

passive traditional system, so do most types emerge as hybrid systems.

The orthodoxy of an artificial environment served by mechanical means of high energy consumption was to undergo a fundamental revision largely on account of the so-called 'energy crisis' of the 1970s. Architects reconsidered and reinterpreted traditional passive methods of environmental control which did not rely upon profligate levels of energy consumption and this fundamental shift in attitude was applied to a range of building types to produce a new orthodoxy for the latter part of the twentieth century. As already indicated, such changing attitudes were profoundly to affect the formal outcome of established building types; the reversion to 'narrow' plans (**Figure 4.50**), the development of the enclosed 'atrium' form (**Figure 4.51**), and such devices as 'thermal chimneys' (**Figure 4.52**) were all developed as part of this passive revival, and architects were quick to recognise their potential for form-making.

Architectural expression

The outcome of such concerns for energy consumption has been a profound modification of established *partis* for a range of building types as diverse as offices, hospitals, health centres, housing and schools. Presciently pre-dating the energy crisis by several years, St. George's School, Wallasey, Cheshire, by E.

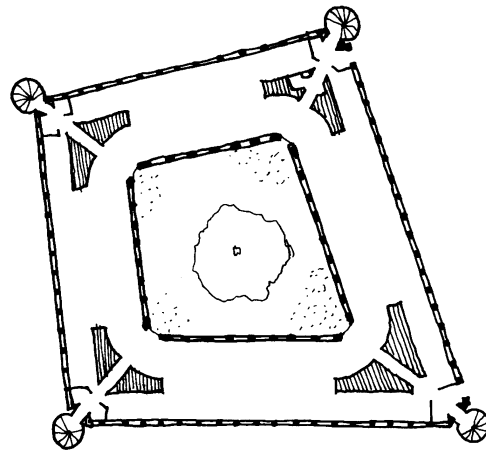


Figure 4.50 Michael Hopkins and Partners, *Inland Revenue Offices, Nottingham, 1995. Ground floor plan.* From *Architectural Review* 5/95, p. 34.

A. Morgan, 1961, was a pioneering example of harnessing solar energy. Central to the environmental functioning of the building was the 'solar wall' whose height and length to a large extent predetermined the form and orientation of the building. As a heat source

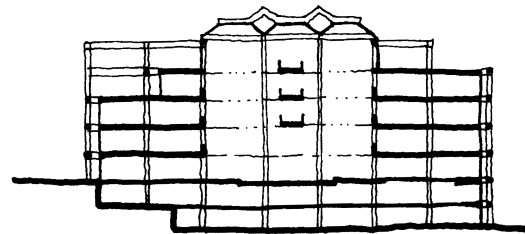


Figure 4.51 Arup Associates, *Office, Basingstoke, England, 1985.* From *The Environmental Tradition*, Hawkes, D., Spon, p. 156.

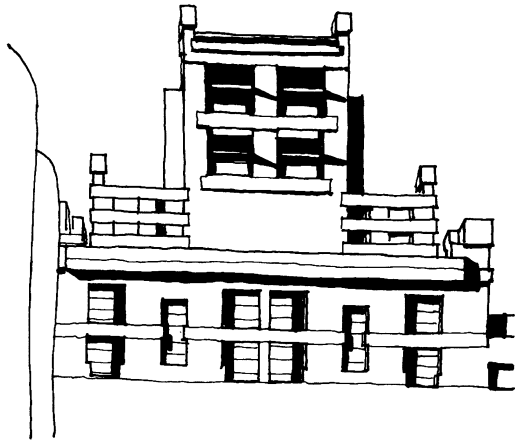


Figure 4.52 Peake Short and Partners, Brewery, Malta, Thermal chimney, 1901.

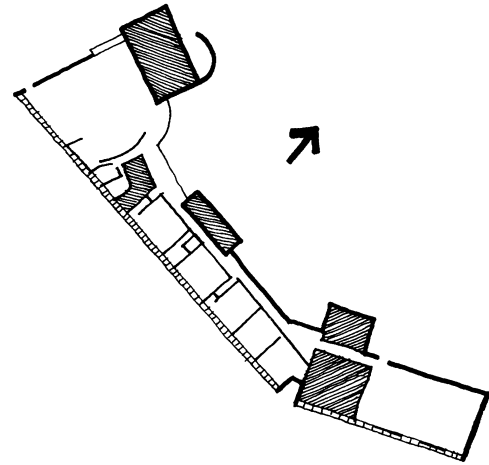


Figure 4.53 Emslie Morgan, Wallasey School, 1961. From *The Environmental Tradition*, Hawkes, D., Spon, p. 122.

this was supplemented by electric light fittings and the building's occupants, an early example of heat recovery. But the plan type, a linear single bank of teaching spaces, south facing and with corridor access and lavatory accommodation on the north side, is entirely subservient to the functioning of the solar wall (**Figure 4.53**). Moreover, the section incorporates a steep monopitched roof to accommodate the tall solar wall, and offering much reduced headroom to a heavily insulated and minimally fenestrated north elevation (**Figure 4.54**). Therefore the whole 'diagram' for the building and its formal outcome departed fundamentally from an established 'linked pavilion' or 'courtyard' type for school building in favour of a clear 'linear' organisa-

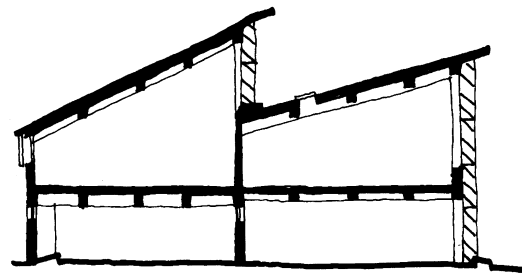


Figure 4.54 Emslie Morgan, Wallasey School, 1961. From *The Environmental Tradition*, Hawkes, D., Spon, p. 120.