



Atelier 5, Halen Estate, Berne, Switzerland, 1955–1961. One of the stair connections between the central square and the rows of houses. © Bernhard Furrer, 2008.

How to Deal with Halen Estate

BY BERNHARD FURRER

The *Siedlung Halen* (Halen Estate), built in the late 1950s near Berne, Switzerland, is still visited by many architects and students from all over the world. The houses of the Estate, once sold for a moderate price, are in high demand nowadays, which leads to a higher expectation for available space and comfort. After 50 years of existence, the normal problems of long-time maintenance are not easy to resolve. Although hampered by problems of concordance among the owners, the exemplary process of planning raises hope for an equally exemplary execution.

Among other new features, especially new concepts of space and architectural expression, the construction of buildings of the 20th century is characterized by adventurous experiments made by architects and craftsmen in the use of new materials and techniques. The properties of most of them were not profoundly known and, especially, experience in their long-time performance was lacking. So, it is a common challenge for the conservation and restoration of buildings of the Modern Movement to be confronted with materials that have reached the end of their life span already after some decades or with building methods that have led to serious long-time damage. In many cases it would be easy to “correct” such failures by replacing the defective elements altogether and using different materials or construction details. The main concern would be to maintain the general aspect or the aesthetics of the building.

But is the image sufficient? Is it enough to ensure a sort of likeness between the built intentions of the architect half a century ago and the result of a conservation/restoration?

Perhaps it might be acceptable in the case of an average building of the 1950s or 1960s. But certainly it cannot be adequate for a building that belongs to the group of key works of modern architecture, those buildings that had a major influence on the development of architecture, that became archetypes or that were built by an architect whose work was and is of major importance. No, in those cases the rules developed over more than a century and implemented for the conservation/restoration of monuments of past centuries remain valuable without any exception. The deontological bases are unchanged.

Currently a disturbing example of the loss of a key work of modern architecture is happening in Switzerland. The famous buildings of the grammar school on the *Strandboden* in Bienne, built by Max Schlup in 1975–1981 are about to be reduced to the skeletons; interiors and façades will be newly constructed with some reference to the original. With this procedure the historic buildings with their architectonic and cultural value will be lost. They will not be a document

of the 1970s any more, but just a testimony to the incapacity of the public owner, the architects and the preservation authorities to deal skillfully and correctly with works of the Modern Movement.

Document and Monument

In fact, a building of main historic importance is both a document and a monument. As a document it is only valuable if the material substance is preserved. It keeps record of different human conditions of life and the related behaviors, expressed by architecture in the full range of its meaning, with space, architectural design, construction methods, materials. Thus, for conservation/restoration, the authenticity is fundamental, comprising material, construction methods and assembly. A historic building is comparable to a testimony in court that is valuable only if it expresses the whole truth and nothing but the truth. On the other hand, the historic building also carries an important message through its appearance, which allows the observer to recognize its specificities. This perceivable aspect is its charisma, as it were, and has a great influence on the estimation of a historic building. In that context, one important aspect is the *patina*, that evident sign of the age of a building.

All over Europe many exemplary restorations of buildings of the Modern Movement have been undertaken. They show three main difficulties. On one hand, in many cases, original material has been demolished and replaced. Although similar looking products have been used, the loss of authenticity is evident — new products have slightly different details, they are manufactured, assembled and mounted in different conditions; authenticity is directly related to the original material and its *mise en œuvre*. Furthermore, those restorations show how very sensitively buildings of that period react even to the slightest modifications in their appearance. Their sensitivity is much greater than any of the buildings of earlier centuries. For instance, it is disastrous to change the aspect of a window-frame placed flush with the outside of the wall's plastering by adding external insulation.

The third observation concerns the *patina*. Many of the recent restorations have resulted in buildings that seem to have only just been built. Every single detail has been put into perfect condition and for an observer they might not appear as historic buildings with a long span of life and a long period of use behind them, but rather give the impression of perfect ageless full-scale models.

For buildings of the Modern Movement that are maintained in a normal use, in addition to the drafted fundamental questions of authenticity and integrity, several further conditions have to be considered. For instance, the conditions of life and therefore the exigencies of the users have developed; the question is how far the historic building can and must be adapted. In general it can be said that the use has to be subordinated to the historic monument and not the monument to new demands.

