

THE "IRON HOUSE" IN GRAZ

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Preliminary remarks

Events such as this ICOMOS colloquium generally have a long pre-history, and the first discussions at which the project begins to take shape were held in the majority of cases some years previously. At the ICOMOS congress in Warsaw, Professor Bornheim asked me whether I would be prepared and in a position to participate at the second colloquium on historic iron architecture with an appropriate paper. I agreed at that time, because shortly beforehand in Graz I had experienced the intensive arguments about the fate of the so-called Iron House, and I was of the opinion that I had a suitable example for our colloquium with this house.

I only learnt that our topic was to be restricted to the second half of the nineteenth century at a late date, too late at all events to find time to look for a suitable object from the correct period. The project for the Iron House in Graz was drawn up already prior to the 1848 revolution, and it is probably among the earliest examples of its kind in central Europe, as opposed to the rich inheritance of iron and steel structures of the late nineteenth century which are the concern of this colloquium.

Thus, although you are now to be presented with a sort of small "trump card" from the early nineteenth century, and although the Iron House in Graz is not a particularly spectacular document of the iron architecture of that period as far as its size and its richness of ornament are concerned, nevertheless it does appear interesting enough to me to be presented to you here. For, on the one hand, one could, with good reason, describe its builder as a protagonist of the iron architecture of the latter half of the nineteenth century, and on the other hand, from the history of the construction of the Iron House it is possible to see all the possibilities and chances for pioneering architectural deeds as also the limits which building practice placed on the will for architectural innovation. The Iron House in Graz is also a good demonstration object for the gradual changes which a building, regarded as being remarkable, can undergo and also for the role which respect for tradition can play in such a case; in short, a typical example for the problems in design, construction and preservation with "iron" buildings.

The background

Before we turn to the building itself and the conflict between the construction will and construction reality, I should first like to give a brief sketch of the historical and local setting in which our object was constructed.

Styria has been an iron-producing country for centuries. Although the tourist advertisements describe it, quite justifiably, as Austria's green heart, in the narrow valleys and gorges between the green mountain ranges you will find foundries and steel mills, hammer mills, wire-drawing mills and chain factories - the heirs, so to speak, of the numerous water-driven mills and forges along the rivers Mur, Mürz and Enns, and their tributaries. About 40 km to the north of Graz is the town of Eisenerz (lit. 'Iron Ore') with its famous Erzberg - Ore Mountain.

To digress for one moment, in Vordernberg, near Leoben, whose erst-while flourishing steel industry shut down at the turn of the century, it is possible to visit one of the most interesting industrial

monuments in our region, namely a foundry from the eighteenth century - one of those water driven works mentioned above - that has been preserved so faithfully that it is just as though the guildsmen and miner had only stopped working yesterday.

One might imagine that in the state capital of Styria iron and steel would have become commonplace construction materials at an early date. However, that was only the case in a very small area. Iron came into general use for courtyard galleries, balconies and staircase rails - admittedly with an enormous variety of forms.

The courtyard galleries and balconies of the nineteenth century with their iron consoles and fitted stone blocks are, by the way, a typical example of the problems involved in the preservation of monuments due to the ever more stringent requirements of the surveying authorities. The historical courtyard galleries are of a wonderful constructive elegance, but they are only protected in their original condition so long as no major repairs are necessary, because the bearing structure in iron and steel does not fulfil the requirements laid down today that it should be capable of bearing 500 kg per sqm and, in general, it may not be retained if a "construction case" should occur.

However widely spread iron may have already been as the material for individual structural elements at the middle of the nineteenth century, "iron construction" as an alternative in principle to masonry or wood construction had by no means become established in the consciousness of interested specialist circles or of the general public.

The idea that the industrialist and master builder Johann Benedikt Withalm had of erecting a house with a cast-iron supporting system at a prominent site in the centre of Graz at all events caused an enormous sensation in the capital of the iron-producing country of Styria. After the completion of the building, both the owner and the lessee tried in vain to make the name "Blumenburg" - "Flower Castle" - popular. But, for the people of Graz it was "Das Eiserne Haus" - "The Iron House" - and so it has remained right down to the present day. It was to remain a solitary example in the city, with neither predecessors nor successors.

