

Stepping out

Malcolm Fraser Architects' new community centre uses design to bring healthy living to Newcastle. But you need to look beyond the muddled exterior to find the true beauty of Dance City, says Matthew Turner.
Photos by Morley von Sternberg



Eighteen months ago, it became official: we are fat and idle. The main man behind the nation's health, chief medical officer Liam Donaldson, aimed his sights squarely at our bellies and arteries; we have to live more healthily. Rafts of initiatives and targets duly rolled out, and links between the built environment and obesity were quickly made.

Newcastle's Dance City, designed by Malcolm Fraser Architects — the practice's first major project outside Scotland — has been up and running for five months. It is a dance centre quietly promoting healthy living, carrying out this well intentioned but easily lambasted government policy. Its programme also points towards a trend in briefs for building that architects need to take note of: overlapping services and remits such as healthcare in new territories make architectural identity all the more ambitious — and harder to pin down.

As an existing institution commissioning a new building, Dance City quickly identified the opportunity to improve the

culture of dance rather than just rehouse the existing studios. The architect clearly engaged with this aspiration: "The early stages of design involved some pretty philosophical discussions," says project architect Clive Albert.

Architects may sometimes think they have a raw deal, but spare a thought for professional dancers. Theirs is a world where you not only compete fiercely, smoke hard, train like a race horse, and barely eat — you're put out to pasture by 34. A stressful life then, with lots of opportunities for disappointment.

Originally operating out of a converted Victorian building in a city centre back lane, Dance City provides studios, and promotes dance in the North-east, but not just with the pros, through interaction between the professional dance sector and the dancing public.

So, along with the incredibly secretive world of choreography, you have stressed dancers, and a public easily intimidated by skinny people in leotards: quite a few cultural barriers to get over.

"As an organisation that educates young people, we specifically wanted to cultivate new habits," says director and client Janet Archer. So banning smoking and providing healthy food on site became integral to the idea of the building. But discussions went much further than these ▶

Rather than just rehouse the existing studios, Dance City has improved the culture of dance



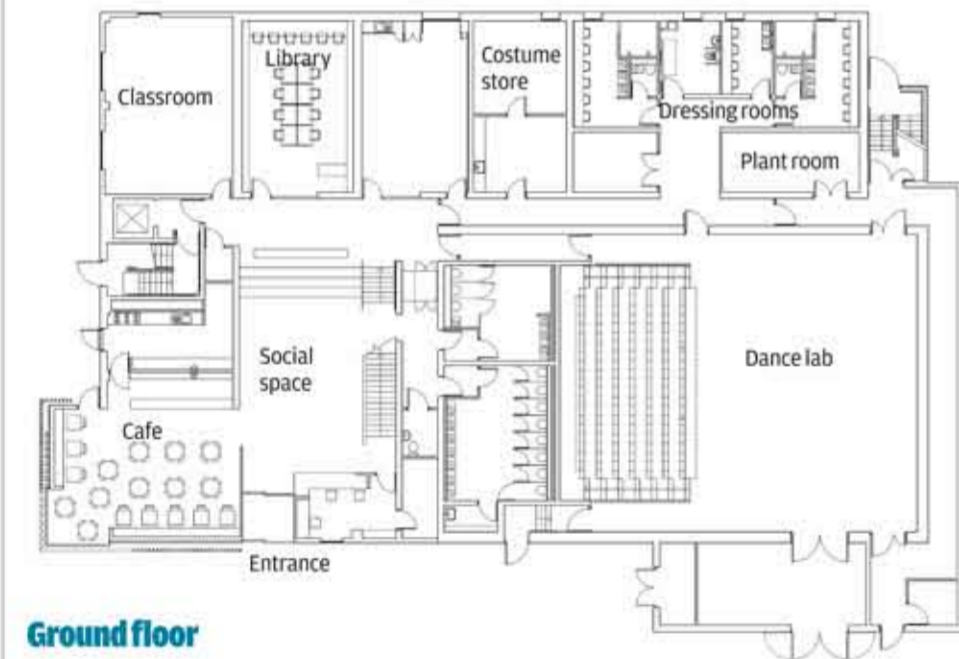
Left: Dance City's cafe and entrance are on the south-east side of the building. Above: The south elevation, with St James Boulevard to the left.

