 1982, which was due to mismanagement of the restaurant and the lack of understanding, on the part of the owners, of the architectural qualities of the building.¹







PHILIPS HAUS BY KARL SCHWANZER

Year 1963 Status Modified Material Plaster Scale

1:200

Model maker Lung Peng The Philips Haus was built from 1962 to 1963 at Triester Strasse 64 in the 10th district of Vienna. Karl Schwanzer designed the building as an office block for the multinational technology company Philips.¹ The building is situated on top of a hill, the Wienerberg, close to the southern highway entrance to Vienna. There were no buildings surrounding it up until the 90s, and so it was easily visible from afar. The building is made of reinforced concrete. As was state of the arts at the time, the structural elements of the building are visible from the outside. Originally designed as open-plan offices, the top structure cantilevers out on both sides. A lower structure, perpendicular to and underneath the higher structure, contained the flagship store and additional training rooms.² In 2018, the architect Joseph Weichenberger renovated the Philips building, and it was reopened as a full-service apartment block with a restaurant and a marketplace underneath it.³

¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 159.

² Achleitner, Friedrich (1990): Österreichische Architektur im 20. Jahrhundert: Ein Führer in vier Bänden. Band III/1 Wien: 1.-12. Bezirk. Salzburg, Wien: Residenz Verlag, 255.

³ Philips-Haus. Ein Vorsorge-Regal am Wienerberg. https://derstandard.at/2000082950718/Philips-Haus-Ein-Vorsorge-Regal-am-Wienerberg, 14.8.2018.







HAFNERRIEGEL BY WERKGRUPPE GRAZ

Year 1964

Status *Modified*

Material Cardboard 3D Print

Scale 1:100

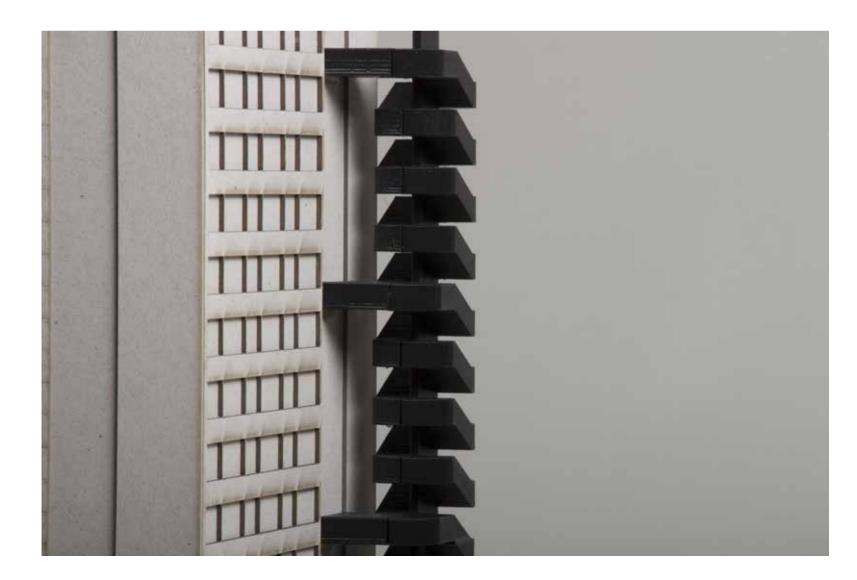
Model maker Robert Anagnostopoulos Up until 2013, the Hafnerriegel, located in the Jakomini district of Graz, was functioning as student housing for approximately 360 students. The Werkgruppe Graz was especially established in order to carry out the Austrian Student Aid Foundation's commission to design the 50m tall building. On each of the 19 floors, living units of five single rooms, or three double rooms, each had a tea kitchen, a dining space and a sanitary room. The units were arranged around the central stairwell in a helical path. Due to the tightening of fire protection rules at the time, a double-flight fire escape staircase made of exposed concrete was attached to the outside of the highrise, giving the building its unique look.¹ From 2013 to 2014, the building was redesigned by the Austrian architecture office Architektur Consult. The student housing facility was transformed into 73 flats. Four penthouses were added on the roof of the building and the characteristic staircase on the outside was demolished.²

¹ Guttmann, Eva; Kaiser, Gabriele; HDA Graz (Ed.) (2013): Werkgruppe Graz 1959-1989; Architecture at the Turn of Late Modernism Zürich: Park Books. 57-59.

