Master Plans and Deviations. Mies van der Rohe's involvement in urban development at *Verseidag* Krefeld and IIT Chicago

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In the few written sources about Mies van der Rohe's Krefeld silk factory, *Verseidag* (1930–1938), the urban layout and building design have been repeatedly compared with his Campus master plan for the Illinois Institute of Technology in Chicago (IIT) (1939–41). New research based on rediscovered plan material from Krefeld allow for a detailed description of the historic development of the *Verseidag* plant, including the identification of master plans, later deviations and their abandonment. With this knowledge, a substantial comparison of the two projects may be established that shows surprisingly strong parallels both in their urban form and their later transformations.

In the literature about Mies van der Rohe and his built work, the *Vereinigte Seidenwebereien AG (Verseidag)* silk factory in Krefeld has only been mentioned marginally. If so, the area was described as "unremarkable, strictly functionalist"[1], and "not especially relevant"[2]. However, Alison and Peter Smithson claimed as early as 1968, that a typically Miesian "open-space-structured urban pattern" first became real in the *Verseidag* factory, "in which are displayed all the formal characteristics — in the buildings, in the layout, and in the planning (weeping willows, smooth lawns) — that we are so familiar with from the Illinois Institute of Technology in Chicago (IIT) campus. In some way it was all already there at Krefeld"[3]. From this moment on, the *Verseidag* silk factory was regarded an inspiration for the urban masterplan of the IIT campus, that Mies van der Rohe designed shortly after his emigration to the US[4]. This intriguing theory is based on the overall final shape of the two ensembles as green urban areas with freely arranged low pavilions. The theory's attraction is derived from the rare possibility of bridging the gap between Mies van der Rohe's European and American work, due to the few buildings that he realized between 1931 and 1941. However, a real comparison of the two schemes can only be successfully proven or rejected when looking at the two projects in detail[5]. New plan material from Krefeld allows for a precise reconstruction of the urban development of the *Verseidag* silk factory and unveils surprising parallels with Mies van der Rohe's first design for the IIT campus of 1939.

In the following, the historic urban development of the industrial plant on *Girmesgath* will be displayed, based on an analysis of the site plans from 1925–39, preserved in the company's archives today. The dialogic process between strategic development of the company management and the building planning and realization with Mies van der Rohe's participation will be investigated and, finally, the interplay between this last European project and the first American project of the Campus master plan for the IIT.

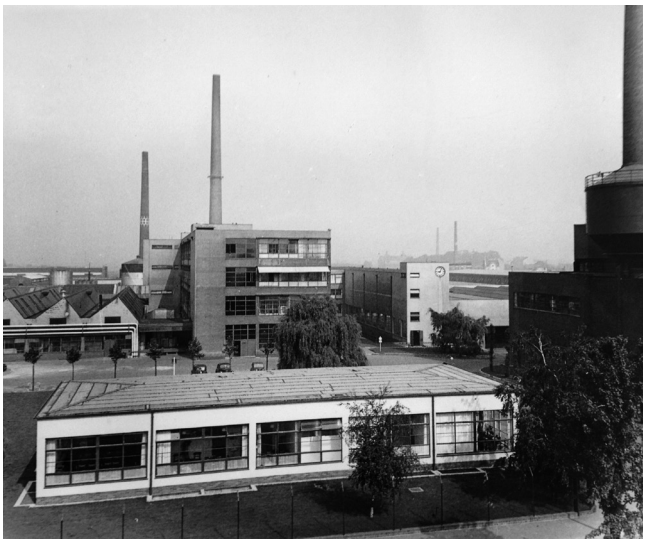
The Urban Development of the *Verseidag* plant in Krefeld

Verseidag was founded in 1920 by four cloth manufacturers from the area around Krefeld in Germany's Lower Rhineland. Together with Hermann Lange and Josef Esters, who had already joined forces with Carl Kniffler Jr. in a loose association, the founding fathers of *Verseidag* also included the brothers Paul and Rudolf Oetker. These founding members were directors of textile companies, some of whose traditions in the lower Rhineland industry went back into the early 19th century. By joining these silk factories based around Krefeld, the partners hoped to reach a better market position against national and international competitors in times of serious economic troubles. After the founding in 1920, a property on 52 *Gartenstrasse*, built by *Deuss & Oetker* before WWI became the administration building for the new company[6]. In the following decade, several other companies joined *Verseidag*, and broadened not only the product scope, but also increased the capacity. Furthermore, they brought new facilities in Thuringia and Saxony into the business. In the following years until 1925, *Verseidag* grew to become the world's largest producer of cravat and silk cloth. The individual producers remained at their traditional bases after their association in 1920. Only the management found a new and representative domicile in Krefeld. Another five years later, *Verseidag* decided to develop their own supply service on *Girmesgath* in Krefeld.

