

## THE GRAND PALAIS - ARCHITECTURAL COMPROMISE AS A PROGRAMME

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The universal exposition of 1889 had been an exhibition on the occasion of the centenary celebrations of the French Revolution. It was patriotic, social and republican. The latter feature led to monarchic governments, including the German emperor, refusing to attend. Its external appearance had been characterised by two gigantic realisations of the very latest in iron and steel architecture: the Galerie des Machines by Ferdinand-Charles-Louis Dutert and Victor Contamin, and Gustave Eiffel's tower. The massive, triple-arched girder construction, with a width of 113 m and a height of 48 m, extended along an area of 420 m length without any intermediate support, this creating an immense interior space beneath glass its roof, the limits of which seemed to blur into indistinction. Eiffel's tower, with a height of nearly 1000 foot - 300 m - , represented a record for a tall building and with its lattice construction and the elegant riding line of its profile, it was the extreme expression of a functional construction.

The universal exposition of 1900 was to be free of such political bias and technical one-sidedness. At the end of the century it was intended to present the sum total of the century: "L'exposition de 1900 constituera la synthèse, déterminera la philosophie du XIX<sup>e</sup> siècle", the minister for industry and commerce, Jules Roche, remarked to President Sadi Carnot in 1892. (1) Harmony through compromise, and also universality were the aims of the exhibition. A year later began the planning of the project which was placed under the direction of Alfred Picard as commissaire général. Picard, from Strasbourg by birth, for many years director general of the bridges and highways department, and a member of the Council of State, had already played a leading role in the 1889 exhibition.

The site chosen was, as on earlier occasions, the still vacant large area in the city centre through which the Seine flowed as a dividing, and at the same time stimulating element: the Champ de Mars with the Galerie des Machines and the Eiffel Tower, proud relics of 1889, the Trocadéro, which had been the exhibition palace of 1878, the banks of the Seine and the area between the river and the Champs Elysées, on which the Palais de l'Industrie from 1855 was still standing at that time, the oldest and earliest exhibition building in Paris, and then the Esplanade in front of the Hôtel des Invalides. This unusually favourable site at the heart of the capital, had already contributed greatly to the success of the universal exhibitions held in Paris. In addition, a broad bridge was to be built to link the Esplanade in front of the Hôtel des Invalides with the right bank. A first competition for ideas for fashioning the site with its many sections gave the competitors the freedom to demolish all the existing buildings on the site if they should consider this necessary, including the Eiffel Tower and the Galerie des Machines, but excluding the Trocadéro. At that time, the Palais de l'Industrie, which Napoleon III had had built for the first French universal exposition in 1855 by an English company under the direction of Jean-Marie Viel (1796-1863), and which could also be used as a cavalry barracks, fell victim to a more generous planning. The demolition of the unloved building caused heated discussions, in which particularly those artists were involved who held their salons there. Its place was to be taken by two palaces for the fine arts, the Grand Palais and the Petit Palais. The basic idea here for the new arrangement was as

French as it was Parisian: a new imposing avenue was to lead over the Seine towards the dome of the Hôtel des Invalides, so that standing at its intersection with the Champs Elysées, the present-day Place Clemenceau, both the native and the foreigner would have a view both towards the tomb of Napoleon, "le César des premières années du siècle", as also towards his Arc de Triomphe. Thus the sense of great perspective from the age of absolutism and the hero worship of the nineteenth century became the cause of one of the best balanced creations in the Parisian city landscape.

A second exhibition in 1896 was for the two palaces. Only Frenchmen were eligible to enter and the trees along the Champs Elysées were to be protected as far as possible. The site itself was in irregular trapezoid form of somewhat unfavourable form. The building concept envisaged an exhibition area of 40 000 sqm for the Grand Palais which was to be filled with contemporary art for the universal exposition. Later it was intended that the palace could also be used for other purposes, such as equestrian contests and agricultural competitions. The annual salons for the fine arts were also to be held here. On the other hand, the Petit Palais, with an area of just 7000 sqm, was intended to provide a permanent home for a retrospective exhibition of French art. Louis Albert Louvet (1866-1936) won the first prize for the Grand Palais. His design already showed the long-stretched steel construction, broken in the middle by a shallow cupola which nowadays roofs the almost 240 m long building almost unnoticed. However, it was the solution proposed for the ground plan which particularly fascinated the judges. Louvet had designed it in the form of a T, so that the visitor, on entering beneath the cupola, at the point of intersection, was confronted by three equally large halls, the centre one of which ended in a majestic stairway leading up to the surrounding galleries. This treatment of the space had a surprising effect.

The judges were less satisfied with the façade. Louvet had envisaged it as being two-storeyed, with an upper storey decorated with pilasters and aedicule windows. This solution, which had echoes of the Renaissance about it, appeared to have too many small sections. Therefore, the second prize was awarded to Henri Deglane (1855-1921) and René Binet (1866-1911). Their façade envisaged the alternation of a colossal arrangement of double pillars reaching up from the pedestal to the upper storey, set before the façade, and a simple recessed row of pillars on the upper storey. The two architects' façade had a very plastic relief, and the influence of the Louvre colonnade was only too obvious. The restlessness emanating from the façade was avoided by the third prizewinner, Albert Thomas (1847-1907) in a simple but certain fashion. He copied Jacque-Ange Gabriel's pillared façade on the Place de la Concorde.