Fortunately enough, for my account I was able to draw upon good records as far as the external circumstances of the planning, construction and reconstruction process are concerned. The facts about the history of the construction of the Iron House were collected by Friedrich Bouvier in an article for the Historisches Jahrbuch der Stadt Graz. However, there has as yet been no research into the background of the slight importance of iron architecture in Graz, so that I am, unfortunately, only able to offer you a certain amount of speculation on the basis of limited knowledge.

Until the First World War, Graz was the "Pensionopolis" of the Habsburg monarchy. Civil servants, military leaders and businessmen were particularly fond of settling in Graz to spend their well-earned retirement there. In contrast to the provincial capital's central role in commerce, administration and culture, industry only played a subordinate role. The entrepreneurial element was, it is true, present, but not dominant, something which has, by the way, not changed right down to the present day.

The structural environment in Graz was particularly characterised by Renaissance and Baroque architecture, a feature of the city's overall appearance which has also survived until the present. Although Joseph II's reforms cut deep into the flesh of tradition, at least they left the architectural scene in Graz almost untouched. The artistic movements around the middle of the last century and the Vienna Secession also had hardly any influence in Graz. A very characteristic

example of the cautious and tradition-bound basic approach by the people of Graz to building matters is the commission awarded by the city to the Viennese architects Helmer and Fellner in 1898 in which it was expressly stipulated that the opera house was to be constructed in accordance with Fischer von Erlach's design forms. In Graz it would seem that as far as architecture was concerned, Schopenhauer was the guiding spirit with his remark that there was nothing left for the architect but to apply the art inherited from the ancients, because in that art, as also in sculpture, the striving towards an ideal is linked to copying the ancient.

The Project

However, let us now return to the Iron House. The bridgehead square then known as Murvorstadtplatz, now the Südtirolerplatz, which Konrad Kreuzer shows in the rebuilding stage in his tempera painting from 1847, had been an important and busy bridgehead from the earliest history of the city of Graz and had become even more important with the construction of the chain suspension bridge in 1845 as a central point outside the old city proper. A young Graz architect by the name of Johann Benedikt Withalm, who had already made a name for himself a few years before with his unorthodoxly designed, so-called "Withalm's Coliseum", immediately recognised the interesting potentials from the city planning point of view with this square at the point of intersection of the most important bridge crossing and the newly constructed embankment road. In the period prior to the 1848 revolution this new roadway along the embankment of the Mur did not fulfil any particular role, and it only really made an enormous advance in the second half of the nineteenth century. Withalm apparently foresaw that this would happen. At all events, he extended a narrow piece of land which he already owned at Murvorstadtplatz by the purchase of further plots which had been left over after the completion of regulation works along the river and the construction of the bridgehead, and planned a noble coffee house at this spot. Withalm had acquainted himself with the new construction material iron and with the new construction methods which he had got to know on journeys to Italy and Germany. If you examine his design from 1846, parallels become apparent with Schinkel's design for a department store from 1827, and, in particular, with those of Jüngling's coffee house in Vienna that had been built in 1838. It is also possible that Withalm also knew the widely acclaimed lecture by Karl Bötticher, a teacher at the Berlin Academy of Building, dealing with the influence of iron on architecture. Bötticher was of the opinion that iron would form the basis for a new method of construction in the coming period, and, from the statical aspect, it would put this new method of construction on a plane so far above the ancient and Gothic ones as the vaulted ceiling system of the Middle Ages had done compared with the monolithic stone beam system of the ancient world. It was something, by the way, which did not prevent his recommending architects that in view of the threat of a "gigantic vacuum" they should keep to tradition.

In 1932, Wolfgang Herrmann wrote, in my opinion completely correctly, that it was only possible to do justice to the architects of the nineteenth century if the simultaneousness of both these tendencies is included. The essentially anxious clutching to outmoded forms in the immediate vicinity of a firm desire for something new and one's own.