The reason why the plot of land on *Girmesgath* was chosen is unknown. Most likely, the principal motives for choosing this site were the fortunate infrastructural connections

with a direct link to the industrial railway and an area open for development, but with some established smaller clothing industries. In a first site plan from 24 November 1925[7], the acquisitions of *Verseidag* are recognizable as a small area of land disconnected from the railway line. The plot is adjacent to a projected extension of *Industriestrasse*, which was to become a connection between *Girmesgath* and the parallel *Weyerhoffstrasse*. The largest properties on the site belonged to the *Jobs. Girmes & Co. AG* cloth mill from Oedt, including a factory building still existing today and a direct connection to the railway. The plan to acquire this factory must have been a decisive criterion for choosing this area for *Verseidag*'s own plant. In a first application for construction of an extension of the *Girmes* factory as early as 30 January 1926[8], *Verseidag's* possessions include the majority of land between *Girmesgath* and *Weyerhoffstrasse*, now directly connected to the railway. In the same year, the company acquires the adjacent undeveloped land southwards along *Girmesgath*, which was to become the starting point for a later factory development master plan and a basis for the buildings designed and planned by Mies van der Rohe in the 1930s[9].

The planning department of *Verseidag* immediately started drawing development plans for sites and factories once they had been acquired. In this way, the former plant of *Jobs. Girmes* grew step by step in several phases of construction tiered along the railway line and formally heterogeneous. Until today, this area is limited by a ramp to the east of this finishing plant. This reactive and uncontrolled growth was following production requirements only, but no urban master plan. A first attempt to bring order was the planning departments scheme for the area between this factory, the railway, *Industriestrasse* and *Girmesgath*[10]. Following this plan, a first power transformer house was built at *Girmesgath* in 1929[11], which was turned into the first gatehouse after slight alterations later on. To the direct south of this, the first power plant with a boiler hall and a turbine house was erected in 1930[12]. The plan includes a sketch for the location of intended extensions of the power plant. Logically, the coal supply facilities were located between the power plant and the railway line, including a factory-owned connecting track. With these buildings, the initial area of *Verseidag* between the railway line and *Industriestrasse* was occupied entirely, and required a conceptual plan for the large area along *Girmesgath*, acquired in 1926.



01 Mies van der Rohe and *Verseidag* planning department, *Verseidag* silk factory, Krefeld, Germany, 1930–1938. © Krefeld City Archives, around 1955.

Three site plans on tracing paper, preserved in the *Verseidag* archives, show the planning of streets and buildings of a dyeing plant on this area. The planning covers a stretch of land reaching further along *Girmesgath* until the back of a housing area at *Prinz-Friedrich-Karl-Strasse* and became the basis for the buildings realized after 1930. Northwards, the site was limited by the planned, but only partly realized *Heimendahlstrasse*, and covered about 3 hectares of land in the end, including the old *Girmes* factory, the site of the power and gatehouses and the open land along *Girmesgath* to be developed in the following years.

The earliest of the three plans dates 30 July 1930[13] and was used by Mies van der Rohe for his design of a first construction phase. This phase included the HE-building, the adjacent 4 bays of shed roof halls for a dyeing plant and a water tank in the fifth bay and is well preserved today[14]. Furthermore, the plan shows an overall planning for all buildings to be erected after 1930, in the shape of a mirror image plant of low dyeing plant halls and four tall buildings with an inner courtyard in their center. By slightly extending the four tall buildings by about 7 meters in front of the dyeing plant facades towards the middle axis, the central courtyard received two spatially tightened entries towards the power plant in the north and a schematically drawn H-shaped building in the south. The latter proved to be a first sketch of a projected administration building for *Verseidag*, extending over the planned *Brockerhoffstrasse*[15].

The only existing technical building drawn in thick lines on this development area is a pump station. This small edifice was connected to a row of filter wells along the property border at *Girmesgath* and in rows deep into the depth of the site[16]. With this installation of a free-flowing and rich water supply for the high water demands of the dyeing plant and the parallel enlargement of the power plant, the *Girmesgath* site gradually grew to being a nearly self-sustaining production site for *Verseidag*. The preserved letters of the planning department show the importance of these wells in connection to the high demand for clean water and an increasing complexity in their technical system[17]. In several construction phases, the pump house was extended and redesigned and resulted in the building shape preserved today after a last makeover by architect Erich Holthoff dated in June 1948.

The completion of the first construction phase of the HE-building with two stories and the first four bays of the dyeing plant was accomplished in 1931, and the company started production. During construction, a voluminous water tank was added in the fifth bay of the dyeing plants, plus a low connecting hallway joining the new factory with the *Girmes* buildings, labeled "Old dyeing plant" in the plans,

where the finishing department was housed. The hallway was not planned from the start, but followed technical conditions in the production process. Surprisingly, the hallway was drawn later and in a schematic and imprecise way onto early site plans that were handed in with the building applications of the first phase[18]. Probably, the reason for this hesitation was the fact that the construction of the hallway implied a closing of *Industriestrasse* as a connection between *Girmesgath* and *Weyerhoffstrasse*.

