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Summary

Jürgen Joedicke

New Brutalism – Brutalism in Architecture (page 421–425)

The concept of "new brutalism" was coined in 1954 in the circle around Allison and Peter Smithson. It soon became a universally familiar phrase giving, as it did, pregnant expression to a generally felt phenomenon. Today we employ the term "brutalism" to refer to an architectural concept which perhaps represents one of the possible alternatives of present form in architecture—or, at least, which referred to one of the alternatives for there are already certain signs which indicate clearly that brutalism is beginning to lose its original impetus and is becoming all too soon a victim of fashionable exploitation¹. However, before any general characterisation can be accepted, a certain number of reservations and restrictions must be indicated. In the main, they apply to the misconceptions and false interpretations which are inherent in any sort of generalisation. If, and to what extent architects of the present generation can be encompassed by a classification of this sort, is a question which must remain completely open. It can nevertheless be asserted with conviction that certain architects in certain fields are given to modes of expression which might be termed 'brutalistic'. Moreover, brutalism, or that feature which we choose to term hypothetically 'brutalistic', has gone through two phases which one may readily distinguish. We must be careful, in fact, to make a distinction between brutalism in the narrower sense, as it was generally represented in Smithson's circle and England as a whole, and the brutalism which later developed at an international level. And finally, the important individuals, who may be described as precursors of the general development or as running parallel to it in that their work shows distinct brutalistic traces, must be carefully distinguished.

Brutalism does not call the architectural past in question; it is no revolutionary movement but rather an evolutionary one. One could describe it as an interpretation, specially tailored to the demands of our time, of principles and methods previously ankered in the modern period. Smithson takes as his point of departure the uncompromising architectural conception of Ludwig Mies van der Rohe. His influence is particular evident in the Hunstanton School building of 1952–54, above all in the layout and in the choice of building materials, yet already certain changes are visible in that the quality of the building material used is empha-

¹ The first, and still eminently readable presentation of brutalism is found in Reyner Banham's article "The New Brutalism" in the *Architectural Review*, 1955, p. 855 ff. The views expressed were later expanded in his contribution "Brutalism" to "Knaurs Lexikon der Modernen Architektur", Munich, Zurich, 1963. While these two articles give the intellectual background to the movement and discuss the English contribution, the present article is rather intended as an analysis of individual form principles.

Reyner Banham is at present engaged on a comprehensive study of Brutalism which will be published in 1965/66 as Volume 5 of a series edited by Jürgen Joedicke, entitled "Documents of Modern Architecture". Editor

sised. When they were asked which architect seem to be akin to them the Smithsons had no hesitation in singling out Louis Kahn and his Art Center project for Yale which had its beginnings at the same time as Hunstanton. In Kahn's case also, the simplicity of the overall form and the spatial dimensioning are strongly reminiscent of Mies van der Rohe, whereas the detailing is rather Le Corbusier oriented.

This conscious affirmation of modernity distinguishes brutalism from other present-day views which criticise it strongly. In this connection we might mention the name of Philip Johnson who was devoted to Mies van der Rohe yet left him subsequent to the completion of the Seagram Building and who today stoutly heralds the demise of modern architecture. (This does not, however, exclude the possibility that an architect of his intellectual prowess will not catapult back into the centre of the modern movement.)

In the beginning, brutalism was less a question of form and building material than of a basic spiritual position. This fundament remains intact today, yet it is jeopardised by superficial brutalistic nonsense.

Smithson's views are centred on a sequence of complementary concepts such as responsibility, truth, objectivity, material and constructional justification, and readability. The concept of responsibility denotes above all the duties of the architect to society. It also implies, however, the relation of the individual building to the structure of the city as a whole—in general terms, building within a framework set by society and city-planning exigencies. It must be said, however, that the Smithsons have been deceived just as other protagonists of this thesis have been: the society for which they are building is non-existent—it exists only in the mind of the architect who delights in his role as a harbinger of social reform. The social order is, on the other hand, generally uncomprehending towards avant-garde architects. The second concept, "truth", relates primarily to the method of construction. The building shall reveal the method of construction, as in Kahn's definition of architectonic space: "I think an architectural space is one in which it is evident how it is made." The Smithsons went so far in Hunstanton that secondary services—such as pipes and cables—were located freely from the walls—a method employed, incidentally, by Berlage in his Stock Exchange in Amsterdam.