Halen Estate

The Halen Estate was built in a clearing on a slope upon the river Aare in the commune of Kirchlindach near Berne, Switzerland, from 1955 to 1961. The young architects of *Atelier 5*, influenced by Le Corbusier, their mentor Hans Brechbühler and the urban historian Paul Hofer, conceived this high-density settlement in terms of social cohabitation and land use planning as an antonym to conventional residential quarters with detached one-family houses. Halen has since become what is probably the internationally best-known piece of Swiss architecture.

The Estate is characterized by the open spaces, — central square, longitudinal access roads with covered paths on different levels, perpendicular stair-connections — which are all without motorised traffic. The five rows of houses contain 79 units, mainly based on two types of narrow individual one-family-houses (dimensions between axes 4.20m/5.15m) on three levels with a courtyard to the access road with its covered pathway and a garden to the south with a covered seating area at its end. Partly, the two types came with a solarium, a spacious terrace on the top floor overlooking the wonderful landscape. The houses are conceived with a step-by-step progression from public to semi-public and private areas. Some special types of small apartments and *ateliers* complement the offer of housing types. A broad range of common equipment such as swimming-pool, playing-grounds, meeting-room, shop, laundry, car-parking and heating are part of the concept, which is based on individual houses of a restricted level, but a rich offer of common spaces that favor the sense of living together considerably. Those common facilities are taken care of by the community of owners and, after recent investments; they are in a rather good shape.

In spite of numerous interventions on single houses, 50 years after completion the Estate as a whole is in need of restoration of the external parts, of leaking roofs, decaying windows, walls that have become mildewed. A crucial problem is a legal one: every house is erected on its own plot and so every owner is free to invest or not, there is no legal obligation to act in common. It is hard to coordinate the realization in a reasonable way and, regrettably, a few

owners refuse to participate in common action. That is fatal, because many interventions, especially on the roofs, are virtually not realizable without a coordination of all the owners of a given row of houses.

Proceedings

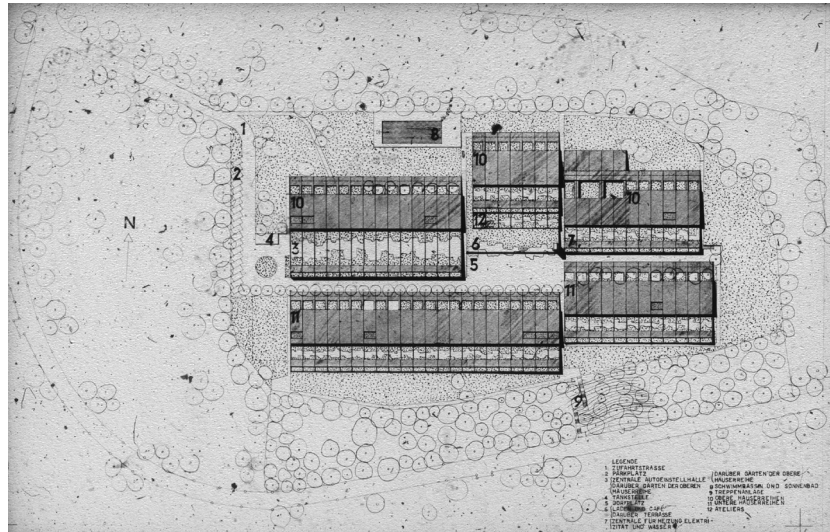
The approach has been exemplary. An expert report by the *Swiss Federal Commission for Monument Preservation* specified the reasons for the outstanding value of Halen Estate and the consequences for its restoration. In a first general approach it defined the elements worth maintaining. Based upon the entirety of the newly-digitalized original plans, the still existing office of the former architects defined every detail of the construction, materials and techniques. With these two basic documents to rely on, with an excellent knowledge of the actual condition of the Estate (regrettably, for financial reasons, a proper inventory of the current shape and all the changes could not be done), and in close contact with a delegation of the owners as well as the preservation officer in charge, the architects formulated detailed guidelines for the restoration, a booklet of some 100 pages. It describes every element with its features and defines the possibilities of and restrictions on change. It provides the possibility of individual changes within the interiors, respecting some few principles and exempting the separating walls and the stairs from change. A small enlargement of the kitchen with a sort of bay onto the courtyard is defined. On the other hand, extensions of the originally-built volume are not allowed (courtyard, open terraces, *brise-soleil*, garden). The treatment of single elements such as the windows is clearly defined.