The last of the three site plans shows the status quo of *Verseidag* on 20 March 1933 with the existing buildings shown in heavy outline[19]: The former *Girmes* factory and a connecting hallway, the power plant in its first shape, the HE-building with the adjacent dyeing plant and water tank, a small garage building opposite the HE-building and the pump house in its first state. All of the elements existing at this point are according to the master plan of 1930. The garage opposite the HE-building occupies exactly the place for a mirrored twin of the HE-building and was suitable to demonstrate and assess the width of the tightened courtyard entry that was to be created. The garage must be considered as an explicitly temporary structure like many other buildings on site. It was included in a building permit application of 10 October 1930 and torn down in the context of later development on site in the mid-1930s.

In the course of the year 1933, the dyeing plant was extended during operation in two construction phases by four extra bays of shed halls and a second water tank, and finally by three more to reach final shape of 11 bays. On an urbanistic level, this still followed the intended shape of the urban master plan of 1930. The addition of two more floors to the HE-building in 1935 was likewise executed according to the homogenous idea of extension in shape and execution.

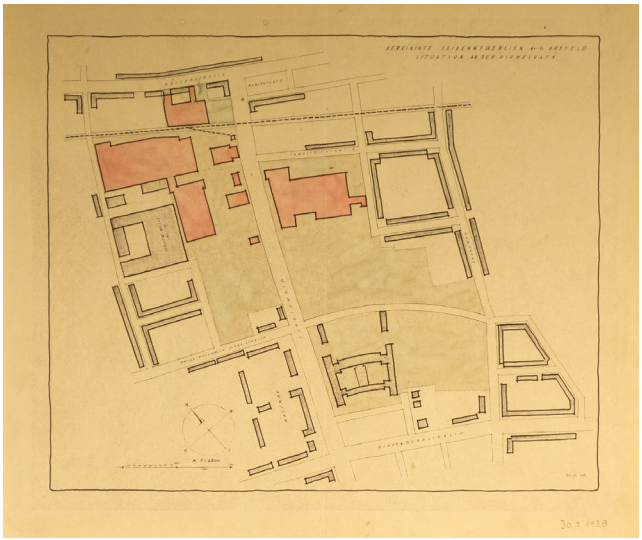
On the other hand, some structures on site were built not in accordance with the master plan, but as a result of uncontrolled growth and only reacting to planning pressure and the continuous necessity to create space for the growing production. In this manner, a hall was built west of the dyeing plant over the planned *Heimendahlstrasse* in order to install drying cabins for the cloth, as the building application of 12 July 1932 documents[20].

Development of an Office Building, Goods Inspection Department and a Clock Tower

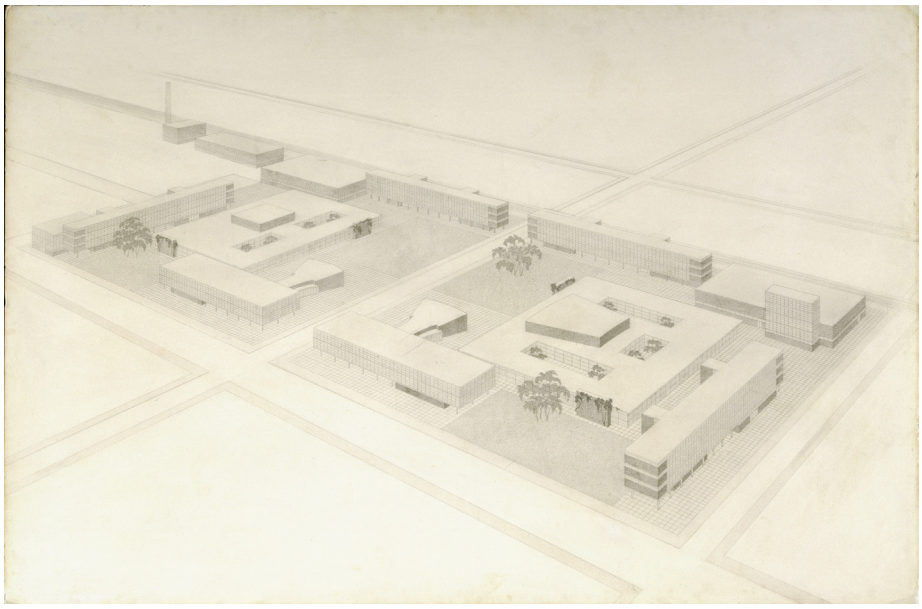
The first fundamental break with the master plan of the area, and specifically with the design of Mies van der Rohe, came with a building application of 24 August 1933. The low connecting hallway was to be replaced by a two-storey office building with a cellar, along with the plan for a new connecting hallway behind the new edifice. Several complex steps of planning and application between October 1933 and April 1934[21] finally led to a built solution of an L-shaped building with three stories replacing the old connecting hallway and covering the south façade of the old *Girmes* factory just opposite the north side of HE-building. In this longer flank of the L, the goods inspection department was placed, while the shorter flank contained offices. Together with the HE-building, the new structures created a courtyard surrounded by formally similar multi-storied buildings. At this time, the goods inspection department consisted of a basement, lit by windows and a broad embankment facing the HE-building, a ground floor with windows in the same direction, and an upper floor with windows towards the opposite side of the building, above the roof of the old *Girmes* factory halls.

