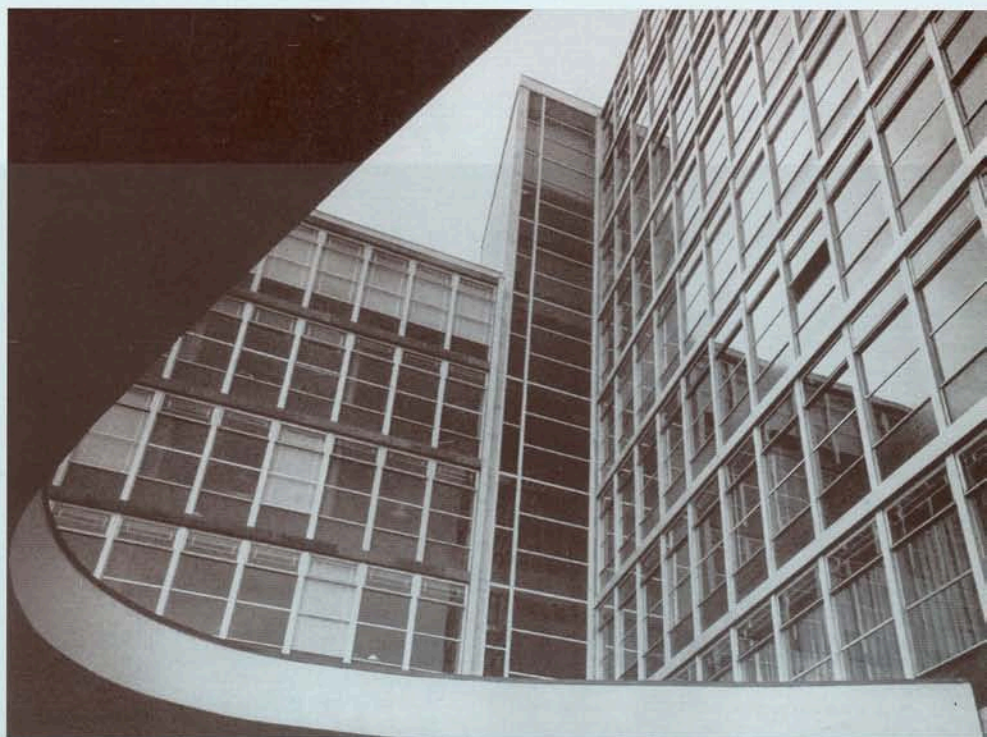


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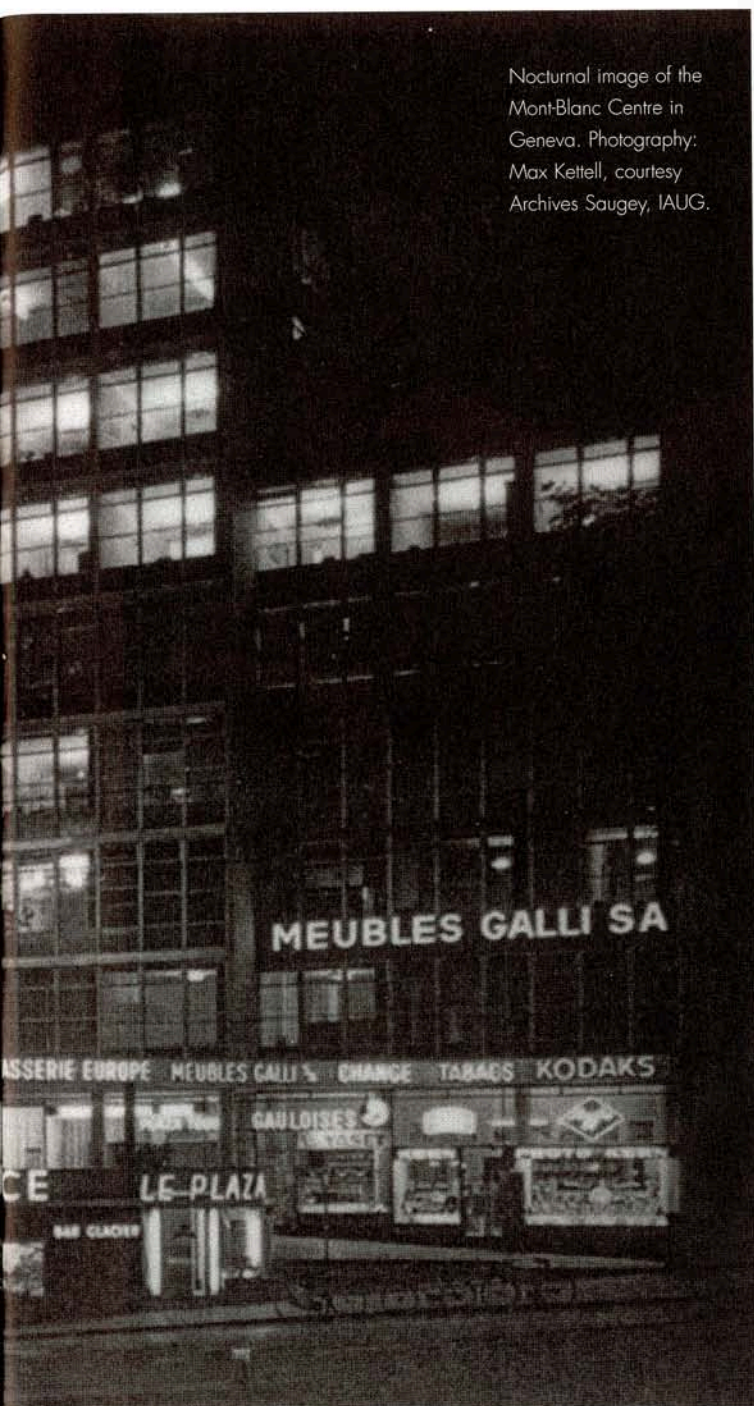