In Withalm's case, the firm desire for something new and of his own was apparently particularly pronounced. His first project was surely

the attempt to design a modern building without concessions to local traditions or doubts. His iron house was intended to radiate the spirit of a new age. Admittedly, before it was finally executed, Withalm's plans were revised on several occasions, and in the course of this they lost much of the reckless verve of the original design, without, however, completely sacrificing the basic idea. The plans of the construction architect, Andreas Stadler, from November 18th 1848 show the compromise which Withalm had to agree to. The ground floor and the mezzanine floor above it were constructed in brick. Only the coffee house storey was given the cast-iron skeleton which it had originally intended the whole house should have. A balcony running around the facade emphasised the joint between the masonry of the lower floors and the delicate, pavilion-like iron structure of the upper storey with its flat roof terrace. The highest point of the structure was a garret-like small structure, also with a flat roof.

A view painted by the Graz artist Johann Vincenz Reim from August 20th 1848 shows the Iron House as a two-storey, cast-iron skeleton structure, which gave rise to the wrong impression that the Iron House had originally looked as Reim had portrayed it and that it had only been rebuilt at a later date. The date of the illustration proves, however, that Reim did not keep to the project which was almost complete at that time, but instead used the original plan as drawn by Withalm, which had not been used, as his basis. In the centre of the building, a spiral staircase rose leading up from the cellar to the roof terrace. The whole upper storey served as a coffee house. It was only divided up into rooms of differing sizes by thin partitions, and through the transparent glass-cast-iron construction there was a clear view of the Murvorstadtplatz, the city centre and the castle mount. In fine weather it was possible to serve coffee on the roof terrace as well. The novelty of the new building must have exercised a great fascination on the population, at all events, the Café Meran in the Iron House became one of the most popular Graz coffee houses.

Construction Problems

The constructive boldness in the design of the roof which Withalm had employed, in contrast to his caution in the ground floor area, soon proved his undoing. The top covering of the house was the asphalted terrace, instead of the metal sheet roof originally planned. As a result of weathering, cracks appeared in the asphalt surface, through which water poured continuously in rainy weather, so that during a storm at Whitsun 1850 the ceiling collapsed. A later chronicler wrote that it must be regarded as a real miracle that nobody was hurt as a result of this. To quote from the newspaper article concerned: "... the then lessee of the coffee house would seem to have had an enviable degree of composure. For, right in the middle of the catastrophe, he managed to write a comprehensive report about it for the city authorities, beginning with the words 'For the past half hour, the ceiling of the terrace of the Iron Coffee House, of which I am at present the lessee, is beginning to collapse, and in such a way that the staircase is now covered with stones, lumps of cast iron and bits of wood'".

The result of this mishap were designs for a roof for the house with a classical roof frame. In 1851 a project was first discussed in which only the large terrace was to be roofed over, as the small terrace on the garret storey would be left in its original form. In 1852 then came a plan for the complete roofing over of the building, including the garret. Withalm was so despondent about the loss of the

roof terrace that he sold the house in 1852. In the mid-eighteen-fifties some minor alterations were made inside, after that the house remained unaltered until the turn of the century.

Reconstruction and Alterations

A new era began in 1906 when the Lechner brothers took over the house in order to convert it into a department store. The Kaufhaus Brüder Lechner, which still retains its name even today, although it now belongs to a different company, was obviously a very dynamic institution, because already by 1910 considerable reconstruction and extension work had to be carried out in the Iron House. The Lechner brothers bought the adjoining house to the north, Lendkai 3, and set about to adapt its character to that of the Iron House by a change in the façade. According to the minutes of the negotiations of August 5th 1910, this adaptation was to be attained by the following means:

- o Putting the eaves all at one height,
- o The same cornice finish in profiled cast iron,
- o Enlargement of the window openings in the second storey and adaptation to those in the Iron House.

The façade plan by the architect Flohr, which was as required by the minutes of the negotiations, was not then carried out. All that was done was to raise the eaves to one height, whereas the enlargement of the windows was not carried out. In keeping with the spirit of the time, the façade on the wing along Lendkai was given a palace-like character, something which was further emphasised by a balcony above the entrance to the building.