The concept of objectivity implies that not the architect himself but rather that which the building represents should be expressed. The concept of material justification or, better, respect for material was interpreted anew. The building materials were to be used in their natural state—"valuation of materials as found" is Banham's definition in his article "New Brutalism" (*Architectural Review*)². Constructional justification refers to an elucidation of the constructive function.

The concepts of readability and discernibility occupy a central position and are primary. Most theories proposed by architects founder when it comes to resolving how these abstract theories are to be implemented in the building itself and how they are to become evident in the completed structure. The Smithsons reduce this question to a single demand: that the logic of the project as visualised and more precisely—the spatial distribution, the construction and the building materials shall be visible to the outside.

To achieve this, the observer must be importuned. Thus an expressive note was inherent in brutalism from the onset although, because of a basic puritanical approach, it was not immediately evident in the Smithson's work.

In addition, we have the complex concept of the building's "image" which states that the building must possess an easily remembered and memorable form. None of these concepts is new. Their conjunction and particular, wilful interpretation mark off and characterise brutalism.

Over and above these theoretical foundations, brutalism is marked off by particular form tendencies. They are best characterised when compared with the views of Mies van der Rohe.

² "New Brutalism", *Architectural Review*, 1955, p. 855 ff.

Mies takes as his point of departure the subdivision of a significant, most often rectangular form into individual rooms; the large space is divided into a number of smaller spaces and the subdivision is carried out in such a manner that it may be suspended at any time. In sharp contradistinction, brutalism—or that which I understand by it—proceeds from the individual, smaller space group, proportioned according to its function, and linked with others. In other words, autonomous and, as such, esthetically emphasised functional elements are joined together. The overall form is thus not the point of departure but the individual form. Whereas Mies' views give birth to cubes the brutalists opt for a whole composed of individual elements in conjunction, with hollows and projections. A functional conception is at the root of this form principle, namely that there exist certain subsidiary functions which must be precisely defined and which can be accommodated by specific building forms. Mies' conception, on the other hand, states that there are no specific functions and that it can only be a question of creating a large space which may be subdivided at will.

I should like to term this principle of brutalism a city-planning principle for it is in essence a question of creating servicable units out of specific, varying functions and yet form a whole. A significant example is the Orphan's Home in Amsterdam by Aldo van Eyck. "A house like a city, a city like a house" is his avowed goal. Similarly, the Smithsons project for Hunstanton was to create a row of communities which blended into a whole just as the individual units of a city. The same relationship to city-planning is observable in the work of Louis Kahn, J. P. Bakema and Georges Candilis.

This tendency to incorporate the autonomous building elements varies with temperament and idiosyncrasy but even there, where the overall form seems to predominate, the individual unit is carefully accentuated. One of the means employed to accentuate spatial consequences to the outside is the use of unusual window design, the windows often running round building corners or staggered.

The application of these form principles leads to designs rich in plastic and spatial expression which are referred to as "clusters". This development from the inside outwards, basing the spatial form on the function, has today become already autonomous. The esthetic appeal was so great that such projects are developed for their own sake, independent of their content and function, and—incidentally—widely acclaimed.

The tendency toward separation, toward viewing each functional element as an autonomous form element, leads to a formal emphasis on secondary functional elements. This can be significant, yet it can also lead to rank exhibitionism. An excellent example of intelligent application seems to me to be Louis Kahn's much imitated arrangement of vertical connection elements and ventilation shafts at the Medical Research Center in Philadelphia. The arrangement was functionally advantageous—arrangement of undivided work surfaces—, constructionally advantageous—separation of different construction forms: skeletal structure for the laboratories, massive structure for shafts—, and also formally advantageous in that it permitted formal variations to correspond to the various functions. Nevertheless it must be maintained that the building's expressiveness is due in large measure to the shafts which project over the laboratories: in other words, to a secondary functional element. One might well ask here if the esthetic predominance of the secondary elements is in accord with the problem or, the other way round, if other arrangement of the lift shafts and ventilation installations would not be equally significant and perhaps offer more functional, constructional and formal advantages? The danger of exhibitionism is also present in the use of constructional materials. Banham's stipulation², that the construction material be employed "as found" may be interpreted in a considerable variety of ways. In the case of ferrous concrete, the brutalists' favourite material, "as found" refers to the mixing and grain composition, i. e. to two factors which are not orig-

inal or "found". The brutalists elects chiefly for a production method which yields coarse-grained, rough concrete. This tendency to coarseness leads ultimately to the point where, when the production method does not produce the desired rough effect, the concrete is subsequently coarsened by hand or machine, as in the case of the Art Department Building in Yale.

