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BULLETIN

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Rick Mather's stunning Sloane Robinson building

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KEITH COLLIE

HERE'S TO YOU, SLOANE ROBINSON

Rick Mather's latest addition to 750 years of architecture at Oxford University had to hold its own against one of the most famous brick buildings in Britain ... **George Demetri** explains how it was done



FOR RICK MATHER ARCHITECTS, THE CHOICE of brick as the cladding material for the award-winning Sloane Robinson building was a foregone conclusion. For one thing, it shares a quadrangle at Keble College Oxford with two other distinctive brick structures. The first is Mather's Arco building, completed in 1995; the second is architect William Butterfield's 1883 Victorian masterpiece - the first brick-built college at Oxford.

The two architects exploited brick in different ways. Butterfield was one of the earliest and keenest exponents of polychromatic brickwork. But where he used different coloured bricks to create pattern, banding and diapering of the surface to bring together its various masses, Mather has relied on a single, distinctive brick type and colour to achieve the same unifying effect. No complex patterning, just slim, highly textured, stack-bonded Roman-style bricks that draw together the complicated geometry of the architecture.

The £6m Sloane Robinson building sits on a steeply sloping site in Keble's Newman Quad. The building is parallel to Blackhall Road, which forms one side of the quadrangle. The Arco and Butterfield buildings form the other two sides.

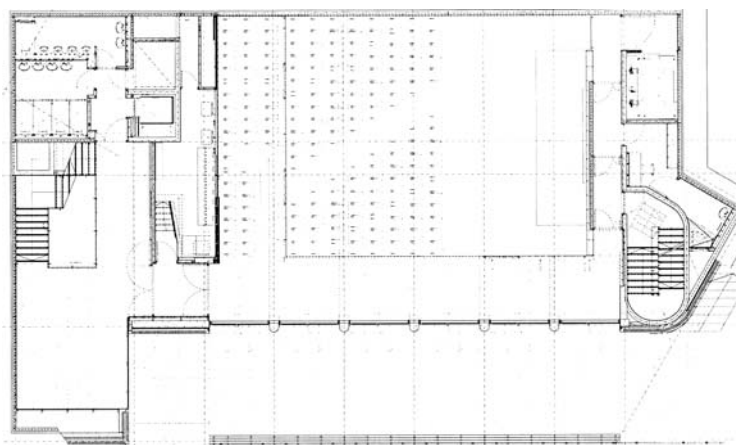
Viewed from the garden, the new building has the air of a Roman temple, thanks to its monumental character and its arcade of double-storey, fair-faced concrete columns. Yet this near symmetrical and somewhat stern facade is counterbalanced by the irregularity of the building's ends which rise to pinnacles as they change direction, their angle determined by the adjacent Arco building.

The building's 250-seat, flexible, multipurpose auditorium can be entered from the garden terrace. It has a dining hall and recital room at the higher street level, and above are six seminar rooms expressed on the garden elevation by sharp, prismatic oriel windows, like jewels encrusted in brickwork. These have been designed to maximise views of the Butterfield and Arco buildings. The top two floors house 20 study bedrooms with simple rectangular openings located under two asymmetrical, zinc-covered barrel vault roofs.

At the heart of the building is a hybrid frame, part concrete and part steel. Insitu concrete was used for the lower floors in order to satisfy aesthetic, thermal and acoustic criteria. For the two upper floors, steel was used to facilitate the construction of the zinc-covered barrel vaults.

External walls comprise partially filled brick-and-block cavity construction where the brickwork is laid predominantly in stack-bonded soldier courses. This attractive and contemporary way of laying bricks is enhanced by the slimness of the brick used - 240 40 102 mm. This has the additional advantage of allowing the building's curved ends to be formed without the faceting that a wider brick would have entailed. The bricks are handmoulded, thereby imparting a wonderfully rich texture to the building.

The street elevation has a less stately, more directional feel. This is partly achieved by the arrangement of the windows, but also by the use of brick panels laid in stretcher bond - an appeal increased significantly by the long, thin bricks. The facade is enlivened by horizontal bands of linear fenestration at upper-ground and third-floor levels. To complete the picture, a vertical glass slit cuts ►



Ground-floor plan of the building



Above: A sloping glass canopy over the main entrance

Above right: The profiled steel staircase in the south-west stair tower



► dramatically through the top and sides of the staircase end, leaving a seemingly precarious four-storey brickwork panel on the end of the building. The necessary stiffening was provided by a slender concrete frame concealed within the blockwork of the inner skin.

