

*... the desire to have students live among other citizens has turned out to be largely utopian. [The 'campus à la française'] ... does not correspond at all to the very complete conception of the American campus.*

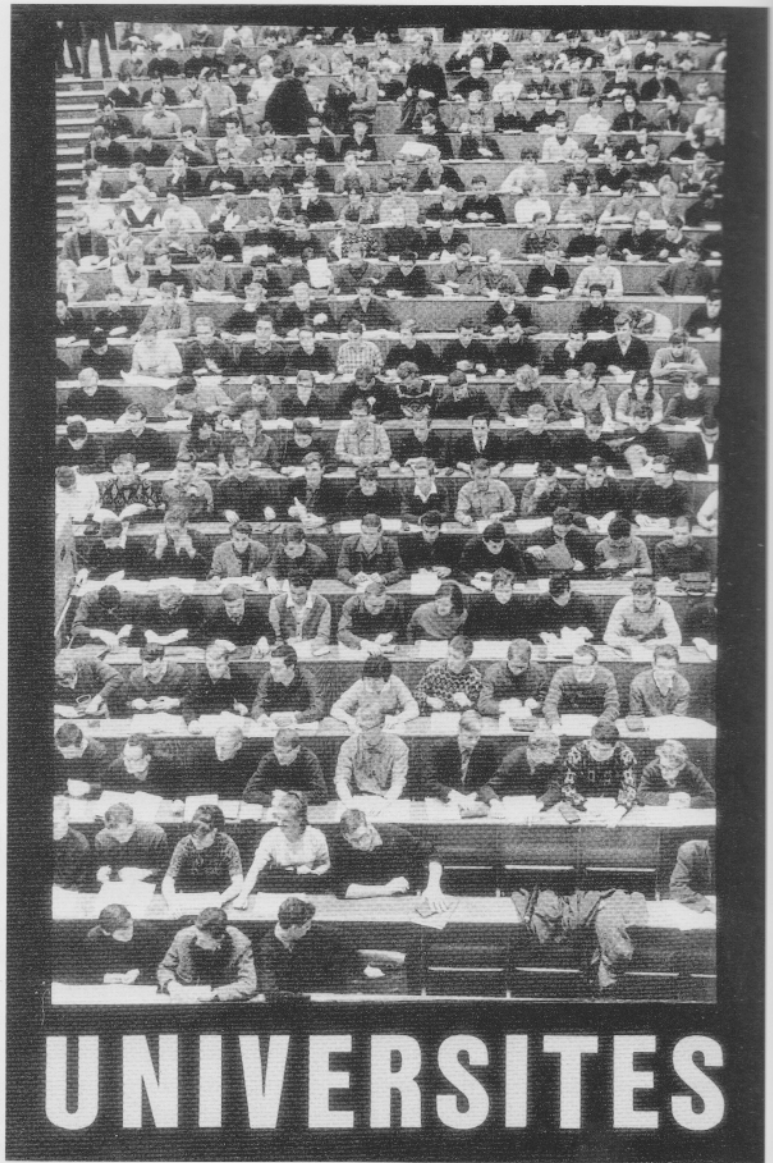
*... the only proper university is that which inserts itself profoundly into the town.*  
(Pierre Merlin, 1995)

*Primitive functionalism, which had been the militant force of the pre-war years and had carried architecture through the postwar reconstruction, proved to be illusory by the late fifties.*

(Michael Brawne, 1964)

Campus and College have been tackled in this book as two complex and pervasive issues in university planning, especially in Anglo-Saxon countries. There are, however, more straightforward ways of dealing with the university as a building type. One can disregard to a large extent national factors, as well as the issue of global versus regional. Thus, in the context of this chapter it is of lesser importance that the term campus, adopted worldwide from the 1950s, was of North American, as well as Latin, origin. The issue of the 'college' hardly arises any more. The fact that more student residences were built than ever before, may be, but need not be, taken as an element of Anglo-American influence; in many cases it was first and foremost a practical necessity. Likewise, there is much less concern, in this chapter, for any educational or institutional analysis and any utopianism remains implicit. We are dealing in a much narrower sense with the contribution of the architectural profession (figs 5.1–5.4).

The book began with the proposition that only the USA had a really strong, live tradition of specific, yet varied types of university building. The strength, or impact of Modernism within, or as a development of, that tradition inside the USA was open to question. For the world outside the USA and England, we might state the opposite: there was no tradition to speak of as regards a specific university type of building – it simply looked like any other major public building – and it was Modernist architecture which helped to create a specific university type of building. Campus planning in the American and then in the Modernist, utopianist sense coincided largely with the advent of Modernist town planning. One of the very last examples of the single, dignified, largely symmetrical 'public' building must have been the Université Miséricorde in Fribourg, Switzerland, begun in 1937. Very probably the most exciting complex of university-related buildings of the interwar years is the Cité Universitaire de Paris, a group of halls of residences for foreign students, planned from 1922. The first European 'campus'? Maybe, as it was intended as a 'cité-jardin urbanisée'. Many of its interwar buildings, though, adhere to the old public-building kind



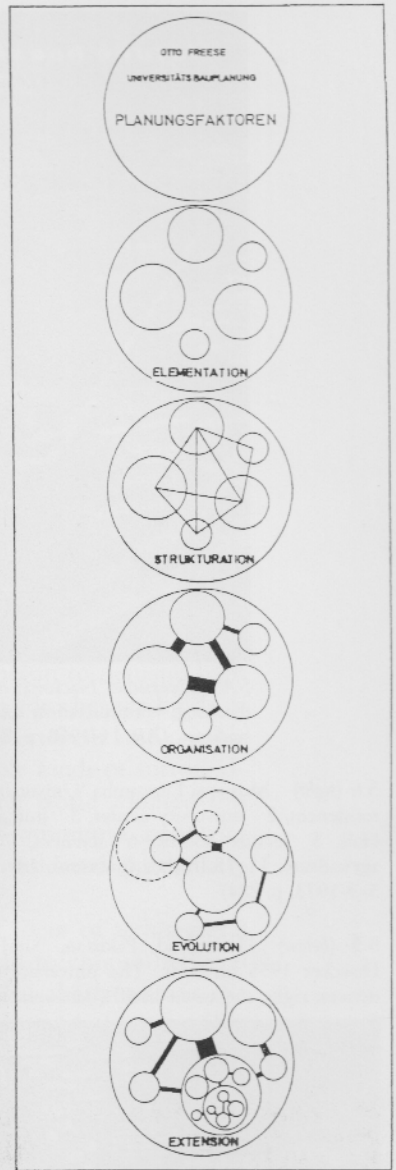
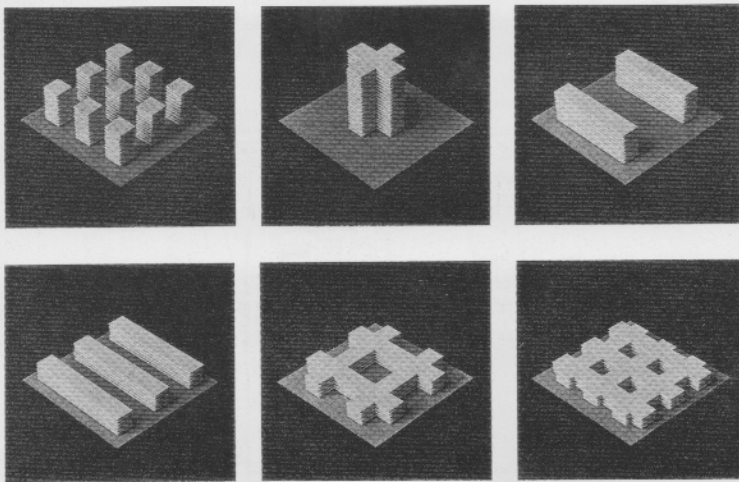
5.1 'Universities': title page in *L'Architecture d'aujourd'hui*, 1968. (*Ad'A* 137, 4/5-1968)

of dignity and symmetry, while the tremendous variety of styles, though exciting for the observer now, is not in line with a Classical, nor a Modernist sense of unity. It is precisely this feeling of unity which is given by the large University of Aarhus, planned from 1927. This now also indubitably forms a campus: buildings are spread out in a landscaped park and have largely abandoned the traditional dignified-public-building look by adopting a homely Danish plain brick. In any case, it has an overall relaxed feel to it.

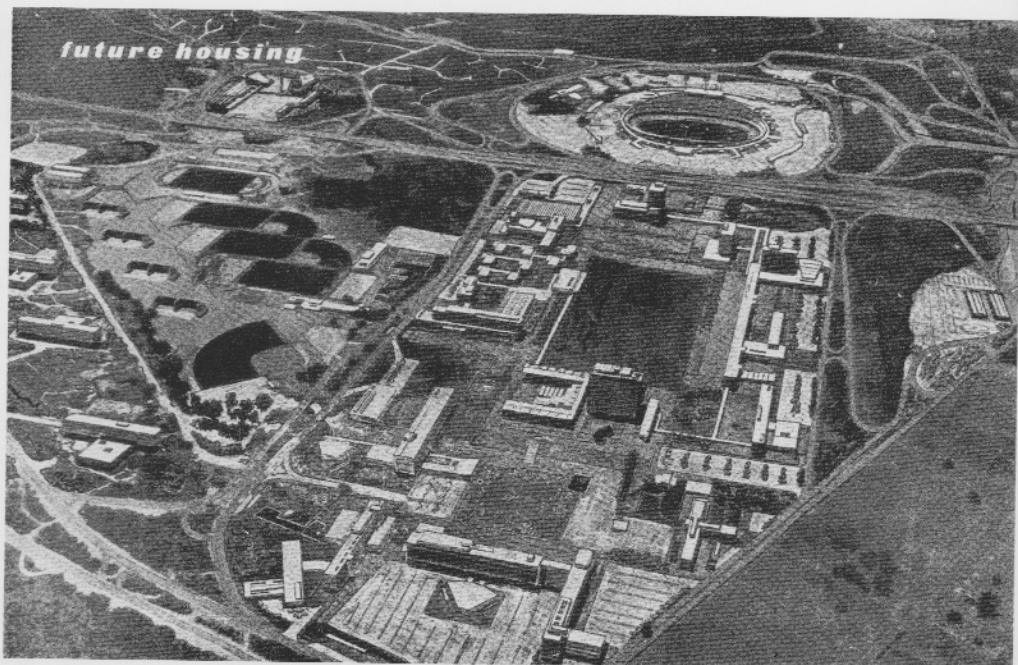
Not a lot would be gained by attempting a comprehensive, a once-and-for-all definition of the terms Modern or Modernist. The changes within this mode from the 1950s to the early 1970s – that is before the onset of Post-Modernism – are too great. For instance, 'Modern', to most, entailed a thoroughly 'practical' and stringently

5.3 Otto Freese, 'Gedanken zur Universitätsbauplanung'. Cf. ills. 5.17 and frontispiece. (In Günther Feuerstein, *Hochschulen Planen Bauen* (Bundesministerium für Bauten und Technik/Österreichische Bauzentren/G. Feuerstein (eds.), [Documentation of the Exhibition Hochschulen Planen Bauen] Vienna 1969/70)

5.2 A choice of models for planning a university: the size of the plot and the usable surface area inside the buildings remain the same (Hans-Joachim Aminde, 1970). (Linde (1970) vol. 4, pp. 100-1)



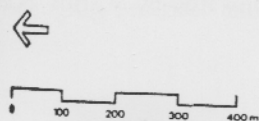
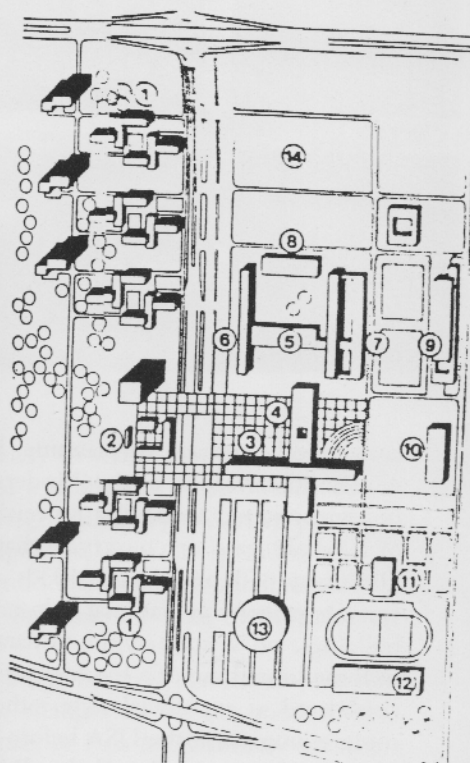
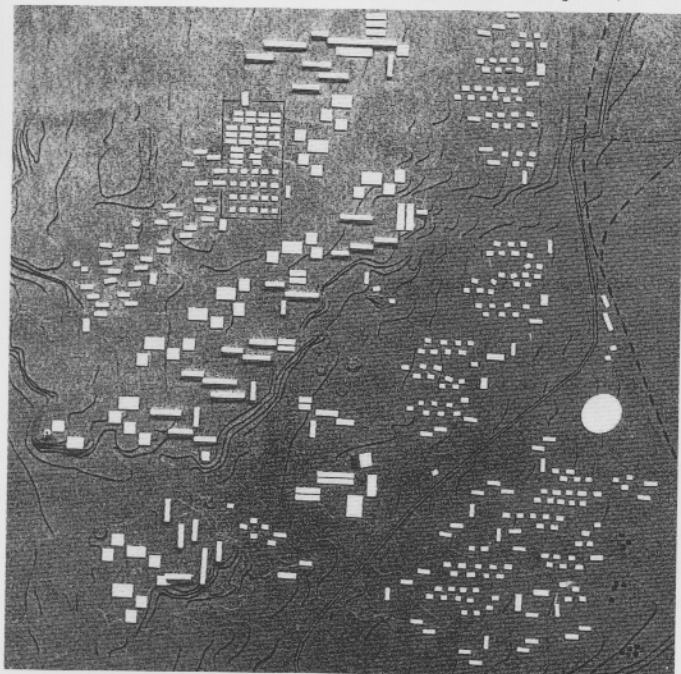
economical approach to planning. But we must begin our post World War II story with another version of the 'Modern', a type of university foundation which we have not encountered so far: the university as the pride, in fact, as the chief new building of a whole state or country. Perhaps following somewhat the model of Mussolini's University of Rome in the 1930s, some Latin American states gave their main universities priority as 'national cultural institutions' and poured scarce money into their buildings, on a scale without parallel. During World War II, South America had become something of a torchbearer of Modernist architecture, which thus found itself considered as an official style rather than a reviled avant-garde (we have noted its meagre progress in the USA before the 1950s). The University of Caracas was planned from 1943 onwards by Carlos Raul Villanueva, 'in the best Bauhaus tradition'. It



