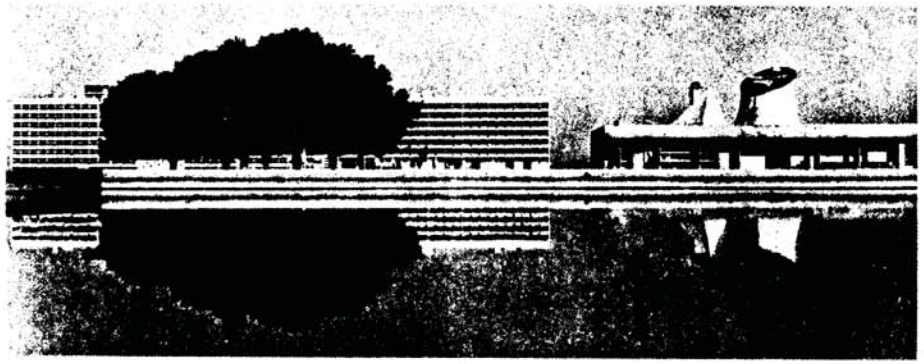
profiles of these shell forms were derived in part from the livestock and landscape of the region. The evident intent was to represent a modern Indian identity that would be free from any association with its colonial past.

At the same time, the enormous scale of the Capitol deprived it of those public attributes of the 'heart of the city' which, at CIAM VIII, held at Hoddesdon in 1952, Sert had seen as being dependent on 'walking distances and man's angle of vision'. Within the temenos of the Capitol, where it takes over twenty minutes to walk from the Secretariat to the High Court, the presence of man is more metaphysical than real (once again recalling De Chirico). Le Corbusier's Neo-Classical heritage had emerged to evoke the landscape of the *genre terrible*: the representative buildings of the 'three powers' – the High Court, the Assembly and the Secretariat – were related not, as on the Acropolis, by the configuration of the site, but rather by abstract sight lines, receding across vast distances, a progressive foreshortening whose only limits seemed to lie with the mountains on the horizon.

The realization of Chandigarh proper, as an abstract and ill-advised plan, can (as Stanislaus von Moos has argued) hardly be separated from the political aspirations of India at the time of its independence. For Chandigarh was more than the capital of the Punjab: it was the symbol of the New India. It epitomized the idea of a modern industrial state, the utopian destiny which Nehru had envisaged for India in total opposition to Gandhi's will. Thus Chandigarh had already been laid out as a picturesque 'motopian' suburbia by the American planner Albert Mayer before its hasty rationalization into a more or less orthogonal road network at the hands of Le Corbusier, in association with Pierre Jeanneret, Jane Drew and Maxwell Fry. The emerging crisis of Western Enlightenment, its inability to nurture an existing culture or even to sustain the significance of its own Classical forms, its lack of any goal beyond constant technical innovation and optimum economic growth, all seem to be summed up in the tragedy of Chandigarh – a city designed for automobiles in a country where many, as yet, still lack a bicycle.

224 Le Corbusier, Chandigarh, *c.* 1951. Sketches of cattle and vernacular building forms, and section through the Secretariat.

225 Le Corbusier with Jeanneret, Drew and Fry, Chandigarh Capitol, 1957–65. Secretariat (left) and Assembly Buildings.



Chapter 26

Mies van der Rohe and the monumentalization of technique 1933–67

In architecture there is only one man whom even the young men can defend and that is Mies van der Rohe. Mies has always kept out of politics and has always taken his stand against functionalism. No one can accuse Mies's houses of looking like factories. Two factors especially make Mies's acceptance as the new architect possible. First, Mies is respected by the conservatives. Even the *Kampfbund für Deutsche Kultur* has nothing against him. Secondly, Mies has just won . . . a competition for the new building of the Reichsbank. The jury were older architects and representatives of the bank.

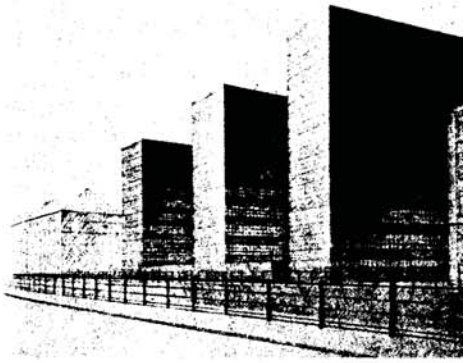
If (and it may be a long if) Mies should build this building it would clinch his position. A good modern Reichsbank would satisfy the new craving for monumentality, but above it all it would prove to the German intellectuals and to foreign countries that the new Germany is not bent on destroying all the splendid modern arts which have been built up in recent years.