² Wohnbau Hafnerriegel. http://www.archconsult.com/projects/selected-projects/residential-and-hotels/wohnbau-hafnerriegel-graz. 13.2.2018.







HOLABIRD & ROOT, CARL APPEL

Year 1964

Status Endangered

> Material Paper Glue

> > Scale 1:100

Model maker Barbara Gruber From 1959 to 1964, the InterContinental hotel was built at Johannesgasse 28 in the 3rd district of Vienna. The building was designed by the US architecture office Holabird & Root in collaboration with the Austrian architects Carl Appel and Walter Jaksch.¹ The 90m long and 16.35m deep hotel was built by the US company Pan American World Airways. The building is situated right next to the Stadtpark, which borders on the historic city centre of Vienna. Originally, the building was planned to be 56m tall in order to reach a capacity of 500 guest rooms. However, due to protests by the public and the city, it was reduced to the height of 45m. So as to reach the originally planned capacity, the initially straight building design was changed to a T-shape. Additionally, the ceiling height of the guest rooms was lowered from 2.60m to 2.45m with the help of a special building permit from the city. The entrance hall, some small shops, a lounge, a bar, a restaurant and a night club were located on the ground floor of the building. A ballroom able to hold up to 1150 guests was placed on the first floor. The guest rooms came in a variation of three different floor plans and four different colour schemes. The seminar rooms and the presidential suite were located on the top floor. The hotel was opened on the 6th of March in 1964.²

Achleitner, Friedrich (1990): Österreichische Architektur im 20. Jahrhundert: Ein Führer in vier Bänden. Band III/I Wien: 1.-12.
 Bezirk. Salzburg, Wien: Residenz Verlag. 118-119.
 art:phalanx Kommunikationsagentur (Ed.): Tor zur Welt: Intercontinental Wien. Wien: Amalthea Signum Verlag. 75-78.







LINEAR CITIES BY RAIMUND ABRAHAM

Year 1966

Status Project

Material Acrylic Glass Concrete Tubes Aluminium Profiles

> Scale 1:2000

Model maker Iris Athenstaedt Amanda Soldo Raimund Abraham was born 1933 in Lienz, Tyrol. He studied architecture at the Technical University of Graz. Abraham founded his own architecture and design office in Vienna in 1959. He moved to the US in 1964, where he started to work as an assistant professor at the Rhode Island School of Design. In 1971 Raimund Abraham was appointed professor of architecture at the Irwin S. Chanin School of the Cooper Union in New York.¹ From 1963 to 1966, Raimund Abraham worked on the Linear Cities, a vision of the future metropolis that directly opposed the historical European city structure. Using drawings and collages, Abraham developed the Mega Bridges, which were a series of linear constructions that could extend infinitely linearly, while their lateral extension was limited.² Primarily constituted of cylindrical, spherical and tubular elements, the compact structure of the Mega Bridges could house an

entire city. The central tube, which operated the traffic and infrastructure of the city, was encased by three larger tubes. These larger tubes held the city's living, working and community facilities.³

The scale model was designed based on the collage *Mega Bridge IV* from 1965.

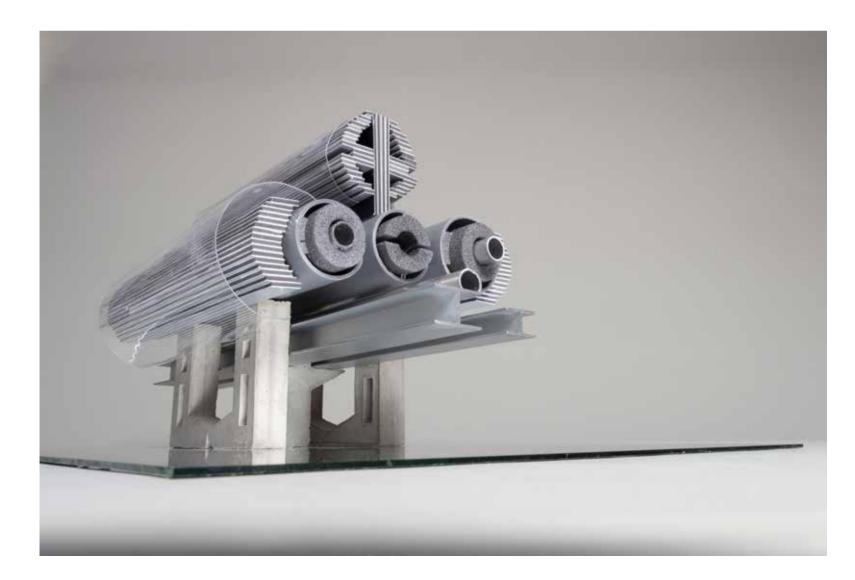
¹ Groihofer, Brigitte (Ed.) (1996): Raimund Abraham: (Un)built. Wien: Springer-Verlag. 309.

² Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 203

³ Groihofer, Brigitte (Ed.) (1996): Raimund Abraham: (Un)built. Wien: Springer-Verlag. 10-14.







KARL SCHWANZER

Year 1967

Status Demolished

> Material Wood

> > Scale *1:100*

Model maker Robert Anagnostopoulos In 1967, Karl Schwanzer designed a kindergarten for the world fair in Montreal. The building was a showroom for the kindergarten organisation run by the city of Vienna. The building was a collection of block-like structures, which were inspired by children's colourful building bricks. The oversized building blocks were intended to create a sense of comfort and familiarity reminiscent of childhood memories of playing with similar toys. In contrast to the colourful exterior, the inside was kept more stripped back and plain in order to give children the creative opportunity to develop the space on their own.¹ The building was an easily assembled prefabricated wooden structure. An exhibition room, as well as a large room for groups, was located in the centre of the building and connected to the garden so as to provide the possibility of playing both inside and outside. A cosy seating arrangement was in one corner of the building. The other side contained the kitchen, the cloak room, the lavatory and the bathrooms.²







VERTICAL CITY BY FRIEDRICH ST. FLORIAN

Year 1967

Status Project

Material Expanded Polystyrene

> Scale 1:2000

Model maker Armin Karner Armin Baumgartner Friedrich St. Florian was born in 1932 in Graz. He studied architecture at the Technical University of Graz and at the Columbia University. Friedrich St. Florian moved to the US in 1961. From 1963 onwards, he worked as a lecturer at the Rhode Island School of Design, and was appointed dean of Architectural Studies from 1978 to 1988. In 1974 Friedrich St. Florian established his own architecture practice in the US.¹ The Elements of the Vertical City was a visionary, urban proposal that Friedrich St. Florian worked on from 1965 to 1967. In several axonometric projections, Friedrich St. Florian envisioned a tower of three hundred stories that could house a whole city. The tower reached far above the clouds so as to grant more days of sunlight. The top part of the building was where the hospitals, schools and infrastructure for the elderly were to be located. The transportation, communication and energy systems were to be based in the centre of the building.² The axonometric projections by Friedrich St. Florian were used as a template for the expanded polystyrene scale model.







FLORASKIN BY GÜNTHER DOMENIG & EILFRIED HUTH

Year 1971

Status Project

Material Acrylic Glass Waste

> Scale 1:1000

Model maker Andreas Marlovits Florian Hofreither In 1971, Günther Domenig and Eilfried Huth were invited to take part in a competition for a hotel complex on the coastline of Morocco. The competition was held by the German Hermann R. Grub and the Maghreb Consulting GmbH. The main theme of the competition was: vacation is recovery and adventure. The seaside hotel was required to be able to offer 30.000 guests apartments, shared community areas, basic infrastructure and an airport.¹ On a total length of 30km, Domenig and Huth designed a building made of a main structure and a climatic shell. The main structure, which was to hold the apartments as well as the infrastructure, consisted of a system of prefabricated elements, such as beams and ties, that could be reworked into different combinations and placed into a variety of landscapes. The elements were expandable, replaceable and reducible. The outer shell was designed as an artificial landscape that took the form of hanging gardens that covered the main structure.²

¹ Zach, Juliane (Ed.) (1996): Eilfried Huth: Architekt. Varietät als Prinzip. Berlin: Gebrüder Mann Verlag. 50.
 ² Österreichisches Museum für angewandte Kunst (Ed.) (1991): Günther Domenig: Werkbuch. Salzburg, Wien: Residenz Verlag. 66







WIFI ST. PÖLTEN BY KARL SCHWANZER

Year 1972

Status Demolished

Material *Concrete*

Scale 1:25

Model maker Lung Peng Karl Schwanzer was born in 1918 in Vienna. He studied architecture at the Technical University of Vienna. From 1946 to 1950, Karl Schwanzer was the assistant of Oswald Haerdtl at the University of Applied Arts. He was appointed professor at the Technical University of Vienna in 1959.¹ In 1972, Karl Schwanzer designed the Wirtschaftsförderungsinstitut in St. Pölten, which was a training centre and a guest house for the trade union of Lower Austria. The training centre contained several workshops and their respective storage rooms, 16 lecture rooms, a large auditorium that could hold 470 guests, as well as some offices and service rooms.² The 54m tall guest house had a total of 240 single bed rooms and was demolished in 1999.³ The training centre is still in use today.

¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 420.

² Schwanzer, Karl (1973): Architektur aus Leidenschaft: 25 Jahre Arbeit Karl Schwanzer. Wien, München: Modulverlag. 106-107.
 ³ WIFI-Turm: Der gefällte Riese. https://www.noen.at/niederoesterreich/kultur-festivals/stadtmuseum-st-poelten-wifi-turm-der-gefaellte-riese-wifi-stadtmuseum-st-poelten-99283050. 14.8.2018.







TERRASSENHAUSSIEDLUNG BY WERKGRUPPE GRAZ

Year 1978

Status *Modified*

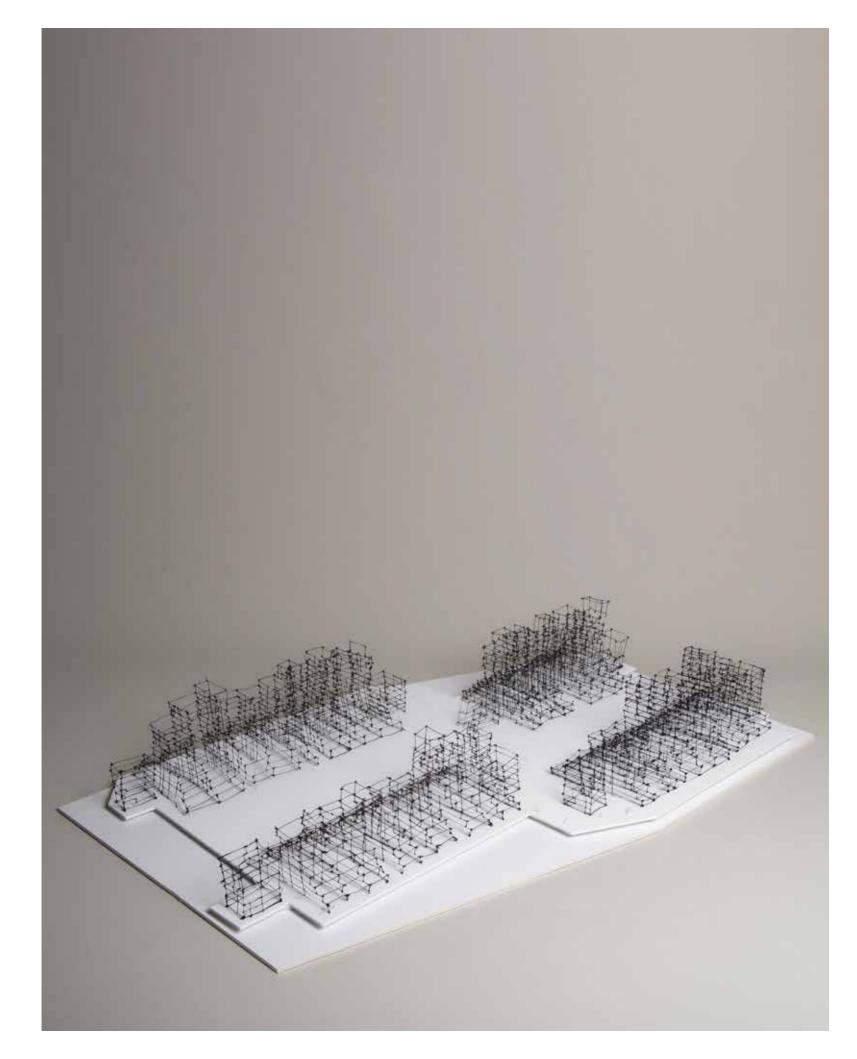
Material 3D Doodler Foamboard

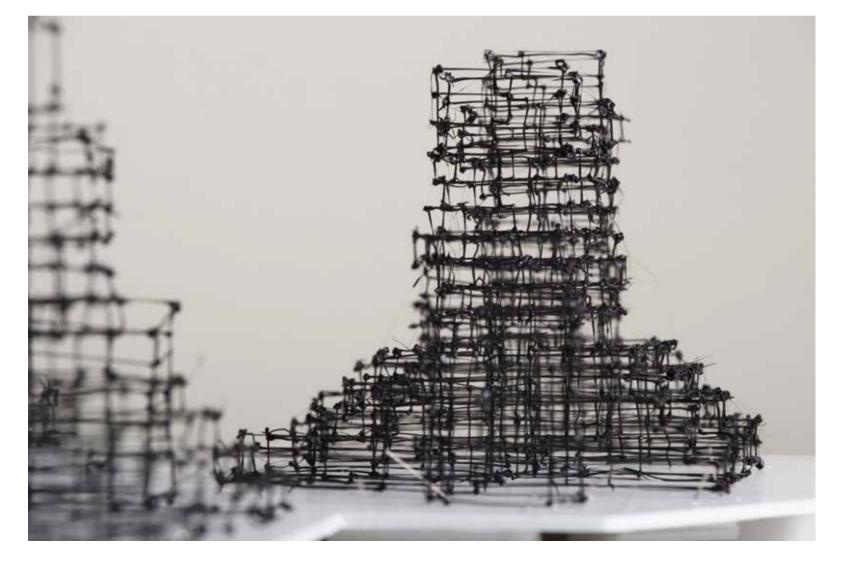
> Scale 1:500

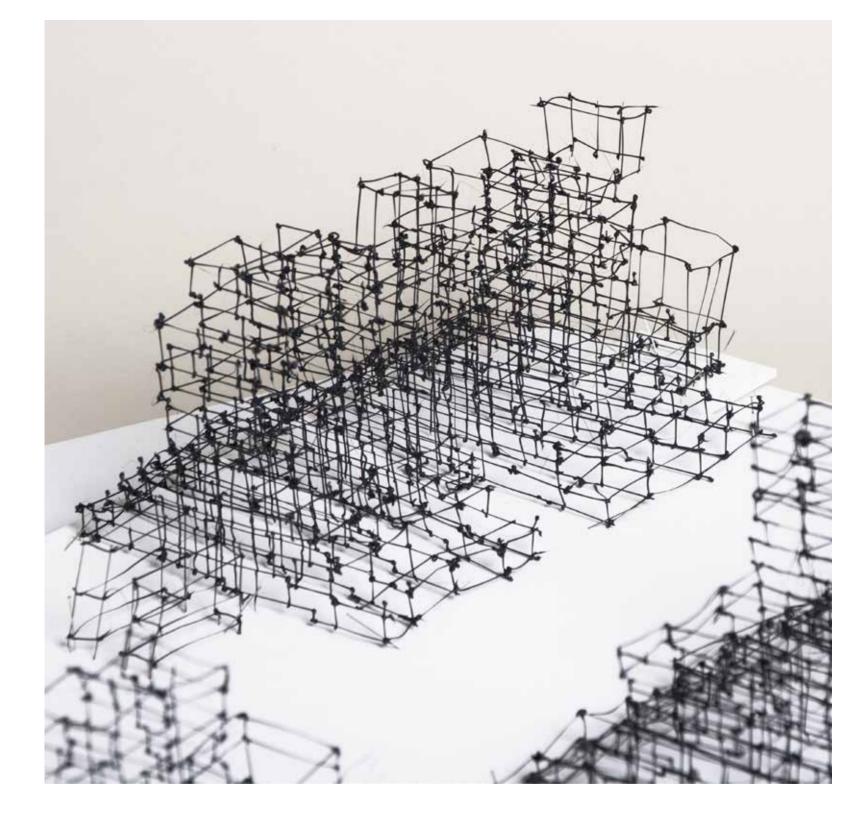
Model maker Barbara Gruber From 1965 to 1978, the Terrassenhaussiedlung in the Graz district of St. Peter was planned by the four partners that formed the architecture office Werkgruppe Graz: Eugen Gross, Friedrich Gross-Ransbach, Werner Hollomey and Hermann Pichler.¹

In the 19th century, the project's building site had been used as a mining area for clay and for the production of bricks. In the first half of the 20th century the mining of clay was stopped and the area was used as a waste deposit instead. Because of this, the site remained undeveloped and free of buildings up until the 1960s even though it is so close to the city centre. The first design proposals were made solely from the architect's own initiative, and later a developer was found who financed the entire project. The Terrassenhaussiedlung consists of four blocks, each facing both in the east and west direction, and each of a different height. The building complex as a whole contains 522 flats ranging from 42m² to 142m² in total size. A principle concept of the design was a collaborative, participative decision making process which involved the future owners. Therefore, most of the floor plans were designed with the help of the tenants.²

