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The Critics

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Technical & Practice  
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# NOTTINGHAM CONTEMPORARY

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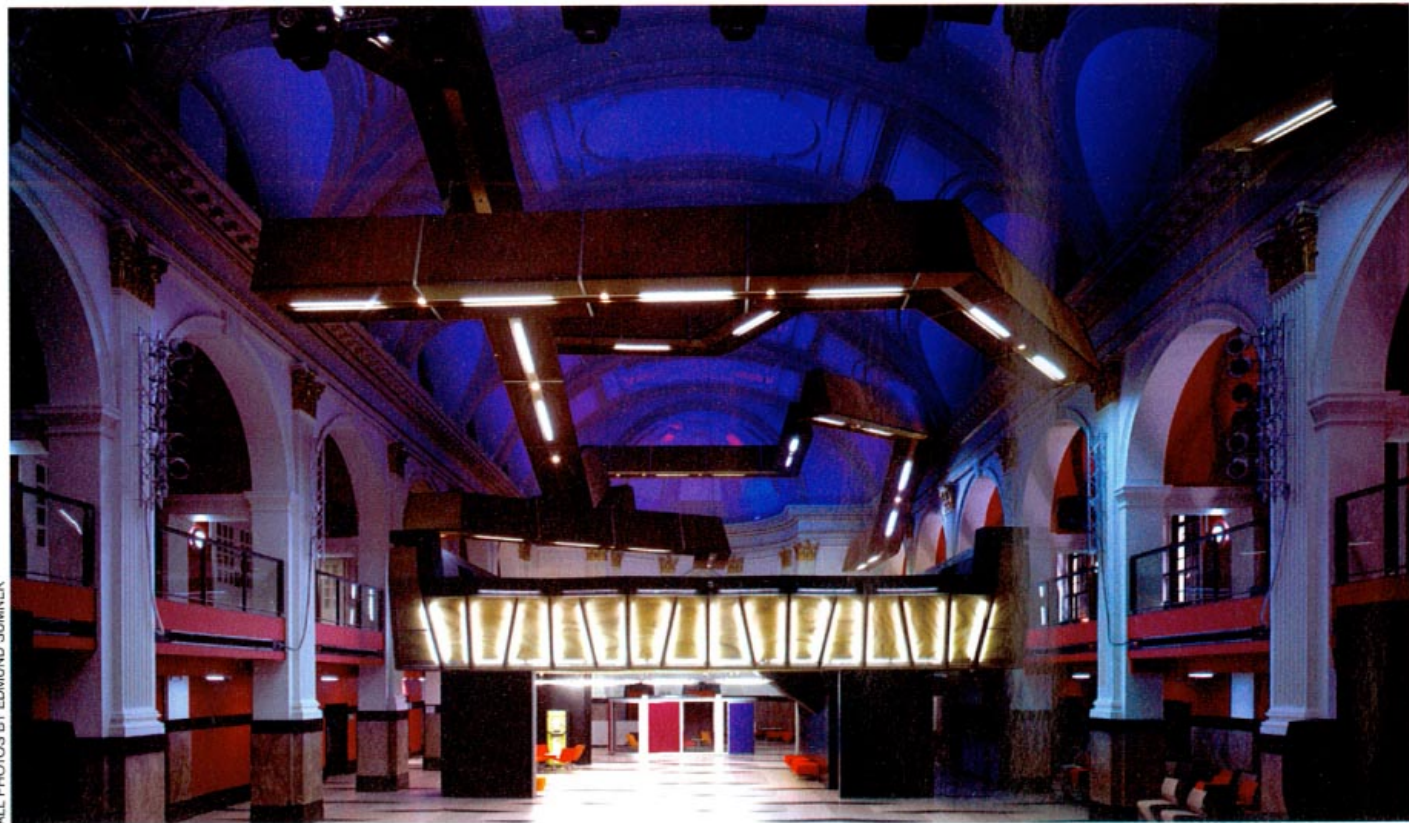
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# Technical & Practice

## Lighting

Hudson Architects' surreal lighting scheme for a listed building in Norwich impresses *Felix Mara*



ALL PHOTOS BY EDMUND SUMNER

When called upon to make lighting proposals, many architects either begin looking at beautiful fittings in catalogues, which are often beyond the budget, or they delegate responsibility to a lighting designer. For its design for the OPEN youth venue in Norwich, Hudson Architects chose the creative option instead. It used the project as a laboratory that spawns surprising results, including a snaking arrangement of bespoke

integrated lighting and acoustic modules, which it jokingly refers to as the 'Toblerones', after the segment-shaped chocolate bar.

