The young British architect James Stirling's lively and imaginative treatment of three university buildings is the subject of an exhibition on view at The Museum of Modern Art from June 17 through August 4. Selected and installed by Arthur Drexler, Director of the Museum's Department of Architecture and Design, James Stirling: Three University Buildings includes models, color transparencies, drawings, and photographs for recent work at Leicester and at two of the world's oldest universities -- Cambridge and Oxford.

"Since the early 1950's modern architecture has ceased to be guided by any single theory of design," states Mr. Drexler. "In England a characteristic of this later phase of modern architecture, with worldwide variations, is a preference for strenuous complexity as an alternative to simplicity, and, perhaps most important of all, what can best be described as an architectural tone of voice that is blunt, aggressive, and 'honest.' The architecture of James Stirling shares something of this emotional tone.... The qualities that make his buildings works of art have clearly been deployed in the service of sociological, environmental, and organizational problems, which Stirling regards as central to the evolution of a design."

For the Engineering Faculty of 250 students at Leicester, Stirling and co-architect James Gowan created roof-lit workshops that cover most of the available site. To meet the request of the Head of the Faculty for north light, the roof is turned to run diagonally across the plan, since the restrictions of the site made a north/south axis impossible. The building's other facilities include two cantilevered lecture theaters and research laboratories clustered around a tower for administration and staff use. The building was completed in 1963.

Stirling's History Building at Cambridge University (Michael Wildford, Associate Partner) was begun in 1964 and is just being completed. A reference library for 300 readers occupies about half the total floor area, and the remaining space is devoted to staff rooms, seminar rooms, and student and staff common rooms.

(more)
"The building is organized on the principle that there should be close contact between the Library -- the motivating element of the Faculty -- and all its parts. The reading room is therefore an integral part of the composition and is crowned by a sloping glass roof. Windows and projecting bays set into the corridor walls on the upper floors allow members to look down into the reading area and maintain a visual, but non-intrusive, contact with the Library."

The Florey Building at Queen's College, begun in 1966 and now under construction, has its first public presentation in this exhibition. A residence for about 100, it is planned around a court 100' wide and 70' deep, open to the north to embrace a view of the river and trees on the opposite bank. All the residential rooms are around this court, and all are positioned to take advantage of the view. There is a 10' wide cloister around the court at ground level, with access to the stairs leading to the rooms above. Thus the mass of the building is raised above ground level and supported on reinforced concrete structural columns.

"Each of the three buildings in this exhibition is an aggregate of separate elements and each element is designed as the best response to a particular problem, states Mr. Draxler. "The manner in which these elements are related to each other, and conditioned by the context in which they occur, is what gives each building its unity: the whole is greater than the sum of its parts.... It is their quality of principled and rational purpose, sustained by a subtle sense of form and material, that gives to these three buildings their extraordinary vitality. And it may be that Stirling has come closer than anyone else to devising an architecture that really does respond to present problems and possibilities."

Born in Scotland in 1926, James Stirling attended the Liverpool University School of Architecture and the Association for Town Planning and Regional Research in London. He began private practice in 1957, and his university connections include Yale University, where he was appointed Charles Davenport Visiting Professor in 1966. Among his other buildings are flats at Ham Common (1956-58), the master plan and design of four residence halls at At. Andrews University, Scotland, begun in 1964 and now under construction, and the Dorman Long Steel Company Office and Research Center.

Photographs and additional information available from Elizabeth Shaw, Director, Department of Public Information, and Patricia Bauman, Associate, Press Services, The Museum of Modern Art, 11 West 53 Street, New York, N.Y. 10019. 245-3200.
LEICESTER UNIVERSITY

*Engineering Building. 1960-1963*

*J. Stirling and J. Gowan, Architects*

This building is for a new Engineering Faculty of 250 students. Its accommodation includes teaching workshops, research laboratories, two lecture theatres, staff rooms and administration. The workshops are roof-lit and cover most of the available site; the remaining accommodation is therefore contained in a tower, rising above the trees on the edge of Victoria Park.

The Head of the faculty particularly requested that the teaching workshops should be daylit by a north-light roof only, but it proved impossible to arrange the building on a north/south axis due to restrictions of the site. To obtain this north light, therefore, the roof is turned to run diagonally across the plan.

The whole of this area is covered with plyglass (fibreglass between two sheets of clear glass with an additional aluminum sheet on the south side of the roof light). Since flexibility is essential, the subdivisions of the workshop area are independent of both the structure and the roof. The anonymity of this shed contrasts with the tower, where unchanging elements can be considerably articulated. The chamfered corner of the research laboratories and the splay of the podium are necessitated by setback building lines parallel with the park road. These setbacks and the diagonal run of the north lights established a second geometry at 45 degrees to the norm, and the combination of these two sets of angles influenced all minor details of form.
The principal approach is towards the tower, which rises on the northeast side of the building and faces across the park. The main entrance, from a car park on the axis of the tower, is under the projecting mass of the large lecture theatre. The podium, from which all the elements of the tower rise, is alongside the entrance hall and contains the lavatories and cloakrooms. An alternative approach is by ramp to a secondary entrance on the podium terrace.

