The Restoration of the Exterior

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1 / THE RESTORATION OF THE EXTERIOR

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FIG. 1.1 In the beginning of the 1970s the state of repair of the Schröder House left a lot to be desired

In 1963 Pieter Singelenberg wrote an alarming article for the *Nieuw Utrechts Dagblad* about the Utrecht city council's plans to raise the Rijksweg, nowadays called Waterlinieweg, and construct a viaduct right in front of the Schröder House.[1] Singelenberg also brought what he called 'this unforgivable error' to the attention of the Rijkscommissie voor de Monumentenzorg (National Historic Monuments Commission). The Schröder House had, after all, enjoyed international renown since the 1920s and was ideologically on a par with housing designs by Gropius, Mies van de Rohe, Le Corbusier, Mart Stam and J.J.P Oud. The proposed infrastructural works would have a devastating impact on the house in its context. Singelenberg informed the Commission that even in the United States there were initiatives aimed at preventing this negative impact. The Commission responded sympathetically, but dispassionately, as 'it [was] too late to stop the calamity'.[2]

The 1950s and '60s witnessed a veritable De Stijl revival; there were exhibitions on De Stijl (Amsterdam, Venice and New York, 1951 and 1952), on Rietveld (Utrecht and Amsterdam, 1958 and 1959) on Theo van Doesburg (Eindhoven, 1968) and on '50 Years Bauhaus' (Amsterdam, 1968-69). This re-evaluation of De Stijl had a big impact on the standing of Rietveld and his work.[3] As such, it was impossible for the government to remain aloof on the question of the house and its future. In 1969, six years after Singelenberg's article and once again in the wake of a pleading letter – this time from the architect J.C. Meulenbelt to the relevant minister – the Commission, in the person of Ruud Meischke, acknowledged that maintenance of the Schröder House did indeed leave much to be desired and that 'urgent provisions' needed to be made [FIG. 1.1].

FIG. 1.2 Damage to the house became increasingly visible

FIG. 1.3 Plasterwork and wood exhibited serious blemishes

But the Commission also felt that Mrs Schröder probably did not have the means and was too advanced in years to undertake such a task. Although the house did not yet enjoy listed status, the Commission felt that the state should step in to enable the maintenance costs to be subsidized.[4]

Truus Schröder thereupon established the Rietveld Schröder House Foundation. With the formation of this foundation, in August 1970, the conservation and the maintenance of the house and its surroundings were in good hands.[5] The arrangement provided greater certainty for the house's future. Mrs Schröder remained actively involved in the foundation, as she was a member of the first board, along with two of her children, Marjan and Binnert. The other board members were experts from the world of design and modern architecture: Hugo Isaac, Pieter Singelenberg, Alexander Bodon and Willem Sandberg. In accordance with its statutes, the foundation also took on the task of seeking and securing a future function, a function that would do justice to the cultural significance of the house. In 1973 the foundation and Mrs Schröder further agreed that the foundation would purchase the building from her, and commission a by now urgently needed restoration. In order to implement this, the foundation depended on donations and subsidies, with the latter in turn linked to an official granting of listed status to the Rietveld Schröder House.[6] Ever since its creation, therefore, the foundation has been actively engaged in promoting the interests and significance of the Rietveld Schröder House. The foundation's archive contains numerous requests

for and allocations of donations, and of subsidies.[7] Funding bodies, businesses and architectural practices were quick to do their bit, and the state government and the city council also promised subsidies that would be available in 1975. In October 1974 Singelenberg wrote officially to the Director-General of the Rijksdienst voor de Monumentenzorg (Government Department for the Preservation of Historic Buildings, RDMZ for short in Dutch). In an impassioned defence of the house's significance for modern architectural history he argued – successfully – for it to be granted listed status, as of 1975. Fittingly, it was also officially 50 years since Truus Schröder-Schräder and her children had moved into the house designed by Rietveld.[8]

THE RESTORATION ARCHITECT

In October 1973, the foundation commissioned Bertus Mulder to restore the exterior of the Rietveld Schröder House.[9] The first technical specifications for the restoration of the house had already been drawn up in 1970, by the architect Jan Veroude. At that time, or at any rate as long as Mrs Schröder continued to live in the house, the plan was merely to repair a number of defects and carry out necessary replacements. There was at that point no question of a more thoroughgoing intervention involving renewing certain elements, such as the roof, or of restoring the house to its original state. Meischke, however, was even then more in favour of full restoration than of just carrying out urgent consolidating repairs.[10] After Mulder had surveyed the condition of the house it became clear that more was needed than repair work alone [FIG. 1.2/1.3].[11] Nonetheless, Truus Schröder continued to live in the scaffold-encased house. According to Mulder she was keen to experience it all for herself and actually enjoyed the flurry of activity around her.[12] The restoration of the interior was to be carried out at a later date, after she had moved out.