At every storey, a steel angle bolted back to the concrete structure supports the brickwork and allows the insertion of a horizontal movement joint. Intermediate brickwork between steel angles is secured to the inner block leaf using steel wall ties at 450 mm centres horizontally and vertically. Vertical movement joints, which in this case are positioned every 12 m, have been discreetly “lost” in the stack bonded brickwork, with no cutting of bricks necessary.

Steel reinforcement is a crucial part of stack bonding, as there is no real bond between the bricks themselves. Where window openings are large enough to compromise the integrity of the masonry working as a panel, structural engineer Dewhurst MacFarlane specified steel flats to tie the blockwork inner leaf to the floor slabs. This whole philosophy kept the use of bed joint reinforcement to a minimum. (For a detailed look at stack bonding, see “How To Achieve Perfect Stack Bonding” on page 14 of *Brick Bulletin*, which was

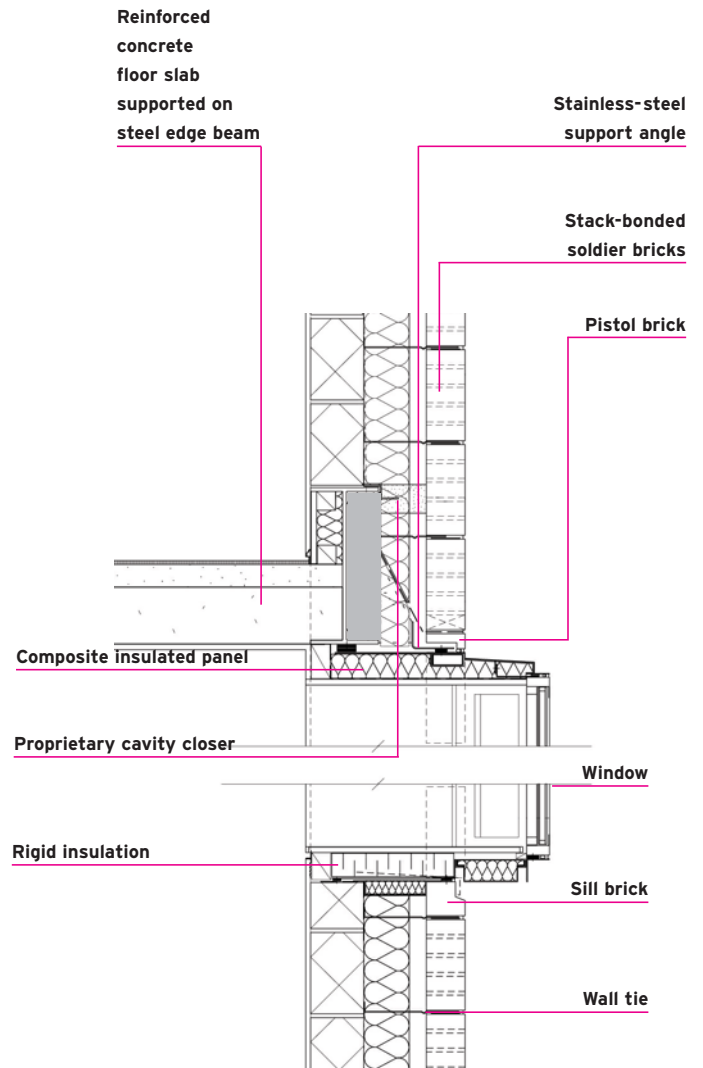
published on 24 June last year.)

The architects resorted to “special” bricks wherever needed, such as where soldier bricks were required to “turn” corners. Although such a detail is easily achieved, it can leave an isolated and vulnerable single brick on the corner. To avoid this, large 140 × 140 × 240 mm corner “blocks” were made, incorporating false joints; these 10 mm recesses were subsequently pointed-up to give the impression of a mortar joint. Other specials used included pistol bricks for use on angles and lintels, and special plinth bricks extending around the building at sill levels to impart attractive shadow lines and articulate the brickwork.

Choosing the right brick colour was important for planning consent. The colour used had to harmonise with Butterfield’s range of sandy-to-purple colours in the building opposite. However, achieving a sympathetic shade required the blending of three different types of brick at the works. Furthermore, the bricklayers were advised by the brick maker to vary the work on site by taking bricks from three different packs. Although none of this proved particularly difficult, it entailed making the specials in three different brick colours and interspersing them into the work. The resulting uniformity of



Section through first-floor window bay



The Sloane Robinson building with William Butterfield's 1883 masterpiece in the background

colour seen throughout the brickwork is testament to the success of this method.