5.4 Universidad Nacional Autonoma de Mexico, 1950 onwards by Carlos Lazo and others. Foreground right: teaching, administration and library, the student residences are to the left; in the background the national stadium. (*AR* 11-1953, p. 811)

5.6 (right) Moscow, Lumumba 'University Town', from 1960. 1 student residences, 2 university center, 3 humanities, 4 canteen and assembly Hall, 5 lecture rooms, 6 sciences, 7 engineering, 8 medicine, 9 agriculture, 11-13 other functions, 14 area for extension. (*BW* no. 9, 5-3-1973, p. 284)

5.5 (below) Hyderabad, Pakistan, 'Sind' University, plan by Richard Doecker 1955 onwards. 'The university town': far left the student residences; right, the town itself. (*Baukunst und Werkform* 1960, p. 373)



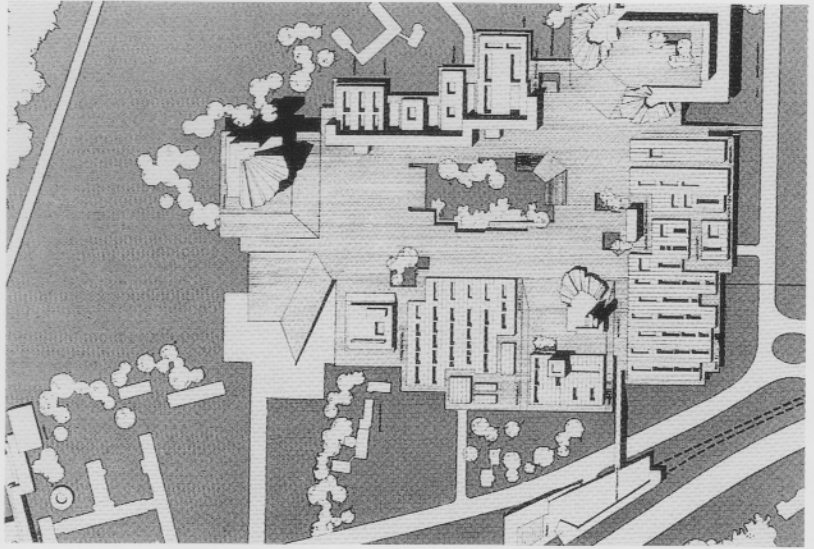


became, moreover, a locus of an exuberant display of Western Modern art. The most lavish campus undertaking of all was Mexico City, built with astonishing rapidity by a great number of architects in 1950–3 for 30,000 students as a ‘complete’ campus just outside the city. Both Caracas and Mexico made use of the signal of Modernism, the multistorey block. In Mexico, in particular, the Modernist campus now departs decisively from the traditional one-major-building plan and dissolves into a large number of loosely, but still orderly, placed blocks, each housing one of the sub-functions. The architectural order is derived precisely from the careful placing of the blocks and the large spaces between them (fig. 5.5). Another major example, but with far less overall coordination is the Hebrew University on Mount Scopus in Jerusalem, built from 1948. A rather late spate of national prestige building occurred in the 1970s in newly independent Algeria with a grand gesture of calling in non-European master designers, Oscar Niemeyer at Constantine and Kenzo Tange at Oran.

Modernist architecture not only popularised the high point block but also the long thin block. Only 12 to 15 metres (40 to 50 feet) deep, its advantage is the maximisation of daylight, as well as the use of a rationalised, repetitive method of construction when great height as well as length is required. The greater the height, the further the blocks have to be apart for reasons of light. During the 1930s, German designers – especially Gropius – and then English housing architects began to demand high ‘slab’ blocks, in a parallel, or ‘Zeilenbau’ formation, as the norm for cheaper kinds of dwellings. It is, of course, easiest to build such groups of buildings on fresh land outside towns. Moreover, ample parks were considered the most desirable kinds of surroundings. Beginning perhaps with Mexico City, campuses around the world adopted this method, including, from the later 1950s onwards, those in Communist countries (fig. 5.6). In the tropics the wide spacing of blocks was considered particularly suitable in order to guarantee a flow of air.

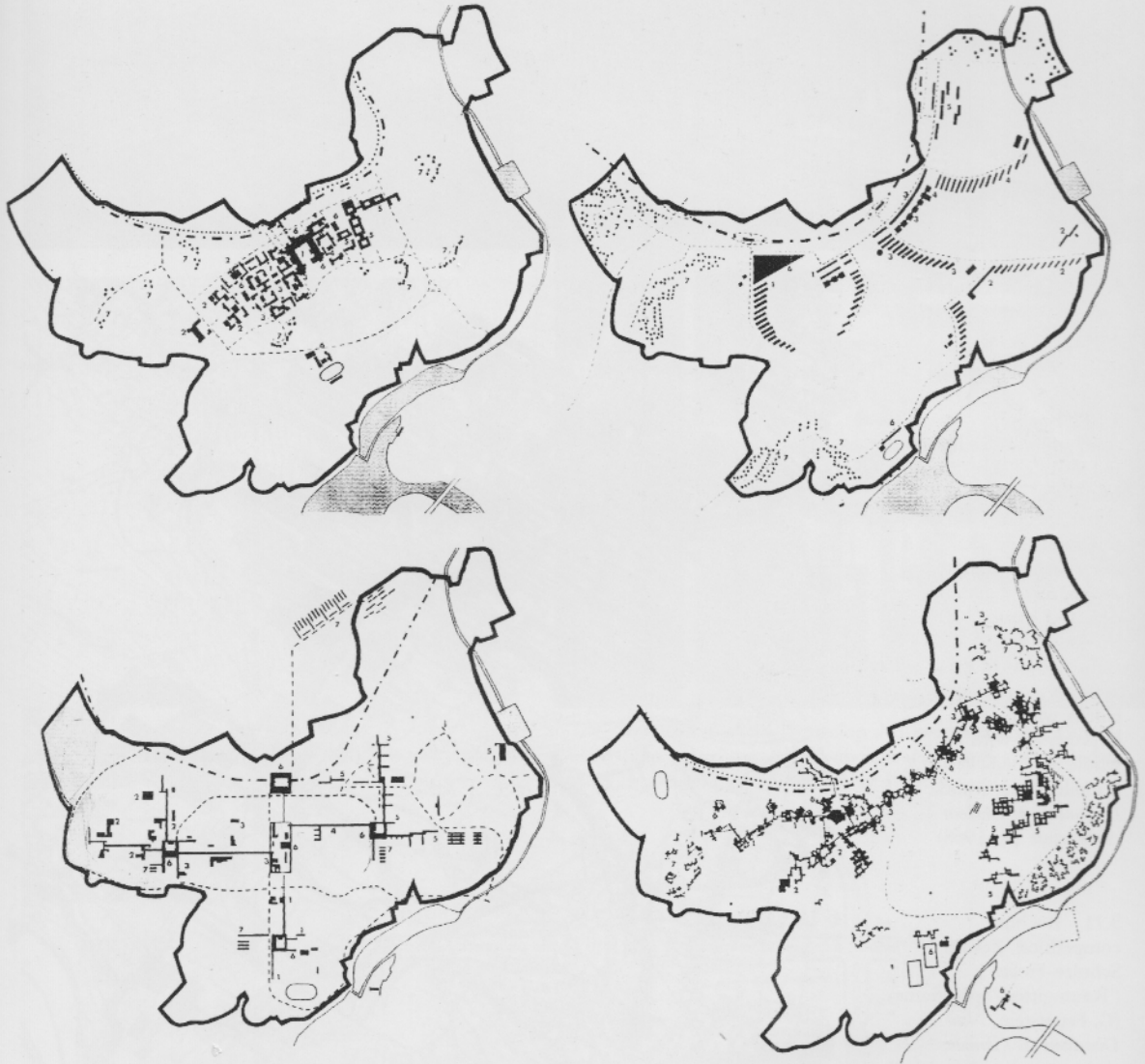
By the mid-1960s new university buildings became the chief focus of architectural effort. *L'Architecture d'aujourd'hui* quoted Lord Robbins: ‘if he had to choose between education and prosperity of a nation, he would not consider that the latter was the most desirable’ and one of the world’s most glossy and high-brow Modernist architectural journals, *Zodiac* proclaimed: ‘the universities as institutional archetypes of our age’ (Joseph Rykwert). For the architects this meant, above all, the constant working out of new schemes, which entailed, in turn, the constant rejection of earlier solutions. The chief values of the years 1930 to 1960, sunlight and greenery, no longer appeared essential. Preferences were now turning from the rectilinear to the multi-angled, and from the large single shape to the assemblage of smaller units. In the Tropics the prevailing view that buildings should be widely spaced and open in order to make the most of the fresh winds, changed so that now the emphasis was on turning inwards, to the construction of impenetrable walls, most notably in the work of Louis Kahn in South Asia. To what extent English Townscape critics of the 1950s influenced international trends still needs to be assessed. American campus models with their emphasis on a lavish central area may have served as much as English ones, for instance in the Risho Campus near Tokyo, first planned in 1961 by Fumihiko Maki, and in the Universidad del Valle in Cali, Columbia. Gropius’s plan for Baghdad [1.10, 1.11], devised from 1957/8 onwards and widely publicised, had become a model for a greater overall density and a non-rectilinear layout. From about 1962–3 we note the influence of Team X, of what the English-international

5.7 Stockholms  
Universitet: competition  
design by Henning Larsen  
1961. (T. Hall (ed.),  
Frescati. *Huvudstadsuniversitetet  
och arkitekturpark*,  
Stockholm, 1999)



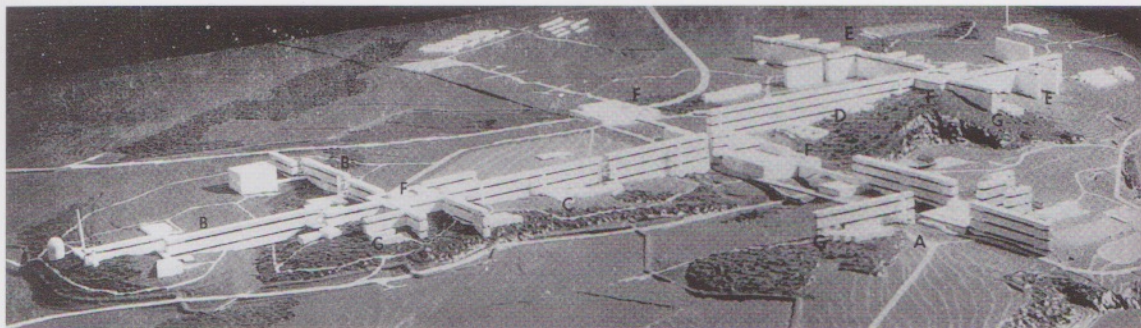
architectural historian Reyner Banham called New Brutalism. Derived from the work of late Le Corbusier and his international followers as well as on the ideas and drawings of Alison and Peter Smithson, this movement preferred long multi-angled, inter-connecting blocks. The straight Zeilenbau block was now virtually phased out. Frequently the new formal preferences were somehow linked with arguments about 'human scale'. The demand for limiting campus size to a maximum of 10 minutes walking distance was now universally repeated. Lastly, the new Townscape preferences were combined with a St Elia – Le Corbusieran desire to keep cars separate. The Danish architect Henning Larsen, in an unbuilt design of 1961 for Stockholm University, proposed a vast podium, only 3–4 metres (10–12 feet) above the ground, which comprised practically the whole campus (fig. 5.7).