This same predilection for coarseness is evident in the choice of brick. Here again the smooth hard brick gives way to the irregular brick. In this manner the easily-copied superficialities of brutalism have been exploited: they have nothing to do with brutalism proper.

The same process may be observed in the treatment of the construction. There are examples where the emphasising of constructional elements serves to heighten the readability and elucidation of the system of forces. Others again, and these include Vignano's Marchiondi Institute, use apparently constructional forms purely formally.

This tendency to emphasise constructional materials, the construction itself and the spatial interplay of elements, is accompanied by a demand for heaviness. It is no longer a question of lightness and grace but rather of expressing mass and weightiness. The engineer's ideal—to span a maximum of space with a minimum of material—is not applicable to brutalism.

The fact that the material is employed excessively is dangerous in that it invites overformulation. One might conceivably go as far as to say that the senses are dulled by excess: the scores of water-spouts dotted around the otherwise creditable Aesch Project call inevitably the single water-spout at Ronchamp to mind.

At the onset we indicated that brutalism was beginning to lose its original impetus and was being sacrificed to 'fashionable' exploitation. We may now state more precisely the dangers which threaten the movement: exhibitionistic excess and the over-emphasis on the coarse surface.

For many the concept of brutalism is exhausted with the coarse surface; for them, the coarse, the uncouth, has usurped the elegant industrial form, the curtain wall. Architectural fashion has undergone a change. It must however be noted that brutalism did not postulate as its goal a new form of façade decoration. It strove rather to renew the modern moral imperative as found in the utterances of H. P. Berlage and others up to J. B. Bakema. It sought to overcome the emotional frigidity of Mies van der Rohe's architecture. Brutalism sees building as a structure to be developed from within and has awakened again the feeling for the plastic qualities of spatial delimitation.

The buildings published in this issue are not to be misconstrued as prototypes of brutalism. They are far rather examples which demonstrate, far from consistently, brutalistic form tendencies. The Student Hostel in Cambridge by Sir Leslie Martin is an example of puritanical English brutalism, whereas Paul Rudolph's Art and Architecture Department Building in Yale shows certain exhibitionist tendencies although the building is valuable for its inner spatial articulation. Tange's Cultural Centre in Nichinan can only be appreciated against the particular personal background and development of his work. Nevertheless it serves as an interesting foil to the European examples and their possibilities. The Lichtenberg Property, on the other hand, demonstrates the scope of the brutalistic approach and is a fine example of the application of such an approach to a conventional problem.

Sir Leslie Martin Colin, St. John Wilson Associate; Patrick Hadgkinson

University Centre of Conville and Caius Colleges in Cambridge, 1961 (page 426–431)

This university centre, a traditional assignment corresponding to a typically English pedago-sociological concept, is the extension of a complex of Colleges situated in the heart of Cambridge and no longer having available sufficient adjacent building sites. The students will use the rectorial, the administration building, the chapel and the lecture theatres

of the old colleges located half a mile away, until completion of the second stage.

Program:

100 rooms for undergraduates and Fellows, common rooms: lounge, breakfast room, kitchens with utility rooms, cloakrooms, lavatories, drying-rooms, storage rooms, garages, caretaker's quarters and guest rooms.

The problem:

In this building the architect varies and combines the particular features of the already existing colleges, based on the typical usages of English collegiate life which date in part from the Middle Ages (arrangement of buildings about a quad, access to students' rooms via entries); technical services and administration largely managed and carried out by the students themselves, a manner of proceeding in keeping with the typically British student scale of values and with an entirely different conception of the role of education, etc.

Organigram:

Basement floor: all the common rooms with access via stairs leading to the quad above, comprising on the south, with direct access to the garden, the lounge and the guest rooms, in the centre, the breakfast room illuminated by skylights, toward the west, the kitchens the utility rooms and the secondary entrance, on the three faces, west, north and east, the garages and the other utility areas.

The three residence levels are made up of a volume oriented toward the garden and staggered toward the quad, the garden stairs, the covered entrance stairs and a U-shaped volume west-north-east with terrace rooms, oriented toward the quad. The main access runs from the road on the north side along the east face toward the stairs leading to the quad and to the common room entrances.

The canopies on the upper levels reveal the pylons on the lower levels around which are plastically grouped the utility and traffic surfaces.