Low-emissivity double-glazed units are used throughout the building, whether for windows or for the double-storey glazing to the garden elevation. The main entrance, located adjacent to the auditorium on the garden side, has an imposing toughened glass canopy that slopes toward the building. Clamping of the glass support fins to the concrete frame is concealed behind an aluminium-faced backing plate set into the brickwork. This also conceals a gutter that runs into an internal rain water pipe.

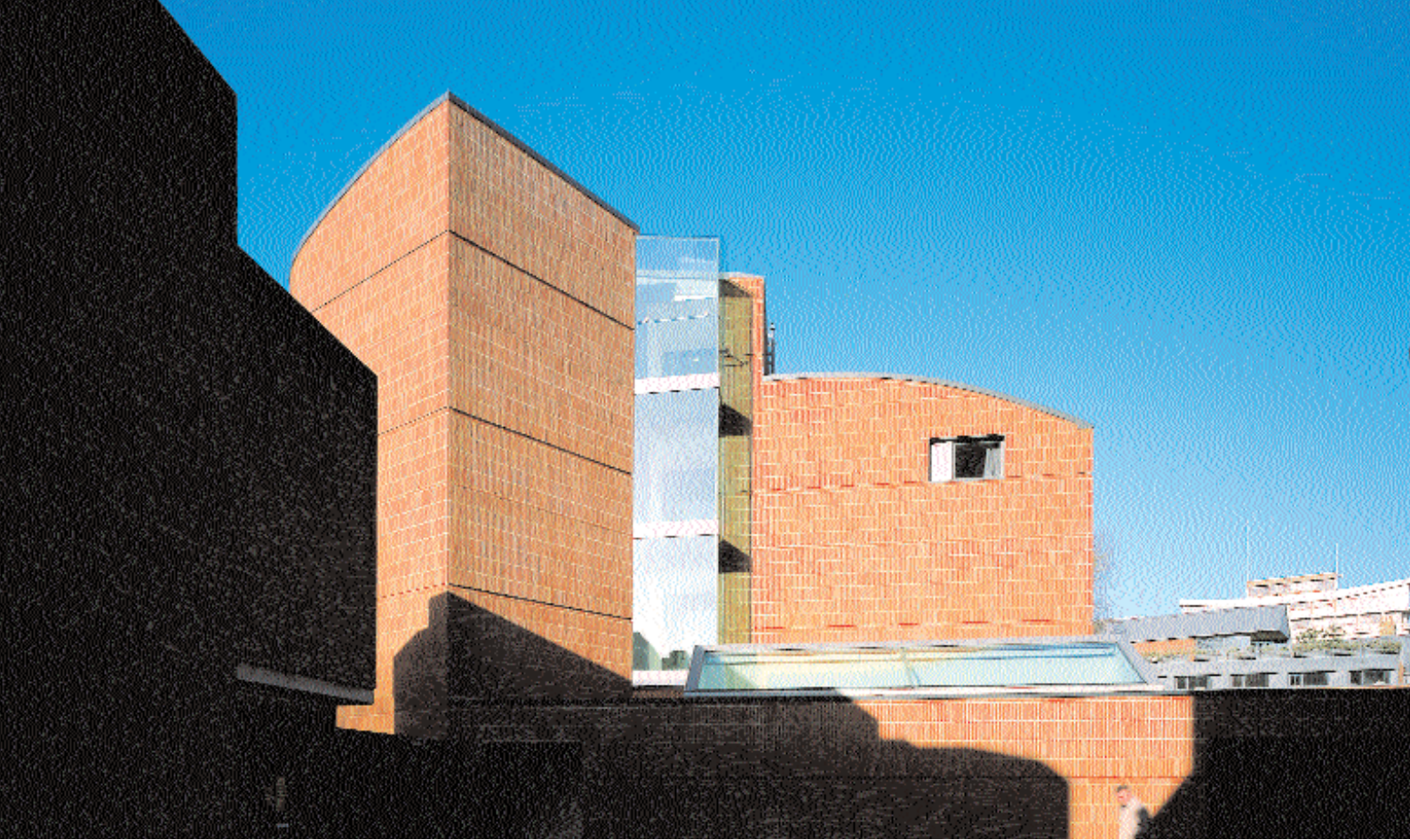
The building is also noteworthy from a sustainability point of view. It is the first building in the UK with a geothermal system, which uses a heat exchanger in the basement to connect plastic pipes buried in the piles with similar pipes cast into the concrete slabs. These pipes, which are filled with antifreeze, transfer ground heat from the 20 m deep piles to the concrete slabs. In summer, the system is reversed, and the piles act as heat sinks. This means that the building's concrete soffits - apart from those in students' bedrooms - act as radiators in winter, and become chilled ceilings in summer. And there is another advantage: the electricity requirement of the system is about one-third

less than that used by conventional air-based systems.