Not only England, but also much of continental Europe, North America and Japan now presented designs of breathtaking complexity, as well as diversity. They were first seen in the widely publicised designs for the Bochum competition in 1962. The novelty of the undertaking, the lavish prizes offered by the state of North-Rhine Westfalia, as well as the beautiful, yet difficult site, all provided a huge challenge. If we take only the three best-known names – Gropius, Jacobsen and Brock & Bakema – we meet three solutions that could not possibly be more different from each other. Jacobson's appears the most formalistic, or pure, in a Classic Modern sense. He has several absolutely regular Zeilenbau formations, but, most unusually, the blocks diminish in length in response to the contours and the descent down the valleys. In his proposal Gropius takes elements from Baghdad (figs 1.10 and 1.11) but makes the units smaller and puts them even closer together – in Iraq, we remember, the justification for this was to keep out the burning sun, but in Germany this could hardly be adduced as a plausible reason. Easily the most complex, or at least the most difficult to 'read', was Bakema's scheme. What appears at first sight to be a series of straight lines which run across the hilly site, turns out to consist of stretches of thin slab blocks which contain walkways inside. At many points, especially at the crossings, these vertebrae thicken and we find major



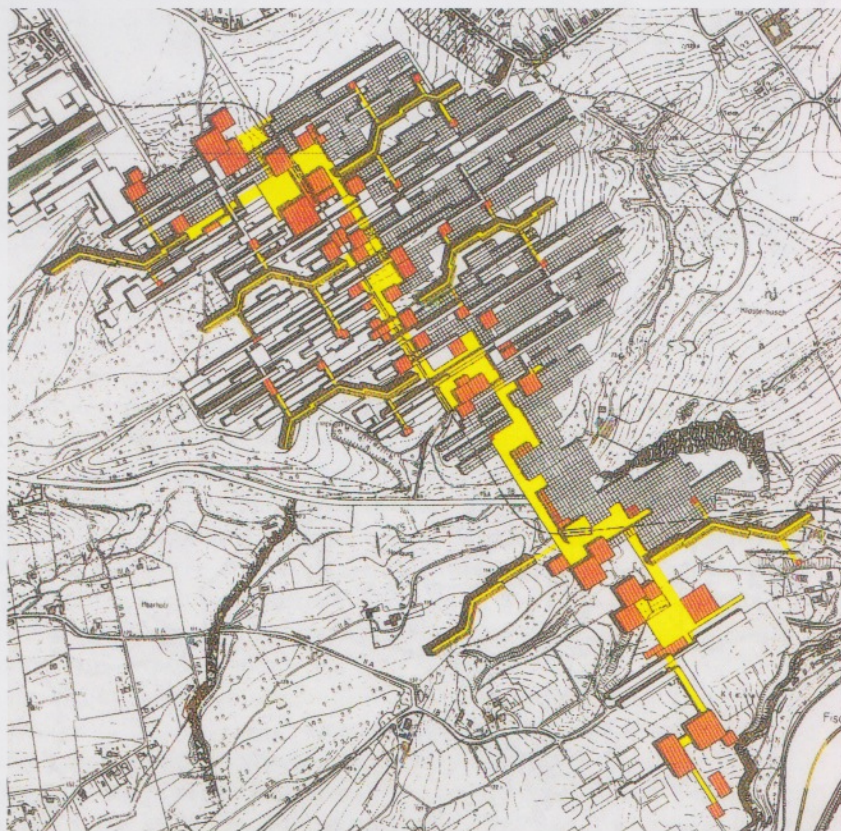
5.8 Ruhr Universität Bochum, competition designs 1962. Top left: W. Gropius; top right: Arne Jacobsen; bottom left: Jacob Bakema; bottom right: Walter Schwagenscheidt, Tassilo Sittmann and others. 1 humanities, 2 technology, 3 sciences, 4 medicine (pre-clinical), 5 medicine (clinical), 6 central facilities, 7 student residences. (*BW* 19/20, 20-5-1963, p. 535 ff.)



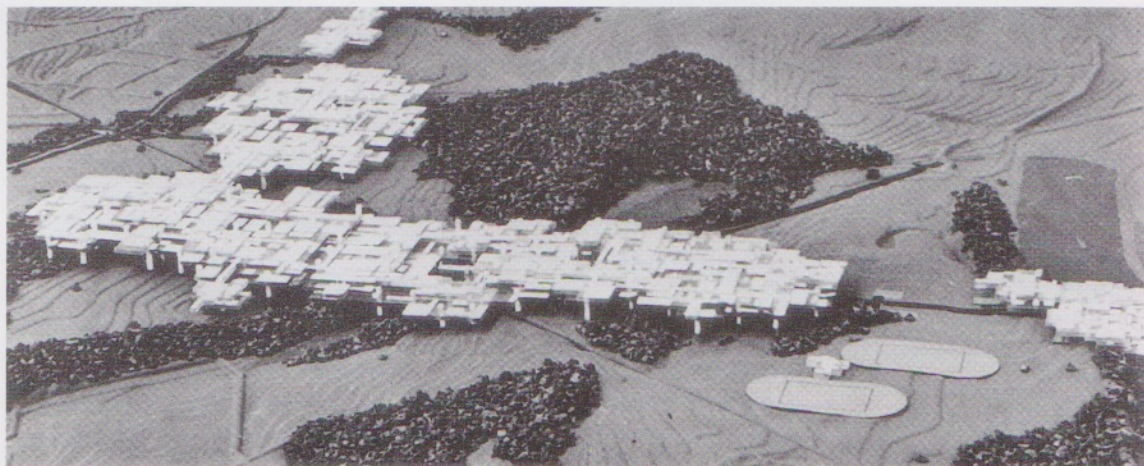


5.9 Bochum competition:  
Jacob Bakema. (*Ad'A* 107,  
3/4-1963, p. 10)

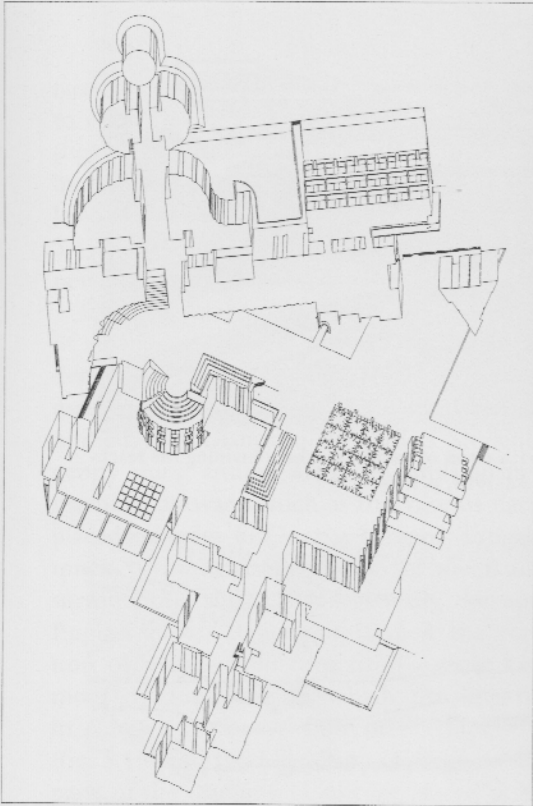
5.10 Bochum competition: Candilis, Josic and Woods. Red: communal buildings, yellow: pedestrian routes and student residences. A low rise-high density design, most buildings are only 1-3 stories high, except for the 'A frame' constructions of the meandering residence blocks which are interspersed with the whole. (J. Joedicke (ed.), *Candilis, Josic, Woods, Documents of Modern Architecture* (6), 1968)



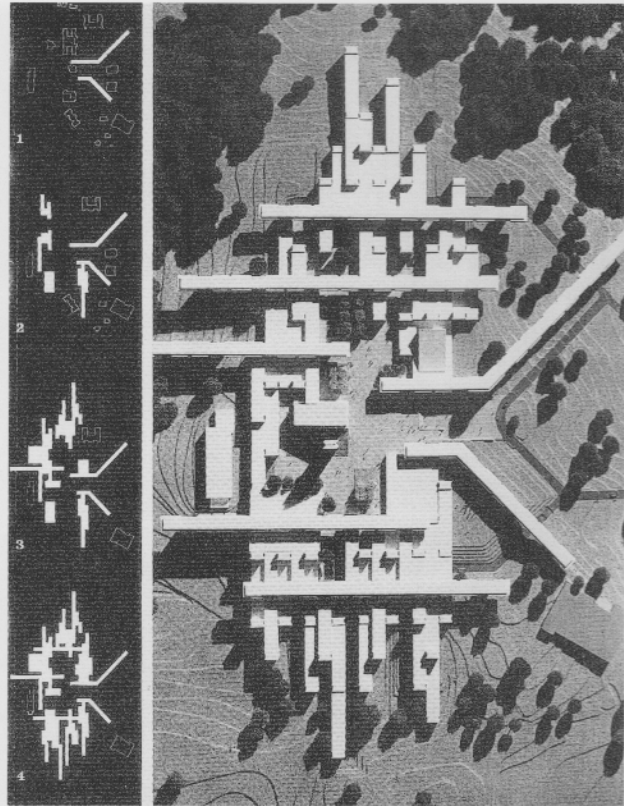
5.11 Bochum competition: Eckard Schulze-Fielitz ('Raumgitter'/Spaceframe). (G. Feuerstein, *New Directions in German Architecture*, London, 1968)



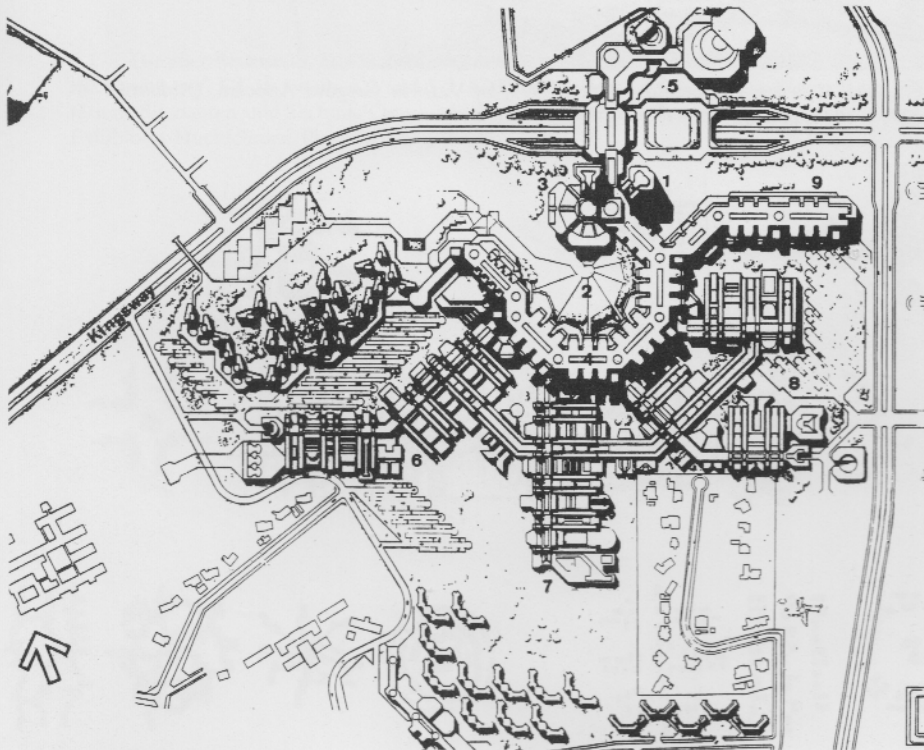




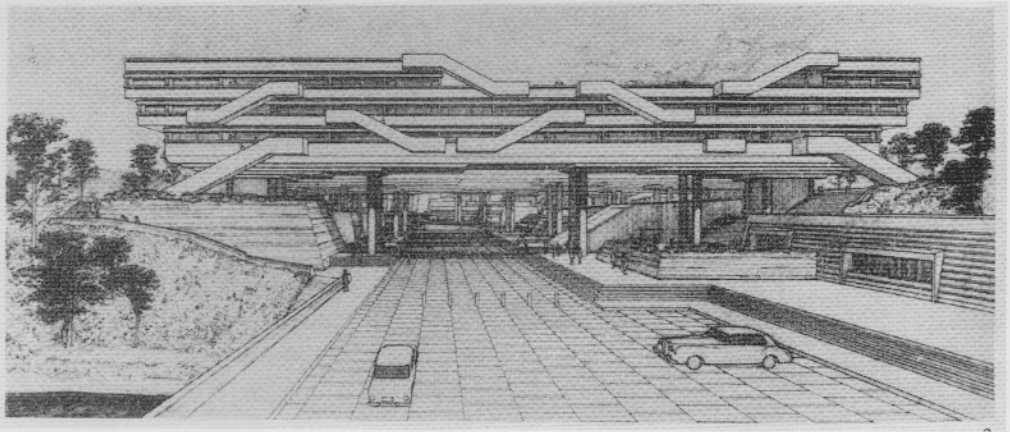
5.12 Universiteit Twente Enschede, Student Hostel project, by Oswald Ungers 1964. (O.M. Ungers, *Architektur 1961–1990*, London, 1991)



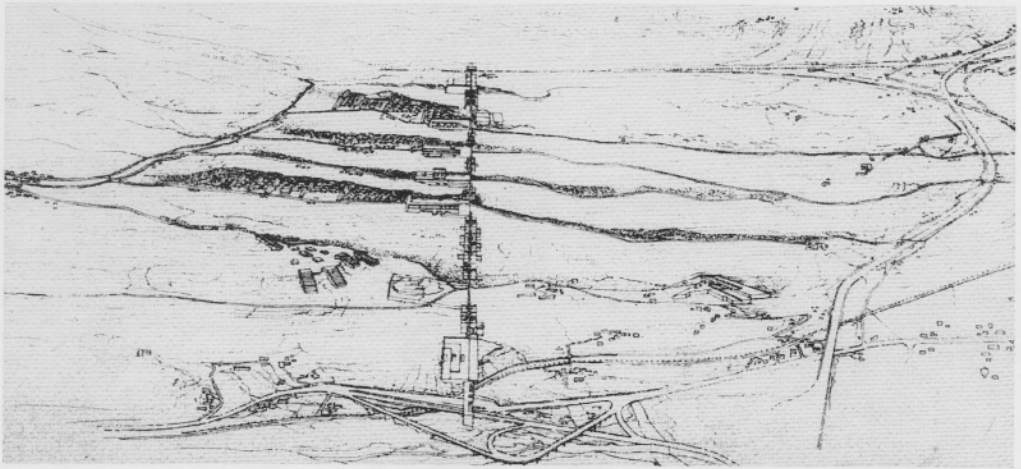
5.13 Tougaloo College, Tougaloo Mississippi and by Gunnar Birkerts and Associates, 1965 onwards; the wings accommodate mainly the student residences. (*AFor* 4-1966, p. 57)