Commercial buildings for the city centre

The works of Marc Saugey (1908-1971)

Marc J. Saugey has been a key figure in 1950s and 60s architecture in Switzerland. With most of his buildings designed for Geneva's city centre, he became the inventor of a new architectural typology: the multi-purpose commercial building. On closer inspection, his work reveals an experimental use of new materials such as aluminium and innovative structural solutions. When three of his main buildings came under threat in the 1980s, the works of Saugey, who was formerly seen as a servant of the real estate market, have been revaluated and appreciated at their true value.

by Catherine Dumont d'Ayot and Franz Graf



Nocturnal image of the Mont-Blanc Centre in Geneva. Photography: Max Kettell, courtesy Archives Saugey, IAUG.

Marc Saugey built most of his buildings in the heart of Geneva. Indeed, he is one of those architects who - within the sphere of influence of the post-war CIAM and yet slightly more fluid in their design - gave town centres a new face. In Geneva, which had remained untouched by the war, it was a curious alliance of hygienic urbanism and commercial building promotion that led to the reconstruction of large parts of the heart of the town. Saugey was one of the key players in this field, managing to complete several large projects where others had failed. First, between 1948 and 1950 he built the Hôtel du Rhône - a hotel with 230 rooms linked to an office wing and a residential wing - near the Quai Terretini on some wasteland which had lain undeveloped following the demolition of the old Seujet neighbourhood. Between 1949-50 he constructed a



Saugey in his studio, in 1959. Photo taken from *Hommage à Saugey*. Photo: G. Klemm, Geneva.

Marc Saugey

Marc J. Saugey (1908-1971) was a key figure in Swiss architecture in the 1950s and 60s. Before that, from 1933 to 1940, he was one of the members of the *Atelier d'Architectes*, together with Louis Vincent, René Schwertz and Henri Lesemann. Despite the fact that the Second World War was in full spate, he then founded his own office. The Hôtel du Rhône and the Malagnou-Parc housing scheme, built in Geneva between 1948 and 1950, marked the start of the most productive decades of his career. Active as an architect, promoter, financier, and a member of the Commission for Urbanism, his works ranged from hotels, cinemas and commercial centres to housing. The number of his projects multiplied rapidly until the crisis that followed the 1964 *Exposition Nationale* in Lausanne put an end to that. Saugey then concentrated on large urban projects, including the planning of neighbourhoods and new towns near Geneva, as well as tourist infrastructures and hotels - mainly in Spain, but also in areas where tourism was just starting.

His ability to operate in many different areas, notably architecture, construction and finance, and his faith in progress drove him on an absolutist quest for new forms which reflected the 'new way of life'. His *Le Paris Cinema* (today the Arditi-Wilsdorf auditorium), and the *Mont-Blanc Centre* including shops, offices and the Plaza Cinema and the *Miremont-le-Crêt* apartments are quintessential examples of the spatiality of 1950s architecture.