Owing to the varying depths of the levels, owing to the interior angles and the lengths of the different buildings, the two upper levels are made up of student rooms and flats of all shapes and dimensions. (3 to 5 rooms grouped about a vertical entryway.) At quad level the stairs constitute a very large landing behind the lounges. The largest volume, oriented toward the interior, comprises the accesses to the quad. The utility rooms are conveniently arranged in the blind corners on the interior.

Construction:

Supporting walls and pillars in untreated brick, decks of pre-fab concrete (span 3.40 m.); gently pitched roof, timber framing, roofing and cladding of sheet copper, windows and furniture of Douglas fir, floors of stone flagging and tiling. By and large, the materials are handled very simply.

Design:

The tendency toward an elementary plasticity, toward a kind of "tectonics", emphasized by the employment of the materials and the deliberate contrasts in the detailing, is shown in the quest for a single shape, an "image" symbolizing the sociological situation, and in the accentuation of certain volumetric complexes, stairways, secondary zones, skylights.

It is not so much the concrete which establishes the scale or which constitutes the contrasts as in other similar constructions (visible templates on the inside, canopy supports, certain pillars), but it is the untreated brick of a vivid shade which expresses the weightiness of the building, either across broad surfaces perforated by slotted windows, or by way of solid pillars situated between glazed surfaces or independent. The other structural elements (parapets, beams, etc.) are neglected in favour of the texture of one single material which contrasts with the glass and the dark wood of the cavernous window openings. The bright colour of the copper sheeting provides the accentuation. The unusual scale of the constituent elements of this building gives an effect of seriousness, of monumentality, but also of a clearly legible conception based on modern principles. The powerful masses contrasting with the empty interior volumes, these elementary contrasts, before being an architecture per se, seek to express a theme, that

is to say, "the vast range of social relations, of institutional and pedagogic relations among men having certain common aims and origins". This construction makes an all but importunate appeal to the awareness of the visitor and of the occupant.

Nikolaus Pevsner, London

Address given at the inauguration of the building for the fine arts and architecture departments of Yale University in New Haven

(page 432-434)

It is very exciting to find oneself in a new building. The concrete has not yet been sullied by the rain, the stairways have not been nicked, the walls have not yet been covered with explanatory sketches, human desires and deceptions have not yet infested the circumambient air with their invisible traces, invisible though oppressively there. It, the building, is still the dreamed image in the mind of the architect, now become substance. However, it is also very exciting to find oneself in old buildings, for according to the great master of fantastic architecture, Sir John Vanbrugh: "... They awaken lively and pleasurable thoughts on the people who have resided there, on the strange things that have happened there, on the extraordinary circumstances in which they were erected". Personally I experience, as an historian, an entirely intellectual pleasure when studying the designs of old buildings and when interpreting them.

It was not very prudent on your part, Mr. President, to have an historian speak here on this occasion, for an historian is by definition a relativist owing to his constant concern with comparative studies. For him, it is only natural to ignore the subjectively insignificant criteria, to proceed to compare the characteristics of 1250 with those of 1300, those of 1500 with those of 1520 and to deduce respectively the features of "Early English", "Decorated", "Late Renaissance" and "Mannerism". Now then, instead of drawing all our attention to the new building—which is what an absolutist would have decently done at an inauguration—the historian is tempted to compare it with the first building of this school, which is 99 years old, even if 1864 and 1963 do not stand for immediately contiguous styles.

My entirely personal liking for Street Hall does not correspond to a historical scale of values: to a hatred of the Classicism of the 18th century, which persisted into the middle of the 19th century and produced a universal style (smooth façades, little ornament, no decorative moulding on the windows, no canopies, no functional differentiation), in which architectural beauty stems solely from the proportions among the planes and apertures of the façades. Street Hall stands for the individualist reaction against this neutral style (destruction of symmetry, all but excessive accentuation of the windows, corner windows and salient elements on square or polygonal plans, recalling Gothic geometry, as it could be termed).

In the eyes of the historian, Street Hall by Peter D. Wright is backward and very provincial, reflecting the situation in 1864. The U.S.A. in general does not occupy an important position in the history of Western architecture until Richardson (Brattle Square church in 1870), the Sherman house (Newport in 1874), Sullivan, Burnham and Root, Holabird and Roche and Frank L. Wright, and in our own time American architecture is known and discussed all over the world.