Architect
Malcolm Fraser Architects
Client
Newcastle City Council
and Dance City
Project management
MDA Consulting
Structural engineer
Arup Scotland
M&E engineer
Harley Haddow

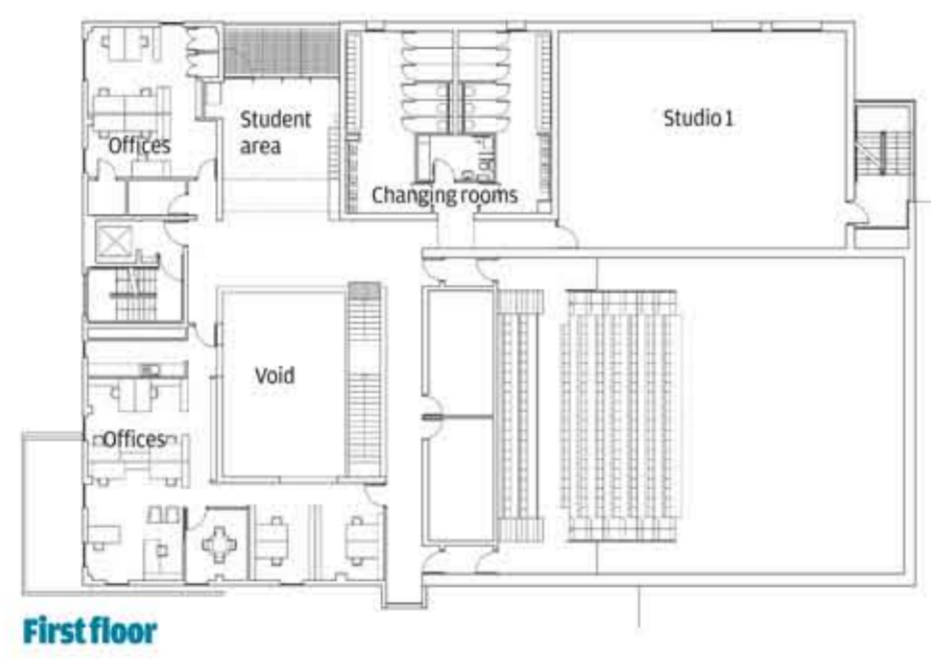
Quantity surveyor
City Design
(Newcastle City Council)
Acoustic consultant
New Acoustics
Fire consultant
Edinburgh Fire Consultants
Access consultant
Burdus Access Management
Contractor
Shepherd Construction



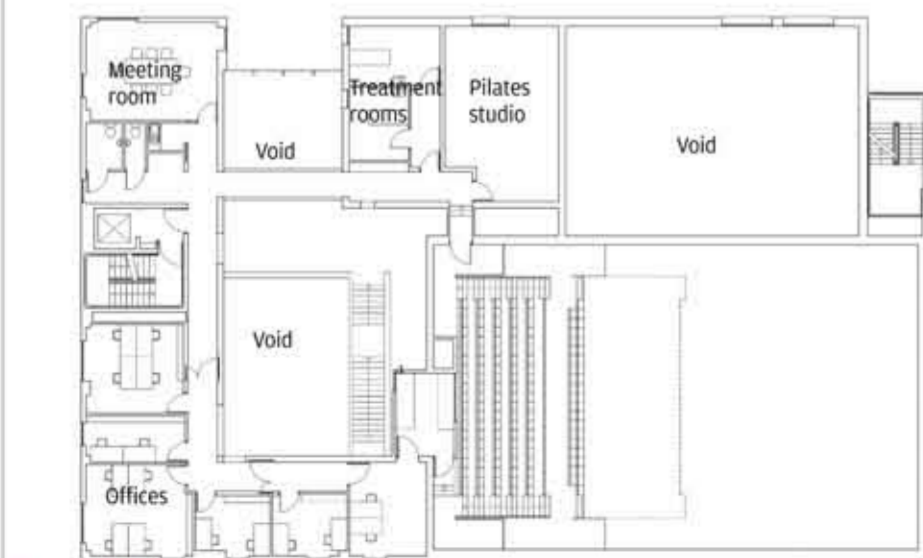
Opposite page:
The social space
is a place for
interaction
between all the
building's diverse
users.
Far left: Staircase
up to the first floor
leads to the
administrative
offices, which
look out over the
social space.
Left: The double-
height dance
studios on the top
floor feature
natural lighting
from clerestory
windows.