The destruction of two of his most important buildings, the *Cité-Confédération* in 1977 and the *Gare-Centre* commercial centre in 1987, the latter a masterpiece of light-metal frame construction, and the threat of demolition of his cinema *Le Paris* in the 1980s called for a critical reassessment of his oeuvre. Since then, the works of Saugey, who was formerly seen as a servant of the real estate market, has been appreciated at its true value. - Catherine Dumont d'Ayot

Readings:

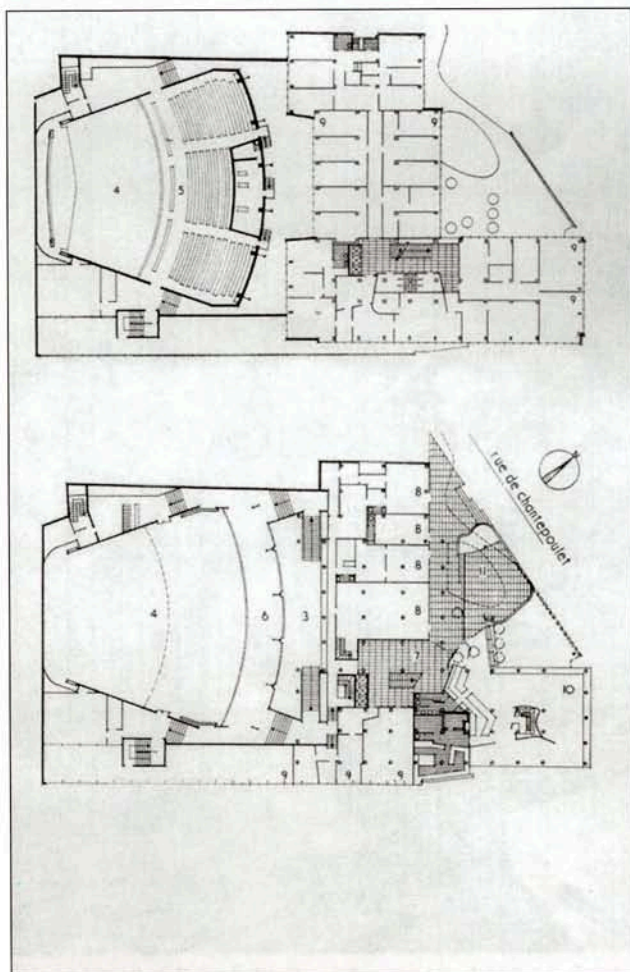
- Various authors, *Faces* (21) 1991, special issue on Marc Saugey.
- Sartoris, Alberto, *Hommage à Saugey* (1908-1971). *L'Architecture Retrouvée*, Geneva 1991.
- Various authors, *Le cinéma Manhattan à Genève. Révélation d'un espace*, Association pour la sauvegarde du cinéma Manhattan, Genève 1992.
- Various authors, *Miramont-le-Crêt (1956-1957)*. *Patrimoine architectural du XXe siècle*, special edition Patrimoine et Architecture (9) 2000.



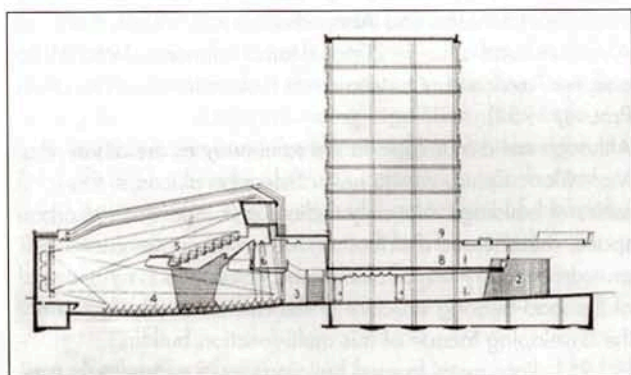
The generous lobby of the cinema, with its drop-shaped columns. Photography: Max Kettell, courtesy Archives Zwahlen & Mayr.

residential block in prefabricated concrete, Malagnou-Parc, on the outskirts of Geneva. After that, between 1951-54, he shifted his attention to the heart of the city when he got involved in three projects for Geneva's central area: Terreaux-Cornavin, Mont-Blanc Centre and Cité Confédération. It was in these three buildings that he was to develop a totally new architectural typology: the multi-purpose commercial building. This new agenda stemmed

directly from the economic and social upheavals of the post-war period and represented the concrete expression of the aspirations of people who not only desired a new life-style but who were also confident in progress. In order to get his architectural concept built, Saugey had to wear many different hats, notably those of architect, promoter, financier, politician, member of the Geneva Commission for Urbanism and many other professional groups such as the CIAM and the UIA, of



Plan of the upper ground-floor level, foyer level and section of the Mont-Blanc Centre. Key: 1. Public access, 2. Café, 3. Entrance hall to cinema, 4. Stalls, 5. Balcony, 6. Foyer, 7. Entrance to offices, 8. Shops, 9. Offices, 10. Restaurant, 11. Terrace.



author of texts promoting his vision for the town and the place of the people who lived in it, and, finally, of professor at the School of Architecture of the University of Geneva.