The two elements — perfect knowledge of the existing situation and clear definition of the elements to be protected — are crucial. They have to be developed before the beginning of planning of conservation/restoration. Even if the community of the owners has not formally approved of the guidelines, they serve as a rule for every intervention since it is clear that the authorities for permits will follow the indications strictly.

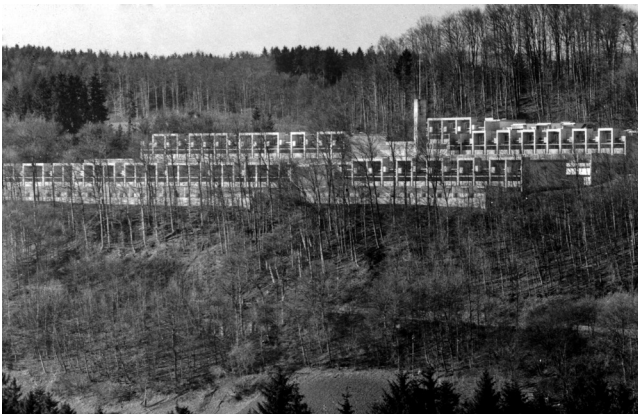
In times of increasing awareness of the CO₂ problem and the “energy turn”, an important question was the improvement of energy consumption. In a first step, a general concept was set out considering all the factors that can contribute to an optimal energy use. Especially the questions of the source of energy as well as of the production, distribution and release of heat have been studied. In addition, the possibilities of their own energy production were considered. In terms of the insulation of the building envelope, the premises are actually excellent: ¾ of the houses’ surfaces are attached to that of the neighbors, heated wall against heated wall. A perfect insulation of the roofs can be easily realized together with a complete rebuilding of its superstructure that doesn’t require intervention into the original concrete elements of the roof. The timber windows are already equipped with insulating glass; it can be replaced by more efficient systems. It will be important that — in those cases where the original window-frame with its fittings can’t be restored — the windows be reconstructed in timber

01 General plan. © Archive *Atelier 5*, 1950s.

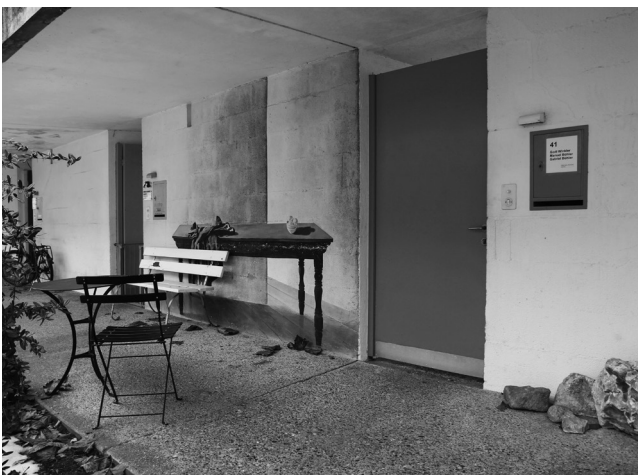
- 1 - Access road
- 2 - Parking area
- 3 - Central parking garage (above the gardens of the upper row)
- 4 - Petrol station
- 5 - Central square
- 6 - Shop and club-room
- 7 - Power station for heating, electricity and water (above gardens of the upper row)
- 8 - Swimming pool and sun bath
- 9 - Stair connection
- 10 - Upper rows
- 11 - Lower rows
- 12 - *Ateliers*.



02 Halen Estate shortly after its construction. The uniformity of the houses is broken by the number of different housing types and the irregular insertion of houses with solarium. The tall chimney indicates the central square. © Archive *Atelier 5*. Photo by Albert Winkler, 1960s.



03 Central square immediately after completion. The horizontal streets and pathways and the perpendicular stairs lead up to it; they all lead to the square tangentially, not axially. The shop, the club-room and the laundries are directly connected to the square. On their way to the public transport stations or to the parking garage most of the inhabitants cross the square. © Archive *Atelier 5*. Photo by Albert Winkler, 1960s.



04 Pathway of the lower eastern row. The covered access to the houses is a public space. However, it is individualized by the inhabitants by coloring and painting on the entrance doors, by putting their own pieces of furniture, by installing objects and works of art. © Bernhard Furrer, 2013.