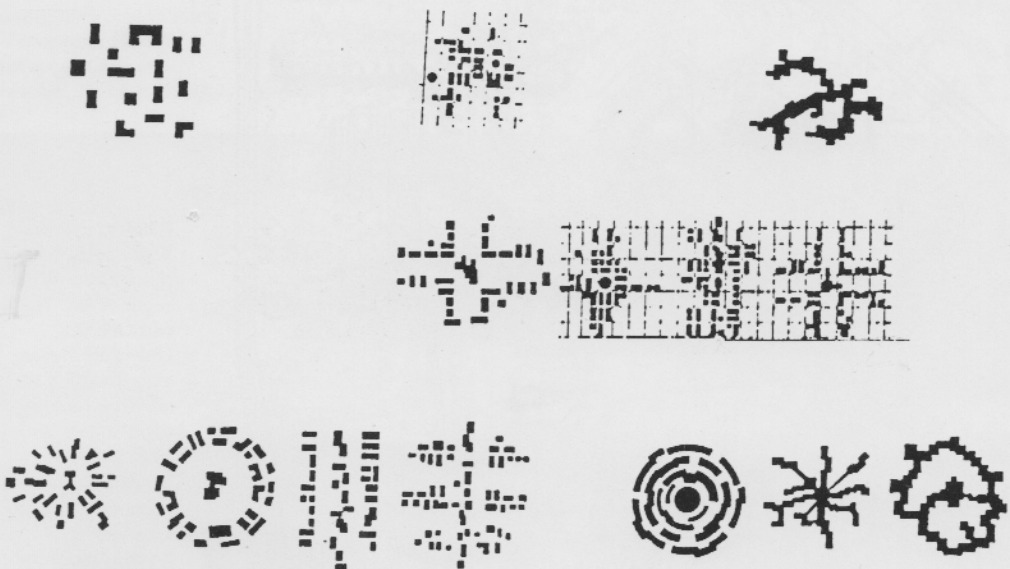
5.14 Johannesburg Rand Universiteit, by Wilhelm O. Meyer and Jan van Wijk, begun 1966. 1 main entrance, 2 University Square, 3 main building, 4 teaching buildings, 5 town square with cultural centre, 6 medicine, 7 sciences, 8 engineering, 9 humanities. (Linde (1970) vol. 4, p. 171)



5.15 Art University Osaka, project by Noriaki Kurokawa 1964; a series of parallel blocks containing the teaching facilities, arranged as bridges over a central roadway. (*AD* 12-1964, p. 606)



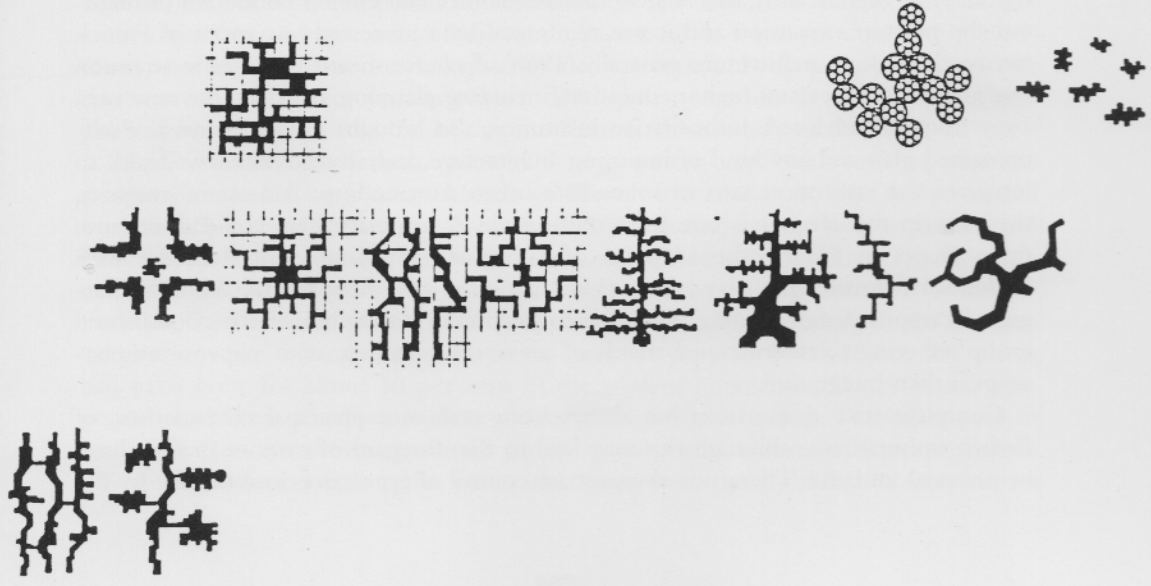
5.16 Università di Calabria, Cosenza, competition design 1973, by Vittorio Gregotti Associati. (*Architettura Chronache i Storia* no.227, 9-1974, p. 298).



facilities, such as the library. A crucial question, generally, even a dilemma, was whether to cover the very large site with structures or whether to leave large parts untouched (figs 5.8, 5.9 and 5.11). Some competitors opted for an extreme concentration of buildings; the most spread-out design was that by the Paris-international firm Candilis, Josic and Woods, a low-rise high density model along a major pedestrian 'spine' (fig. 5.10). Among its late followers was Griffith University near Brisbane, part of a wave of new campuses in Australia.

Campus designs can further be classed into those which present an agglomeration of separate parts, such as Oswald Matthias Ungers' competition design for student residences for *Technisch Universiteit* at Twente, consisting of a great number of diversely geometrical blocks around dense 'urban' spaces (fig. 5.12), and those which appear unified, like Giancarlo de Carlo's Student Residences at Urbino, continuously and gently slung around a hill. A similar pair of opposites would be concentration and reaching outwards, such as the various narrow wings branching out, while also being placed on stilts, in Gunnar Birkert's Tougaloo College, Mississippi (fig. 5.13), whereas much of the accommodation of the Rand Afrikaans University at Johannesburg is surrounding, almost concentrically, the open forum (fig. 5.14). As we saw with the English 'urban' designs of 1962-4, the concern for the centre and for the organisation of traffic could turn from a static kind of understanding of the campus into a more dynamic one in which the lines of communication dominate, for instance in elevated walkways. Extreme examples were the projects for Osaka Art University (fig. 5.15) and the University of Calabria at Cosenza by Vittorio Gregotti, where some parts of the teaching blocks are placed as bridges high above roadways; the latter university, in fact, stretches for 3 kilometres (2 miles) through the landscape (fig. 5.16). The Cosenza competition of 1973 may perhaps be taken as an end-point of a decade of international grandiose schemes (fig. 5.17).

5.17 Günther Feuerstein, *Hochschulen Planen Bauen*: 'A by no means exhaustive diagram of the essential basic types'. Cf. above ills. 5.2 and 5.3. (Günther Feuerstein, *Hochschulen Planen Bauen* (Bundesministerium für Bauten und Technik/Österreichische Bauzentren/G. Feuerstein (eds.), [Documentation of the Exhibition *Hochschulen Planen Bauen*] Vienna, 1969/70)



University growth in France from the later 1950s was perhaps more vigorous than anywhere else. Student numbers rose from 150,000 in 1954 to over 600,000 in 1969 and to well over 800,000 in 1977. By the 1970s practically all university buildings were new. But France's planning and institutional story differs considerably from those elsewhere. In France, the 'university', generically and individually, is only one element, albeit by far the largest, within a vast and immensely complex panoply of institutions of tertiary education, comprising 'académies', 'collèges', 'instituts', 'écoles' and, most famously, the *Grandes Écoles*. Their relationship could not sufficiently be explained by arraying them in the usual simple hierarchies, high to low or vocational to academic. It must also be noted that any particular university in France does not necessarily form a tight unit in itself. Few can memorise the names of the dozen or so universities into which the *Université de Paris* was dissolved after 1968, let alone distinguish between each sub-university's diverse separate campuses for arts, sciences, for beginners' and for advanced teaching. France's vastly complex multilevel system of degrees, contrasting sharply with the simple Anglo-Saxon custom of the BA, resulted in a much more diffuse notion of 'the student'. The building complexes which are discussed here may house only part of a university, or may even combine parts of several universities; complete new foundations were not as numerous as one might expect.

By the same token, a building for a French university traditionally very rarely provided the same kind of institutional-architectural presence as in Anglo-Saxon countries. There never had been even the notion of a campus (ironically, as one might view it from an American perspective, as French 'academic' planning and drawing styles had contributed so much to the evolution of the impressive American campus ensemble). Moreover, colleges of the old type were virtually extinct and only rarely could one meet with a specially prominent 'public' university building, so familiar in the German system. Neither could one speak of 'university towns', there are no Oxfords, or Heidebergs, or New Havens. It is often hard to distinguish buildings for higher education from those for secondary education, particularly those for a prestigious *lycée*. Significantly, this relative lack of identity and esteem continued throughout the postwar expansion and it was reinforced by a perceived low merit of French twentieth-century architecture generally. '1968' of course meant that a new attention was given to all facets of higher education, including planning. In effect, the new turn away from the enclosed, authoritarian institution also brought a turn against the self-contained plan and any kind of imposing architecture, and, instead, a renewed plea to integrate the institution into its immediate urban surroundings. Almost of necessity, the view in this chapter is one from the outside. A summary here could distinguish three phases in France: the adoption of a vaguely American campus model with *Zeilenbau* formation, followed by a closer attention to a new English kind of integrated campus design, ending with France becoming a member of the consolidated group adhering to international trends of university planning, with a special emphasis on urban integration.

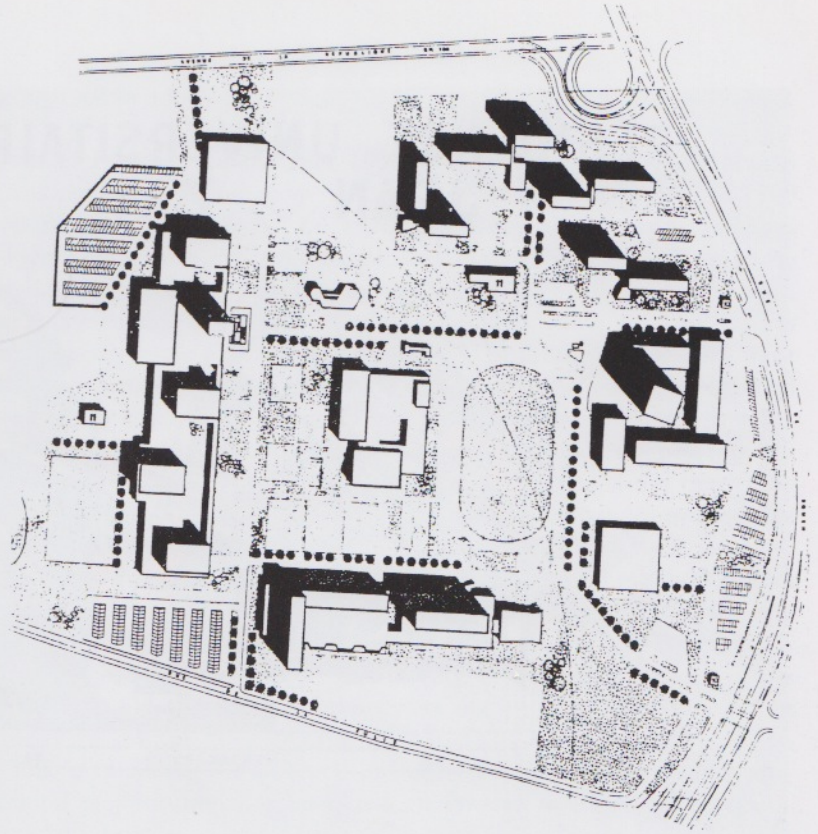
Complete state domination has always been seen as a principal characteristic of French universities – although this may lead to the disregard of cases of specific local or personal initiative. There was always strict control of types, sizes and finance by the







5.19 Paris Université de Nanterre, by J.P. and J. Chauliat and others, from 1962. The long range on the left: faculty of letters; bottom: law and economics; far right: university library; top right: Cité Universitaire (student residences); centre: swimming pool; the square buildings top left and bottom right are restaurants. (J.-P. Duteuil, *Nanterre 1965-66-67-68*, Paris 1988)



5.20 (far right) Université d'Orléans (La Source), by Olivier Cacoub, 1965 view of project for central forum. (*L'Architecture Française* nos. 275-6 1965, p. 68)

along a corridor. Rules were strict until 1968, blocks for 'garçons' and 'filles' were usually rigidly separated. In provincial towns many of the campuses contained student residences. Paris, however, had to build separate colonies of them, of which Antony, deep in the southern suburbs, was by far the largest: about 3,000 students lived there. Over an uneven terrain the massive four- to six- (and up to ten-) storey blocks are spread out irregularly and the way they are linked to each other usually creates quite a sense of spatial coherence (fig. 5.18). Such a scheme was soon considered excessive and 600 students was then cited as an optimal number. Architecturally speaking, there was, of course, no thought of ever taking up the model of the celebrated Cité Universitaire in Paris; as with most other university buildings, Zeilenbau reigned supreme in the new residences, too. Student hostels were an even closer relation of public housing.