Innovation

Today Saugey's buildings interest us for two principal reasons: their spatial inventiveness and their technical innovation, two areas in fact intimately connected. This paper

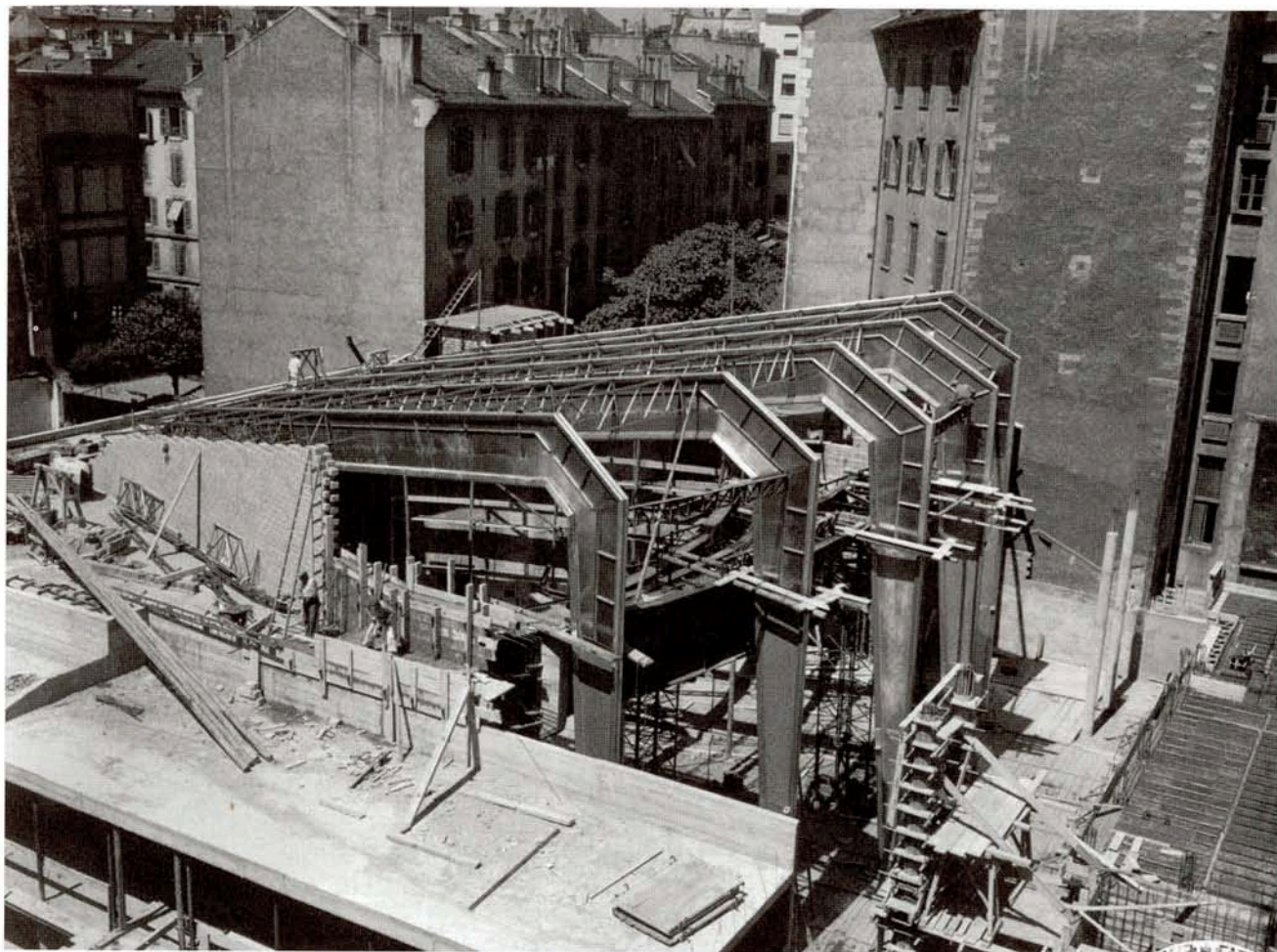
demonstrates some of the key features of Saugey's work, using as illustrations the Mont-Blanc Centre and the Plaza Cinema. These projects were run at a time when financial backing was hard to find and where success could only be based on the maximum profitability of the constructed and rented floor areas. In other words, space had to be rented or sold as much as possible and for the highest price. City blocks of the 19th Century usually had apartments above the commercial premises that occupied the ground level and sometime also the first floor. Saugey and his colleagues concentrated all their skill into enlarging the commercial premises, making the shops on the first floor equally as attractive as those on the ground floor.