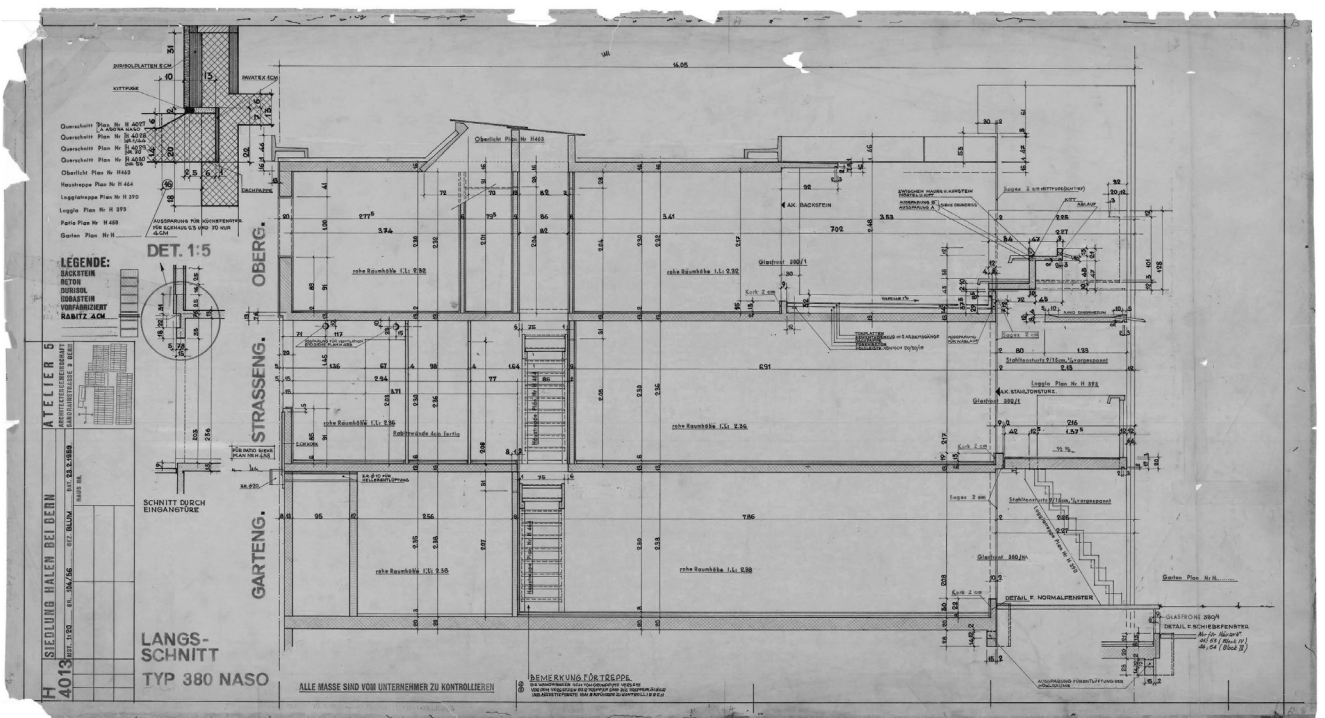
05 Courtyard of the broad type of houses. It is private, but orientated to the pathway, the public space. Beyond the outside door (many inhabitants normally leave it open) the view opens onto the courtyard and to the northern façade. A covered path leads to the entrance. Note the differentiated manners of mounting the windows (from outside, flush mounted, from inside). © Bernhard Furrer, 2012.



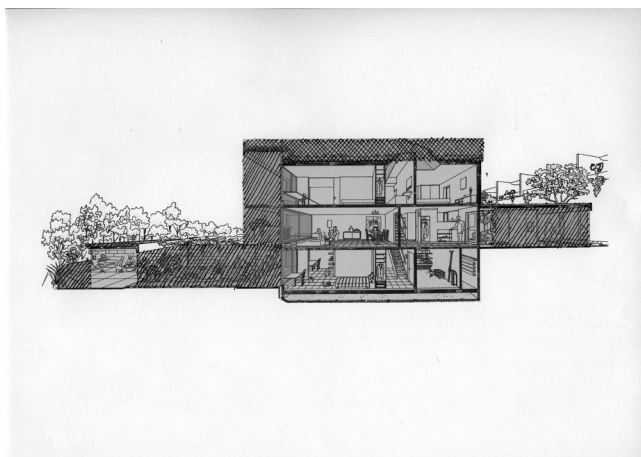
06 Model showing the effects of outside insulation of rear facades. Insulation would have required new concrete elements of the roof fascia mounted towards the outside. The differentiation of the mounting of windows would have been essentially harmed. © Suter + Partner architects, 2012.