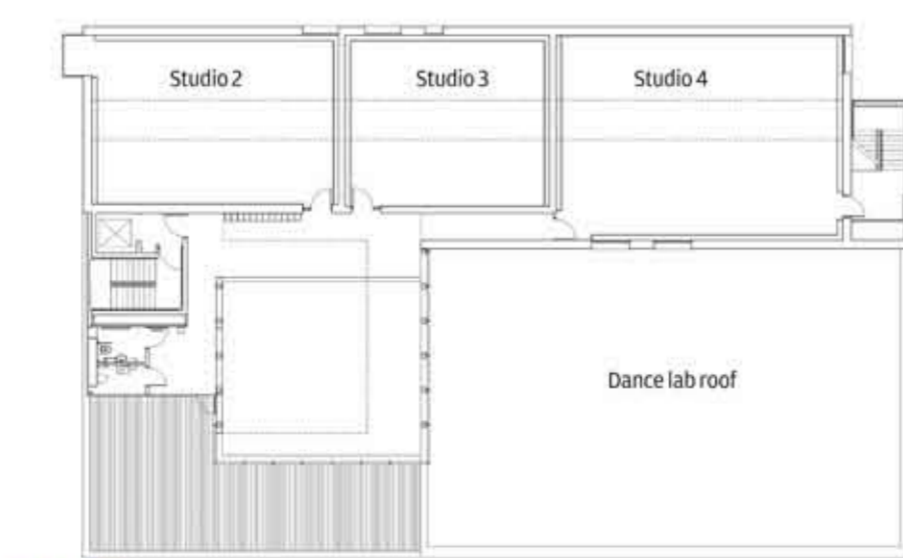
Ground floor



First floor



Second floor



Third floor

In detail

Dance City, Newcastle Malcolm Fraser Architects

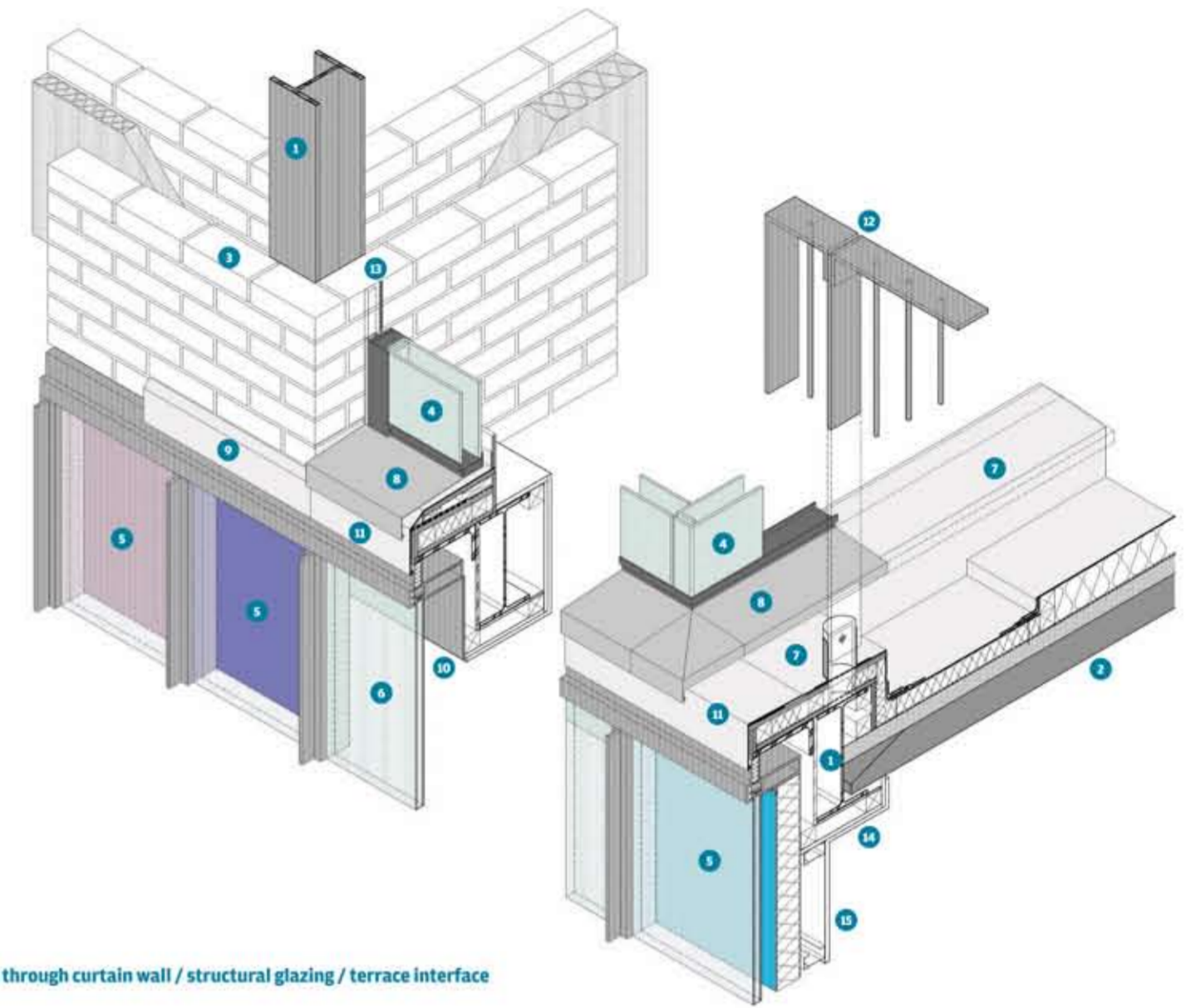
The constructional and organisational diagrams for the building are closely related. All dance-related activity is contained within load bearing brick boxes, and all support activity is located in a steel-framed section of the building.

Brick offered the appropriate performance characteristics needed for dance, as well as being cost effective due to a local skilled workforce. The double-skin, brick diaphragm wall construction is robust, low maintenance and good at reducing noise breakout.

The steel frame construction allowed increased amounts of glazing on the major approaches to the building, promoting views into the heart of the organisation and connecting the internal spaces back to a new urban square.

These two constructional elements conceptually "lock" together to enclose the heart of the organisation, the "social space". All the core activities in the building connect to this space; it is a place of arrival, orientation, sociability and informal performance. Movement through the space is choreographed to encourage communication between the building's diverse users.

The building's exterior reflects the nature of the two different types of construction. The load bearing brick is detailed to express its solidity with windows set back deep within the reveals. In contrast the curtain walling on the framed part of the building is deliberately treated as "skin" and is articulated with coloured panels set behind the glass, forming a light, playful, rhythmic and contrasting treatment to the more uniform load bearing part of the building.



Cutaway section through curtain wall / structural glazing / terrace interface

1. Steel frame within cavity wall construction with site-applied 60-minute intumescent coating.
2. Pre-cast concrete floor plank with structural topping screed.
3. Non-load-bearing brick cavity wall construction above framed section of building, with 50mm thermal insulation to

external wall and 100mm acoustic insulation internally.

4. Cast glass structural glazing assembly with powder-coated aluminium framing system.
5. Powder-coated aluminium box section curtain wall system with double glazing and ceramic colour-coated insulated sandwich panel infill.

6. Powder-coated aluminium box section curtain wall system with double glazing.
7. Non-UPVC single-ply roof membrane on rigid insulation laid to fall.
8. Profiled stainless-steel cill section laid to fall and dressed into bottom channel of structural glazing system.