In the Cité Confédération, a large helical ramp from the ground level connected with the first floor and a bar on the first underground level, an arrangement derived directly from certain department stores where the central void links different levels - though only visually. This can be seen mirrored even more closely on the Morris store designed by Frank Lloyd Wright for San Francisco in 1949. For the Terreaux-Cornavin block, diagonally aligned glazed rooflights were added underneath the structural frame of the building.

As for the Mont-Blanc Centre, it is almost a city passage which opens on the ground floor, emerging out onto the pavement and running up a slope before curving to access one of the restaurant terraces and the entrance to the building, a whole storey higher up. This slightly sloping walkway also gives access to the cinema where the lobby is a seamless continuation of the pavement. In fact, the architecture blurs of the distinction between the commercial (private) and the public (of collective use). All the different elements - that is, the passage, the plate glass windows, the lighting, the signage, the advertisements and the fonts used - are integrated into a coherent and continuous whole. They become the key players in the definition of the public space. This method of borrowing elements from the commercial world had many antecedents, notably from Oscar Nitzschke to the Luckhardt brothers, but in Saugey's buildings it acquired a particular coherence.

Efficiency

The fluidity and the absence of thresholds were developed into a leitmotiv for the Mont-Blanc project, with the stairwells becoming a key element. Many architects had engaged in *virtuoso* attempts to transform the stair into an object to be viewed, almost floating in space, a feature which was to become the trade mark of the corporate identity of the 1950s. Saugey, on the other hand, made his stairwells simple, though at the landings a play with spatial constriction and dilatation at the different floor levels provided a rich diversity of space. He thus brought about an organic sense to the access routes in the building that avoids both monotony and repetitiveness. The stairwell became a sculpture in negative, cut out of the body of the structure. The construction serves this spatial logic. Each element is optimised so as to become like a piece from a giant Meccano set, and yet, at the same time, each element is allotted such a specific form and material that it fits perfectly in place next to its neighbour, thus effacing itself completely.



Six double-articulated aluminium frames form the load-bearing structure of the cinema hall. Photography: Max Kettell, courtesy Archives Zwahlen & Mayr.

There is a continual oscillation between perception of the whole on the one hand and the individual parts on the other, which renders the building almost without substance. In addition to the virtuosity of form, the construction is also interesting in its technical ingenuity. As a real estate promoter, Saugey could not afford to let the site time run over and thus pay extra interest on his bank loans. This drove him to try new, labour saving technologies. On site at Malagnou-Parc, he built the first housing structure made entirely of prefabricated concrete in Switzerland. Realising that for such limited floor areas this technique was not profitable, on site at the Mont-Blanc Centre he adopted other procedures for building with concrete: notably the Vacuum Concrete method, where the water needed for the concrete was sucked up by a vacuum pump. This meant that the shuttering on the concrete pillars and slabs could be dismantled much earlier, leading to an article on the site in the magazine *Sciences et Vie* entitled 'Nine storeys in eight weeks!' His other most significant innovation was the use of aluminium for the structure of a cinema and for curtain walls.

Aluminium

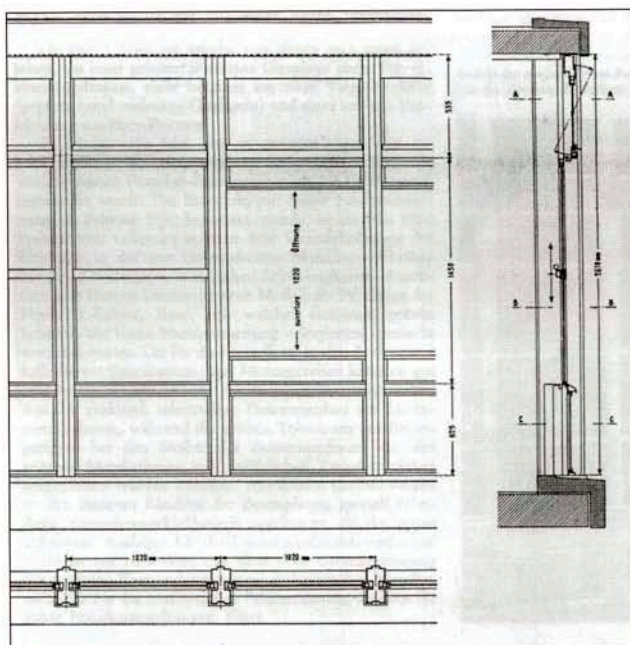
There are some types of architecture which in their image, construction, expression and even their *raison d'être* are indissolubly linked to one specific material. Glass, for example, in the St Gobain exhibition hall built for the *Exposition Internationale* in Paris in 1937, and concrete,

used for the whole town of Le Havre. Aluminium on the other hand, burst onto the building industry scene in the second half of the last century, and in celebration of this new material some remarkable, demonstrative buildings were constructed by signature companies: The ALCOA Building in Pittsburgh (Harrison and Abramovitz, 1951-1953), the Aluisse head office in Zürich (Hans Hoffmann, 1955-1956) and the *Pavillon du Centenaire de l'Aluminium* in Paris (Jean Prouvé, 1954).