Jan Veroude was part of the Utrecht practice Architectengroep 5, voor Architektuur en Stedebouw, which the foundation had engaged in 1970 for the restoration of the Schröder House. Veroude had worked with Rietveld, he was familiar with his output and also with the house because he had at one time lodged with Truus Schröder.[13] The first preparatory works, together with the aforementioned technical specifications, were carried out by Veroude. He also contacted J. Baart de la Faille of Utrecht's Municipal Heritage Preservation Department who informed him that the restoration would not be overseen by the municipal department but by the RDMZ. Veroude's initial contacts with that body were with H. Mooijbroek, who subsequently left the RDMZ and whose successor was at that point unknown.

Meanwhile, Veroude himself had been appointed architect with the city of Amsterdam. He suggested to Mrs Schröder and the foundation that he should finish the restoration of the Rietveld Schröder House together with his colleague Bertus Mulder. Mulder had a good knowledge of Rietveld's work and had also worked in his office.[14]

The board was not happy with Veroude's sudden announcements, which prompted them to revisit the whole question of the choice of architect. There were other architects in contention besides Mulder, such as the young architect J.C. Meulenbelt, or B. Timmler, Jan van Tricht's partner. Singelenberg even suggested Han(neke) Schröder. The choice was left to Truus and her children. After a few discussions with Truus and Han Schröder, the choice fell on Bertus Mulder. According to Mulder, Truus and Han Schröder were aware of his familiarity with Rietveld's work, and of the mutual trust that had developed between him and Rietveld.[15] Mulder's first description of works was still under Veroude's name, but thereafter he assumed total responsibility for the work.[16] He was not quite so popular with Baart de la Faille, who felt that Mulder had already 'destroyed one heritage building' in Utrecht – a 'modern' renovation of a student parish building on Nieuwegracht – and should not be given an opportunity to do it again.[17] However, the acting head of the RDMZ, C.A. van Swigchem, was of the view that the city council (Baart de la Faille) should stay out of it: 'don't worry; Mulder is acceptable to the government agency and that's what

matters'. H. Bardet was mentioned as a possible restoration supervisor on behalf of this agency.[18] But the most important thing in his view was that the board included people who understood modern architecture.[19]

THE APPROACH TO THE EXTERIOR

It is clear from his contribution to the 2009 book *Het Rietveld Schröderhuis*, from his recent remarks, and from the conversations we had with the restoration architect, how much weight Mulder attached to Truus Schröder's opinion, with respect both to the restoration of the exterior and later in the lead-up to the restoration of the interior. He had many conversations with Mrs Schröder, and he corresponded regularly about the work with her daughter Han in the United States, and her son Binnert. The board had appointed Han adviser for the restoration and the archives of Bertus Mulder and Han Schröder contain several examples of the correspondence between Mulder and Truus's children.[20] In the conversations Mulder frequently referred to the fact that his relationship with Han was, alas, difficult, but that relations with Binnert were conversely very good.[21]

Despite the foreshadowed supervision by the heritage agency (specifically Bardet), the government agency's involvement failed to materialize. Nor did anyone come to take a look: 'we won't appoint a supervisor because nobody has any expertise in the restoration of recent architecture because there is as yet no first-hand knowledge,' Cees van Swigchem is reported to have said. According to Mulder, Van Swigchem had forbidden his officials to get involved in the restoration.[22] After the correspondence about granting the Rietveld Schröder House listed status, which occurred in 1975, and a few letters about subsidies, the next documentation emanating from the RDMZ dates from late 1979, when Rob Apell and Rob de Jong went to inspect the house and consult on the possibility of subsidies for the layout of the garden. On that occasion the problems that had arisen during the restoration of the plasterwork were also discussed.[23]

The technical specifications for the restoration of the Schröder House, which Veroude had drawn up in 1970, contained fairly detailed instructions for demolition, repairs and necessary replacements on, to, and in the house.[24] These related chiefly to the roof, the roof joists, drains, building services, the repair of sections of walls, the eaves and the replacement of various windows and doors.[25]

The technical specifications are equally detailed regarding the plasterwork. Areas of brickwork to be relaid (such as the projecting sections along the roof) were to be rendered in keeping with the existing plasterwork using a synthetic resin mortar, and then finished with cement mortar. Wherever the plasterwork was loose or cracked, as in walls below windows, it was to be replastered with cement mortar but only after the installation of a moisture barrier.