9. Non-UPVC single-ply roof membrane flashing ragged into brick course.
10. Powder-coated aluminium bulkhead panel.
11. Non-UPVC single ply membrane flashing cloaked over curtain wall frame.
12. Prefabricated galvanised mild steel balustrade panels fixed to circular

13. Insulated DPC.
14. Plasterboard on timber framing to form bulkhead.
15. Internal plasterboard dry lining on metal frame system.

Eco check

Thermal performance
The building adopts a passive environmental strategy, minimising mechanical systems and naturally ventilating spaces where possible. The theatre and dance studios use the mass of the load bearing brick diaphragm construction and concrete floor slabs to create a stable thermal environment, making the building less prone to fluctuations in temperature, which is essential for dance.

Thermal modelling of the steel-framed part of the building was carried out to establish the optimum amount of glazing on the principal elevations and roof, to avoid any problems with glare or overheating. Pilkington solar control glass was used as part of a thermally efficient double-glazed unit for all the roof and curtain wall elements of the design; this, combined with exposing the concrete floor-slab construction within the administration areas, allowed the design team to naturally ventilate all the offices in the building. The cafe, which required more glazing, uses external solar shading to reduce heat gains.

Ventilation Where mechanical ventilation was necessary, efficient heat reclamation systems were employed. In the theatre a displacement ventilation system supplies cooling to the space and uses the mass, inherent in the structure of the space, to provide a stable thermal environment for both audience and performers. The three dance studios at the top of the building are naturally ventilated using motorised clerestory windows. These allow local ventilation and night purging, and provide high level cross ventilation during the day.

Heating and hot water
The heating system uses high-efficiency condensing boilers. The domestic water system uses load matching electronic pumps to reduce energy consumption, while water usage was minimised throughout the building by using flush control devices, low volume cisterns and spray taps.

Lighting The building uses high levels of natural daylight to minimise energy use and artificial lighting systems use low energy sources.

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moves: What developed was one simple but very effective organisational idea for the building.

On entering Dance City through a lobby, you arrive at a 12m-high top-lit space, the building's heart. This social space expresses the principal concept of the building. It is a place for interaction between the diverse users of the building, a central space intended to act almost as the organisation's identity, something everyone can grasp.

It works. It's a space you pass through to reach all rooms, but it is sufficiently proportioned to be itself usable for milling about, or even for performance. In the time I was there, the space was inhabited in many different ways, with performance, chance meetings, resting, gawping, reading, smiles, chatting. Couch potatoes meet the kids from Fame – the chief medical officer would be star jumping for joy.

The beauty of this social concept, understood and nurtured by the architect, is the way it is strengthened and reinforced through use – a much richer way of making space than relying solely on architect's usual favoured tools of shape or material. This makes the central space a real triumph.

A staircase then takes you up to the first floor, from one enters the 250-seat dance lab performance space, and then to a series of five double-height dance studios, cleverly arranged along with single-height accommodation – offices, health suite, etc. All relate

Couch potatoes meet the kids from Fame – the chief medical officer would be star jumping for joy

back to the central social space in differing ways. The architect floridly pushes this as a concept of spiral progression around this space, but the experiential reality of fire stairs reveals this as wishful thinking.