Nevertheless, the centuries overlap (Peter D. Wright was still alive when Paul Rudolph was born), and the historian in his capacity of critic is obliged to describe and to interpret the given facts: the internationally valid style of the Thirties, originating in the period from 1890 to 1914, is the only one for 500 years to have invented its own idiom, its syntax and its grammar. This neutral style, a very exigent one, in which I have grown up and which is still convincing to me, subordinates individuality to discipline and to function (smooth façades, flat recesses, flat roofs, little differentiation) in which architectural beauty stems solely from the proportions among the planes and apertures of the façades!

The younger generations of the Forties and Fifties are reacting against the "sterility" of the Thirties to return to individualism. It is no longer possible to confuse one building with another, one architect with another. There is a return to accentuation. One cannot employ one single terminology to describe Saarinen, Tange, Aalto or Paul Rudolph, who, with his concrete pillars, his pronounced canopies, his massive slabs intersecting with slender panels, with his interior volumes which interpenetrate in unexpected fashion, offers us a dramatic succession of interior and exterior perspectives. All this is very exciting and stimulating for students. Is it not too pronounced an atmosphere, one that is too sharply individual? Six months ago, at the annual meeting of the American Institute of Architects, I met Paul Rudolph, who in his address defended his thesis to the effect that the younger generation needs a master whose pronounced style ought to inspire each to develop his own individual style.

Thus my message to students is a clear and concise one: it is to your advantage to have a leader who is controversial. Students are students: you will admire him or you will shoot him down! Both reactions will be positive. But promise me one thing: don't imitate him. Of course, the young architect who is worth his salt imitates no one. But the style of the Thirties could be imitated without risk, for there always resulted from it something rational, useful, non-aggressive, while the individualists, the artist-architects like Paul Rudolph, Saarinen, Philip Johnson, Yamasaki, who primarily express themselves, cannot be copied without the results being catastrophic.

However, does this building here express a purely personal cult? This question fascinates me, because the topic of my own address six months ago: "What produces architectural quality?" induced me to discuss the relationship between the architect and the owner. But as this building also houses one of the best departments of art history in the USA, I may state my ideas in the words of Antonio Filaretos (1460):

"A building resembles a man. If this is so, it ought to be begotten and then delivered to the world. A building cannot be created by one single being". "Whoever seeks to build needs the architect; they together will engender the building and the architect will bring it into the world". Architectural quality is not simply an aesthetic quality, but the building is the product of function and of art. The responsibility of the owner lies in seeing to the functional side, that of the architect in design. I have come to the conclusion that many of the buildings of the Sixties are open to adverse criticism in comparison to those of the Thirties on account of the faulty collaboration between the architect and the owner, who in many cases has been far too lax.

The example before us today does not throw up such problems, for the architect is at the same time the client, and this is a rare situation (Goetheanum, Bauhaus at Dessau). Thus my functionalist doubts from the Thirties are not justified here, since I define the functionalist as an architect, a designer or a critic whose job is to make his product work without giving way to an aesthetic doctrine that could limit him. Now then, when you walk through the building, never forget that everything you see or discuss corresponds exactly to the exigencies of the program submitted by the client. It is my judgment that this is a very stimulating and very useful lesson. I thank you, Mr. President, the Dean and you, Paul, for having honoured me by asking me to inaugurate this building. May God bless it and the fine work that will be done here.

Paul Rudolph, New Haven

Building for the fine arts and architecture departments of Yale University in New Haven

(page 435-441)

The problem:

This building houses the fine arts department (23 staff, 139 students), the architecture department (26 staff, 136 students) and the townplanning department (8 staff, 36 students).

Site:

at the intersection of two thoroughfares, opposite the art center built in 1952/54 by Louis Kahn.

Organigram:

Basement: premises for the arts department, large auditorium, technical installations

Ground floor: library, lecture halls

First floor (entrance): exhibition hall on two levels, small and medium-sized auditoriums

Second floor (mezzanine): general administration, situated around the entrance lobby

Third floor: large studio for architects on two levels in centre

Fourth floor (mezzanine): studios for architects and town-planners

Fifth and sixth floors: studios for painting, terraces and guest rooms

Cost of construction: \$ 3,052,782. (\$ 25.96 per sq.ft.)

Installations and interior fittings: \$ 140,854.

Kenzo Tange, Tokyo

Cultural Center at Nichigan (Miyazaki Prefecture)

1962

(page 442-448)

This construction makes up the first element of a regional center planned for the three towns of Aburatsu (situated directly on the east coast: fishing), Agata (situated in the center) and Obi (situated in the west at the foot of the mountains: lumber industry) which will soon form one single agglomeration (cf. Japan Architecture, June 63). In the middle of the three towns, at Nichigan station, there is located the communal administration and the cultural center, which will attract people from this whole stretch of the coast which—in spite of the typhoons—is an important holiday region owing to its mild climate. It will constitute a national Park. (The region comprises, for instance, Aoshima, a well known sub-tropical park, and Tsuimisaki to the south with its wild horses.