The same applied to the interior plasterwork, such as the wall in the first-floor study behind the dismantled timber wall construction. The underside of the stair to the first floor, and the cracks in the wall between hall and library – and any other damage – was to be patched up or completely replastered.

The instructions regarding the paintwork repeatedly refer to 'original colours', 'the same as the existing paintwork'. This applied to the external walls, the steel structure and all the woodwork, inside and out. In addition, the existing work 'had first to be stripped of the old paint layers', and where necessary repaired (filled, sanded, primed, given a final coat with good quality materials and by skilled workmen). Before the paint layers were removed, according to these instructions, 'duplicate colour samples of sufficient size [were to be] made of all existing colours'. The colour samples not only had to be carefully compared with the existing colour (gloss and structure), they also had to be approved by Mrs Schröder and the architect. After the preparation of a test piece, these samples would then be used to determine the new finish coats. One of the samples was for Mrs Schröder, the other for the architect.

FIG. 1.4 Unconventional constructions made the house vulnerable

FIG. 1.5 After 50 years the concrete of the balconies also showed signs of cracks and damage

After Mulder had taken over from Veroude his ideas on the principles of the restoration began to crystallize in the course of conversations with Truus Schröder and through an intensive study of the house and its 'grammar'.[26] Schröder and Mulder agreed that the character and essence of Rietveld's work, in particular Rietveld's ideas about space, spatial effects and spatial perception, should be paramount in the restoration. Both felt that this would be best served by returning the house to the 'most original state'. The use of colour was frequently discussed because of the importance Rietveld attached to colour for the expression of his spatial ideas.[27]

Once the house was surrounded with scaffolding, work could begin on the necessary repairs and replacements [FIG. 1.6]. The house had numerous defects and was not very stable. This was mainly because Rietveld considered the spatial effect and associated appearance, and the optical effect, more important than a stable and sound construction [FIG. 1.4]. This had resulted in unusual combinations of traditional and modern materials (and their properties) and techniques which, after the passage of so many years had started to exhibit all manner of defects. For example, the way the steel beams had been tailed into the (single-skin) brickwork had led, through the action of moisture, to rust and hence to cracks in both brickwork and plaster. At Rietveld's insistence, the concrete slabs used for the balconies had to be very thin so that here, too, moisture had been able to corrode the steel edges, which had started to rust, and the concrete had begun to display cracks [FIG. 1.5].

FIG. 1.6 Scaffolded Rietveld Schröder House at the start of the restoration of the exterior, 1974

FIG. 1.7 The roof required extensive repairs to prevent further sagging and leaks

FIG. 1.8 Although the house was surrounded by scaffolding, Truus Schröder continued to live in it during the restoration of the exterior

The roof construction and finishing employed had given rise to sagging, resulting in numerous leaks [FIG. 1.7]. The skylight needed to be replaced. Likewise, much of the timber used in windows and doors, which Rietveld had dictated should be flush with internal and external walls, in other words without sills or projecting edges, was due for replacement. This was especially true of the windows and balcony door in the east elevation, followed by Truus's room. The damage and defects were treated invasively by Mulder, using contemporary materials and techniques, in order '[to] achieve the durability desired by Truus Schröder [FIG. 1.8]. Not through restoration according to traditional standards, but to a large extent through reconstruction of the form using a new, technically superior method.' According to Mulder this was the result of the RDMZ's 'wise decision' to keep the agency's officials well away from the work.[28]