Although not a manifesto in the same way as the others, the Mont-Blanc Centre should nevertheless be placed in this series of buildings. Not only radical in its approach to urban space, rhetoric and distribution, the structure also contained an extraordinary use of aluminium, notably in the key areas of the load-bearing structure of the cinema auditorium and the enveloping facade of this multi-function building.

In 1951, light-metal framed buildings were exceedingly rare. The technique had been used for some military bridges, but its first real appearance had been in the beautiful trusses of certain hangars in London - with a 46-metre span - built to house that quintessentially aluminium object, the aeroplane. Furthermore, the cost, its poor workability, the high coefficient of thermal dilation and the difficulty of use on site were rapidly to preclude any widespread adoption of the technique in building.

The load-bearing frame of the Cinema Plaza, the first of its type in Switzerland (even perhaps Europe), was already

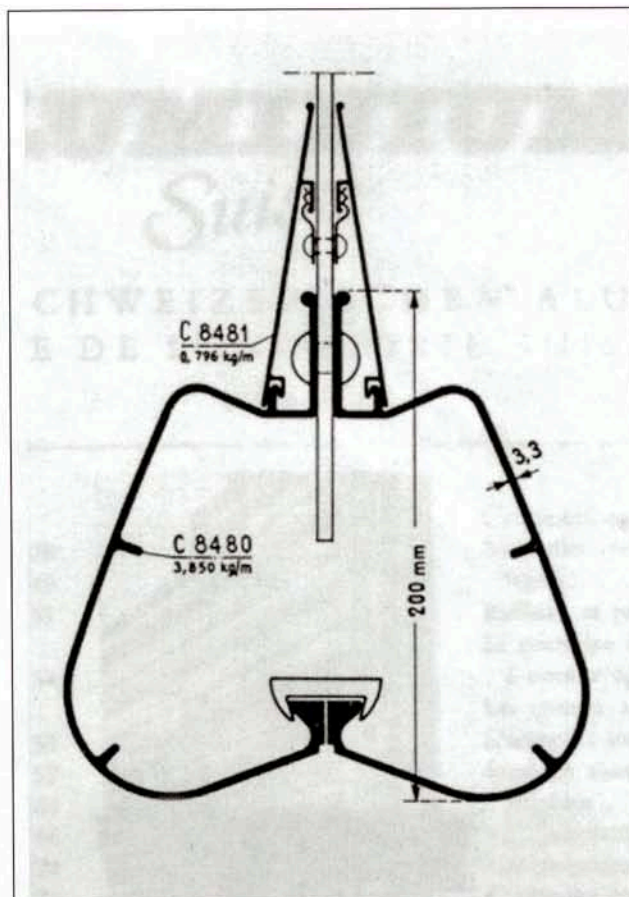


Typical sections of the facade with aluminium details. Key: 1. Wired glass spandrel panel, 2. Precast concrete sill, 3. Aluminium fascia, 4. Insulated apron, 11. Aluminium mullions. Drawing courtesy Archives Saugey, IAUG.

precocious and rare without considering its use of aluminium. The metal's rigid qualities engendered certain precautions: the six double-articulated porticoes forming the principal load-bearing elements of the frame were to be built completely independent of other elements in the building, the facades, and most notably the principal balcony, constructed as if they were a gigantic piece of ferro-concrete furniture inserted into the structure. The form of the portico was to be altered to fit with a town-planning regulation - the angle between the vertical and the horizontal was broken - the frame being flat and smooth when viewed but perforated and reinforced when received into the thickness of the roof. The roof does not cover the structure but is inserted in-between the load-bearing elements. The fanned braces on the outside project outwards.