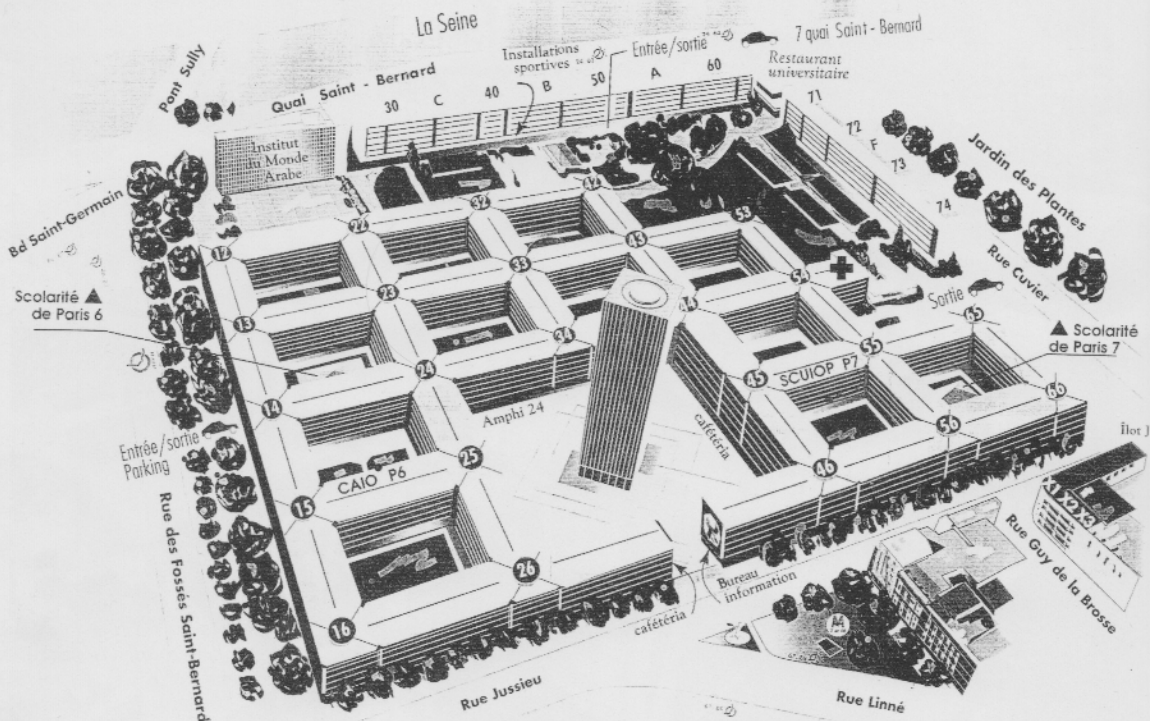
The first time the term 'campus' was used was at Caen, from about the mid-1950s onwards, although this group of new buildings represented one of the last – and rare examples – of the compact monumentalised inner urban complex. The first of the outer suburban developments was Dijon, from the early 1950s, with several open Zeilenbau formations, especially for the residences. The last campus of a similar kind was probably the much publicised plan for Grenoble, built from 1962. In 1962-4 the first sets of buildings arose at Nanterre, a new non-science university for Paris, placed in the suburbs just outside the Defense. Spaces are similarly left wide open, although with the main buildings, the faculty of letters, there is an attempt at a careful group-





ing and linking of the blocks (fig. 5.19). Soon, this campus became the cradle of student riots and even before that time, while building was in full swing, criticism of the planning methods had set in.

What was called originally the 'campus à l'américaine' began to be dubbed 'campus à la française', a somewhat negative term from the start. A critique arose which has continued to this day: France supplied quantity but not quality (Pierre Merlin). Already by 1963 we read that architectural concepts are 'static and rigid'. Even the ministry's spokesman admitted that something was lacking and one of France's most eminent representatives of 'hard' Modernism, Bernard H. Zehrfuss, mused that the plans tended towards the orthogonal and unoriginal, but nevertheless were of a 'solid harmony which befits the French tradition'. More annoying was the lack of any kind of social facilities, especially shops and, naturally, there were complaints about insufficient links with the town centres. Fundamental was the perceived absence of a 'milieu de vie'. Later analyses point to the persistence of an inflexible International Style zoning and even of the older formalist French custom of axial layouts. One of the critics' principal conclusions was that the 'campus à la française' was a 'pale imitation' of the Anglo-Saxon campus. This coincided with a greater interest in the English New Universities, where everything appeared to be as carefully thought out as in a 'laboratory'. Moreover, English New Universities appeared to be conceived as urban entities – and that included Essex (sic). It would be difficult, however, actually to find direct acknowledgments of English influence.



5.21 Université de Paris, Jussieu Science Complex (now the Universités de Paris VI and VII), by Edouard Albert 1963–72 (the long buildings along the river and along the rue Cuvier are part of an earlier project). (Courtesy Université de Paris VII 1996)

As elsewhere, the demand for the 'urban' increased, from about 1963, although it only really came to the fore after 1968. A big impression was made by the project for a new, this time complete, university for Orléans and especially by the lively drawing of its 'forum', perhaps somewhat American in style, complete with a lake, a park, and the distant view of the old cathedral. It also puts much accent on the one prominent building within a French university which carries symbolic weight, the Grand Amphithéâtre, the equivalent of the German *auditorium maximum* (fig. 5.20). In contrast to the German tradition the main lecture theatre, or several major ones, are not placed within the great hold-all building of the university but form single exposed structures. Orléans was very much a local initiative, its promoters dubbed it an 'Oxford français', not on account of projected colleges, but because they attempted to create a major university town for the Paris orbit and thereby hoped to transplant some of the Sorbonne's reputation, too. Furthermore, there was the idea of the close link between university and town; yet, Orléans lies four miles outside the old centre, and its close links are with a large new township (la Source). Building progress, however, was far slower than usual.

The one major realisation of a mid-1960s comprehensive architectural project was the Jussieu Science Complex in Paris itself. It is right in the fifth, the university, arrondissement. Its beginnings were highly individual, if not to say irregular. In 1962, the Minister of Culture, André Malraux, no less, and the architect of his choice,





5.22 Paris, Jussieu Complex, view of courts.

Edouard Albert, who, before, had 'seduced the Dean, Marc Zamansky, with his ideas', clubbed together to oust the group of architects who had constructed some buildings on the site earlier on. Jussieu is one of those Modernist buildings which combine apparent ultimate rationality with heavy symbolism. Clearly, its principal value lies in its complete unity and consistency. Malraux and Albert's plan, intended for 40,000 students on just 15 hectares, or 37 acres, consists of a (never quite completed) grid enclosing  $4 \times 5$  rectangular courts (hence also the nickname 'modern Escorial', the 'timeless' epitome of the idea of a large unified complex). There was a new stress on integrating teaching and research and this was to manifest itself in the way in which each of the longer wings of the rectangles was devoted to research and the shorter wings to teaching. Four of the rectangles are thrown into one major court with a tower block in its centre, which is mainly used for administration. Circular staircases and lift towers are placed into all the intersections. All this means that many of the major university facilities, even the 'amphis', are hidden in the basement. According to Dean Zamansky the Campus Jussieu was to 'symbolise the materialisation of scientific thought in the heart of Paris'. Albert had specialised in light-weight steel constructions and he created a highly unified system of thin, concrete-filled steel tubes. The crucial element, however, which was to lead to the 'increasing interaction of the various departments' was 'the assembly of inner connecting cloisters'. Furthermore, the whole of this cloistered groundfloor is open which brings about another astonishing effect: even in the innermost courtyards the ordinary buildings of surrounding streets shine through. We feel embedded in historic Paris, 'close to the precincts of Phillippe Auguste' (Marc Zamansky). To crown this immense effort, Malraux and Albert devised an extremely ambitious collaboration with the artists of the École de Paris,



5.23 Paris Université de Nanterre, 'La cité universitaire' student residences, 1966. (J.-P. Duteuil, *Nanterre 1965-66-67-68*, Paris 1988, courtesy J.-P. Duteuil)

including the dying Georges Braque, to decorate the staircases, floors and even the roofs. And yet, independent critics found, at best, lukewarm words for the Jussieu complex. The time for such a grandiose and rigid exercise, whose style, in essence, predated the English and the American campus influence as well as the Zeilenbau phase, seemed past. However, within the context of the major institutional-architectural issue of this book – the comprehensive institutional presence of a university – we can see Jussieu as a major example of the total, 'one-building' concept. The fact that it preceded the 'neutral' grid plan that was to galvanise the attention of young architects soon afterwards, seemed to escape everyone's notice (figs 5.28–5.32). It was Jussieu's extreme formality and the regularity of its detail that was contrary to the taste of the younger designers of the later 1960s (figs 5.21 and 5.22).

The plan for the new university at Amiens of 1967, like Orléans, was for a complete campus. It strenuously avoided rectangularity; multi-angled links reach out from a strong centre to a variety of buildings and sub-centres, a plan that has elements of East Anglia, but would also not be a stranger in a German competition of its date. Candilis and Josic's Faculty of Humanities for Toulouse in the suburb of Le Mirail, from 1966/8, adheres to their entirely novel plan for the Freie Universität Berlin, to be discussed shortly. It goes much further than Amiens in eschewing any grand forms. Ironically, it comes back to the square grid, but not, of course, to a sequence of large rectangles as at Jussieu. It consists rather of an assemblage of diverse small square units. A crucial difference with Berlin consists in the way many of the public areas are not just straight internal corridors but wide open-air platforms or gardens. Both Amiens and Toulouse put high stress on their relationship with the town. Yet their situation hardly differs from that of any large institution which has been located in the suburbs – even though at Le Mirail these contain massive and distinctive public housing blocks by the same architects.

The events of May 1968 were perceived to have turned the French university

system inside-out. Because of the concentration of militancy in central Paris, France experienced the university troubles more strongly than any other country. The state responded relatively quickly with reforms which provided, basically, what international student discourse had been demanding for some years: 'participation', the reduction of hierarchies and smaller units of teaching. As regards physical campus planning and architecture, however, 1968 does not mark a very major break. We may see '1968' as merely reinforcing convictions which had been growing at least since 1963. It certainly contributed to the notion that the 'campus à la française' was a failure. It was now held that the incomplete, windswept and somewhat isolated campus at Nanterre had induced close groupings of protest-minded students. As usual in these postulations of causality, there was never ultimate clarity as to whether the environment acted as a principal cause, or as a mere trigger, or catalyst, to bring out fundamental, socio-political resentments. Or should we believe Alain Touraine that the campus, as such, marked the beginning of protest: 'In its brutality and in the fact that it was so distant from the Quartier Latin, Nanterre was a sign of rupture from the university world of Paris.' (fig. 5.23)

In any case, the 'events' increased the demand for the 'urban'. 'Le modèle français: l'université dans la ville' was the phrase everybody now agreed upon. The architects tried their hardest to apply urbanity in their new creations for a dissolved Sorbonne, partitioned, as it was, into numerous new suburban campuses. Ironically, what had been ridiculed as the 'ordinary' (or worse) suburban surroundings of Nanterre, the architects now had to try and make a virtue of. In the competition for Villetaneuse, in a relatively poor, as well as low-density, area to the north, the team Fainsilber/Siggurdardottir-Anspach presented the most spectacular plans. They talked fervently about the integration of the campus both with landscaped nature and with an as yet unbuilt 'sufficiently dynamic town', as well as providing a new rapid public transport link to central Paris (fig. 5.24). Very little of this idea was eventually realised. A tour de force of the highest conceivable density was Tolbiac of 1972 (figs 5.26a and b). One half of a hectare ( $1\frac{1}{4}$  acres), accommodates a towering structure with several large lecture theatres beneath, with study space and some communal space for 6,700 students, as well as 400 places for cars. The tops of the souterrainean 'amphis' are covered by open-air theatre-like steps, for the use of the students – probably a hint from Chicago Circle (figs 3.9 and 3.11). None of the massive developments in the capital caught as much international attention as the more gentle forms of another suburban 'université pilote', Lyon-Bron (fig. 5.25b), planned from 1969. A multi-angled covered street, constantly narrowing and widening, gives access to all communal facilities. The plan is reminiscent simultaneously of East Anglia and Lancaster (figs 2.68, 2.89), though the complete covering of the large central area with a metal and glass roof became much more common in France than in Britain.

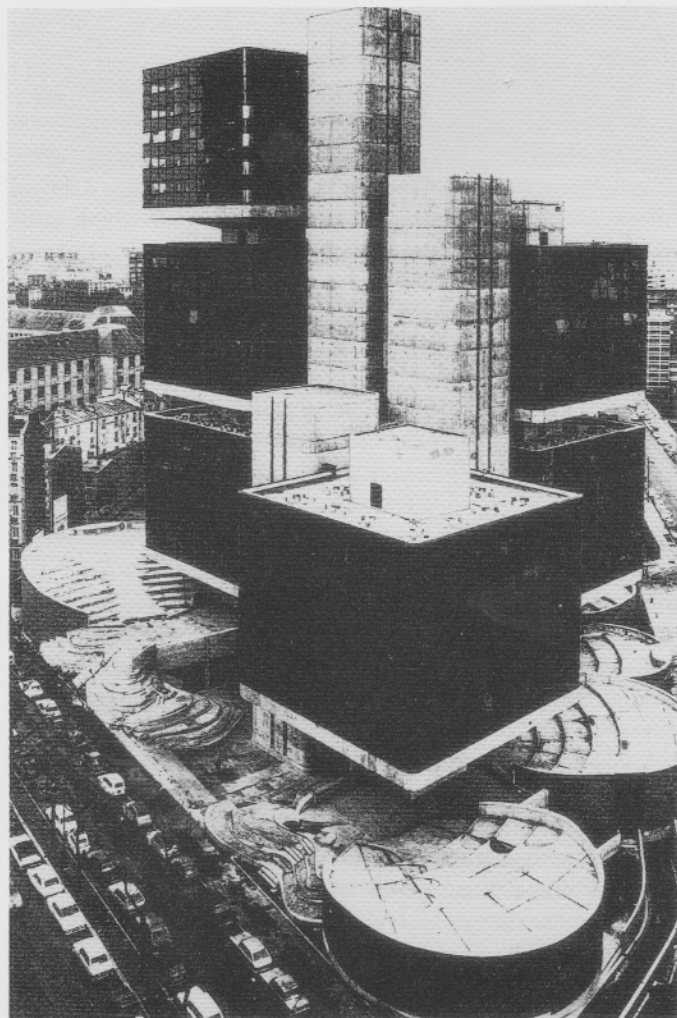
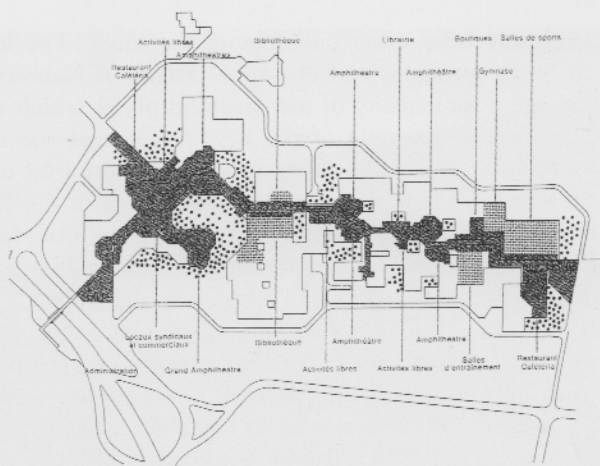
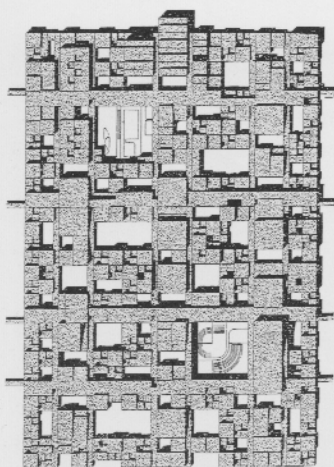
All this, however, represented only one half of the new thinking in the wake of later 1960s upheavals. A more profound change was slowly gaining ground, a set of beliefs which doubted the capacity of the planner and designer to influence behaviour and to determine, or serve, particular functions of a building, beliefs to which we shall come shortly. For many French critics and planners this simply resulted in going back, in fact, in a complete U-turn, to where the French university had come from, to the 'collectivité entière' of the town (Jaqueline Canipel), to the 'tissue de la ville' or more plainly expressed, to a kind of university building which '[is] not treated