In all of the existing drawings of the goods inspection department, the east façade facing the main gate on *Girmesgath* was not designed to a satisfactory architectural appearance; let alone the decision to closely approach the HE-building which was fundamentally criticized by Mies van der Rohe[22]. In the side-by-side of the two front façades, the new goods inspection building was no appropriate counterpart for the tall, wide volume of the HE-building. The roofline ran around the building and exposed the single pitch roof. Among the preserved drawings of the *Verseidag* archives, one sketch on tracing paper shows the elevation of

02 *Verseidag* planning department, *Verseidag* silk factory, Krefeld, Germany, 16.10.1935, site plan of the property with projected new buildings: sizing plant and gate house. © *Verseidag* Archive, No. VA_LP.100. Reproduction: Daniel Lohmann, 2017.



03 *Verseidag* planning department, *Verseidag* silk factory, Krefeld, Germany, 30.09.1938, Site Plan of *Verseidag*'s properties and planning. © *Verseidag* Archive, No. VA_LP.030. Reproduction: RWTH Aachen, 2016.



04 Mies van der Rohe, Illinois Institute of Technology, Chicago, 1939-41. Master Plan, General Studies, Preliminary Studies. Campus. Aerial perspective. Preliminary version. New York, Museum of Modern Art (MoMA). Pencil, conté crayon on illustration board, 40 x 51' (101.5 x 129.5 cm). The Mies van der Rohe Archive, Gift of the architect. Acc. n.: 719.1963. © 2017. Digital image, The Museum of Modern Art, New York/Scala, Florence.

a raised tower with first circular lines exploring the position of a master clock. The building covers the head end of the goods inspection building until today. A blueprint copy of this drawing is dated 23 April 1934 and shows the elevation of the clock tower in its final shape for the first time and became a basis for any further planning. The drawing is signed at the bottom with an H in a circle. The architect Erich Holthoff joined *Verseidag's* planning department in April 1934, and may be linked to this characteristic signature "HO", suggesting his authorship for the final design of the clock tower.

Power Plant

The power plant is one of the central current research interests, allowing an identification of four larger expansions. After the initial construction of the plant in 1930, the first addition of a building for a new bent-tube boiler reacted to a growing capacity overload of the existing boiler and generator in 1933[23]. A second additional boiler was added in 1937-38, with a renewal of the outer appearance of the building in this new part and the first addition from 1933. Furthermore, designs were prepared to unify the whole façade of all parts of the building. These plans were only executed in their entirety in 1959/60 in the largest renewal to date, leading to today's appearance of the building. The individual steps of development can be distinguished in the facades up until the present time[24].

Abandoning the Master Plan

The development of the offices and goods inspection department with a clock tower described above may have been a decisive step towards abandoning the 1930 master plan. Certainly, functional and pragmatic reasons led to the decision to leave its strict boundaries. *Verseidag* bought the property of the former velvet factory *vom Bruck Söhne* on the other side of *Girmesgath* at the intersection with *Industriestrasse* in 1934. With this acquisition, the size of the site greatly increased and *Girmesgath* became an important, almost internal factory street. The new situation and first considerations about a plan for this area can be seen in a plan drawn by Erich Holthoff in 1934[25]. On one hand, the plan shows the whole property of *Verseidag* on 7 June 1934. On the other hand, it shows Holthoff's idea for a first partitioning of the site in a concept still lacking artistic discipline.

This complex and new situation led to a new plan, unifying further expansion with the existing structures. In the next master plan from 17 December 1934[26], the old urban scheme was finally abandoned in favor of a new layout of solitary buildings along *Girmesgath*, outlining the planned new gatehouse and a sizing facility for the first time. This plan led to a joint building application for the construction of both of these functional buildings (figure 02), which were finalized in 1936.

In 1935, the HE-building was heightened by an extra two stories instead of the originally planned three, resulting in the shape of the building with four stories, as it is preserved today. Possibly, this reduction of space was related to the gain in space resulting from both the construction of offices and the goods inspection department next to the HE-building, and the property acquisitions on the other side of *Girmesgath* (figure 01).

Planning for the New Sites at *Industriestraße* and *Hindenburgplatz*

After purchasing the former *H. vom Bruck Söhne* velvet factory and abandoning the old urban master plan, a development pressure arose to convert and extend these places for *Verseidag's* own production, in a similar manner as it was done ten years previously with the *Girmes* factory. The first sketches can be found in the archives on a cadastral map of 14 August 1935[27]. Unlike the beginning of building activity at *Girmesgath*, now a design canon had been developed,

05 Mies van der Rohe, Illinois Institute of Technology, Minerals and Metals Research Building, 1941–1943, Power Plant, 1948-1950, Chicago. © Norbert Hanenberg, 2015.