Lighting specialist Waterman Building Services took the lead in the design of the general building lighting, but the architect formulated the effects lighting concept, with valuable input from the consultant.

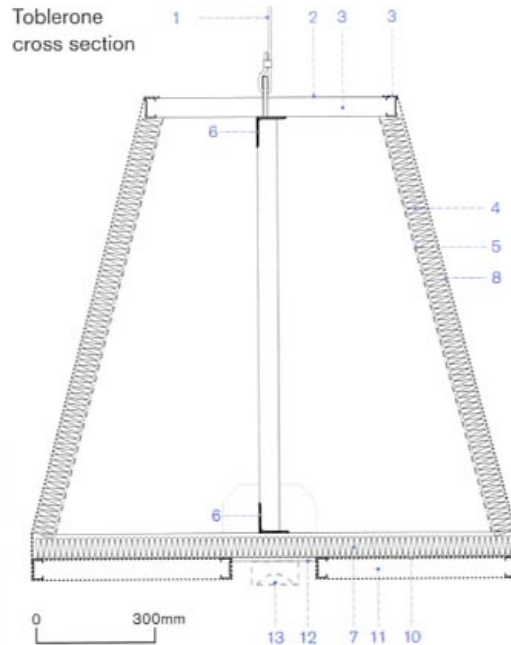
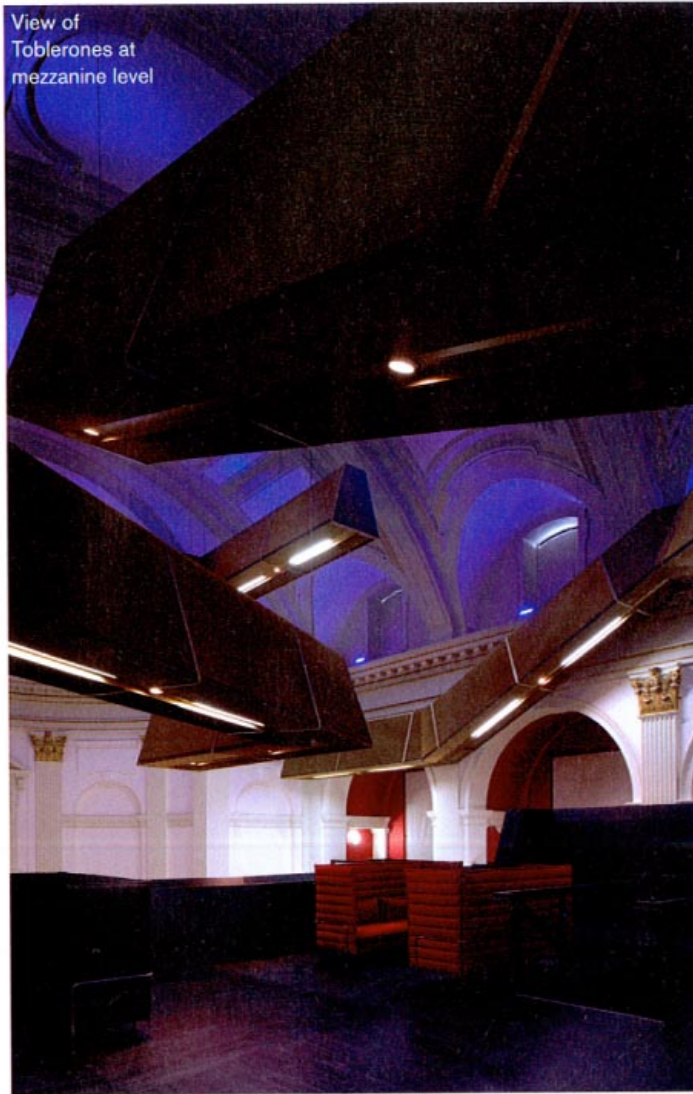
Following a two-stage competition, the OPEN Youth Trust appointed Hudson in 2006

to convert a Grade II-listed bank into the UK's first youth venue to be funded under the government's *myplace* programme, which aims to provide support and advice for young people within stimulating environments.