In the years leading up to the First World War, the Lechner brothers' company purchased further neighbouring buildings and, in the end, also the Iron House itself which they had originally only leased from the owners for twenty years. The alterations which were carried out between 1910 and 1914 are a good example for the willingness on the part of wealthy owners to provide room for aspects of modification and adaptation, and they show the skill which the architects and builders of that period had in dealing with existing buildings. On the ground floor, a delicately framed wooden shop-window frontage, matching the elegant cast-iron façade of the upper storey, was constructed in front of the solid walls. If you bear in mind the fact that the form of the house attained after the changes just described remained unchanged for several decades, then it is hardly surprising what position the Iron House obtained in the consciousness of the people of Graz.

It seems as though the reconstruction works, which were completed in 1916, had, so to speak, given the Lechner brothers' company the taste for expansion and rebuilding. At all events, the new owners planned a three-storey department store with a glass-roofed hall extending up through all three storeys, as was then common in store design and incorporating several neighbouring buildings, including, among others, the Baroque Thinnfeld mansion, which was due to make way for a new river regulation line. The façade of the large new section of the building facing onto the Lendkai is once again an interesting example of the attempts made by earlier generations of architects to adapt their new substance to historically formed surroundings or existing structures. The plans of the Graz architect Johann Paltl were 'commissioned' - to use the Austrian term for construction negotiations - on November 3rd 1916, and presented to the city's art advisory committee on December 1st. Whether the art advisory committee rejected the project on account of the concomitant demolition of the Thinnfeld mansion, or whether the First World War put an end to the project, cannot be established. At all events, for the next fifteen years the

Iron House was left in peace. The only structural alteration was the construction of a passenger lift. In 1931, the Kastner & Öhler company took over the store, but have continued to run it under the old name of Lechner Brothers right down to the present. The new owners had all the bearing interior walls removed and replaced by reinforced concrete pillars so as to also include the space at the rear in the sales area. Admittedly, as a result of the continuous reconstruction and extension works, in the end only the outer shell was left of the original building substance. But even this last remnant of the old Iron House was to be removed at the beginning of the nineteen-thirties. Work began on the western façade, and it was reconstructed to the plans of the architect Bruno Fiedler in such a way that nothing remained of the cast-iron architecture in this section. Because of the economic difficulties in the thirties, no alterations were made to the remaining façades, but although a complete rearrangement did not come about - among other things because the building was classified as a historical monument at a fairly early date - through the large number of 'small improvement works', the façade gradually changed its appearance. Conceived originally as a transparent and delicate glass and iron construction, with this aspect even further heightened by the reconstruction carried out before the First World War, with the structural alterations of the inter-war and post-war years the building gradually instead became an impenetrable and repelling structure.

The lack of understanding for the qualities of this unique structure is shown by the extension project the Kastner & Öhler company had for their Lechner brothers' branch in the early nineteen-seventies, which admittedly had just as little success as the Paltl project from 1916. In order to achieve their aim of as "generous" an extension solution as possible, the Kastner & Öhler company had demolished a handsome old burghesses' house in the Mariahilferstraße without permission and had justified this "dead-of-night action" by saying that the building had been dangerous. However, this only incensed the authorities and public opinion against them, and their action had the indirect result of a spectacular change in Graz building policy.

The "Lechner Brothers" extension project and the demolition without permission of the house in the Mariahilferstrasse, together with some other ruthless projects and measures, gave the impulse for a giant 'Save Graz Old Town' collection of signatures, which finally resulted in the passing of legislation for preserving Graz Old Town in 1974. It remains to be hoped that this old town preservation law will also provide a chance for survival, and may be for restoration for what still remains of the Iron House and which is still greatly treasured by all historically interested parties, despite its 'remnant character'.

Concluding Remarks

In conclusion, I should like once again to deal with the question of why in the capital of the iron-producing province of Styria there is only one example for a building developed with some degree of consequence from the new construction possibilities of iron. In reply I should like once again to refer to Wolfgang Hermann's Deutsche Baukunst des 19. und 20. Jahrhunderts (German Architecture of the Nineteenth and Twentieth Centuries). I quote: "Thus if the architect's interest for the engineer's work was so great, what is the reason for the fact that these iron constructions initially had no influence at all on architecture? The period down until the end of the nineteenth century can claim an excuse which our architects can no longer use: Technology itself was still in its infancy. The Bessemer technique which first enabled the mass production of steel was patented in 1856, could thus only begin to have an effect in the eighteen-sixties at the

earliest. The system of testing material and following that the standardisation only came into being in the eighteen-seventies. Even for the construction of the Frankfurt opera house, which took place about 1880, an iron roof frame was rejected as being too expensive. Thus up until the eighteen-seventies, architecture had no other choice than to build in stone and all attempts at using iron construction were, essentially, more or less just tampering".