06 Mies van der Rohe, Illinois Institute of Technology, Carr Memorial Chapel, 1949-1952 and Carman Hall, 1951-1955, Chicago. © Norbert Hanenberg, 2015.

which served to create a unity in the factory buildings of *Verseidag*, at least at first sight. This tool was a minimal corrective against the uncontrolled architectural growth of the factory. The design of a new building at *Industriestrasse* with a two story main building and a connected shed roof plant can be understood in this context. Aside from the canon and its typologic parameters influencing the design, Mies van der Rohe commented personally and recommended changes in the new building's composition[28]. In the *Verseidag* archives, a number of drawings concerning this building shows the development from a simple wall facing *Girmesgath* and covering the saw-tooth shed roofline, to a palimpsest of drawing corrections[29] now exposing the roofline, and finally a horizontal connection between the two story building and the plant, similar to the solution found for the HE-building 7 years earlier.

In the preserved plans in the company archives, a first design shows a tall covering wall in front of the characteristic shed silhouette, shaping a homogenous façade rectangle towards *Girmesgath* jointly with the side façade of the office building. A slightly later correction of this version is preserved, now exposing the shed-gables geometry again and creating a better reference to the HE-building silhouette on the opposite side. In the obvious similarity with the HE-building and the dyeing plant, a vis-à-vis of buildings was created with a wide intermediate range consisting of *Girmesgath* and individual buildings on a patch of green in-between, like the pump house, the gatehouse and the sizing facility. This layout strongly resembled the 1930 master plan scheme, but with the courtyard widely opened now to make space for these individual buildings (figure 07).

Administration Building

The last building Mies van der Rohe planned in 1937-38 before his emigration to the US was a new administration building for *Verseidag* including departments for the company's management, distribution, etc. The idea for such a building was already included in the first master plan of 30 July 1930[30], and was mentioned by *Verseidag's* planning department in the project correspondence with Mies van der Rohe regarding the HE-building[31]. The planning and building authorization for an administration building on the *Girmesgath* site as it was originally intended seemed questionable as early as 1934, in the context of the factory's general need for space and a construction ban area adjacent to existing housing at *Prinz-Friedrich-Karl-Strasse* in the south. Even in the later scheme of 7 June 1934, *Verseidag* still intended to build the administration building on the *Girmesgath* site, together with the factory buildings. With the abandonment of the symmetric urban layout, Holthoff planned individual buildings now, and the administration building was not placed in alignment at the end of the central boulevard anymore. Instead, a three storey U-shaped building with a courtyard facing *Girmesgath* was planned, with connected additions in the back towards the factory. This formally unambitious plan did not take into account the newly acquired site of the *vom Bruck* factory and its available land.

The final decision to relocate the administration building to *Hindenburgplatz* (today's *Konrad-Adenauer-Platz*) just 400 meters down *Girmesgath* was certainly related to other circumstances. Within the limited supply of space on the property, it would have become an obstacle for the expected development of the plant with additions for the growing production. Furthermore, the mentioned construction ban area[32] towards the *Prinz-Friedrich-Karl-Strasse* in the south was a further limitation of possibilities for planning and resulted in a loss of space for development. A representative administration building would have had very limited options for growth itself, let alone the growth of the plant.

Mies van der Rohe established the design of the new project at *Hindenburgplatz* in Berlin in cooperation with his assistant Herbert Hirche and Erich Holthoff of the *Verseidag*

planning department. Holthoff stayed in the Berlin atelier from May to July 1938 in the context of this project[33]. The conical shape of the building and its connecting structures, which received arc shapes in correspondence, reacted directly to the outline of the property at *Hindenburgplatz*, and was not actually a design directive of Mies van der Rohe. It shows an essential character trait of his: the ability to find solutions in building under changing circumstances. The shape was the inevitable result of the design process in interaction of external requirement and inner attitude.

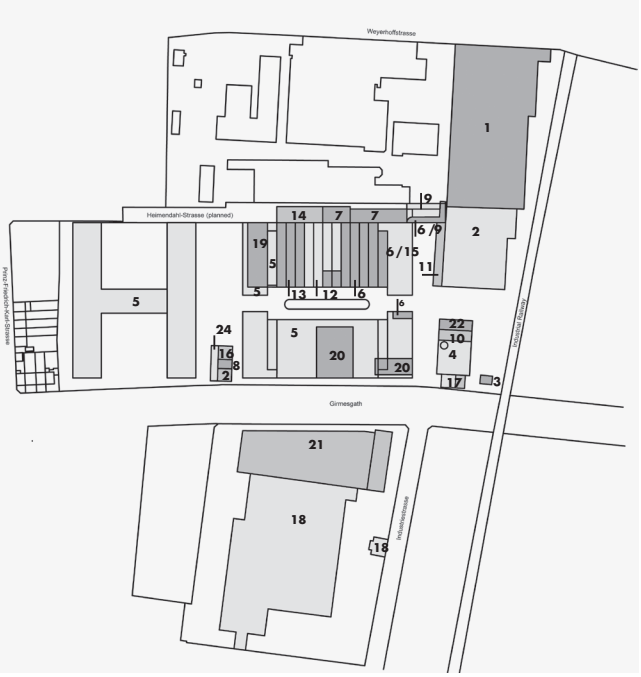
After the analysis of the archival material, the decision for the *Hindenburgplatz* location apparently was the result of an intense process with the Krefeld urban planning department. The town planning intended to extend a row of town houses towards the square, of which only two houses existed at this time. Until now, it is unclear what the process was. Documents indicate that properties were exchanged with *Verseidag* for plots at *Prinz-Friedrich-Karl-Strasse*, in negotiations with the city council and the owners at *Hindenburgplatz*. In a site plan of 1 March 1939 drawn by Holthoff[34], the corner property towards *Girmesgath* is still marked next to the administration building designed by Mies van der Rohe. However, a presentation drawing of 30 September 1938 (figure 03) indicates not only the administration building, but further acquired production plant properties north of the railway[35].