¹ Architekturzentrum Wien (Ed.) (2016): Architektur in Österreich im 20. und 21. Jahrhundert. Zürich: Park Books. 337.
 ² Guttmann, Eva; Kaiser, Gabriele; HDA Graz (Ed.) (2013): Werkgruppe Graz 1959-1989; Architecture at the Turn of Late Modernism Zürich: Park Books. 105-109.







BUNDESSCHULZENTRUM FELDBACH

Year 1980

Status *Modified*

Material Cardboard Glue

Scale *1:100*

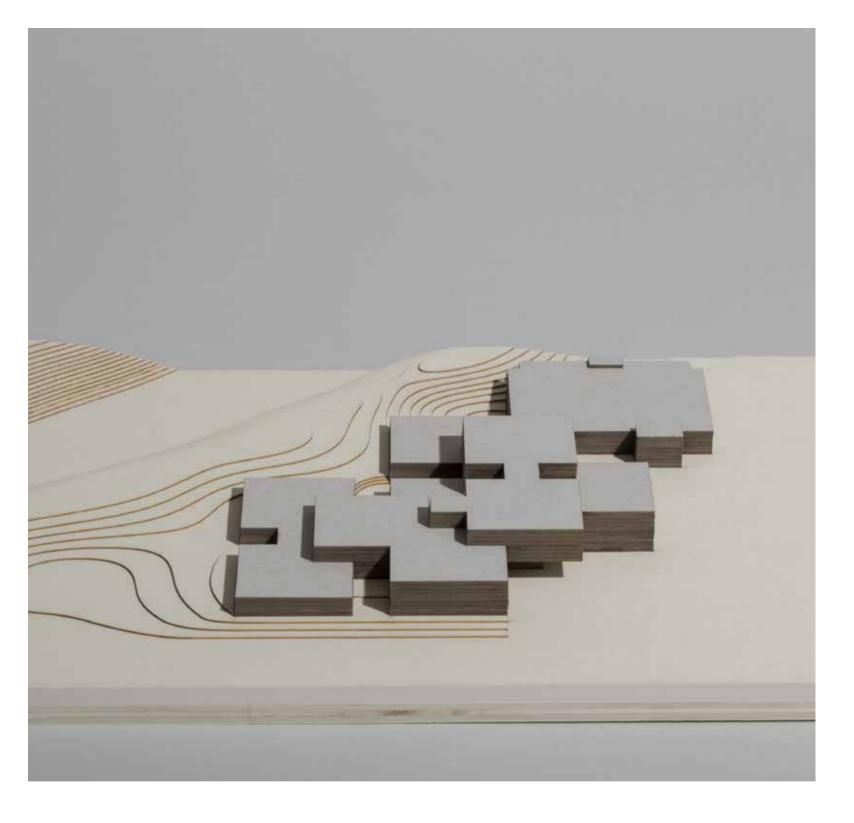
Model maker Robert Anagnostopoulos Team A Graz was founded in 1966 by the four partners Franz Cziharz, Dietrich Ecker, Herbert Missoni and Jörg Wallmüller.¹ In 1973 the office won the competition for a school building in Feldbach, Styria. The school was built as a frame construction made of reinforced concrete, and the construction took place from 1975 to 1980. The school contains 42 classrooms on a floor area of 12312m².² The building is situated on a triangular plot and can be entered from all sides. The whole complex is based on a system of cubic modules with a side length of 25m that can be individually combined if needed.³