Hudson's designed the lighting furniture to be visually distinct from the existing building. 'The lighting and ambience had to be interesting and exciting', says director Anthony Hudson. >>

Above Main hall showing ambient lighting onto existing ceiling with

Toblerones at high level and back-lit panels at front of mezzanine



**Left** Cross section through Toblerone. Metalwork fabricator, Broadsteel Construction was the sub-contractor for the Toblerone's cladding and its support framework

- |   |  |  |  |
|---|--|--|--|
| <p>1. Baffles supported on steel cable to specification</p> <p>2. Top to be left open except over bar where lower than eye height</p> <p>3. 48mm metal stud frame</p> <p>4. 50mm semi-rigid acoustic-</p> | <p>absorbent insulation</p> <p>5. Chicken wire support for insulation</p> <p>6. 70 x 70 x 7mm steel angle by steelwork contractor</p> <p>7. 50 x 50 x 5mm steel angle</p> <p>8. Mesh panel bent around corners and</p> | <p>riveted to metal stud frame</p> <p>9. 48mm metal stud riveted to main angle frame</p> <p>10. Second layer of gold anodised aluminium mesh panel riveted to stud sections</p> <p>11. Gold anodised aluminium mesh panel riveted to</p> | <p>stud sections</p> <p>12. 48mm metal stud frame</p> <p>13. Surface-mounted adjustable metal halide lighting and T5 linear fluorescents to M&amp;E consultant's specification</p> |
|---|--|--|--|

### Toblerones

'The main space was a massively echoey space,' says project architect Dieter Kleiner. On the solution to this, Hudson adds, 'We wanted to integrate it. Rather than specifying a proprietary paraboloid section integrated fitting, we hit on the idea of the Toblerones.'

The Toblerones' cross-section mimics the inverted key-stones over the existing doors and they are clad with two layers of

perforated mesh, matching the gold-leaf on the existing column capitals. This mesh conceals an acoustic quilt. The soffits have a 'Morse code' configuration of linear T5 fluorescent lamps and metal halide spotlights. The direction of the spotlights can be adjusted. All soffit lighting can be dimmed, using DALI (Digital Addressable Lighting Interface) control gear.

### Mezzanine

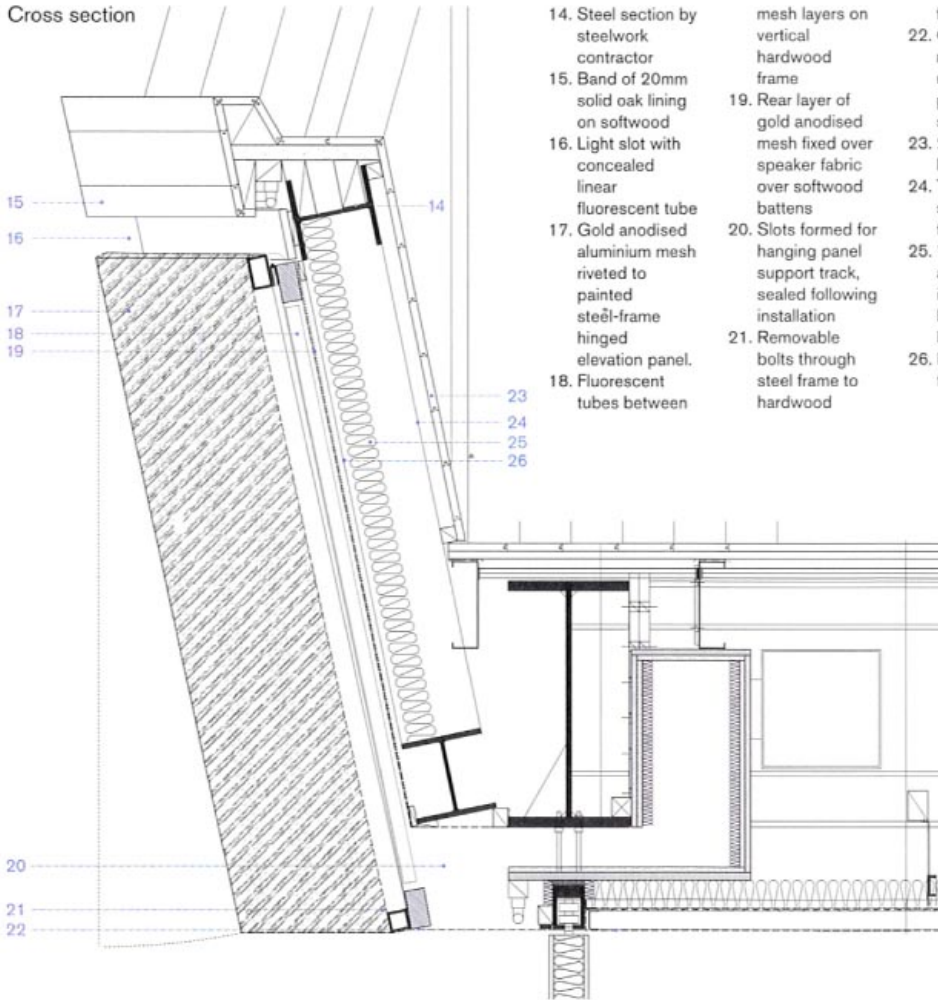
'We wanted a consistent approach to detailing throughout the whole building,' says Hudson. One of the key architectural components is a mezzanine, which has a fascia of back-lit panels, a variation on the Toblerone idea.