Verseidag and the IIT Campus

Mies van der Rohe immigrated to the US in August 1938 to take over the directorship of the architecture faculty at the Armour Institute of Technology in Chicago, Illinois. By joining this Institute with the Lewis Institute to create the new Illinois Institute of Technology (IIT), Mies van der Rohe was facing the challenge to develop a master plan for the new campus of this school on an area of circa 47 hectares, after expanding the property of the Armour campus towards the south[36]. The future development of this campus promised to become Mies van der Rohe's most extensive planning task by far for buildings in close proximity. The overall built volume was to be close to the sum of what he had realized in all his years as an architect in Europe before his emigration. Specifically the 1930s were a time of very few commissions, apart from the Krefeld projects. Mies van der Rohe's engagement and experience with the requirements of a growing production- and administration plant for *Verseidag*, which lasted until 1938 and ended in the design for the large administration building, led directly into the project work for the new IIT campus only a year later. A master plan was to be developed on flat ground and embedded into the urban grid of Chicago, taking into account the numerous buildings of the different institutes, and the expected long development time under changing circumstances.

Urbanistic Comparison

In a first design of 1939 (figure 04), Mies van der Rohe worked with a symmetrical layout of buildings, mirrored along 33rd Boulevard and closing Dearborn Street. Two identical buildings were placed on both entries into the campus from Dearborn Street, which were extended towards the street far enough to create a spatial tightening, shielding the wider courtyard behind them. The edges of the space created were mirrored along 33rd Boulevard, but the buildings behind already showed the first possibilities of variation in shape and size. This outline strongly resem-



1	1925	Cloth Mill Johs. Girmes & Co. AG from Oedt
2	1926–30	Verseidag Silk Factory I Pump Station
3	1929	Gatehouse I Power Transformer House
4	1929–1930	Power Plant I Turbine House
5	1930	Urban Masterplan Verseidag
6	1930–31	HE-Building I Dyeing Plant I Garage
7	1932	Cloth Drying Cabin Hall
8	1930–33	First Addition Pump Station
9	1933–34	Office Building I Connection Hallway
10	1933	First Addition Power Plant
11	1933–34	Office Building I Clock Tower
12	1933a	First Addition Dyeing Plant
13	1933b	Second Addition Dyeing Plant
14	1933–35	Addition Cloth Drying Cabin Hall
15	1934–35	Addition HE-Building
16	1934–37	Second Addition Pump Station
17	1934	Addition Turbine House
18	1934	Velvet Factory vom Bruck Söhne
19	1935	Woodshed Factory Building Addition
20	1935–36	Gatehouse I Sizing Facility
21	1937–38	Printing Plant
22	1937–38	Second Addition Power Plant
23	1948	Third Addition Pump Station

07 Mies van der Rohe and *Verseidag* planning department, *Verseidag* silk factory, Krefeld, Germany, 1930–1938. Construction history schedule.
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bles the 1930 master plan of the *Verseidag* plant, which was used by Mies van der Rohe as a basis for planning the HE-building and dyeing plant as a first step of a longer development. The spatial sequence in its idea of a functional differentiation of space was used in both projects in relation to their overall function. The goods delivery section with a ramp and driveways at *Verseidag* resemble the large open spaces to the left and right of 33rd Boulevard at the IIT Campus. Additional buildings, which were assigned to the Campus in their secondary function, were placed outside of this symmetrical layout along the local infrastructure, such as the power plant (figure 05). Possibly, the pragmatic insight into the process of abandonment of an overall master plan towards adjustments related to functional and temporal aspects was decisive after years of cooperation with the *Verseidag's* planning department.