Experiment

On the interior of the auditorium, the visible frame and the lower parts of the trusses are lit on the flanks by indirect lighting which picks out the contours and gives a reflective effect. For all of the structural elements, the natural colour of the aluminium was preserved and fixed using a polishing and anodising process. In the lobby, the vertical elements in the porticoes, that is, the columns, have a variable inertia core which increases towards the ceiling. The wings are not laminated steel 'H' columns but rather composite elements, which are extruded and riveted to the core. Profiled



Section through the vertical columns in the lobby, with their typical droplet form. Drawing courtesy Archives Saugey, IAUG.

aluminium elements produced using this process can be curved or complex, and Marc Saugey took advantage of this to give his structure a profile which had no precedent (or any widely diffuse descendants, it must be said). Here again, the viewer is presented with the experimental nature of the work, not only in the use of a new material but also in the possible forms which he suggested. The rounded forms of the two half-shells gradually develop through other shapes to culminate in a sort of droplet feature, much closer to the aerodynamic form of an aeroplane fuselage than to the metal-framed factories typical of the pre-war period. The rounded forms are riveted to the core, but this mechanical link is finished with a joint cover, again in aluminium but coloured grey blue, making the column smooth and fluid. Indeed, fluidity and spatial openness are the characteristic features of this structural arrangement, and they link 'en filade' the cinema spaces - the screen, stalls, foyer and entrance - to the public walkway and, further out, the Rue Chantepoulet.

Curtain wall

What sort of face should be given to a post-war contemporary town as a replacement to the historical framework? During the year in which the project was finalised (1951), the facades of the Mont-Blanc Centre transformed from a version which was relatively close to what Saugey had built at Malagnou-Parc - a subframe with



Left: The *Fédération du Bâtiment* in Paris (Prouvé, 1949), that involved floor-to-ceiling aluminium elements with vertical sash windows and a sophisticated ventilation system, has been key in the development of light aluminium facades. Photo taken from Jean Prouvé, *Centre Pompidou*, Paris 1990.

Right: Overview of the Mont-Blanc Centre in Geneva. Photography: Max Kettell, courtesy Archives Saugey, IAUG.

a cladding that involved vision-panel glazing over opaque glass spandrel panels - to an arrangement of large sections of aluminium and glass between stone-faced masonry sections.

The choice of a curtain wall as an envelope for the facade of a multipurpose building was not an obvious one. It reveals once again the experimental nature of the project and the will and innovative capacity of the principal actors, namely the architect, the engineers, the contractor and the producers of the materials.

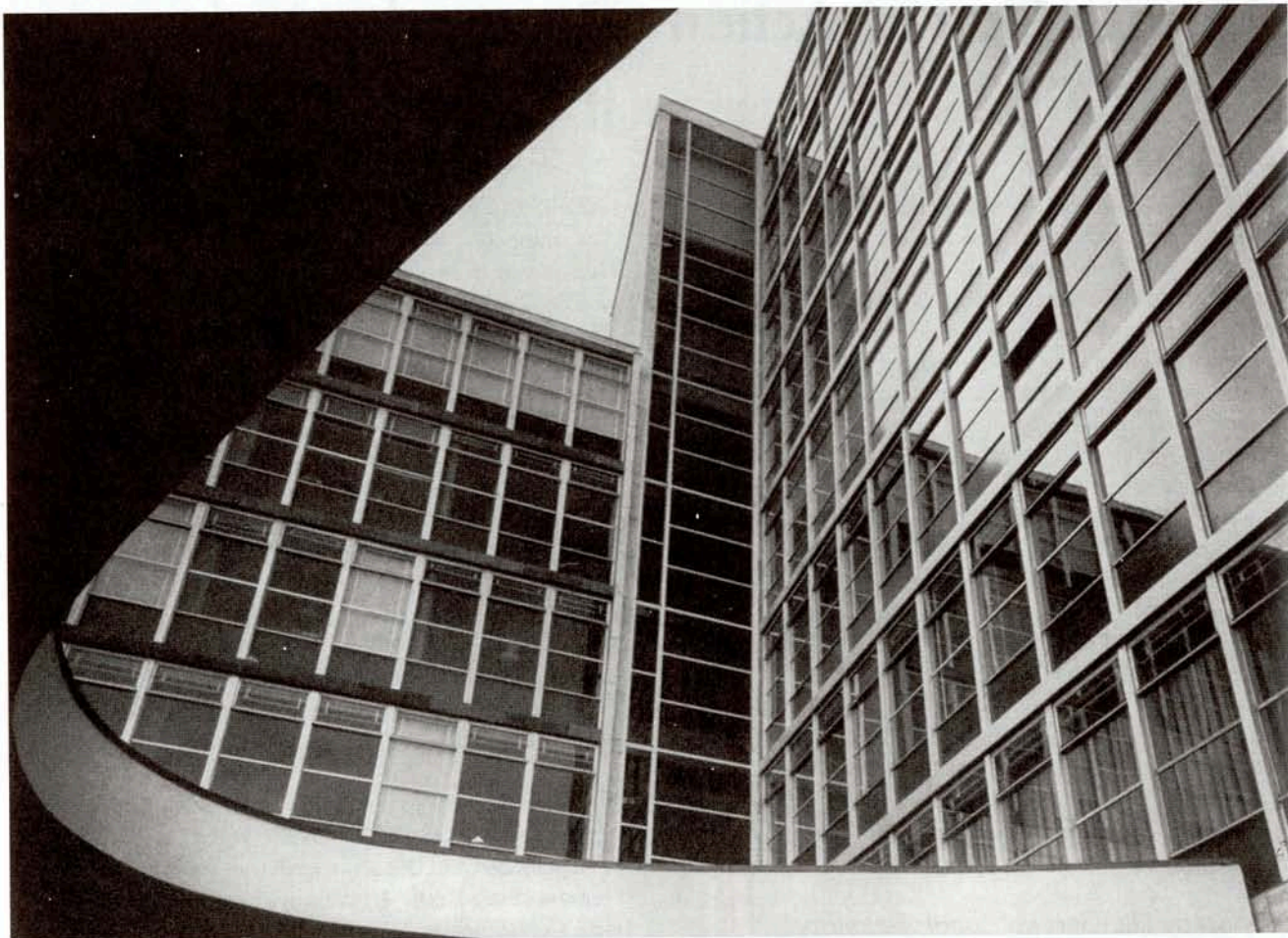
In 1951, the pioneering work of the pre-war period looked technically very rudimentary and the American curtain walls such as those in Lake Shore Drive, at the Alcoa Building and the Lever House were under construction. In Paris, the facades of the head office of the *Fédération Nationale du Bâtiment* (FNB) built by Jean Prouvé with aluminium and glass panels were the subject of many publications. And indeed, that building was not uninfluential on the Mont-Blanc Centre.