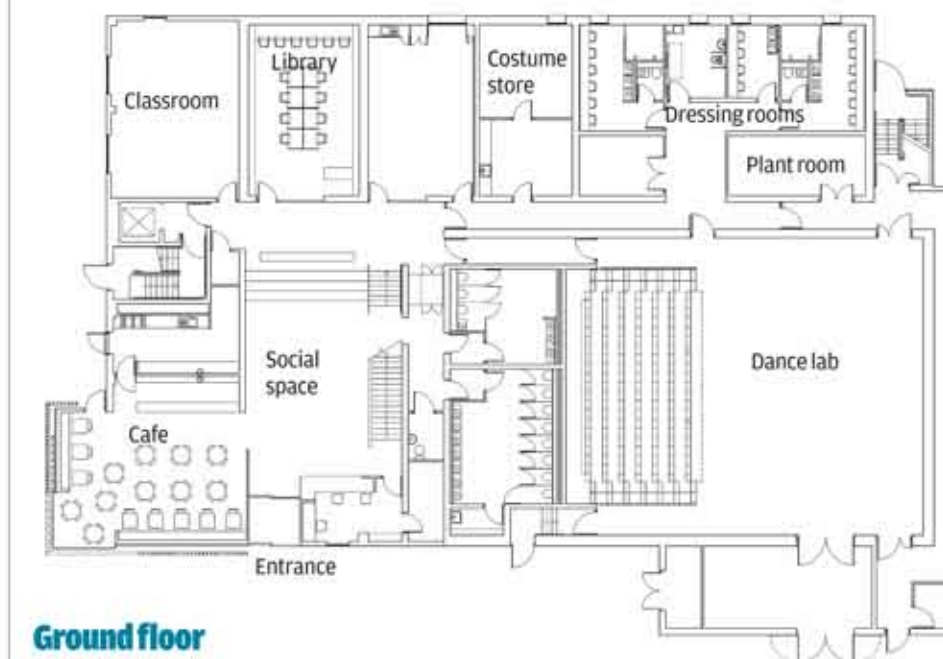
Internal materials reflect the £1,800 per sq m budget, and call to mind the converted warehouse aesthetic of so many dance spaces – exposed concrete, painted or fair-faced brick, lino, and fully exposed ceiling-run services. Birch ply and oak are used in intimate or often touched surfaces. Construction methods are also well considered for the relatively complex acoustic and environmental performance required. After all, this is a building where one moment a studio can be occupied by 60 wailing banshees waving feathers on tiptoes; and half an hour later by a serene yoga class of five.

Somehow, reviewing this building as purely bricks and mortar is just not that interesting. Where this building really gets me going is the ambition and implications of its programme.

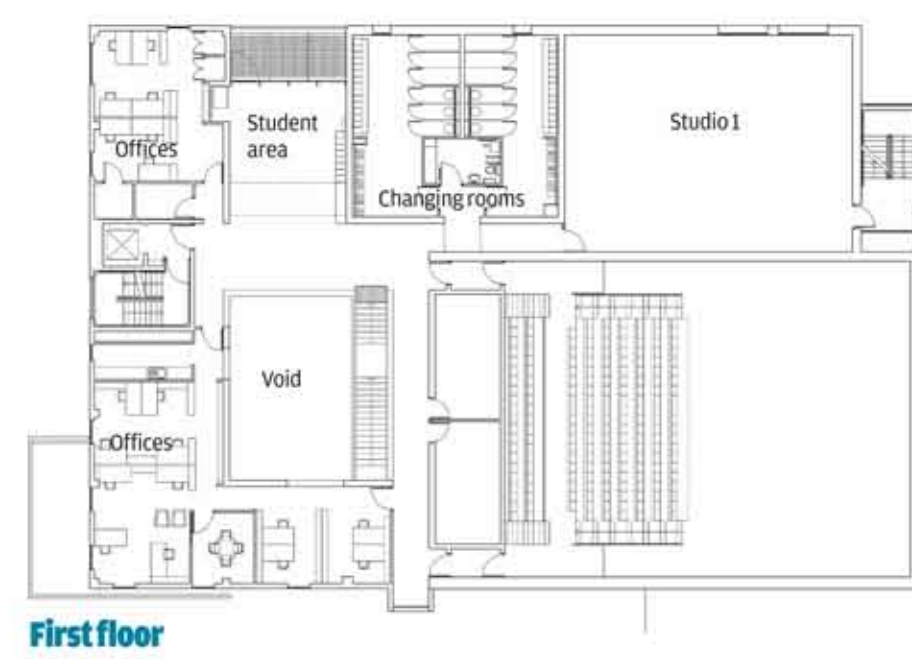
Unlike, for example, the Laban centre in London, Dance City isn't just for toned types in leg-warmers. Being open till 9pm, with a series of community activities through the day, its users are grannies and schoolchildren too. So, Dance City can be thought ▶