The question whether Mies van der Rohe was involved in the 1930 *Verseidag* master plan cannot be answered with certainty at this time. However, his work for Hermann Lange and Josef Esters for their private homes between 1927 and 1930 including his intense engagement with architectural quality, as well as the apparent end of a process of uncontrolled growth of the *Verseidag* plant in 1930 with the assignment of the architect, call for a reconsideration of his involvement. In this sense, Mies van der Rohe's former Berlin assistant Sergius Ruegenberg reported about the dissatisfaction of Hermann Lange with the plans of the *Verseidag* planning department and the giving over of this task to Mies van der Rohe[37]. No later construction activity in the plant reached the initial architectural and urbanistic quality that was originally intended in 1930, but instead reacted to unchangeable functional decisions within loose boundaries of the master plan. But even under the changing circumstances, an involvement of Mies van der Rohe in the sense of a structuring and at least consulting activity cannot be ruled out either, and is proven in some cases. Quite possibly, the decision to abandon the original master plan of 1930 and the development of a middle zone with low pavilion–like solitary buildings may have been developed with Mies van der Rohe's participation. His general involvement in the *Verseidag* planning must be reconsidered during the course of the 1930s. The design for a private home for Ulrich Lange and the addition of two floors to the HE-building occurred just in the time between 1934 and 1935 when additional property and existing buildings were acquired and the master plan was exchanged for a new, more comprehensive plan in a more fundamental consequence. The participation of Mies van der Rohe is probable, in a situation of generally few commissions and economic consequences for him.

Whether he was involved in these steps or not, he will at least have followed the development at *Girmesgath*, and known of the solitary buildings at *Verseidag* from 1934 to 1936. With this knowledge, Mies van der Rohe had an urbanistic and spatial instrument at his disposal, that he used in the later design for IIT. It led to today's appearance of the campus in the context of a still symmetric building placement in the center along 33rd Boulevard.

In this sense, the comparability of the two designs is not only given in the free distribution of individual buildings in a green pattern, as was suggested by the Smithsons, but primarily in the first symmetrical conception of both urban designs: mirror-image buildings around central axes and oblong squares, that were changed later in favor of a looser arrangement, which can be strikingly observed in both developments.

Architectural Expression

When starting the design concept for IIT, Mies van der Rohe had 11 years of Krefeld collaborations and 8 years of experiences with typified industrial architecture at *Verseidag* behind him. The output parameters of both projects are rather similar when analyzed in detail, and the time-related reference is immediate, as shown above. In both projects, *Verseidag* and the IIT Campus, a whole set of circumstances influenced the design decisions down to the level of materiality and detail. The general and crucial intention to give an architectural sense of unity to a whole plant of substantial size and its individual buildings, led to the determination of design parameters for their architectural expression. They became the decisive argument to accompany the expected long time of realization under changing circumstances including altering technical and functional aspects and even changing architects with an effective corrective. In both projects, Mies van der Rohe developed an architectural expression that gave a design directive with an austere and contemporary appearance for the factors mentioned above.

The design directive in Krefeld was a rectangular system of buildings in plan and elevation, with sharp incisions of dark steel frame windows in white stucco facades cladding steel frame constructions, and an ever-present base of five exposed red brick layers in ordering and unifying austerity. This appearance was still the directive used for the late design of the administration building at *Hindenburgplatz*, in order to keep the unity in expression of all *Verseidag* buildings. For the comparably shaped buildings at the IIT in Chicago, Mies van der Rohe envisaged a dark exposed steel frame structure with windows according in shape, and clay colored brick for the closed wall sections (figure 06).

The decision for exposed brick construction as a modular system providing order may be seen in the context of Mies van der Rohe's general preference for this material on one hand, but also in relation to the new research results showing that the *Verseidag* buildings were originally intended to be clad in brick, on the other hand[38]. The reason for the change in favor of a stucco façade is unknown today, but the preserved correspondence suggests a changing specification by the client. Furthermore, the use of exposed brick in the base, the main staircase and the delivery ramp show that the material brick played a crucial role in the design of certain functional sections of the plant. Additionally, not only the same *Bockhorner* brick was applied both in a block bond for walls and a cross bond for technical areas in the private houses for Hermann Lange and Josef Esters, but also the same steel windows as in the factory, both manufactured by the company *Fenestra Crittall AG* and painted

dark on the outside and white on the inside. In this way, a continuity of leitmotifs in design can be observed from the private homes of the managing directors to the silk factory plant for *Verseidag* and up to the project for the central administration building in 1938.

In addition to these distinct formal determinations, both projects show variations related to the structure and introducing new materials into the visible palettes. The result was a further increase in complexity beyond the apparent simplicity in regard to the design quality of the planning architect. The loss of quality in both cases started, when formal criteria were adopted on a level of superficial citation, but structural questions and possibilities of material were neither recognized nor implemented in construction.

Finally, it must be noted that Mies van der Rohe repeated the structural figure of the HE-building not only in the first design for the IIT campus, but also in the realized four-storey buildings that surround the campus on three sides. In addition to the formal similarity of the buildings, their inner organization of functions including the protruding stairwells was adopted from Krefeld in these early campus plans for Chicago. This repeated, self-referential and successive work method, that was based on the experiences in Europe and especially in the Krefeld projects, became not only a sphere of activity for the IIT campus but the crucial development method for projects and buildings created throughout the whole American phase of Mies van der Rohe's work.

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Notes

1 Franz Schulze, Edward Windhorst, *Mies van der Rohe. A Critical Biography, New and Revised Edition*, Chicago, The University of Chicago Press, 2012, 175.

2 *Id.,* 198.

3 Alison Smithson, Peter Smithson, *Mies van der Rohe.* Veröffentlichungen zur Architektur, vol. 20, TU Berlin, 1968, unnumbered, page 8 of the body.