They have trapezoidal elevations and gold-mesh cladding, but insulation is behind the lighting zone.

The diagonal junctions of the faceted panels, which form the mezzanine soffit, are emphasised by linear fluorescent fittings, the architect proposed Ross Lovegrove-style fluorescent tubes, but Waterman Building Services recommend iGuzzini iSign T5 fittings, which the architect refers to as 'submarines'.

Their fluorescent tubes have polycarbonate casings.

Cross section

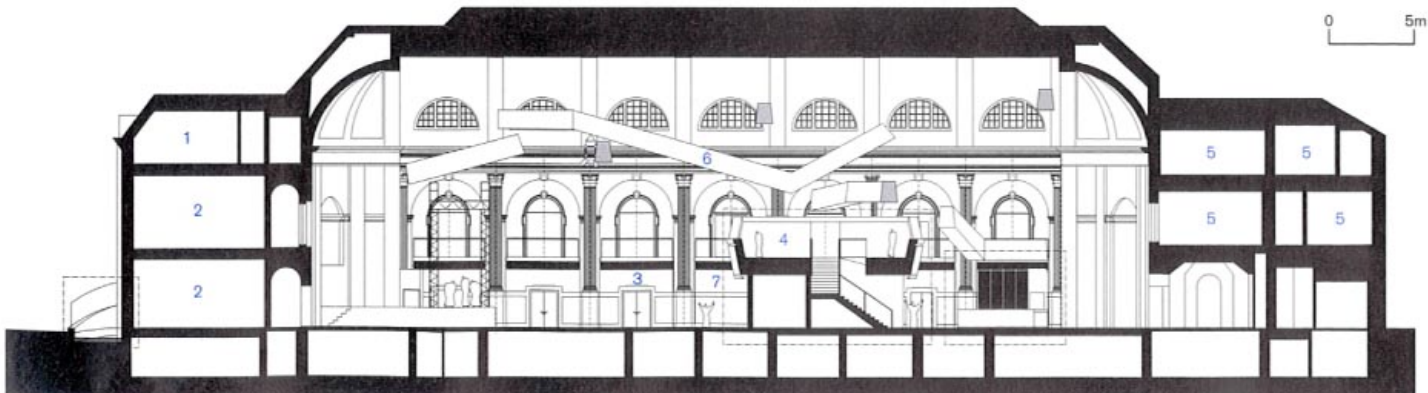


- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>14. Steel section by steelwork contractor</li> <li>15. Band of 20mm solid oak lining on softwood</li> <li>16. Light slot with concealed linear fluorescent tube</li> <li>17. Gold anodised aluminium mesh riveted to painted steel-frame hinged elevation panel.</li> <li>18. Fluorescent tubes between</li> </ul> | <ul style="list-style-type: none"> <li>19. Rear layer of gold anodised mesh fixed over speaker fabric over softwood battens</li> <li>20. Slots formed for hanging panel support track, sealed following installation</li> <li>21. Removable bolts through steel frame to hardwood</li> </ul> | <ul style="list-style-type: none"> <li>mesh layers on vertical hardwood frame</li> <li>frame behind</li> <li>22. Gold anodised mesh panel to underside platform on steel frame</li> <li>23. 20mm solid oak lining</li> <li>24. Treated 38mm softwood framing</li> <li>25. 75mm acoustic absorbent insulation between steel bracing</li> <li>26. Black speaker fabric</li> </ul> |
|---|--|---|