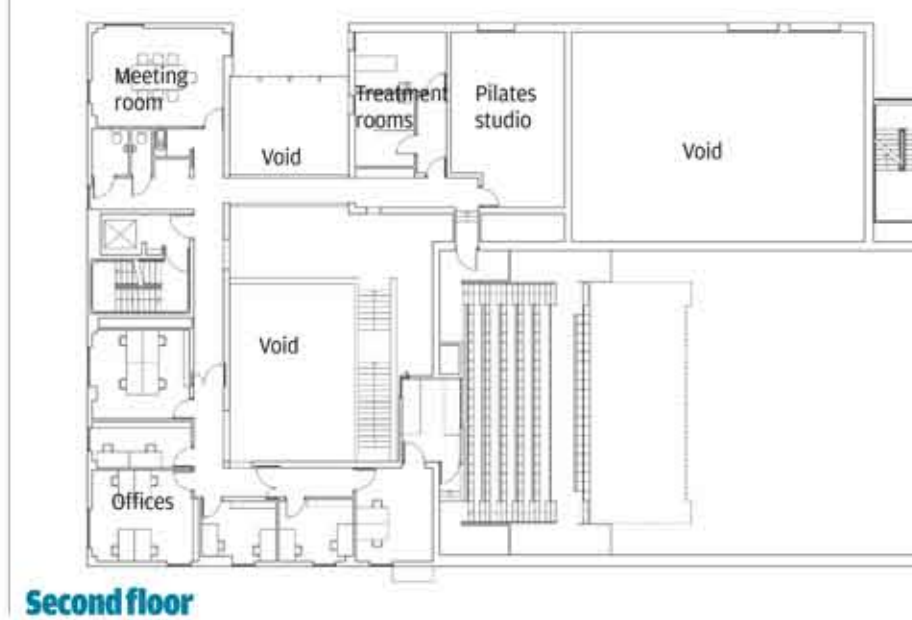
Opposite page: The social space is a place for interaction between all the building's diverse users. Far left: Staircase up to the first floor leads to the administrative offices, which look out over the social space. Left: The double-height dance studios on the top floor feature natural lighting from clerestory windows.



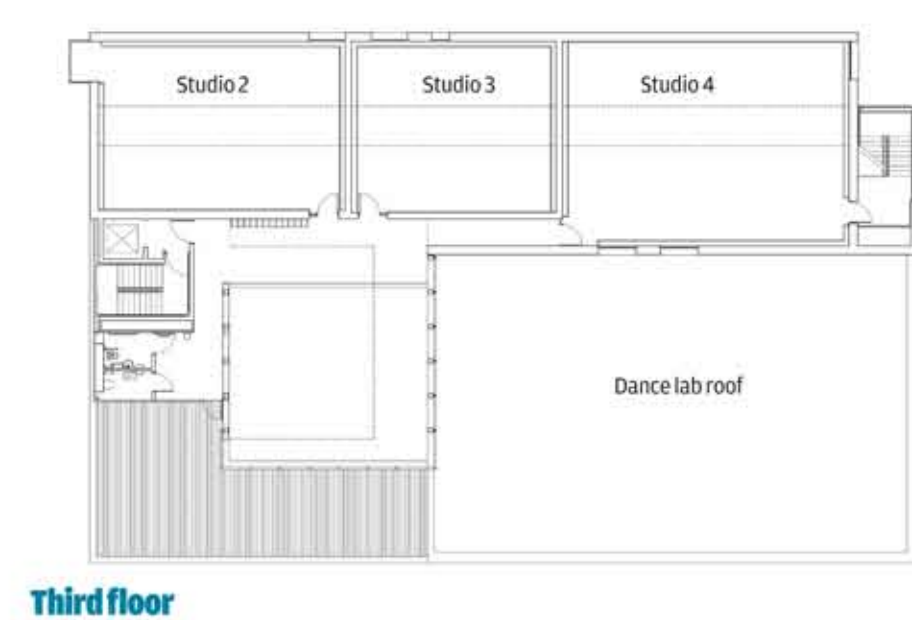
Ground floor



First floor



Second floor



Third floor