At the present time, this project can still not be termed a real agglomeration or anything approaching an urban center, for this cultural center is being developed slowly out of nothing. The highly plastic effect of the building will probably be attenuated when all the buildings around it are completed. Nevertheless, the building will always stand out because of its compact fan shape.

Program:

Auditorium with stage, installations and utility rooms, conference rooms of medium size with annexes, foyers, halls, stairways, covered areas and open-air courts surrounded by walls.

The principal volume is a compact prism in the centre in the plan and in elevation, opening out like a fan. It comprises the stage and the auditorium with 810 to 880 seats, 70 movable seats and standing room for 60. The seats are red and white, the doors red, the curtain decorated with a calligraphic figure on a colour scheme of black and white. The auditorium is dominated by untreated concrete; the walls have apertures and prismatic protuberances housing the technical installations.

This rigid receding silhouette is taken up by two low annex buildings surrounding the central mass; they contain the dressing rooms and stage entrances for the artists, the public entrance, a covered court and, above, conference rooms (with Japanese rooms, terraces, halls and kitchen). The auditorium foyer, glazed on patio side, is located underneath the balcony seats.

Large closed masses of untreated concrete will characterize the complex which is enlivened by small secondary plastic elements: upturned visible templates on the roof, rainspouts, apertures or copings for installations, entrance stairs having the form of bridges, entrances, loggias and slotted windows like loop-holes, rudimentary elements surrounded by copings or underlined by coping-stones, rounded corners, recessed panes. Moreover, the coffering divides up the wall into panels which are quite regular and which indicate the scale of the building.

The exterior fittings are restrained. The building emerges directly from the ground. It is only on the inside of

the containing walls that the open spaces are structured and that the entrances become visible. The access to the foyer is via a courtyard, whose roof is a continuation of that of the foyer constituted by the floor of the balconies. Ramps and lifts give direct access to the conference rooms.

The back-stage area and the mechanical installations are arranged on two levels around the stage. The other technical installations are housed between the inclined walls of the auditorium.

The shape of the volumes corresponds to inclined angles in the plan. However, the interior spaces are not detectable from the outside, for the single great shape of the auditorium dominates the whole complex.

The different interior spaces are not prolonged toward the outside; they are separated by closed elements perforated by apertures, which create surprising light effects. Chiaroscuro is deliberately employed as an architectural element. The opening of the foyer toward the interior courtyard is an example of the mastery with which Kenzo Tange handles the transition between inside and outside. The employment of concrete, which is almost tectonic, peculiar to the Japanese, the interior spaces subordinated to the large conical envelope testify to a consistent constructive and geometric system. As the double walls are visible only at the apertures, the acute angle structure of the roof is apparent and is very coherent. However, it would be wrong to regard Tange as a defender of an aesthetic hypothesis issuing from a "constructive honesty". The daring articulation of structural elements is rather a kind of symbolism which emphasizes again the ponderous effect of the large massive blocks of the complex. The architectural character of this building is due to a series of artistic means applied with a great deal of talent: stereometric research, contrasts resulting from details on different scales, exaggerated accentuation of secondary functional elements along with a simplification achieved by the grouping of several spaces in one single containing envelope, closed surfaces with very small perforations, specific use of concrete. There is no allusion to an emergent tradition; thus, many Japanese details, imitated in Europe or in the USA, correspond only to a passing fad.

Nevertheless, it must be pointed out that this work by Tange, published in a number on "Brutalism" ought not to constitute an example of this trend, but rather a construction having its own laws and its own basis, which allow for interesting comparisons.

Klaus E. Müller, New York

Buddhist Temples in Japan (page 449-452)

Renewal of ancient traditions:

All the builders of sacred edifices throughout the world are faced with the same fundamental problems: that is to say, how to express the religiosity of modern society, to safeguard and carry on old traditions and respect the functional and spiritual requirements of our age. This task is all the more difficult for Japanese architects as they have only very recently liberated themselves from their six-century-old models.

Up until after the Second World War, these temples in Kamakura style were constructed according to the scheme dating from the 14th century and subsequently developed. At the present time they are still in the majority, except that wood is being replaced by the more practical concrete and that the decoration is for economic reasons being kept more subdued.