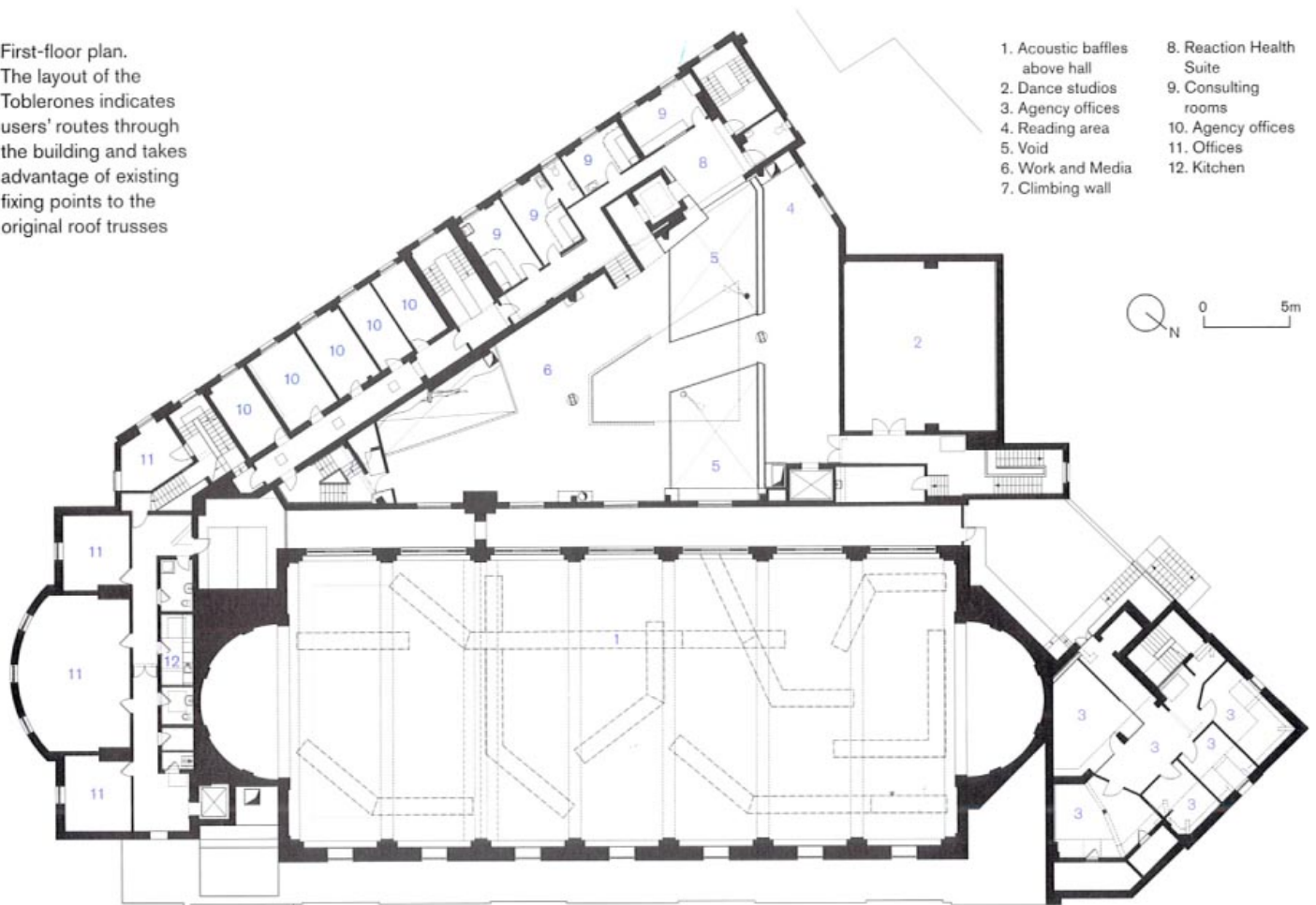
Left Cross section through back-lit panel at front of mezzanine. The fabricator worked directly from the architect's drawings

Longitudinal section

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1. Offices</li> <li>2. Conference hall</li> <li>3. Main hall event venue</li> </ul> | <ul style="list-style-type: none"> <li>4. Mezzanine</li> <li>5. Agency offices</li> <li>6. Toblerone</li> <li>7. Back-lit panel</li> </ul> |
|--|--|



First-floor plan.  
The layout of the Toblerones indicates users' routes through the building and takes advantage of existing fixing points to the original roof trusses



- 1. Acoustic baffles above hall
- 2. Dance studios
- 3. Agency offices
- 4. Reading area
- 5. Void
- 6. Work and Media
- 7. Climbing wall
- 8. Reaction Health Suite
- 9. Consulting rooms
- 10. Agency offices
- 11. Offices
- 12. Kitchen

### Additional Lighting

'WBS brought a lot to the table,' says Kleiner. Whereas the architect used hand sketches to explore its lighting design ideas, Waterman used computer modelling to check background light distribution and lux levels. 'The DALI system enables light fittings to be dimmed to 15% for daytime energy conservation,' explains Nik Owen Jones of Waterman. Colour-change illumination of the banking hall soffit and external lighting were also developed by the consultant.

The quantity surveyor's allowances at tender stage gave the architect ample scope to experiment with lighting ideas. This has produced exciting results, including backlit 'iceberg' seats, clad in a granite composite material, and an internal street scene of lamp posts in a former courtyard with a glazed roof. Although long-life lamps have been specified where feasible, a cherry picker will be kept at OPEN to provide access to the lighting.

View of mezzanine