PROBLEMS WITH THE PLASTERWORK

The restoration of the exterior was carried out between March and September 1974. The cracks in the plasterwork were mainly in the east and south elevations and once that plaster had been chipped away cracks were also discovered in the brickwork behind it [FIG. 1.9].[29] The Stichting Onderzoek en Voorlichting (Foundation for Research and Information, SOV) of a firm specializing in plastering, terrazzo and plasterboard (STS) had been asked for advice and in February it had provided detailed instructions for the repair and treatment of damaged sections of brickwork and plaster, for the joints between plasterwork and wood, and for the concrete. SOV's J.F. (Hans) Geerken provided advice on the method as well as on the specific composition of the materials to be used. In accordance with this advice, Mulder

had the cracks in the brickwork treated with a synthetic mortar that was then coated with a synthetic dispersion to ensure that the rendering coat would adhere. Where the cracks were only in the plasterwork, the mortar layer was re-rendered and then plastered to the same level as the existing plasterwork, on which the existing layers of paint were still present. Instead of applying a fine render to the base coat, Rietveld had the plasterer impart texture directly to the (hardened) rendering coat. The circular motion of the trowel produced a grainy effect.[30] Geerken saw to it that the various stages of this work were carried out according to instructions.

Once the plaster was sufficiently cured the wall could be repainted under the supervision of K. van Zanen from Sikkens. This occurred in July and August 1974; after that a rest period of one year was to be observed to see how the colours would hold up and how they would change over time. After that year the final finishing could be carried out.

In spring 1975 the paintwork, on both the restored and unrestored wall sections, displayed small cracks.[31] Tapping on the three restored walls revealed that the final coat of render had not bonded with the substrate. The coat of paint had also failed to adhere in several places resulting in a patchy appearance. In October 1975 these problems were inspected on site by Van Zanen, Geerken and Mulder, together with the contractor, plasterer and painter.[32] It was decided to repair the paintwork. The plasterwork was more problematical. When a section of wall was broken open it was found that although the final coat of render had not bonded with the base coat, the base coat itself was not the cause of the problems. The poor adhesion could not be explained by the addition of the synthetic dispersion, but further analysis of the composition would be very costly. It was decided to remove the loose pieces of plaster on two of the three walls and give the final coat of render a supplement of synthetic dispersion.[33] On Geerken's advice, this was not done for the third wall because the cracks there could be 'bridged' in the coat of paint during normal maintenance (every four years).[34]

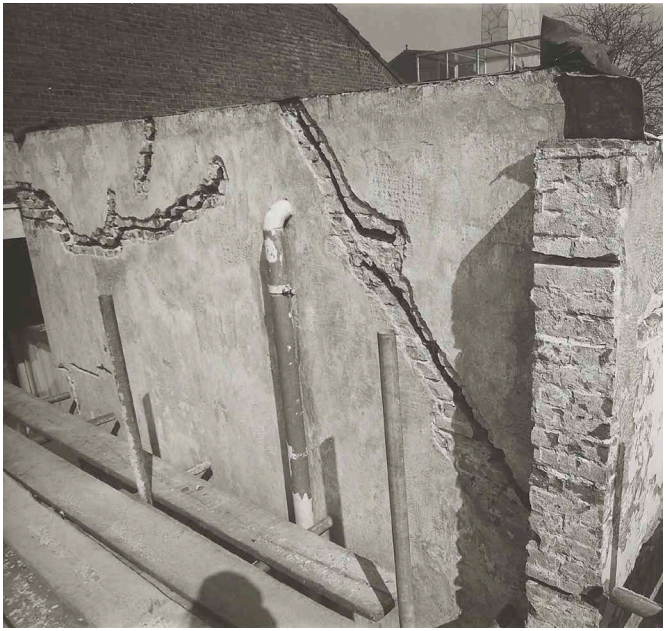

FIG. 1.9 The brickwork displayed deep cracks

However, this did not solve the problems, and the hairline cracks reappeared. Advice was sought from TNO (Netherlands Organisation for Applied Scientific Research), which in turn referred back to Geerken.[35] The SOV subsequently took on the commission as a research project and proceeded to experiment with several solutions.[36] Representatives of the heritage agencies also came to inspect the problems on site. This yielded nothing of substance, but the agencies declared themselves willing to grant a subsidy if a satisfactory method of repair was to be found.[37] In 1978 a decision finally had to be made whether 'to live with the hairline cracks in the walls or tackle the root cause'. Mulder and the foundation together opted for the latter.

In autumn 1978, in consultation with Geerken, it was decided to remove all the plaster down to the brickwork on the walls with problems.