Since its completion in October 2002, the Sloane Robinson building has formed a stylish addition to the Oxford skyline. Taking the top category in the 2003 Brick Awards was a major achievement, but there is more to come. Commenting recently on the building, Keble College bursar Roger Boden said that Rick Mather Architects had given the college "amazing spaces - huge shafts of light, glorious views, intriguing corridors, boldness and restraint". He also paid tribute to the invention and generosity of spirit that pervaded the entire building. Such laudatory remarks are always welcome, but when coming from a client, they are music to an architect's ears. For as everybody knows, there's nothing like a satisfied customer.

Project team

Client **Keble College, University of Oxford**
 Architect **Rick Mather Architects**
 QS **Stockings & Clarke**
 Main contractor **Benfield & Loxley**
 Structural engineer **Dewhurst MacFarlane & Partners**
 Environmental engineers **Atelier 10**
 Brickwork contractor **Benfield & Loxley**
 Acoustic consultant **Sandy Brown Associates**



Mather wins best building prize

RICK MATHER Architects' Sloane Robinson Building at Keble College, Oxford (above), took the Building of the Year accolade at the 2003 BDA Brick Awards. It also won the Best Public Building award.

The judges were impressed by the sculptural feel of the building and its creative use of stack-bonded soldier courses as an ordering principle. Slim, handmade, Roman-style bricks give the building a contemporary aesthetic that makes a striking response to the polychromatic brick of the neighbouring Butterfield building.

This is the second building Mather has designed for Keble College, and it uses similar language to his 1995 Arco building.

The awards were presented at a gala ceremony held at Le Meridien Grosvenor House in London on 4 November. The complete list of award winners is as follows:

- Best Single House: Tan-y-Coed House, Wrexham. Architect: Cosmo Lloyd.
- Best Private Housing Development: Fulham

Island, Fulham, London. The architect was CZWG Architects.

- Best Public Housing Development: Silitoe Court, Raleigh Park, Nottingham. Architect: Maber Associates.
- Volume Housebuilding Award: David McLean Homes.
- Best Commercial Building: Manser Antiques, Shrewsbury. Architect: Baart Harries Newall.
- Best Public Building: Sloane Robinson Building, Keble College, Oxford. Architect: Rick Mather Architects.
- Best Refurbishment Project: New Schools, Eton College, Eton. Architect: Corrigan + Soundy + Kilaiditi.
- Best Landscape Project: The Living Room, Dunbar Drive, Bolton. Artist: Isabella Lockett.
- Best Export Award: St Catherine's Foyer & Sports Centre, Dublin. Architect: Brady & Mallalieu.
- Best Structural Use of Brick: Thornden Hall, Eastleigh, Hants. Architect: Hampshire

County Council. Structural engineer: Michael Dudfield Associates.

- Prefabrication Award: The Grove, Rickmansworth, Hertfordshire. Architect: Fitzroy Robinson.
- Specialist Brickwork Contractor of the Year: Marlborough Brickwork, Leeds.
- Best Craftsmanship Award: 20-32 Baker Street, London W1. Architects: Norman & Dawbarn/Erith & Terry
- Sustainability Award: Denville Hall Phase 2, Northwood, Middx. Architect: Acanthus Lawrence & Wrightson
- Special Award for Decorative Brickwork: Greenwich Millennium Village, London. Executive architect: EPR Architects
- BDA Building of the Year 2003: Sloane Robinson Building, Oxford. Architect: Rick Mather Architects.

The BDA acknowledges the kind sponsorship of Baggeridge Brick, CPI EuroMix, RDL Distribution and Readymix. For details of the 2004 Brick Awards, call 01344-885651.

New European brick standards explained

"ALL CHANGE but No Change" is the slogan adopted by the Brick Development Association to spearhead its information campaign on European standards harmonization launched last October. The aim is to alert the construction

industry to the introduction of standards such as BS EN 771-1, which will replace BS 3921.

But it is business as usual, for as Peter Watt, the BDA's senior structural engineer remarked: "It is important to remember that UK clay bricks will remain

UK clay bricks, it is just the mechanism by which they are tested and classified that will be different. The European standard will affect the way that bricks are technically defined in terms of their performance, but it will not change the

manufactured product or restrict the uses to which clay brick can be put."

Peter Watt's in-depth article on harmonization is on page 14 of this issue. For a free booklet, call the BDA on 01344-885651 or email brick@brick.org.uk.