

designing in that ideas can be constantly (and quickly) explored and evaluated for inclusion in the design, or rejected.

Many commentators have argued that the problematic process of form-making can be rooted in drawing, and more specifically, within established techniques. This has been suggested in the case of James Stirling's most celebrated works from the 1960s, the Engineering Building, Leicester, 1964, and the History Faculty Library, Cambridge, 1968, where, arguably, the formal outcome has to some extent been a product of an axonometric drawing method (**Figures 3.24, 3.25**). This may seem a far-fetched proposi-

tion, for clearly these buildings are rooted in traditions which transcend any concerns for drawing technique; the nineteenth-century functional tradition and the modernist tradition.

Thus, we have two buildings which, in their formal outcome, express a fundamental canon of modernism; that a building's three-dimensional organisation (and functional planning) should be clearly expressed as overt display. Hence the separate functions of workshop, laboratory and lecture theatre are clearly and distinctly articulated at Leicester as are the functions of reading room and bookstack at Cambridge.

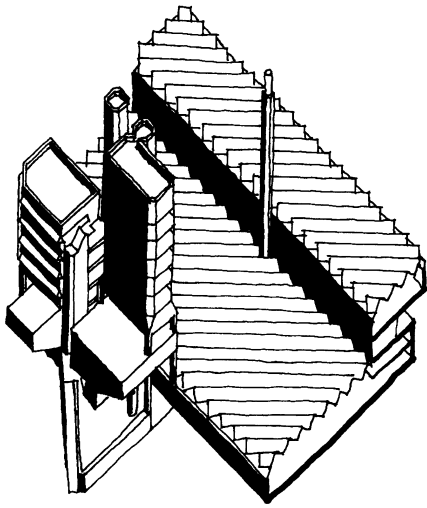


Figure 3.24 James Stirling, Leicester Engineering Building, Leicester University, 1964, Second floor plan. From *Architectural Design*, 2/64, p. 69.

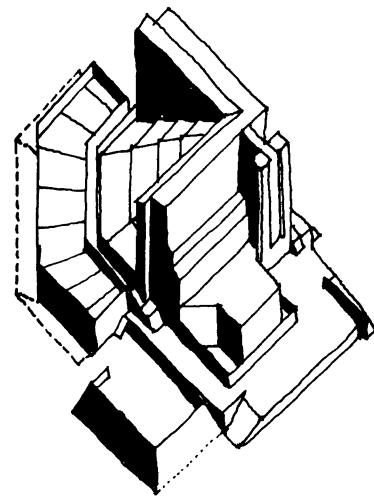


Figure 3.25 James Stirling, History Faculty, Cambridge, 1968. From *Architectural Review*, 11/68, p. 330.

Circulation

But apart from expressing an organisation of disparate functional parts, Stirling's three-dimensional models express ideas about circulation within the building (**Figures 3.26, 3.27**). Indeed, concern for imparting some formal expression to horizontal and vertical circulation systems within buildings has constantly been an overriding concern to architects of modernist persuasion. Hence the obsession with free-standing stair towers and lift shafts which connect by landing and bridge to the principal building elements, and the equally strong desire to express major horizontal circulation systems within the building envelope.

Indeed, many architects think of circulation routes as 'armatures' upon which cells of accommodation are hung (**Figure 3.28**) so that expressing circulation patterns not only becomes central to establishing a functional working plan but also in turn gives authori-

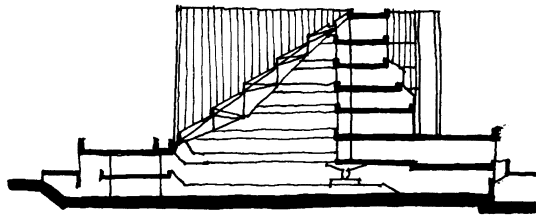


Figure 3.26 James Stirling, *History Faculty, Cambridge, 1968*. From *Architectural Review*, 11/68, p. 337.

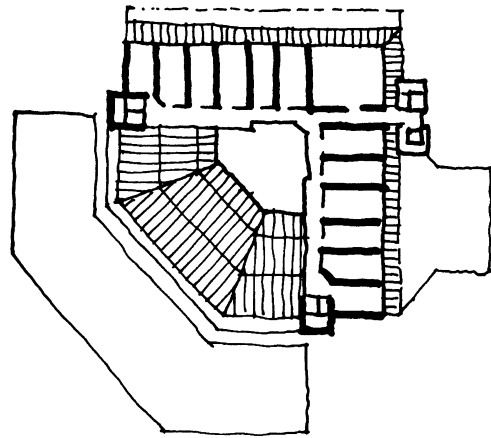


Figure 3.27 *History Faculty, Cambridge, 1968, Fifth floor plan*. From *Architectural Review*, 11/68, p. 337.

tative clues to the form-finding process. Moreover, attitudes towards circulation can modify and enrich basic plan types. For example, whether a linear building is configured as single or dual aspect will affect the plan and therefore the formal outcome (**Figure 3.29**). Similarly, a 'racetrack' circulation route within a courtyard building may be internal (**Figure 3.30**) or may be shifted laterally to relate directly to the internal court (**Figure 3.31**); clearly, such decisions concerning circulation within buildings not only affect the nature of principal internal spaces but in the case of a courtyard type, the nature of the courtyard itself. Should this model be developed further into the so-called 'atrium' plan then the