If one reads this and bears in mind that the majority of cast-iron structures were only constructed long after the Iron House in Graz, that the relevant publications, such as the famous paper by James Bogardus on "Cast Iron Buildings: Their Construction and Advantages" did not appear until the eighteen-fifties, then the magnificent achievement which Johann Benedikt Withalm's Iron House represents becomes clear. On the other hand, however, the building's very slight practical resonance also becomes clear. Even today, our society still tends to treat concepts which do not lead to immediate success by completely rejecting them, instead of learning from the mistakes and carefully continuing with the development of what has been begun.

THE KURHAUS THEATRE FROM 1886 IN AUGSBURG-GÖGGINGEN

Vincent Mayr

The first impression one gains from a modern picture of the Kurhaus Theatre in Göggingen is of little more than a draped building scaffolding, surrounded by trees - probably a building site. However, a building is hidden behind that scaffolding which had already gained mention in Meyers Konversationslexikon four years after its construction. One can read there: "Göggingen, small town in the Bavarian administrative region of Swabia, Augsburg local district, at the point where the Sinkel flows into the Wertach, has a fine theatre building, an orthopaedic centre ..." (1)

The Leipziger Illustrierte paid tribute to the Kurhaus Theatre already in the year of its construction. There we read, among other things: "The auditorium accomodates about 800 people and is at the same time designed as a palm garden. Built completely of stone, glass and iron, the building is 22 m wide, 26 m long and 16 m high. There is a sunken area on the ground floor of the palm garden for the theatre stalls, surrounded on three sides by a flower bed with exotic plants. The stalls boxes, which are also decorated with palms, are on a higher level around this flower bed. The dress circle is reached from the stalls up two staircases. It is divided up into individual boxes by flower stands. The iron pillars passing through the balustrades bear the stone vaulted ceiling which rises in lunettes up towards the cupola crowning the whole. These lunettes or vaulting are closed off by large round-arch windows at the pillars. Going out from the foot of these arched windows are sky lights, which at the same time form the ceiling of the dress circle, with coloured glazing, which together with the outside windows, also glazed with stained glass, give the whole structure a unique appearance". (2)

So much for the contemporary report. It should be added that the technical equipment was the most modern of the day. It included hydraulically driven stage machinery, electric lighting and a central hot-water heating system. Before going into further details, I should like to briefly present the most important details about the original owner and builder and the architect. Friedrich, Ritter von Hessing (1838-1918) had such a great success as a trained cabinet-maker and organ-builder with the construction of orthopaedic apparatus, that he founded an orthopaedic sanatorium which was also supported by the later Imperial Chancellor, Chlodwig, Prince of Hohenlohe-Schillingsfürst, among others.

Apart from in Göggingen, Hessing also built sanatoria in Reichenhall and in Rothenburg ob der Tauber (with the name Wildbad) which all, apart from having carefully conceived functional efficiency and being impeccably constructed, placed the quality of "magnificence" at the service of the matter at issue - cure and recreation in the company of people of like convictions. (3)

Hessing's architect in Göggingen was Jean Keller (1844-1921) who had moved from Darmstadt to Augsburg in 1867 where he was granted the right to open a technical office in 1872. In Augsburg, Jean Keller built, among other things, the main building for the district exhibition in 1886 and, in 1894, the extension to the concert hall; he also drew up projects for a Bismarck Hall. (4)

The Kurhaus Theatre was opened on the 8th May 1887. It was one of the first multipurpose buildings of the day. Theatrical performances, lectures and concerts were given here. At the same time, the building served as a pump room and ballroom for the spa establishment of the time. As the building stands completely on its own, the furnishings