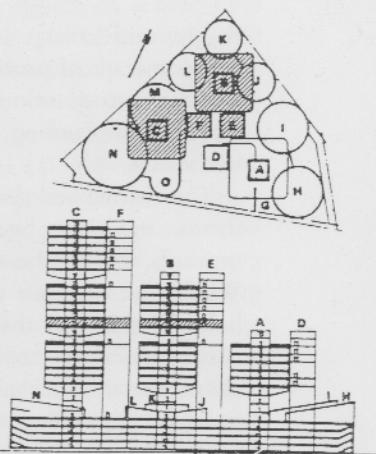
5.24 Université de Paris XIII, Campus de Villetaneuse; competition design by Adrien Fainsilber and Hogna Siggurdardottir-Anspach, 1967/8. (*Ad'A* no. 137 4/5-1968, pp. 97-101)





5.25 (a and b) (above left) a Université Toulouse Le Mirail, by Georges Candilis and Alexis Josic, from 1966/8, 'plan de masse'. (*Ad'A* no. 137 4/5-1968, p. 58). (above right) b. Lyon Bron (Lyon II, Parilly), by René Dottelonde and others, from 1969, plan, emphasising 'the street'. (*Arkitekten* 1972, p. 362)

5.26 (a and b) (left) a Université de Paris I Panthéon-Sorbonne, 'Tolbiac', 90 rue de Tolbiac, Paris 13e, by Michel Andraut, Pierre Parat, 1972-3. Showing especially the roofs of lecture theatres treated as spaces for open air assembly. The section below, b, shows the underground car parks and other facilities, topped by the lecture theatres, as well as the three towers containing the teaching accommodation. (*Architettura Chronache i Storia*, No. 240 10-1975, pp. 342 and 346)



differently from other buildings of the town'. The left-wing philosopher and writer on urban questions and one-time teacher at Nanterre, Henri Lefebvre, wrote of the 'profound spontaneity of the streets, in places which are not occupied by institutions'. The simplest example of the new preferences was of course the Quartier Latin. It was seen as 'un modèle né spontanément', the fruit of 'a mysterious alchemy'. Finally, we might point to one immediate outcome of the 1968 events in Paris, the foundation of two highly experimental institutions, Dauphine and Vincennes – yet neither of them provided new permanent campus buildings, the first being housed in existing buildings, the second in temporary structures.

Returning once more to one of the new suburban universities of Paris, to Créteil, we find the planners at their most serious in their efforts to connect their campus with the surrounding HLMs, even linking across to them via a prominent footbridge. So successful is the intergration that the relatively small campus is far outdone by the spectacular HLMs, the densely grouped, high blocks of dwellings, and, indeed, for any newcomer, it is difficult even to identify. While it is troublesome to define exactly what would be meant by 'urban', the district, with its overall high density, has most decidedly left behind the outer suburban character (fig. 5.27). What should be stressed most in a summing up of the French efforts from the 1950s to the 1970s is probably the seriousness of, and the continuity in, the Modernist-egalitarian effort. At first, the new university buildings look like blocks of edge-of-town public housing, while later on their planning is integrated with public housing. Thus, it is a kind of utopianism that seems to differ strongly from the Anglo-American one which continued to stress the institutional and architectural distinctiveness and separateness of each university. If, on the other hand, one takes a more purely architectural angle, the French produced, by around 1970, a group of individualised solutions which are hardly inferior to those across the Channel or the Atlantic. However, on the international, especially in the European, scene it was the new urban planning issues which were to gain an ever greater importance. If anywhere, it is here that we find a French contribution to University utopianism.

#### MEGASTRUCTURAL AND OTHER INDETERMINISMS

By the mid to later 1960s we meet, in the advanced design and critical circles, a vast conglomerate of problematisations. Virtually everything that has been discussed so far was put into question. There was to be the end of the grand gesture, the end of any certainty in planning, and even, for some, the end of the university as a self-contained institution.

The formal and spacial gymnastics in grandiose reinforced concrete were decisively shown the door by a design which was immensely publicised from early 1964 onwards, that of the extension for the Freie Universität Berlin, by Candilis, Josic and Woods, of Bochum competition fame, with the American Shadrach Woods at the helm. Virtually all the forms described so far have disappeared. Being extremely low rise, basically two storey plus basement, the complex makes absolutely no impact on its indifferent suburban surroundings. There is no major entrance, let alone an entrance front, or any differentiation between a major or a minor side. There is no centre, or central focus. The complex, as originally planned, forms a single rectangle of 14



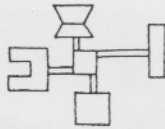


5.27 Université de Paris XII Val de Marne, Créteil Campus, by D. Sloan, 1972. Part of central elevated area with public housing tower blocks looking in.

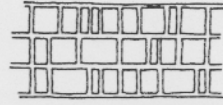
hectares, or 34 acres. This is very large if one considers it as one building (it houses parts of the humanities), but not if one thinks of it as a complete and variously subdivided campus. The inside of the Berlin project is, in fact divided up into many small compartments. So far, so simple. But the actual plan is most unusual. We are shown a number of different kinds of plans, not according to floor level, but according to singled-out specific functions: pedestrian circulation, internal courts/green spaces and the rooms as such. When they are superimposed we look at a baffling, and apparently shapeless maze of rectangular elements (fig. 5.28).

With Candilis, Josic and Woods's Berlin plan we enter the sphere of a new kind of abstract planning thinking. When the Berlin building was (partially) completed almost ten years after it had first been published it was only moderately noticed and liked – we shall return to some essential criticisms made by Reyner Banham (see page 286). In the wake of its plans much attention was turned to two other projects devised in the years 1963–6, Marburg an der Lahn and Loughborough. Both showed striking promise but in the end the reality was less inspiring. Like so many others, Marburg felt it had to relocate sciences and medicine entirely outside the town. The building office of the university and the *Land*, Hesse, began by devising a prefabricated building system which promised great flexibility. The way the Marburg designers, in their layout plans, managed to get across the idea that the very large complex of buildings was somehow generated from the small-scale elements of the building system, was impressive (fig. 5.29). The same was true for Loughborough University of Technology which became England's most admired plan after the Seven. It was devised by one of England's most experienced architectural and engineering

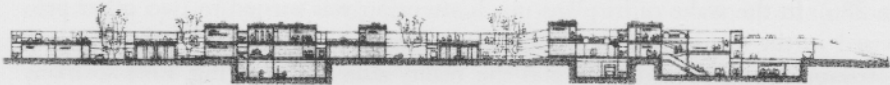
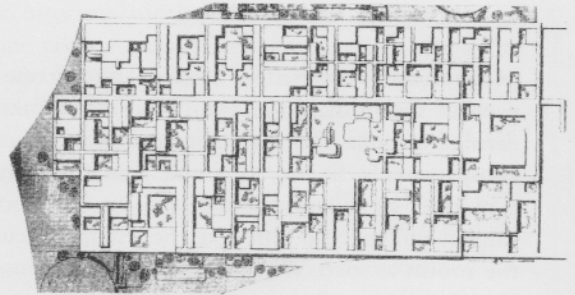
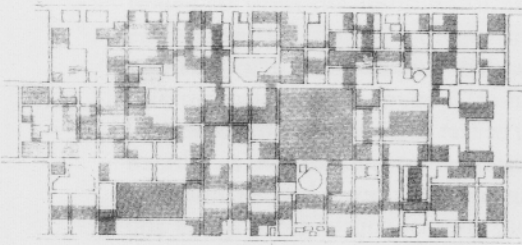
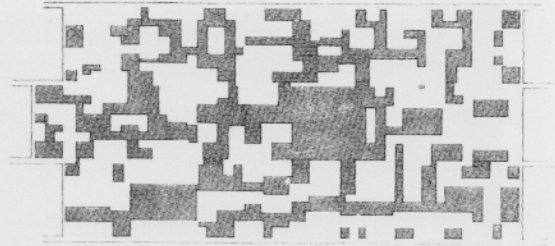
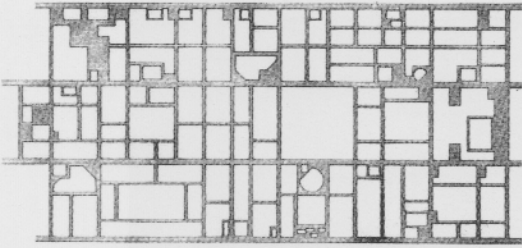




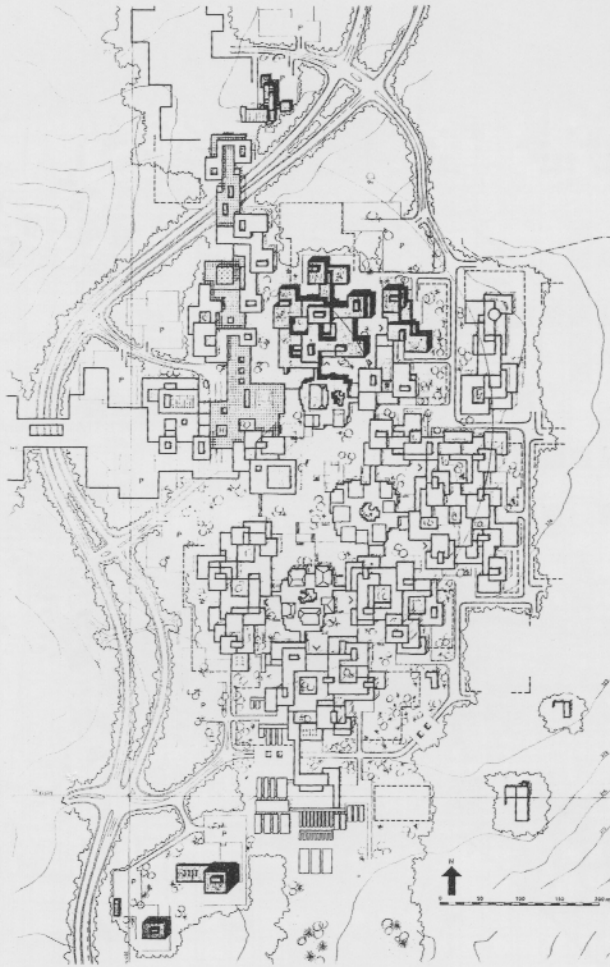
DISSOCIATION



ASSOCIATION



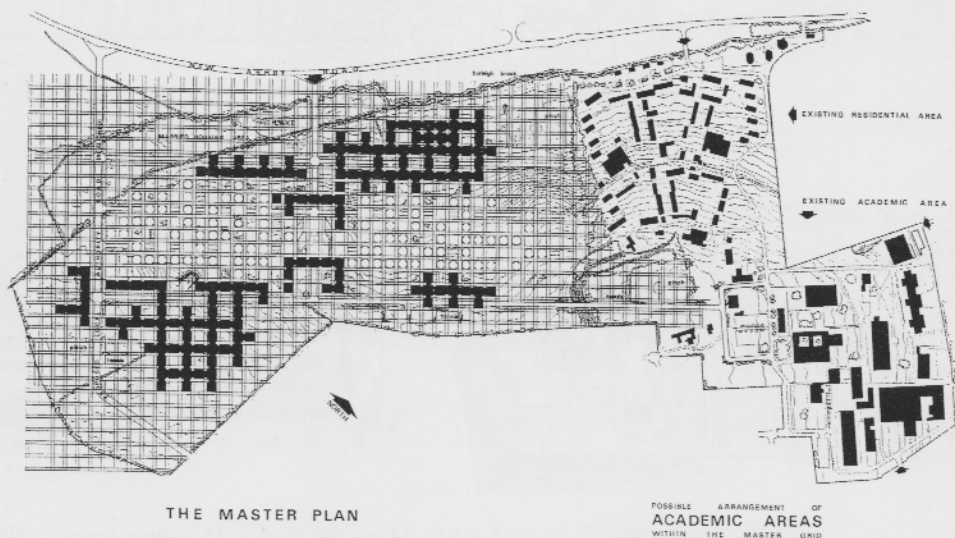
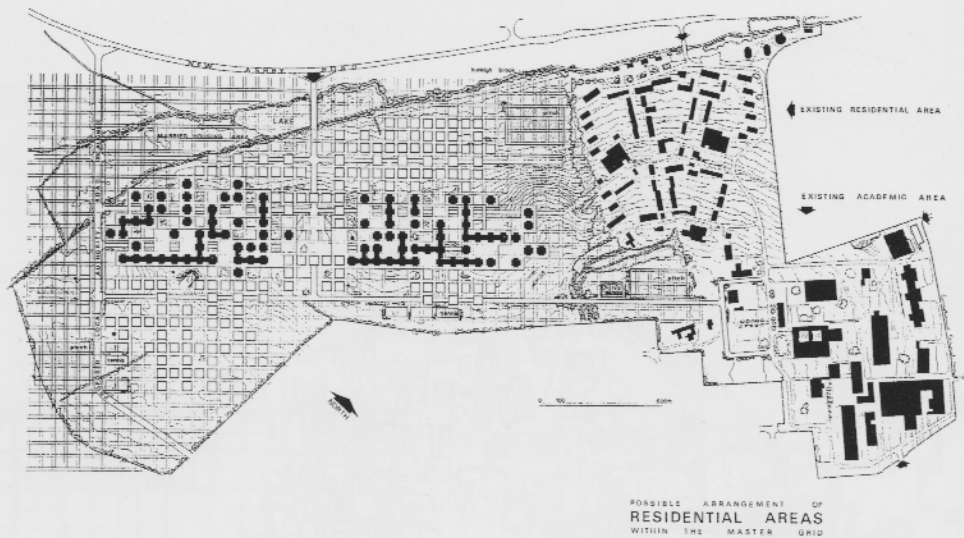
5.28 (West)-Berlin Freie Universität Humanities building, by Candilis, Josic and Woods and Schiedhelm, competition design 1963. Top: Shadrach Woods: diagram of university socio-dynamics. Plans: top left: pedestrian network; top right: open spaces; bottom left: open spaces and pedestrian network superimposed; bottom right: 'Aerial view of built form'; longitudinal section. (*Architectural Association Journal* vol. 80 no. 883 1-1965, pp. 14-17; *AA* 1967)



5.29 Phillips Universität Marburg an der Lahn, Lahnberge extensions, design from 1964, by Universitätsbauamt. (*Ad'A* no. 137, 4/5-1968, p. 47, p. 137)

firms, Ove Arup Associates (figs 5.30 and 5.31). Here we find a 15 metre square (50 by 50 feet) constructional net, or grid, into which any conceivable use was to be fitted. Odense University followed with a 'Bandraster', a grid arranged in bands. This, too, appeared very much open-ended; this time it was largely built as intended (fig. 5.32). At Ulm University there is a series of square courts and a complete indoor network of communication while the 1967 competition for Bremen University was virtually dominated by 'net' patterns.