By the way the jury distributed the prizes, the character of the building had already been determined in broad outlines. A steel construction had been decided on, which would guarantee a great degree of brightness in the exhibition pavilion through its roof lights, so that the surface area of the ground floor and the galleries could be used to full advantage. This made it possible to dispense for the most part with light from the side with the result that the frontages along the two avenues could be designed as closed decorative façades with colonnades. The three prizewinners were together engaged with its execution, with Deglane responsible for the façade facing onto the Ave. Nicholas II, the present-day Ave. Churchill, Louvet and

Deglane for the steel construction, and Thomas for the colonnade facing onto the Ave. d'Antin.

The revised joint project envisaged an H-shaped ground plan which would be formed by the long-stretched structures facing onto the two avenues and a connecting section. Both frontages were given colonnades and imposing portals. Whereas the larger, eastern wing, with the steel construction, encompassed the exhibition hall proper, the smaller, western wing contained an oval hall which was intended to serve both as a concert hall and as a foyer. Halls, salons, smaller rooms and the administrative offices were in the cross section and at the ends. It was possible to expand the exhibition area by using them, if required. Construction work began in April 1897.

The present main view is formed by Deglane's façade. Over a low basement level, which originally contained the stables for the horses in equestrian events which are nowadays used by the Paris police for their guardroom, the colonnade, with its gigantic fluted pillars and ionic capitals, appears as the dominating motive. The passageway behind the pillars, which is nowadays closed, once served the exhausted visitor as a promenade, where he could take a stroll and a breath of fresh air ... Side recessals encompass the portico, which is divided into three parts by double pillars and extends the full width of the central section. Above them are placed groups of statues, "Art" and "Peace". The corners of the structure have been ingeniously recessed in convex forms; they also have entrances. The entablature and balustrade which conceal the glass roof, emphasise the length of the palais.

The rear side, the present entrance to the Palais de la Découverte, the science museum, but which was, however, originally intended as the entrance for heads of state, is more traditional and less successful as a design. Thomas here developed a variant to the Louvre colonnade with high double pillars, which, more-over, do not achieve a full effect in the relatively narrow Ave. d'Antin. Behind the pillars there is a colourful ceramic frieze along the wall showing the history of the arts from the Assyrians down to the Third Republic, a prestige product of the porcelain manufacture of Sèvres.

Behind this conservative exterior as a housing is - as was deliberately intended by the contemporaries - one of the most handsome interiors in steel and glass architecture. In its bright transparency, its breadth and expanse, it is a most distinct contrast to the rows of pillars and uniformity of the wall. Semi-circular glass roofs, borne on the long side by six and in depth by four semi-circular cantilever lattice girders as trusses, provide the vaulting above the area of the three-aisled layout. A glass gable is mounted at the peak of the vault in order to provide ventilation. Horizontal lattice girders bear the stretchers and provide longitudinal bracing. The ends of the roofs are hipped, and the corners are slightly flattened off. The crossing is vaulted at a height of 40 m by a shallow, 70 m wide cupola, which is supported on diagonal trusses. In addition, there are radial stretch trusses which rise up from the crossing arches and the pendentives. The cupola also has a ventilation ring, while above the retainer ring there is a modest pinnacle to the cupola with a cone beneath.

The perfect balance of the area and the harmony of the proportions become immediately apparent. The galleries prepare the visitor for the free, weightless soar of the glass vaulting. They span, in measured rhythm, from support to support, and encompass the area beneath their sail-like vaulting like a plastic body. There are no corners or sharp edges to be seen, everything is rounded, engaged

gently together, transient, moulded to the required shape. The corner pillars of the crossing, with their steel supports, divide up like the branches of a tree. While one arm bends over to one side, the other reaches high up to the zenith of the cupola. The coldness of the steel appears as though it has been gripped by an organic suppleness. Beneath the broad vault, the laws of bearing and loading, of pillar and capital which the façade heralds so programmatically and extravagantly, lose their validity. The pillars rise in weightless vigour, meeting together without a break and pliantly encompass the area.

The organic harmony pervading the whole structure resounds undisputedly in the floral ornamentation which is to be found sparingly, but nonetheless noticeably, here and there in the frame, in the apertures in the blind arches of the galleries or in the reinforcements with angle irons on the cross pieces at the joints between supports and trusses. It luxuriates and runs to leaf strangely at the stairway which Louvet moved as a visual focus from a position exactly opposite the entrance to the rear of the central hall. The visitor was intended to ascend this stairway from the ground floor with its sculptures to the salons with paintings. It lies athwart the entire breadth of the hall, reaching out far into the room on both sides and rising up gently. It leads up to the galleries above in two flights with three arms and three landings each. With its free-standing, sweeping flights of steps, with the treads broadening and expanding at the top and bottom, it becomes a classical example of urban spaciousness and the opulence of the capital.