Philip Johnson
'Architecture in the Third Reich',
Horn and Hound, 1933

Mies van der Rohe's entry for the Reichsbank competition of 1933 was the beginning of a transformation in his work, from informal asymmetry to symmetrical monumentality. This move towards the monumental eventually culminated in the development of a highly rationalized building method that was widely adopted in the 1950s by the American building industry and its corporate clientele. The Reichsbank design hinted at this future development in more ways than one, for it established a preference not only for symmetry but also for a certain tectonic which tended to move away from the dynamic spatial effects of his earlier career. At the same time the client was the institutional establishment, a patron that Mies was to serve throughout his practice in the United States.

The Reichsbank design was not simply a return to Schinkel, who, except in Mies's work of the early 1920s, had always been a latent influence. It was more a return to the tectonics of Mies's concrete office building, first published in the magazine *G* in 1923, the emphasis in both projects being on the expressive qualities of an objective building technique, logically conceived and rigorously executed. In 1926 Mies had spoken of architecture as being 'the will of the epoch translated into space'. In Hegelian terms, he saw this will as historically determined technique, as a self-evident fact, only to be refined by the spirit. The intrinsic monumentality of his later work was predicated on such a refinement. For Mies, technology was the cultural manifestation of modern man, and in this respect

226 Mies van der Rohe, project for the Reichsbank, Berlin, 1933.



the Reichsbank must be regarded as his first essay in the monumentalization of technique. This accounts for its warehouse-like appearance, for the neutral, scarcely modulated treatment of its curtain wall.

Between 1933 and the early 1950s, Mies's work was to oscillate between asymmetry and symmetry, between technique as found and the monumentalization of technique as form. This variation in expression occurred not only from one building to the next but also within a single structure. He summed up the overriding cultural import that he attached to technique in his address to the Illinois Institute of Technology in 1950:

Technology is rooted in the past. It dominates the present and tends into the future. It is a real historical movement – one of the great movements which shape and represent their epoch.

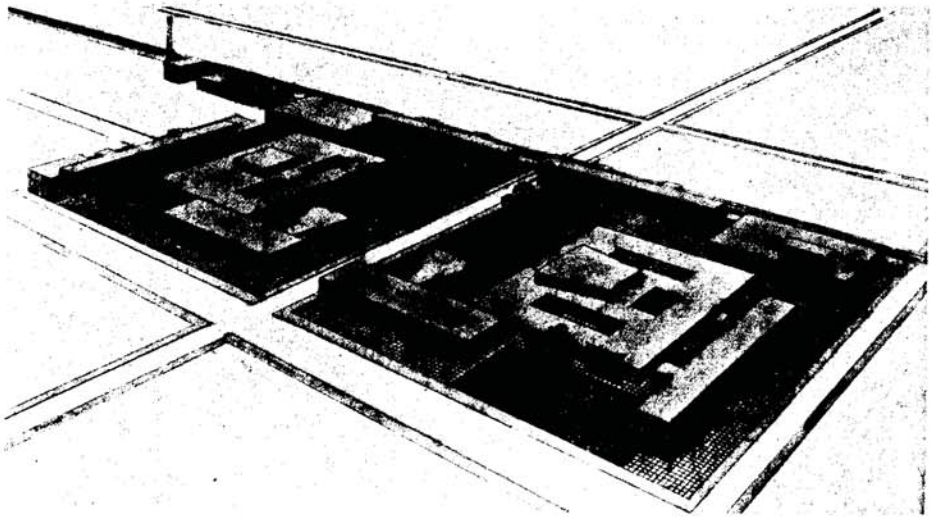
It can be compared only with the classic discovery of man as a person, the Roman will to power, and the religious movement of the Middle Ages.

Technology is far more than a method, it is a world in itself. As a method it is superior in almost every respect. But only where it is left to itself, as in gigantic structures of engineering, there technology reveals its true nature. . . . Whenever technology reaches its real fulfilment, it transcends into architecture. It is true that architecture depends on facts, but its real field of activity is in the realm of significance.