FIG. 1.10 Plasterers at work on the wall between corner window and kitchen

FIG. 1.11 After the plaster with hairline cracks was removed, the new render was applied in a single homogeneous coat

All kinds of repairs had been carried out, and the house was also a melange of different materials and constructions. It was consequently decided that it would be best to limit the number of materials and adhesive surfaces as much as possible. The new coat would be applied in one operation.[38]

Work started at the end of April and after the removal of the layer of mortar it was discovered that the repairs to the brickwork using synthetic mortar had held up well. The substrate was homogeneous, and according to Geerken the brickwork was of reasonably good quality.[39] Thus the problems lay with the rendering. Even more radical decisions were then taken on site. 'The render that had remained in place during the restoration also had to be removed in order to achieve a single homogeneous plaster coat and to avoid problems with joins between old and new work [FIG. 1.10/1.11].'[40] Whether this literally meant that all the walls of the house should be replastered or just the walls with problems is not entirely clear from the report. Photographs taken during the restoration show bare brick walls but also sections with the render still intact, such as the surfaces below the kitchen window and the studio on Prins Hendriklaan [FIG. 1.12/1.13/1.14]. Because the photographs are undated it is difficult to determine whether the areas of render still visible in the photos were retained or perhaps also removed. When asked about this, Mulder was initially unable to recall precisely what had happened. However, in 2018 he wrote: 'Only on smaller surfaces that had not been repaired did the original render remain in place, such as the ground-floor walls below the windows in the kitchen and on Prins Hendriklaan. Large sections also remained in place on the white surfaces in the entrance elevation and the rear elevation.'[41]

FIG. 1.12 South elevation (Prins Hendriklaan) with bare brickwork

FIG. 1.13 East elevation with the plaster chipped away yet again

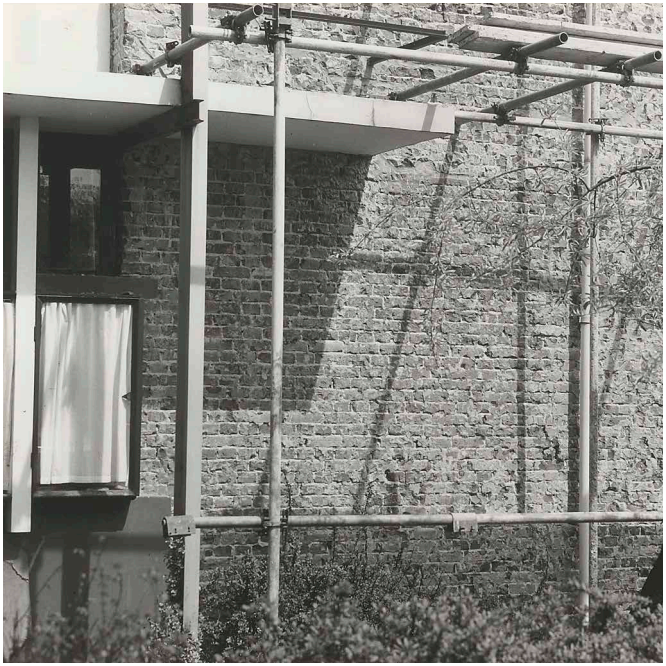

FIG. 1.14 Traces of plaster still visible on the wall below the studio window on Prins Hendriklaan

SAMPLE ANALYSIS

In spring 2018, at the request of TU Delft, TNO subjected four samples of plaster to petrographic analysis. It turned out that the two samples taken from the exterior of the house have different compositions. The plaster from the east elevation, below the balcony window on the first floor (above the front door), has a cement-lime binder. The binder in the plaster sample from the wall below the studio window on Prins Hendriklaan consists of an early Portland cement.[42] This final sample, as later transpired, also displayed more finish coats than the first. Based on this it may be assumed that some walls – such as the aforementioned window walls and white surfaces – still retain plasterwork dating from before the restoration in the 1970s, and thus from Rietveld's day.

How much plaster and from precisely which period(s) it dates, is impossible to say. Rietveld experimented a lot and he did not record the details of the various wall treatments. Even the Specifications for the Schröder House, dating from July 1924, contain three different versions of plaster compounds, without any indication as to their specific application.

In any event, in April 1980, ten months after the restoration of the exterior had been completed, Mulder appeared to be very pleased with the final result.