In the previous century, the broad flight of steps had been one of the main themes of Parisian architecture. Once its home had been in the palaces of absolutist princes as a place of monarchic representation, now it was adopted by the bourgeoisie in its newly won sovereignty in public buildings as the place of self-presentation of bourgeois society. Charles Garnier created the most magnificent solution in the opera, but also the most traditional one which most closely approached palace design. This was not so in the case of the stairs in department stores with their soaring flights rising up in elegant, intertwined curves to the uppermost floors and which were filled with a steady mass of ascending and descending customers, such as the staircases in Bon Marché (1874), the Grands Magasins du Louvre (1877) or Dufavel (1890). In the case of Louvet's stairway, on the other hand, communication and representation are evenly balanced. However inviting the broad steps might be to ascend to the salons, the intermediate landings delay the ascent and invite the visitor to tarry a while. It was possible to see and be seen. The stairway, in combination with the galleries, which simultaneously become platforms, becomes a stage, like a theatre. Not only was art exhibited, but also its public, and, of course, the latter liked this.

Louvet used green porphyry pillars as supports for the landings, and the squat shafts with their pronounced bulge gave the impression of bearing an enormous load. The steel reinforcement simultaneously emphasises and alleviates this impression, rising up as it does from the base ring, with bands surrounding the shaft, then moulded up over the collar to make a transition, as a pure steel construction, from the stone support to the steel stringboard. A programmatic architectural example of steel coming to the assistance of stone. The intermediate piece linking the vertical with the horizontal and diagonal presents itself as an artistic steel bundle of sprouting seeds and shoots, the tips of which appear as though they were unrolling and which entwine the lower side of the stringboard like creepers.

The staircase itself is again an intimate combination of stone and steel. The treads in the light-coloured stone from Comblanchien, a small village on the Côte d'Or in Burgundy with its marble bearing quarries, are borne and held together by the steel skeleton, the ribs of which are distinguished from the carefully relieved treads by their dark colouring. In this construction, there is nothing which is concealed or hidden. Indeed, instead the construction elements are used with their contrasting nature of material and colour to provide the aesthetic effect.

"In the future Mr. Louvet's stairs will certainly be regarded as one of the strangest decorative constructions to have been executed at this end of the century. It really is art nouveau, in the truest sense of the word, and one of the best works, because it is skilfully arranged and logically designed, in complete harmony with the new material, making it appear supple" was the judgement of no less an expert than Louis-Charles Boileau (1837-1914), who had spent his whole life dealing with the new possibilities offered by steel architecture. "With his staircase in the Grand Palais, Mr. Louvet has discovered the poetry of the metal in great construction". (2)

The steel construction of the Grand Palais is not a technical pioneering performance such as Contamin's and Dutert's hall or Eiffel's tower. But it does accomplish what neither Contamin, Dutert nor Eiffel thought of, the combination of tradition and progress. Louvet told Boileau that his engineers had been determined to take away steel's cold image, to bend it supply and to let it develop into la grande coquette. The construction as grande coquette attracts attention to itself and also to the steel which was making advances at the stone.

Succeeding generations were not very impressed with the buildings of the universal exposition of 1900. They regarded them as the great fall after the achievements of 1889, the breaking-off of a development and a return to historicism. But this way of looking at things was too simple, and historicism is a term which is much too readily used for it to give an accurate description of the application of earlier stylistic elements in each case. In 1900 it was still not the same whether a hall was being constructed for exhibiting machines of for works of art. The observer was to be able to recognise what structure he had before him and what function it had. When the Louvre opened its doors in 1793 as the Musée de la République, the colonnade became the characteristic feature of the art museum. In the tradition of an architecture parlante, for which Ledoux had once fought, and in which, at the exhibition, the nations presented themselves in their various native architectural forms, the structure was distinguished by them as a temple of the muses. Thus anyone who regards the Grand Palais as representing a return to historicism is making the mistake of restricting his observation to the exterior, and fails to see the importance of the colonnade.

Anyone going into the interior had one of the finest and most modern rooms before him, which only the twentieth century, feeling it was no longer able to afford the spaciousness of the period around 1900, is beginning to mutilate with petty interior structures. The building represents the synthesis between architecture and construction, between tradition and progress, in short, the artistic and technical compromise. In keeping with the programme of the universal exposition, it unites those forces in architecture history which had become effective in the nineteenth century in a programmatic fashion. This wish to bring together is also eloquently expressed in the sculptural decoration. Allegorical statues, reliefs and mosaics portray the

individual arts and also the historical epochs. On the threshold of the century, the universality attains its sum total, and the quadrigas at the corners storm off over a fallen Chronos into the new century.

#### Notes

1. L'Exposition de Paris 1900, publiée avec la collaboration d'écrivains spéciaux et de meilleurs artistes, in: Encyclopédie du Siècle, Paris 5.d. Vol. 1, p. 2.
2. Louis-Charles Boileau: Causerie, in: L'Architecture, Vol. XII 1899, p. 186.