The 'net' or 'mat' principle was fed from three sources. Firstly, the way in which, from about the mid-1950s, the grand regular form was eschewed in favour of a concern for small-scale situations, the places where small groups meet (e.g. by the Smithsons). A 'whole' must now be thought of as an agglomeration, a cluster, of an infinite number of those small places and spaces. The Smithsons took some cues from a number of lesser-known designs by Le Corbusier of the 'mat type,' such as the Roc et Rob project. Candilis, Josic and Woods, disciples of Le Corbusier's, took all this on board at the same time as the Smithsons. The second ideal, emerging in the late 1950s, mainly in Japan



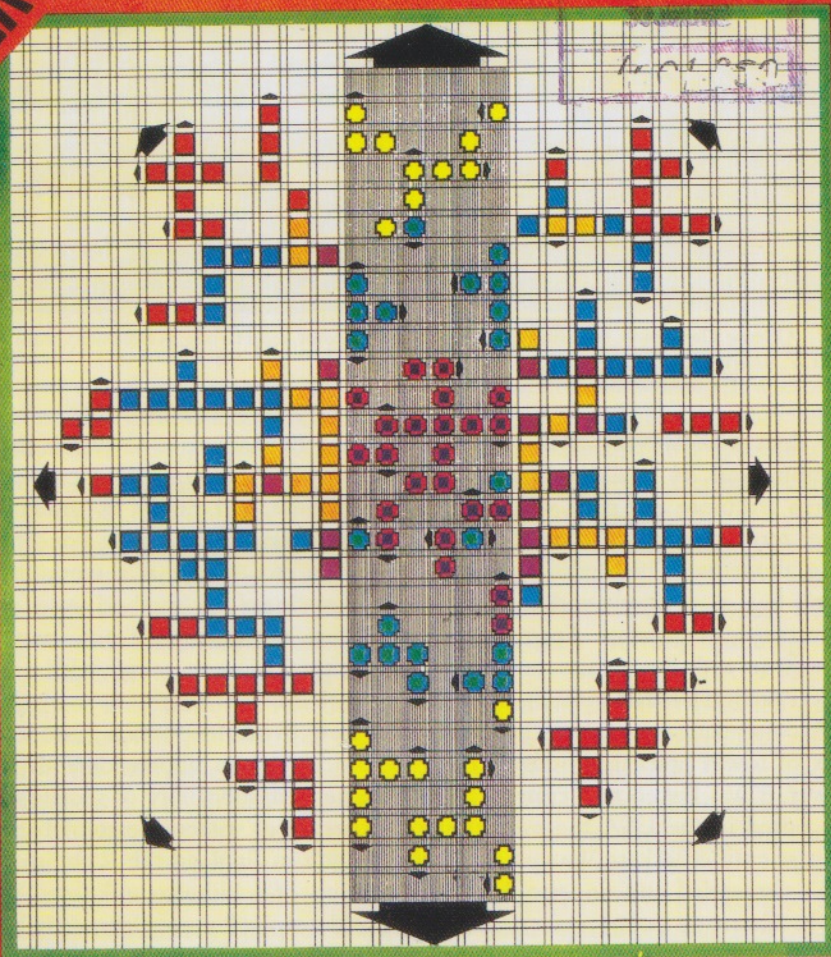
5.30 Loughborough University, plans. (Arup Associates, *Master Plan for the Loughborough University of Technology*, 1966)

and England, was the concept of the megastructure. It was basically meant for whole new towns, but could be applied to all large types of building requiring a complex amount of organisation. There is often a grandiosity about the structures and an avant-garde science-fiction look and there has been much debate about the degree of seriousness, or otherwise, of the drawings of the Archigram or Metabolist groups. Large educational institutions have what the megastructuralists loved: a multiplicity of functions. Rather than squeezing these diverse functions into a close and neatly outlined whole, 'megastructures' emphasise the amalgam of the most diverse shapes. In a general sense, many of the new universities of the 1960s, such as Essex or East Anglia, Scarborough and Simon Fraser, or many of the entries for the Bochum competition could already be called megastructures. In a narrower sense, the megastructure dreams of the



UNIVERSITES

Nous nous dirigeons vers une société post-industrielle  
dont les institutions-clés seront les universités, organismes de recherche  
et non plus les entreprises industrielles ou commerciales

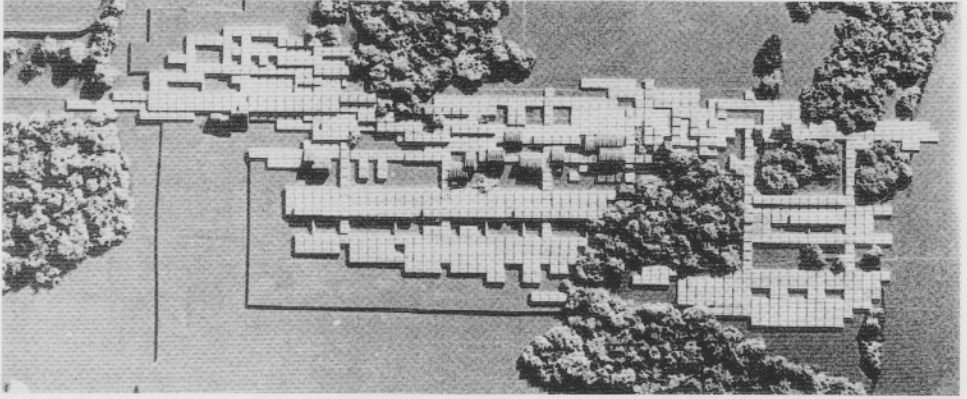


## l'architecture d'aujourd'hui

5.31 Loughborough University of Technology (additions to), by Arup Associates from 1966, showing micro and macro extensions. (*Ad'A* no. 137, 4/5-1968, cover)

1960s evolved around the notion of giant permanent infrastructures with interchangeable temporary excrescences, something which then moved on to the High-Tech movement of the 1970s, of the Paris Pompidou Centre kind.

One may thus be surprised to be told that Candilis, Josic and Woods's Berlin university was the 'nearest thing' thus far to a built megastructure. It does not look 'mega',



5.32 Odense Universitet, by Knud Holscher (Bureau Krohn and Hartvig, Rasmussen), from 1966. (*Ad'A* no. 137, 4/5-1968, p. 67)

nor does it show very diverse features, and yet Banham tries to justify the label by pointing out its qualities of extendibility, the way it seemingly incorporates parts which are more and parts which are less permanent, and, finally, its 'modularity'. The latter term brings us to the third source of indeterminism: a new concept of planning altogether. The Berlin building was not, in fact, meant as a work of 'architecture', but as a 'framework', as an 'Ordnungsprinzip', a 'method into which the university can develop'. From the megastructure movement we now move on to a core issue with the architectural and planning profession, or rather with a new theoretical faction of that movement.

A combination of factors had led to the new trend. In postwar Europe the planners of towns and large housing estates had acquired an unprecedented professional power. It was linked to a conviction of the scientific solvability of society's problems. We noted in the USA the ever-growing expertise of student personnel services and their scientific backers. We saw the way in which in England the Robbins Report of 1963 demanded and undertook an investigation of a hitherto unknown systematicity. In Germany policy makers like Schelsky demanded a new 'theoretische Universität' as well as the coordination of all higher education into the 'Gesamtuniversität'. There was a requirement for greater cooperation all-round. At the same time, each group involved claimed its territory, its own scientific specialism. In 1974 Peter Jokusch, in the forefront of Germany's university planning science, maintained that there was a great need for more full-time planners. All major countries maintained central planning and architectural research organisations, such as the New York based Educational Facilities Laboratories. In England RMJM, backed by one of their clients, Eric James, tried to make a start by demanding the pooling of research during 1964, without much direct success, but soon afterwards the architectural schools of Cambridge and London University began to conduct much sustained research. Probably Germany's research institutions (see page 222) were the most powerful because of the close state involvement with the whole building process.

On the face of it, the 'planning' of university buildings should be something quite straightforward. True, there are a vast number of details, but once they are put into the right order, so to speak, a complete and well-functioning whole should emerge.



The 'whole' would mean precisely that: 'completeness', maximal and optimal use, and 'not bits and pieces', to quote again the defenders of the vast and complex Bochum plan. The architect's or planner's main task was to translate the requirements as stated by the academics and administrators into 'space requirements'. The Americans had progressed considerably in this field, by considering the diversity of students' activities, and devising 'optimal space use studies'. There was early talk of simulating planning processes on the computer. The conviction that solutions come about logically was crucial: 'The Campus grows by logical building increments' (Dober). At Bochum, the director of planning, Fridolin Hallauer, maintained: 'The analysis of the programme gave us 472,000 square metre requirements. The design of the university is a logical result from this.' It is, further, based on the 'Strukturprogramm [i.e. the plan of the academic divisions], traffic movements, topography and the building components'. Now there appeared essentially only two types of buildings, stackable ones and non-stackable ones. In Cambridge Bullock, Dickens and Steadman arrived, by 1968, at even more precise calculations as to what students did where and when. The Germans tried to refine the various stages of the planning process by devising further terms such as 'Leitplanung' (directional (overall) planning) and 'Bedarfsplanung' (planning for use). A further shift in procedure was the demand for what the Germans coined 'Musterprogramme' or 'Richtwerte', model programmes and guiding figures. Architects maintained that the planning of a university building should no longer be a matter of listening to the individual client, because what physics professor Y wants tomorrow might be totally different from what physics professor X wants today. Instead, demanded Ferdinand Kramer at Frankfurt, when devising buildings for science, one ought to develop generally valid criteria.

A crucial new shift, however, was the increased stress on the links between functions, a new interest in circulation and its differentiation, in 'connectivity'. This meant a reduction in the attention given to all that was merely stationary, to the individual functions themselves. The greater togetherness demanded by the educationalists and academics in England led the architects to study much more intensively the nature of interaction between departments. The Leeds plan of 1960 was the first to investigate quantitatively all contacts, all movements, between all parts of the campus and the architects' extraordinarily complex diagram was often reproduced (fig. 2.31). Candilis, Josic and Woods's Bochum design of late 1962 [5.10] and the English 'urban' plans of 1963 led the way to a kind of 'plan' in which one can discern the lines of communication, but in which it is hard to make out individual zones or functions as they all appear completely interwoven. Megastructural planners followed in this line.

All this turned out to be a prelude to more fundamental shifts of opinion. On the one hand, the complexity of methods grew apace, on the other hand, doubts arose as to the aims and the capacities of planning as a whole. The planners thus found themselves in a paradoxical situation where they wanted to appear to know both more, and less. A number of new outside pressures bore on the planners, too. After the mid-1960s the British government had to hold back on finance and a new climate of uncertainty arose. There was no longer, in Britain, a prospect of many more new campuses. Further expansion had to be piecemeal. In Germany and many other countries there was the continuous demand to step up, and to cheapen output.

Two new and related ways of thinking emerged: 'change' and 'indeterminism'. To



put it at its bluntest, a building cannot really be planned at all: 'the built forms do not, in fact, control the activities within them' (Michael Brawne). The hospital planner John Weeks had postulated his idea of 'indeterminacy' as early as 1960. By 1968 several theorists turned against what appeared the earlier 'commitment or "fix" of the building, [that] was the fabric itself, inert . . .' (Michael Cassidy). It was 'change' which pre-occupied the planners' minds. While in the period of early and Classic Modernism 'change' was chiefly a utopian or reformist platform, something that seemed urgently needed, now change was felt more as something that happened anyway, and happened ever more rapidly. The German architect whom we cited earlier on university planning, Peter Jokusch, put it most clearly: 'Functional obsolescence usually predates physical obsolescence', and: 'this conflict is getting more and more serious'. All the factors which were earlier listed as relevant for the planner to analyse and find forms for, such as the structure of teaching, technical equipment, density, town-gown relations, to name only a few, all these were now considered factors of uncertainty. Other typical formulations of the direction planning theory was taking were from 'static master plan' to 'evolutionary plan', or perhaps, most drastically, Linde's: from 'recipe' to 'problem'. Planners and architects wanted to hive themselves up to a higher plane of scientificness, using terminology from social sciences and management sciences, they aspired to a practice of 'systemreine Planung', that is, planning purified of the accidental and the pragmatic. Terms such as 'systems analysis' or 'operational research and design' came into currency, i.e. the use of 'mathematical and computable models' which can, firstly, predict, and then accommodate projected changes into their calculations. The new kind of planning, finally, greatly increased the flood of diagrammatic drawings, of schemata of the decision-making processes as well as drawings showing categories of linking and growing. The visual presentation of planning had moved a long way beyond the traditional 'plan of a building'.