The tenacious attachment to the traditional forms proceeds from the general religious apathy of the modern Japanese, who are, however, very progressive-minded in the spheres of the arts and of architecture. At the present time, Buddhism no longer has the cultural and philosophical influence it had in the 10th century. Although 75% of the Japanese are Buddhists, they are no longer so in the active sense, and the temples resemble museums rather than places of worship. Without governmental support and that of their former parishes, most of them survive only

owing to their land holdings or to the instruction they give (calligraphy, tea ceremony, flower arrangement). Thus there exist only a few new temples, promoted by sects and progressive priests who are seeking to revive Buddhism by adapting the external design of the temple to modern exigencies, to be realized concretely by the architect.

Rather than being exclusively a place of worship and meditation, the modern temples are expected to be social centers.

Aside from the traditional areas, the altar (naijin) and the parish hall (raido), there are required assembly rooms, studies and kindergartens.

The architects are seeking a contemporary solution in keeping with our formal idiom, without for all that abandoning the traditions which are calling for a new interpretation.

The three examples chosen well illustrate this trend:

Zojoji: religious center of a well known Buddhist sect, of which one single construction is realized (1 to 3).

Zendoji: community center of a provincial commune (4 to 7).

Sennenji: small temple very close to the centre of Tokyo (8/9).

The exterior gives an effect of powerful simplicity so characteristic of modern Japanese architecture, emphasized by the plastic expressiveness of concrete. The obvious influence of Le Corbusier is explained by the fact that two pioneers of Japanese architecture, Maekawa and Sakjakra, worked for a long time at the studio in the Rue de Sèvres.

To make a building appear like a temple from the outside without having recourse to the traditional designs is a problem analogous to that confronting the builders of modern Christian churches, although the symbolic motif of the tower facilitates the task of the Western architect.

Zojoji, heavily influenced by Le Corbusier (1/2), exudes an atmosphere of tranquility beneath its covered entryways which divide off the different areas on the interior of the building. This effect of peacefulness is also created by the simplicity of the detailing and by the restrained employment of materials and colours (3).

By contrast, Zendoji is typical of the Japanese use of concrete. The contrast of light and dark surfaces, smooth and rough, the enormous canopy, the covered passageway (processions) all recall the temples at Kyoto and at Nara dating from the 12th century (4/5). The detailing (6), in particular the rainspout (7), is astonishingly spontaneous.

Sennenji, realized by Sakakura, who is the author of highly articulated buildings, is striking with its design and its simple façades, the latter probably being conditioned by the ceramic blocks kindly made available by the client (8/9). In the midst of a chaotic residential quarter, this temple breathes an atmosphere of repose and tranquility.

There is no one single type of plan, for there are different functional requirements to be met. Nevertheless, the plan of the temple proper respects the old traditions.

Zojoji, principal seat in the east of the Zojo sect, is interesting for its situation. The general plan shows the square formed by the temple and the assembly rooms, requiring the elimination of some already existing elements. As in other historic buildings, there is an avoidance of symmetry, in contrast to the rule in Chinese temples. The principal altar of the temple, situated in the centre of the composition, is located in the axial prolongation extending from the east gate. The assembly rooms are subdivided into three groups (priests, priests and laymen, laymen).

Zendoji connects the temple with the residence of the priest via a covered entryway which is reached over a ramp. The large canopy serves for the holding of shows and the showing of films; the space between the piles is reserved for the kindergarten. For the interior space, which is conducive to meditation, the architect took his inspiration from the earliest Hindu and Chinese temples carved out of rock.

Sennenji applies the old plan in a new construction: the circular shape (altar) and the segment of a circle (parish hall) reflect the tombs of the

Japanese emperors from 200 to 600; they are deliberately accentuated by the basins placed all round. The living quarters of the priest, of wood, paper and bamboo, will be replaced later on.

The interior space, which in the Japanese tradition is less significant than that of a Christian church, accommodates the altar and is conducive to meditation, an essential factor in the Buddhist religion. The modern temples, optically tying together the naijin and the raido, focus the attention of worshippers on the altar, which was accessible only to priests. This demarcation of the principal zone, containing the Buddha statues, is indicated solely by a difference in level or not at all (16). The traditional covering on the floors, tatamis, is often replaced by stone flagging or other material to permit, on certain occasions, a style of furniture that is in keeping with European dress.