The design which reused the materials, the dimensions, the openings, the position between the horizontal slabs and the building method on site and which appeared on the office plans of 1951, was to be reused on Rue Chantepoulet in Geneva. This edifice composed of 1000 prefabricated pieces of light metal made by the firm Zwahlen and Mayr was thus a first of its kind in Switzerland, and the new process considerably reduced construction time. The whole construction took 15 months, from February 1952 to May 1953.

Prototype

The sections of the facade are standard 2610 mm high and 1020 mm wide elements that comprise an opening impost, sash panes and a spandrel panel. About 24 kg of pressure-moulded aluminium alloy was used per element. The elements possess a particularly clean and smooth colourlessly anodised surface which was not machine-tooled. All the windows have a single pane. The frame is composed of hollow-core aluminium profiles. The double-hung sash windows - one moving up and the other going down - are connected using steel wire run over a pulley which makes it possible to operate the sash without much effort. The jambs involve a 170 mm profile, which also contains the groove for the sliding windows. Once mounted up against the two top profiles and the jamb of the neighbouring window, this combination of profiles forms a slender and stable column. The four profiles which make up this column are insulated from each other along their length by an insulation band. Passing then from the exterior to the interior, the spandrel panel comprises a plate of green wired glass, a cushion of air, an insulating cavity of compressed glass fibre and an interior lining in hard wood fibre. The practically perfect fit of these light metal cladding panels was especially appreciated during construction. The wide tolerance of the reinforced concrete skeleton is cancelled out by the precise arrangement of the artificial stone facing covering the outer edge of the slabs. The mounts of the aluminium panels are supported and fixed on these facings.¹

Though, it must be said that despite all this, such a



construction procedure has its limitations in terms of mounting: namely, the fixing of the panels to the artificial stone facings has to be done using mortar. In addition, there are design problems: The movement of the hinge impost hinders the opening of the upper sash. Furthermore, the panels here do not possess the extreme sophistication of those of the FNB which were bolted both to the aluminium girders and the flooring and whose ventilation at the top was provided by ventilators which sealed automatically as they slid one onto the other. But given that it was the first curtain wall entirely made of aluminium, designed and built in close collaboration with Alusuisse, the Mont-Blanc Centre should be considered as the prototype, with all the imperfections which that entails, of many facades which were to be built throughout the 1950s and 60s.

The extraordinary mechanical precision of the panels on the FNB did not impress those who demolished it. Prouvé's curtain wall was replaced with a pale imitation designed to make the viewer believe (by means of a peculiar shorthand) that a mere image is sufficient to preserve the memory of a particular technology. The Mont-Blanc Centre deserves a better fate.

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Note:

- 1 From: *Aluminium Suisse* (3) 1953.