4 Franz Schulze, Edward Windhorst, *op. cit.,* 198: "He borrowed from the last decade of his European experience – especially for building elevations – though the examples he could draw from, chiefly the unbuilt Reichsbank and the *Verseidag* factory, were not especially relevant".

5 The development of the *Verseidag* factory presented in this article is based on a current research project under the guidance of the author Norbert Hanenberg (THM Giessen) and Daniel Lohmann (TH Köln). The project involves a detailed documentation of all the buildings on the *Verseidag* site and the analysis of the preserved plan material in the *Verseidag* archives. Furthermore, the project provides scientific advice for the current reuse and restoration. For this topic, please see the other article by Norbert Hanenberg and Daniel Lohmann in this issue of ***docomomo*** *Journal.*

6 http://www.mies-van-der-rohe.com/historie/die-geschichte-der-verseidag/

7 *Verseidag* Archive, No. VA_LP.037

8 *Verseidag* Archive, No. VA_LP.026

9 *Verseidag* Archive, No. VA_LP.013. Site plan, 12.05.1926

10 *Verseidag* Archive, No. VA_KW.139, site plan.

11 *Verseidag* Archive, No. VA_KW.150

12 *Verseidag* Archive, No. VA_KW.169

13 *Verseidag* Archive, No. VA_LP.023; see the figure in the other article by Hanenberg/ Lohmann.

14 The Mies van der Rohe Archive, Museum of Modern Art (MoMA), New York City, Plan n. 9.157; published in Arthur Drexler (ed.), *The Mies van der Rohe Archive. An Illustrated Catalogue of the Mies van der Rohe Drawings in The Museum of Modern Art*, vol. 4, 32; cf. Christiane Lange, *Ludwig Mies van der Rohe. Architektur für die Seidenindustrie*, Nicolai Verlag, Berlin, 2011, 147.

15 See the other article by Norbert Hanenberg and Daniel Lohmann in this issue.

16 *Verseidag* Archive, No. VA_LP.022

17 *Verseidag* Archive, correspondence between the planning department and the well construction company

18 *Verseidag* Archive, No. VA_LP.028

19 *Verseidag* Archive, No. VA_LP.024

20 *Verseidag* Archive, No. VA_SH.001

21 *Verseidag* Archive, Construction applications of 23.10.1933, 27.10.1933, 26.04.1934, 7.03.1934.

22 Statement under oath by Erich Holthoff, Krefeld 10.12.1982, Archive LVR, Brauweiler

23 *Verseidag* Archive, Letters of the planning department of *Verseidag*, 13. and 24.01.1933.

24 Current research on the power plant is based on detailed building documentation and the analysis of the preserved plan material in the *Verseidag* archives. Several results indicate an involvement of Mies van der Rohe at least in the second planning phase of 1933. A separate publication is in preparation by the authors Lohmann and Hanenberg.

25 *Verseidag* Archive, No. VA_LP.008

26 *Verseidag* Archive, No. VA_LP.010

27 *Verseidag* Archive, No. VA_LP.027

28 Mies Archive, Verseidag Dye Works Building, Letter of Mies van der Rohe to the planning department of Verseidag, 06.03.1937.

29 *Verseidag* Archive, Plan: *Abteilung Filmdruck Industriestrasse*, 26.09.1937.

30 *Verseidag* Archive, No. VA_LP.023

31 Christiane Lange, *op. cit.,* 173; Mies Archive, Correspondence, Folder 1, Letter of 3.1.1931, *Verseidag* to Mies: "In order to find out the construction method better suitable for the subsequent administration building, one could make one half of the floor entirely in pumice concrete, and the other half with a sand fill". Literally: "*Um für das spätere Verwaltungsgebäude festzustellen, welche Ausführung besser ist, könnte man vielleicht die eine Hälfte der Decke (...) ganz in Bimsbeton und die andere Hälfte mit Sandaufschüttung machen*".

32 *Verseidag* Archive, No. VA_LP.034

33 Mies Archive, Research File, Interview Erich Holthoff with Wolf Tegethoff, 30.11.1985; See also Andreas Marx, Paul Weber, *"Von Ludwig Mies zu Mies van der Rohe"*, in Helmut Reuter, Birgit Schulte (ed.), *Mies und das Neue Wohnen. Räume, Möbel, Fotografie*, Ostfildern, Hatje Cantz, 2008, 33-35, 37.

34 *Verseidag* Archive, No. VA_LP.031

35 *Verseidag* Archive, No. VA_LP.030

36 Franz Schulze, Edward Windhorst, *op. cit.,* 230.

37 Interview Sergius Ruegenberg with Elaine S. Hochmann, 24.07.1974. Elaine S. Hochmann, "A Study of Ludwig Mies van der Rohe`s Factory Building for the Silk Industry, Vereinigte Seidenwebereien AG, Krefeld, Germany", unpublished paper, Mies van der Rohe Archive, The Museum of Modern Art, 1973.

38 See the other article by Norbert Hanenberg and Daniel Lohmann in this issue, page 26.