Above the small lecture theatre are four levels of research laboratories containing heavy equipment. Experiments here may misfire, necessitating the rapid extraction of fumes. To avoid the expense of air conditioning, the windows project outwards to form a venturi section, so that the opening of the underside louvres creates an immediate cross ventilation. The stair tower, next to the secondary entrance at the top of the ramp, terminates at the upper level of the research laboratories, leaving the main staircase and lift to provide access to staff rooms in the upper floors of the administration tower. These circulation shafts also act as vertical service ducts, and the large pipes flanking the stairs are the main drop from the hydraulics tank on top of the tower.

In accordance with the lower occupancy of the upper levels, the floors in the tower decrease in area towards the top. A density graph shows a tapering pyramid with about 200 persons at ground level, falling to about 30 on the fifth floor, and then four for each of the upper three levels of staff rooms. The glass skin flanking this decreasing circulation steps in and cuts back to go eventually, only 10' in width, over the top of the building adjacent to the hydraulics tank. Since most of the students use only the ground floor and those immediately above, the lifts are mainly for the staff.

The University particularly requested a building of an appearance not primarily concrete. The mass areas of poured concrete in the towers are veneered in a red tile, which is also the finish for most areas of ceiling, wall, floor and terrace. The patent metal glazing was sufficiently flexible and adaptable for the direct sheathing and cladding methods used.
The lecture theatres, seating 200 and 100, cantilever about fifty percent and are stabilized by the weight of the floors above. Since the program required a second entrance into the main theatre to allow the unobtrusive entry of latecomers, a spiral stair rises from the podium terrace to an entrance at the rear of the theatre.

CAMBRIDGE UNIVERSITY
History Building. 1964-1968
James Stirling, Architect
Michael Wildford, Associate Partner

The History Building consists mainly of a reference library for 300 readers (12,000' of shelving), accounting for approximately half the total floor area. The remaining accommodation is staff rooms, seminar rooms, and student and staff common rooms.

The building is organized on the principle that there should be close contact between the Library—the motivating element of the Faculty—and all its parts. The reading room is therefore an integral part of the composition and is crowned by a sloping glass roof. Windows and projecting bays set into the corridor walls on the upper floors allow members to look down into the reading area and maintain a visual, but non-intrusive, contact with the Library.

The first of several buildings in a new university development, the Library will be approached by students coming from two major thoroughfares as well as various buildings adjacent to the site. To receive this multi-directional approach four entrances have been provided. Two of them are at ground level, opening into separate entrance halls connected by a wide corridor adjacent to the library; a private entrance from the terraces is for senior members.

The entrance-exit to the library opens directly on to a Control and Inquiry area where the catalogs are housed; the floor of the reading room is 4' below this level. All the reading bays and book stacks fan radially about the midpoint of the control desk, from
which there is supervision of the entire library. Seating is either in reading bays with a 12' ceiling height and clerestory windows behind; or at large tables in the free space under the Library roof lantern; beyond the book stacks is a row of carrels for individual readers.

In addition to the main reading room there is a special room for research, intended for senior members. It projects over the lower terraces and in itself makes a terrace above and adjacent to the senior members' common room.

On the upper floors are the Academic and Seminar rooms, the smallest being on the top floors. The width of the building is greatest at the lower levels, where the bigger rooms are situated, so that most people are kept at ground and first floor levels. On the exterior the transition to smaller rooms above is made by a sloping window.

All brickwork is in smooth engineering bricks, and the towers and terraces are finished with tiles to match. The roof lantern above the Library is opal glass; elsewhere the glass is unobscured.

QUEEN'S COLLEGE, OXFORD
The Florey Building, 1966
James Stirling, Architect
R. Cameron, Senior Assistant

The building is a residence planned around a court 100' wide and 70' deep, open on the north to embrace a view of the river and the line of trees on the opposite bank. All the residential rooms are positioned on this inner court and every undergraduate will be able to see across the river and through the trees—the skyline of Oxford above the meadow.

The interior elevations around the court step back at each floor level, making the space within the court more like an amphitheatre than a traditional College courtyard. The bank of trees along the river edge is as high as the new building (55' to 65'), and will to some extent act as the fourth wall, giving the court a feeling of enclosure.
As most of the building mass splays around the court, there is only a short length of facade which faces directly north; all other facades are partly or completely facing east and west, and all residential rooms, excluding the eleven that face north, will receive either early morning or evening sunlight.