Even 'social space' became a problematic issue. We noted a fundamental change in the understanding of the institution from one that was expected to induce certain predetermined kinds of social modes to one which should principally encourage spontaneous social behaviour. We noted further the way in which sociologists, when asked for advice in these matters by architects, now maintained that they had not, as yet, done enough research. Planners adopted an attitude of indeterminism here, too: proximity, we hear, does not necessarily lead to intensified socialisation. Hence, interest for a central gathering space, for the forum or agora, waned. Candilis' Berlin most decidedly did not show such a centre and Konstanz put much stress on its small, dispersed rest areas. 'No part of the university is devoted exclusively to social purposes; on the other hand, there is no area in the university which could not be considered as a social space'.

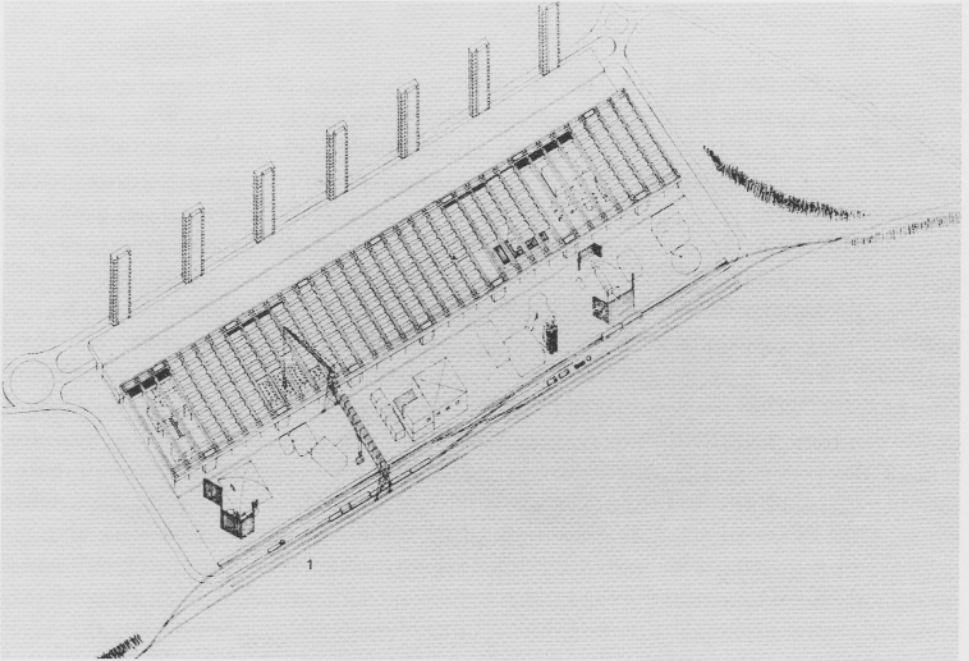
It was part of the comprehensiveness of the new planning movement to take in construction as well. The old view was to first devise a plan of a building and then to devise the construction accordingly. Now the two were seen as interdependent from the very start. This notion had a good pedigree in British Welfare State school architecture and the use of Clasp at York had been a major talking point. Subsequently German universities erected many large teaching blocks out of prefabricated elements. The new concept of construction at the end of the 1960s was not one of the complete determination of all the elements of a building, but the creation of a flexible framework of 'modules' or 'grids', with room for the desired variety and flexibility

of infilling. Frameworks could be in metal, such as the 'Raumgitter'/space-frame proposal for Bochum by Eckhard Schultze-Fielitz (fig. 5.11), or, more universally, in pre-cast re-inforced concrete, of which Loughborough was the most often cited example. Now construction, that is the framework, is basic; 'planning' concerns the detailed and varied infilling. Soon, planners would add to this a generalised notion of the services as equally, if not more important than the construction, in the 'performance' of a building.

The greatest problem for this new thinking was to combine the idea of unplannability with the notion of 'planning for growth'. The old way in campus planning, was simply to leave space around each building in its 'zoned' area. Altogether, international Modernist low density layouts now appeared simplistic. Considerations of growth must begin with a careful analysis of the existing whole and the formulation of the general principles of change. According to Weeks, it was the communication pattern of an institution that directed the possibilities of growth. An intense concern set in for the classification of all plans, with a strong trend towards abstraction, accompanied by ever varied kinds of schematic drawings. The most influential model on the whole was probably the Lancaster/Bath model, which allowed two kinds of extension, major ones lengthwise, at the 'ends', and minor ones on the sides. The major alternative was the Loughborough kind of grid which could be extended equally in all directions. There were many metaphors used, the most common being 'spine'; it could be straight as Bath, or 'cranked', even to a painful 90 per cent, as at Konstanz. At Essex the method of extendibility was likened to pushing along the 'meat inside a sausage' (John Jordan). (Frontispiece)

As far as the majority of campuses were concerned, their planning for expansion was not so clearly conceptualised. Sometimes their clients and designers took advantage of the new indeterminism, when they met criticism of their early lack of planning methods, by declaring either that there cannot be a plan (Lasdun at East Anglia), or that planning is pointless (Kent). Thus the new systematic concern for growth frequently led architects' interests back to the brave plans of the Seven; and yet, the new mistrust of any concept of completeness made the Seven appear old-fashioned, even while they were still being built. We noted the way in which much blame was laid on Essex and other new campuses when they turned out to function well for the student troublemakers in a way that was completely unforeseen.

The new frame of mind finally stretched to a denial of 'architecture' overall. Propositions voiced from time to time under Modernist 'Functionalism', for instance under Hannes Meyer at the Bauhaus in 1928-30 began to be repeated, with phrases such as, 'architecture free from the constraints of aesthetics . . .'. (John Weeks 1969) and 'The quality of buildings is no longer only judged through architectural criteria but more and more according to those of utility.' Others claimed that the concern with the plan, as such, has nothing to do with 'form', or with architecture as an 'artistic element'. But there were yet more extreme positions vis-à-vis not only 'architecture', but the whole university institution. The university was now seen not as a building but as a 'teaching and learning system' (Günther Feuerstein). There was much fascination with 'learning machines', tv and others; 'the "university" in those terms could exist without a clearly defined physical structure; its campus would be invisible within a community'. Here, indeed, we must add our last 'campus', Cedric Price's Potteries Thinkbelt. It was entirely the product of an architect's imagination (Price was close



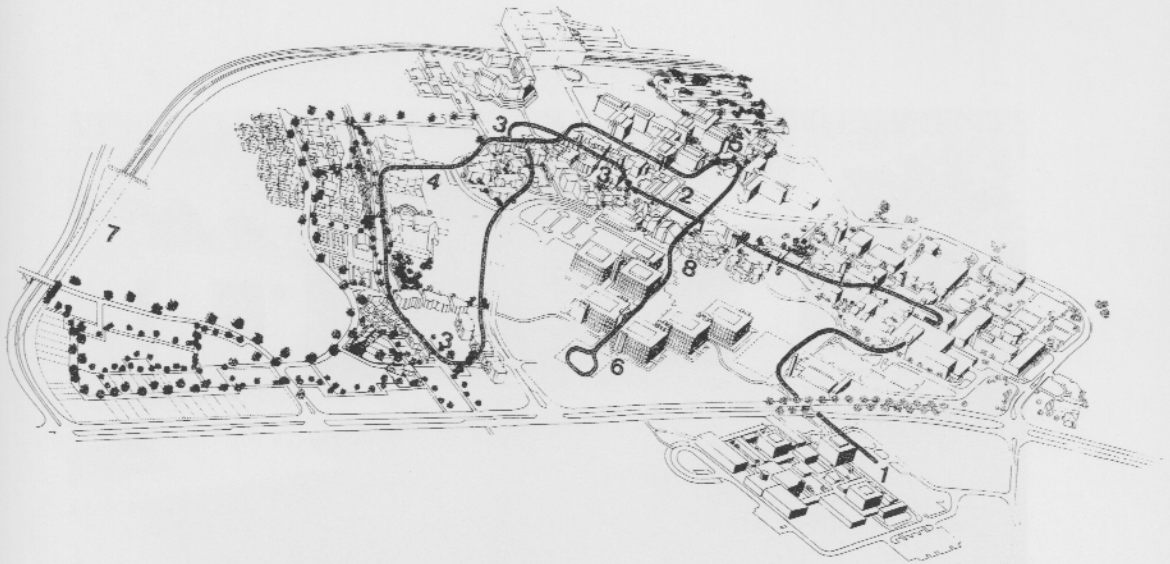
5.33 Potteries Thinkbelt project: by Cedric Price. 'A plan for an advanced educational industry' in North Staffordshire. Parts of the educational facilities travel to students' homes, instead of students coming to the institution. (*AD* 10-1966, p. 488)

to the Archigram circle): 'a plan for an advanced educational industry in North Staffordshire'. The New Universities so far were merely 'a service run by gentlemen for the few'; what was needed was something that really served a whole region, by actually bringing teaching facilities to its users, that is, by moving around mobile teaching facilities by rail or road through a large urbanised area (fig. 5.33). A somewhat similar proposal for a mobile university was found in a Bremen competition entry of 1967, by Rathke, Szabo and Behrendt. Finally, one might state that perhaps the only really new university was the Open University, founded in 1970, and its German descendant, the Fernuniversität, of 1980.

Sometimes the designers paraded complete scepticism about the whole process. 'There is no body of tested or expert knowledge on university planning', one of the main theorists admitted in 1974. It was a statement that logically followed from indeterminism, but it somehow sounded strange after so much research had just been done. Challenged by the sociologist Martin Trow, who asked why old buildings are best in creating spontaneous academic meeting spaces, Robert Anderson of John Andrews Architects (of Scarborough fame) admitted meekly: 'we really don't know what we are doing about the design of space at all'. On the other hand, all this was part of a much more pervasive weariness, part of a growing condemnation of Modernism and a turning away from what now appeared as its technologist/constructional determinism. Like most architectural movements, even the seemingly most profoundly committed and the most theoretically based, 'indeterminism' came to an end, too; but this lies beyond the scope of this book.

There was, finally, yet another version of the non-institution, non-plan university: the university embedded into the town. This was an almost entirely new issue of the





5.34 Université Louvain la Neuve at Woluwe-St Lambert (Brussels), by Groupe Urbanisme et Architecture: 'Perspective with promenade through the pedestrianised streets'. 1 applied sciences, 2 place des sciences, library, science administration, 'le "pub"', and university restaurants, 3 dwellings and commerce, 4 Ecole de Bierau, 5 chemistry, geology, geography, 6 biology, 7 railway tunnel, 8 computer centre. (*Techniques et Architecture* 11-1973 pp. 56-7)

1960s. Everybody was aware of traditional Oxbridge and its 'town-gown' relationship – largely an euphemism for a non-relationship. By the late 1960s universities could see themselves literally as an urban 'Experimentierfeld' (H. J. Aminde). We have followed in great detail the way in which a number of campuses professed to take up 'urban' elements, or argued that they actually had created 'towns', such as Essex, Chicago Circle or even Bochum. Planners of some of the new out-of-town campuses, such as Regensburg, tried desperately to prove that they were close to the old town centre and somehow integrated with it. But there were early demands, for instance at the general German Students' Meeting of 1962, that the university should not be at all a closed complex, but entirely open to the institutions of the town. By the late 1960s, many planners and policy makers valued town-integrated universities higher than out of town campuses. There was clearly a unison between the notion of the unplannability of the university and the new oppositional town planning, of the Jane Jacobs type, which also maintained the unplannability of a good town. Many analysts of student residence patterns now saw 'digs' or the 'Bude' as socially the most desirable solution. Among the many urban campuses where planners took special care to re-integrate them with the town centres one could cite, again Leeds, the Scottish urban universities, such as Strathclyde University in Glasgow, RMJM's Edinburgh University reorganisation, the 'Manchester Education Precinct' plan, and, by the late 1960s, most of the newly constituted English Polytechnics. There were, furthermore, many entirely new town centre projects, such as the proposal for a new university at Hamburg-Harburg, planned to be built across the S-Bahn station. The strong French manifestations of this trend have already been cited. One of its best-known examples Louvain la Neuve near Brussels was built as, or like, actual pieces of infill in a town (fig. 5.34). We might, finally, cite, once again, the way in which the very highest praise for some of the English New Universities was to be reminded, not of the Oxbridge College, but of Oxford as an integrated 'university town'.



5.35 University of Warwick: Whitefields student residences, by Goodman and Short 1972–3. Each house contains twelve single study bedrooms and a communal kitchen and bathroom.

As the very last consideration we must introduce yet another style of building, restricted, it appears, to England – though one might cite Santa Cruz Colleges 1–4 (figs. 1.26 and 1.27): the design of student residences like small houses. It was probably Surrey University which made a start with the steeply-roofed blocks by Maguire and Murray: ‘a most original alternative to Oxbridge’. Warwick then provided several versions of the type, including the tiny ‘Whitefields’ houses (fig. 5.35). Even Essex considered a ‘village style low-level plan’ of residences – but this piece of news only reached the local newspaper. These houses, of course, follow trends in town planning, too, but this time it was hardly ‘town’ planning, but suburban planning. The final consideration is that one could hardly think of a more decisive break with the architectural, and by implication, institutional unity of the campus, not only of the new ‘urban’ campus of the 1960s, but the traditional campus and college as a whole.