07 Upper western row. The photo taken shortly after completion shows the fresh shiny impression the Estate makes, due to a clear design and to the bright colors (plastered walls, site concrete, concrete elements, windows). The change between houses with and without solarium creates a big variety. © Archive *Atelier 5*. Photo by Albert Winkler, 1960s.



08 Section of the narrower type of houses. On the ground floor southwards the living room with *loggia* and a steep flight of stairs to the garden, northwards kitchen, bathroom and toilet. A sliding panel wall can divide the big room on the garden level; behind it there is a cellar and the service passage with all the conduits. On the upper floor, which in some types contains 3 sleeping rooms, the version with solarium. © Archive *Atelier 5*, 1950s.



09 Schematic isometric drawing illustrating the general rules of the guidelines. In grey the zones open to individual interventions, the hatched roofs that have to be renewed collectively for each row, double hatched the parts that are important for the general conception and aspect, where only restricted changes are possible. © Bernhard Furrer and *Atelier 5*, 2013.



10 Solarium of the broader type of houses. The room behind the solarium opens wide to the outside with a concrete step that hides the convection heater and sliding windows with very slim frames. Towards the south a trough with plants forms a limit to the solarium, a sort of recess permits an overview of the Estate and the landscape. In accordance with the guidelines, covering of the solarium is not allowed anymore. © Archive *Atelier 5*. Photo by Nikolaus Schletterer, 1960s.

with identical dimensions and construction details. Prototypes of every type of window with all the relevant plans will be done so that the single owners (and the mandated craftsmen) can simply adopt them. Existing steel-framed windows will be maintained.

From the outside, the success of the efforts towards adequate projects will mainly be discernible on the façades towards the north. As in many similar cases, improving the insulation of the façades is most delicate. A first intention with an external insulation of 12, 8 or 6 centimetres, covered by plaster, was abandoned, as it would have greatly altered the expression of the façades in relation to the intelligently differentiated position of the openings and windows. As every owner of a row would have been free to decide whether to insulate or not, the aspect of the façade would have become irregular for decades. Currently, proposals with 2,00 cm of extra thickness and/or a system of wall tempering (drying the wall increases its insulation capacity and assures comfort with lower ambient temperature) are being discussed.

Execution

To this day, the realization of the measures is not ensured for the Estate as a whole. The main reason is that a few owners haven't agreed to collaborate. However, the renewal of the roofs for one house is almost impossible or at least unreasonable, if it can't be done for an entire row.

In a first attempt a *society for the renewal* was founded. With enormous effort it undertook the described preliminary work and worked out a detailed project for the whole Estate. After several years of studies and projects, the majority of the owners rejected the proposed solution. The society was suspended. Subsequently, smaller groups of owners intended to go their own way. Submissions for plastic windows were requested, considerations for important outside-insulation were made, and proposals for additional drainpipes on the

façades were made in order to avoid the costly restoration of the inner pipes. A "wild" renewal of single houses or little groups of houses within a row without a clear guidance would be detrimental to the single houses, but especially the homogeneous character of Halen Estate as a whole.

Currently, for the upper western row, where a concerted action for all the houses seems to be possible, a new project is in preparation. It works with cheaper construction approaches than the project of the *society for the renewal* — hopefully the long-term durability will be satisfactory. It is possible that the concept, which seems to fulfil the rules and demands of the guidelines entirely, will be taken up by at least one other row.

The approach to the general restoration of Halen Estate is exemplary: clear and detailed statement of historic value — precise knowledge of the historic construction material and construction detail — exact guidelines for every intervention formulated in a common effort by owners, architects and authorities — attempt at a common and thus consistent realization. The conditions for preserving the document and the monument, as defined above, are largely respected.

It will be interesting to observe the implementation on the first row in its details. On one hand, a high quality of execution has to be reached in order to guarantee a long interval before the next maintenance is required. On the other hand, it will be crucial not to present a "new" Halen Estate, but to maintain the added value of age, the *patina*. The high architectural value and the cultural importance of the Estate are worth the effort. ■

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