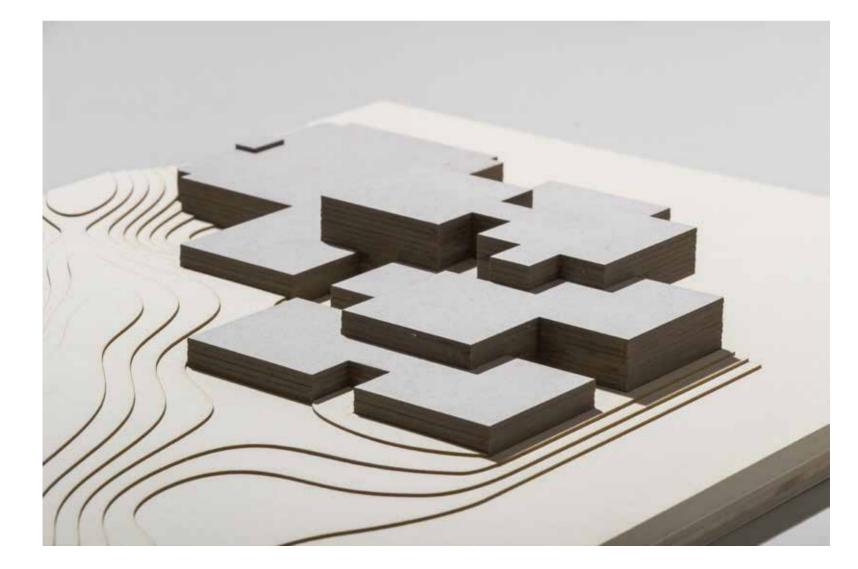
³ Achleitner, Friedrich (1983): Österreichische Architektur im 20. Jahrhundert: Band II Kärnten Steiermark Burgenland. Salzburg, Wien: Residenz Verlag. 179.

¹ Team A Graz: Werkbericht 1966 - 2010. Bergheim, Salzburg: Media Service. 5-6.

² Team A Graz: Werkbericht 1966 - 2010. Bergheim, Salzburg: Media Service. 17.