Brighter than formerly, the lighting remains diffuse, either coming through paper panels (shohis) or through glass producing the same effect. This milky light without shadows stems from the old Japanese superstition that evil spirits take refuge in shadows; thus the artificial light is often produced with neon, a fact which might astonish the Western visitor.

The altar, facing south or east, constitutes the focal point of the temple. Its composition strongly reflects tradition, but also testifies to the modern interpretation. The simplified decoration avoids any optical obliteration of the Buddha figures but seeks rather to highlight them (Watanabe: altar with vertical overhead illumination against a dark ground; reflection of light by sacred implements of gold: Buddha images, offering plates, censers, lotus flowers, etc.; an impressive composition completed by the seat of the priest, in front of the altar, the suspended lamps and the brazier where the offerings are burned [17/18]). The altar of Sennenji is extremely simple. Beneath a skylight an image of the Buddha, and some rare objects on blocks are surrounded by benches covered with tatamis, for the use of the priests (19). This interior space is impressive for its effect of purity. The consistent relationship between the altar and the parish area will have a very great influence on the development of the modern Buddhist temple in Japan.

The simplicity which is traditional in Japanese architecture, distracted at times by decorative influences from China, continues in the modern temples via new interpretations which are of interest to us inasmuch as they are the contemporary expression of one of the oldest religions in the world.

Franz Kiessling, Munich

Lichtenberg Estate

(page 453-460)

This is a good example of architecture in a rather neglected field. The masses clearly express their functions: elongated stable, flanked by two stacks of straw, with the manure pit and the compost heap on one side and the fodder on the other side; free-run stables for young animals perpendicular to the stable and to the fodder bin; between the two the silos and, opposite, the hay loft. The aesthetic accentuation of these different functional elements as well as the choice and the application of the materials are typical characteristics of "Brutalism". The architect in an original manner meets the requirements of the "brutalists" that materials be used in their original raw form (as they are found): peeled logs covered at the ends form the cladding of the longitudinal walls of the barn. However, the free-run stabling reveals a tendency to give excessive emphasis to structural elements: very large canopy formed by the pre-fab templates behind the supports, transverse templates poured on the site at the same time as the walls, which are strongly characterized by a false joint.

Statistics:

Organization of the farm:

Land: 16 hectares; general farming and gardening; forage, about 10% of the land, beets.

Stock: cattle, Bavarian spotted cows, pigs, chickens.

Site:
Slope near Landsberg. Gentle hills and plain to west.

Programme:
Stables and coach-houses in disrepair, demolition indicated.
New plan on the same site comprising: cow stable, pig sty, vehicle sheds. Realization in stages.

1st stage:

Stable:

46 cows, 1 bull, 1 young bull, 14 steers, 12 calves in separate stalls, 12 calves in common stalls, 30 heifers: total around 66 head.

Forage:

In summer the herds graze but are fed in addition in the stables. Large supply in silo (12 cu.m.). Hay cured under shelter, loaded on carts, discharged mechanically. Beets, concentrated fodder.

Manure:

Manure for farming and gardening. Straw sufficient (pressed bales).

Buildings:

Fodder bin at the intersection of the axes of the two buildings: stable and yard with accessible feeding-troughs. Silos with mechanical rigs in the centre of the two buildings. Hay and straw lofts at ground level near the main building.

Cow and steer stable in two lines with central corridor. Milking-machine in the stable with ducts leading outside. Cleaning by means of a hydraulic scoop which pushes the manure toward two trenches, the one situated to the east to be expanded for the pig sty. Liquid manure pit between the two manure piles, which are equipped with mechanical loaders. Straw stocks contain a year's supply. Free-run yard for young stock. Hay stores at ground level above the feeding-troughs with movable grilles and individual openings permitting group feeding. Cleaning by hydraulic scoop. Cleaning of solid manure by means of sliding panel.

Materials and technical apertures: Concrete, asbestos, cement, wood. The concrete walls stand up to heavy wear and need no special care. Stables of larchwood to resist the ammonia. Cornices of asbestos-cement.

Construction:

Massive construction with supports of poured concrete and pre-fab templates of prestressed concrete. Two-ply walls in main stable, thickness 52 cm. Composition of walls from outside in: concrete 22 cm., outer boarding of wood, interior cladding of asbestos-cement which is vertically corrugated (profile 8). Above and below, horizontal channels with fresh air intakes. After removal of coffering, light panels of fibre-board are placed dry, plus porous brick, thickness 24 cm., clinker facing.

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