There are no residential rooms at ground level. A 10' wide cloister runs around the court and provides access to the stairs at each end of the building. Entry from the cloister can also be made to the ancillary accommodation (Porter's Office, Caretaker's Flat, etc.).

The main entrance, adjacent to the Porter's Office, opens directly onto the cloister. Next to it are the lift and main stair. These towers of vertical circulation are detached from the building and are positioned on the axis of the approach from St. Clement's Street. The vertical form of the towers should indicate (and symbolize) the entrance to the new building.

The mass of the building is raised above ground level and supported on reinforced concrete structural columns. In the covered area at the back of the cloister and under the building there is space for 75 bicycles. At the end of the West Wing the cloister terminates on an ante-room which, in turn, gives entry down into the breakfast room. At the end of the East Wing the cloister terminates on a ramp leading down to the public footpath along the river bank. This alternative entrance/exit is intended to have almost equal importance as the main entrance, particularly when the river walk is extended and there are other College buildings in the St. Clement's area.

The breakfast room has high windows on two sides, allowing views out and upwards of the overhanging trees. The roof of the breakfast room is a paved terrace, about 2' above the level of the court and approached by a wide flight of steps.
There are 74 single rooms for undergraduates, 3 rooms for research fellows and 1 apartment for the bachelor fellow—the equivalent of about 80 single rooms. These are accommodated on five floors, the top two floors being planned as a single level of studio rooms. Their double height allows for sleeping on the upper level. Through the top floor of glazing on the outward side of the building sunlight will penetrate into both levels of the studios and also beyond into the court.

The undergraduates' rooms vary in size between 108 and 244 sq. ft. The minimum width of the regular shaped rooms is 10' and the minimum depth, excluding storage, is 12'. This width allows the bed to be placed either across the room or parallel with its length, which allows flexibility in planning the layout of other furniture. The entrance wall is a continuous storage unit containing a wash basin (in every room), book shelves, etc. The window wall, overlooking the court, has roller blinds fixed from floor to ceiling, giving the occupiers total privacy when they are fully drawn up and every variation of opening as they are lowered. Natural ventilation is provided by hand operated glass louvres located above the floor and close to the ceiling.
Since the early 1950's modern architecture has ceased to be guided by any single theory of design. In the United States, following the example of Mies van der Rohe, architects sought to make structure the primary instrument of design, too often producing buildings indistinguishable from each other no matter how different their functions. In France Le Corbusier turned from the balanced rationalism of his early work to buildings conceived as monumental sculptures. Executed with extreme economy, their rough concrete surfaces and massive forms satisfied a post-war mood of impatience with what was theoretically correct or superficially elegant.

In England certain aspects of Le Corbusier's late work contributed substantially to a manner called the New Brutalism. Characteristic of this phase of modern architecture, with worldwide variations, is a taste for crudities of construction and execution; a preference for strenuous complexity as an alternative to simplicity - the latter now often felt to suggest the evasive blandness of an Establishment - and, perhaps most important of all, what can best be described as an architectural tone of voice that is blunt, aggressive, and "honest."

The architecture of James Stirling shares something of this emotional tone. His best buildings certainly cannot be categorized as mere exercises in polemics, and yet the qualities that make them works of art have clearly been deployed in the service of sociological, environmental, and organizational problems, which Stirling regards as central to the evolution of a design.

Each of the three buildings in this exhibition is an aggregate of separate elements and each element is designed as the best response to a particular problem. The manner in which these elements are related to each other, and conditioned by the context in which they occur, is what gives each building its unity: the whole...
is greater than the sum of its parts.

But Stirling's dependence on function as the primary source of form is not without its problems. When variety depends on a complex program, invention must strain to produce variety from a program that is naturally simple. And the wealth of articulated forms may lead to unintentional ambiguities: an example is the History Building's profusion of entrances, no one of which appears externally to be the entrance, although one of them is.

Stirling is particularly skillful in handling materials. He combines common brick with tile, avoiding the convention of maximum contrast in favor of a closeness of color and scale that unifies forms already sufficiently varied. Glass, used with a prodigality perhaps possible only in England's dim climate, is not simply a transparent material that fills empty spaces, but is rather a continuous film that seems to have been cut, folded and pinned onto and around forms which by its very flexibility it makes more solid and substantial.

It is their quality of principled and rational purpose, sustained by a subtle sense of form and material, that gives to these three buildings their extraordinary vitality. And it may be that Stirling has come closer than anyone else to devising an architecture that really does respond to present problems and possibilities.

Arthur Drexler

The Engineering school for Leicester University was completed in 1963; the History Building in Cambridge is just being finished and was photographed before its interior fittings were installed; the Florey Building, a residence at Queen's College, Oxford, is now in construction and this is its first public presentation.

The text accompanying the plans and drawings for each building has been adapted from the architect's notes.