Mies van der Rohe's development after the mid-1930s concerned itself with the conciliation of two opposed systems. One was the heritage of Romantic Classicism which, when translated into the skeleton steel frame, pointed towards the dematerialization of architecture, to the mutation of built form into shifting planes suspended in diaphanous space – the image of Suprematism. The other was the authority of trabeated architecture as it had been inherited from the ancient world, the implacable elements of roof, beam, column and wall. Caught, as it were, between 'space' and 'structure', Mies constantly sought to express simultaneously both transparency and corporeality. The dichotomy revealed itself most sublimely in his attitude to glass, which he used in such a way as to allow it to change under light from the appearance of a reflective surface to the disappearance of the surface into pure transparency: on the one hand, the apparition of nothing, on the other, an evident need for support.

In this respect, the preliminary scheme for the Illinois Institute of Technology (IIT) campus in Chicago, prepared in 1939, two years after his arrival in the United States, is clearly as Suprematist in feeling as parts of the Barcelona Pavilion. As in the Reichsbank project, the

227 Mies van der Rohe, preliminary scheme for the Illinois Institute of Technology, Chicago, 1939.



plan is disposed about a single axis of symmetry. All the structures are four storeys high and rendered as pure prisms, faced in graph-paper curtain walls, their surfaces animated by skyscape reflections. These walls are shown sliding behind occasional clumps of trees, eliding into projecting ivy-clad brick planes, poised on the edge of their stereometric masses. Apart from a Neo-Classical insistence on the visual reinforcement of corners with panels of brickwork, the effect is close to the Suprematist aesthetic of Ivan Leonidov, in particular to his Culture Park project of 1930.

At this point, Mies appears to be struggling with the generic relation of column to wall, particularly where the wall in question is largely of glass. The implicit solution in the first IIT proposal (as in the Reichsbank project) is to set the columns back from the glass face, but in the final 1940 version the columns are integrated into the wall. This development becomes explicit in the first building for the campus. The articulation of the column system in conjunction with the glazed plane becomes increasingly idealized and monumental with each successive structure.

This progressive idealization depended on the replacement of Mies's generic cruciform column section of the early 1930s by the standard American I-beam. The asymmetrical pinwheeling plans of the Barcelona Pavilion and the Tugendhat House at Brno demanded a non-directional column form, similar to the point supports that Mies used in his Berlin Building Exhibition house of 1931. By contrast, his preference from the Reichsbank onwards for a single axis of symmetry favoured the articulation of façades in terms of the directional axis of the I-beam. The development of his work at IIT, from the Minerals and Metals Research Building and the Library of 1942 to the Alumni Memorial Hall of 1945, is towards the idealization of the I-beam column, culminating in the square, concrete-clad steel columns of the Alumni Memorial Hall.

With the Library and the Alumni Memorial Hall, Mies was on the threshold of the building typology and structural syntax of his late career. At the same time, in the IIT Library he first projected a work whose monumentality

228 Mies van der Rohe, Minerals and Metals Research Building, IIT, Chicago, 1942.

depended on its great size – a gargantuanism that has obsessed Chicago architectural practice ever since (see the recent work by the leading designers of Skidmore, Owings and Merrill, and C.F. Murphy). Here Mies audaciously proposed a clear structural span of 20 metres (66 feet) wide, with glass panels measuring 5.5 x 3.7 metres (18 x 12 feet) and a single triple-height volume 91 x 61 metres (300 x 200 feet) in plan, broken only by a floor-to-floor book stack, an enclosed court and a suspended mezzanine. Where the Library anticipated Mies's later single-storey clear-span type (first clearly formulated in his drive-in restaurant project of 1946), the Alumni Memorial Hall anticipated his typical multi-storey slab, in which the glazing, the mullions and the structure of the external wall combine to form an articulated façade. Where the IIT Library led, by way of the drive-in restaurant, to Mies's project for the Mannheim Theatre of 1953 – a technological monument par excellence consisting of a large flat roof measuring 162 x 81 metres (530 x 266 feet) suspended from seven steel trusses – the detailing of the Alumni Hall was the formulation of the language that Mies would soon use for the realization of 860 Lake Shore Drive.

The Lake Shore Drive apartments, under construction between 1948 and 1951, took the kitchen, bathrooms and access cores of Mies's