HAUS ZANKEL BY KONRAD FREY

Year 1985

Status *Modified*

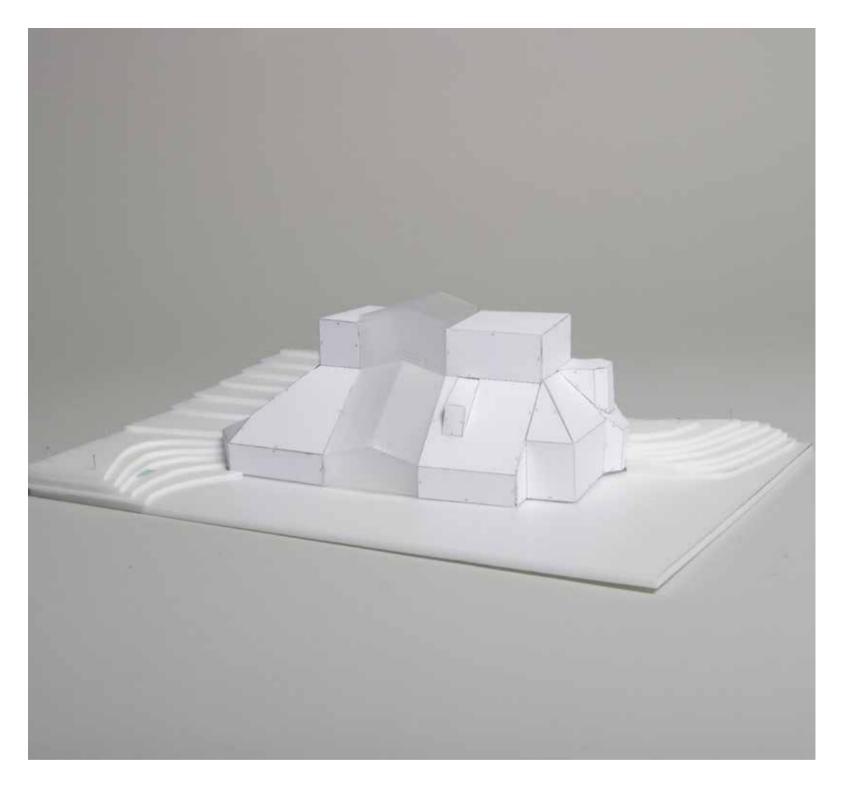
Material Paper Foamboard Glue

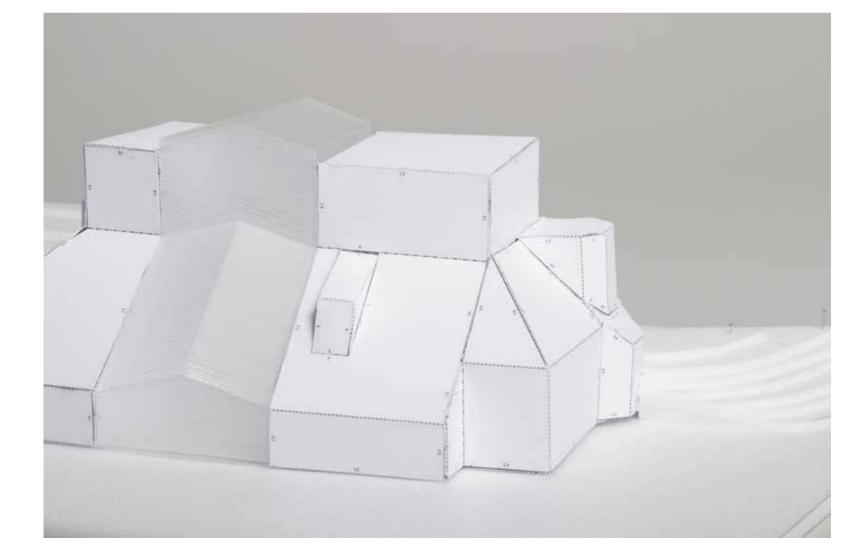
Scale 1:100

Model maker Irnes Faktic Konrad Frey was born in 1934 in Vienna. As well as studying architecture at the Technical University of Graz, Frey also studied chemistry in Graz and the US. While living in London, Frey worked for Arup Associates from 1968 to 1973. Frey founded his first architecture office with Florian Beigel in 1971. He returned to Graz in 1974 and later started his own architecture practice in 1985.¹

In 1976, Karl Zankel commissioned Frey to design a house near Geneva for his family. Due to its complexity and technical innovations, such as its solar heating, the house took nine years to design and build. The main facade of the house faces the south and the roof is sloped in order to collect more sunlight, similar to a greenhouse. The building is entered from the north, through a central, three storey high glass entrance hall. Rooms used by the family, such as the living room, the dining room and the kitchen, are located on the east side of the ground floor. The rooms for the guests are on the west side. The private rooms, such as the bedrooms, study rooms and bathrooms, are on the upper floors.²







PLABUTSCHTUNNEL LÜFTUNGSANLAGE BY EILFRIED HUTH

Year Eilfried Huth was born in 1930 in Pangalengan, Indonesia. He studied 1987 architecture at the Technical University of Graz. In 1957 Huth founded his own architecture practice in Graz. He ran a shared office with the Status architect Günther Domenig from 1963 to 1975. Huth was appointed Endangered professor at the Academy of Arts in Berlin in 1984.1 Material From 1983 to 1987, Huth, together with Herbert Altenbacher, designed Clay the service buildings of the Plabutschtunnel, a 10km long motorway tunnel in Styria. The service buildings were nicknamed the Green Scale Elephants and were made of exposed and sprayed concrete.² 1:100

Model maker Laura Feller







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ABOUT KOEN

The Institute of Construction and Design Principles (KOEN) was established in the winter semester of 2013 and is led by the architect Petra Petersson, head of the Berlin architectural practice Realarchitektur. Throughout the first year we introduce the many facets of Architecture through a number of construction-oriented as well as design subjects to our students. The integration of the two main courses Construction and Design within one department enables us to emphasize their tight interrelationship. The course focuses on the essentials, with the goal of teaching a basic understanding of architecture, three dimensional space, and the contextual connections in the built environment. We ask the primary questions "Why" and "How".

In addition, the students are given tools with which to further develop and communicate their ideas. These include sketches, technical drawing (by hand and computer), layouts, and model building, as well as verbal and written presentations. Model building in particular is suitable for the understanding of three dimensional space and is therefore an important part of the course. The regular use of working models, as well as presentation models, are an integral part of the design process. Together with the sketching, the model-building reflects one of our main concerns: understanding the making of architecture as a process.

Since 2016 the Institute is also in charge of the model-building workshop for the faculty. The workshop has been extended and renewed and is now able to provide 500m2 of workshop area with up to date equipment and specialised staff.

This project is part of a series of research projects by the institute, where the use of architectural models for three dimensional representation is examined. As opposed to 3D computer drawings, that throughout the years has moved towards a hyper realistic visualisation of space, the physical model is able to go beyond the space itself and convey concepts and ideas relating to the project. The Institute is researching how existing and planned Architectural space can be communicated to fellow architects as well as others through the use of models. By analysing existing architectural space and transforming it to working models, the ideas within the projects are explored and portrayed. The research then focuses on how the model as a tool can support the architectural process when creating new designs and concepts for 3 dimensional spaces.

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