the architects' journal

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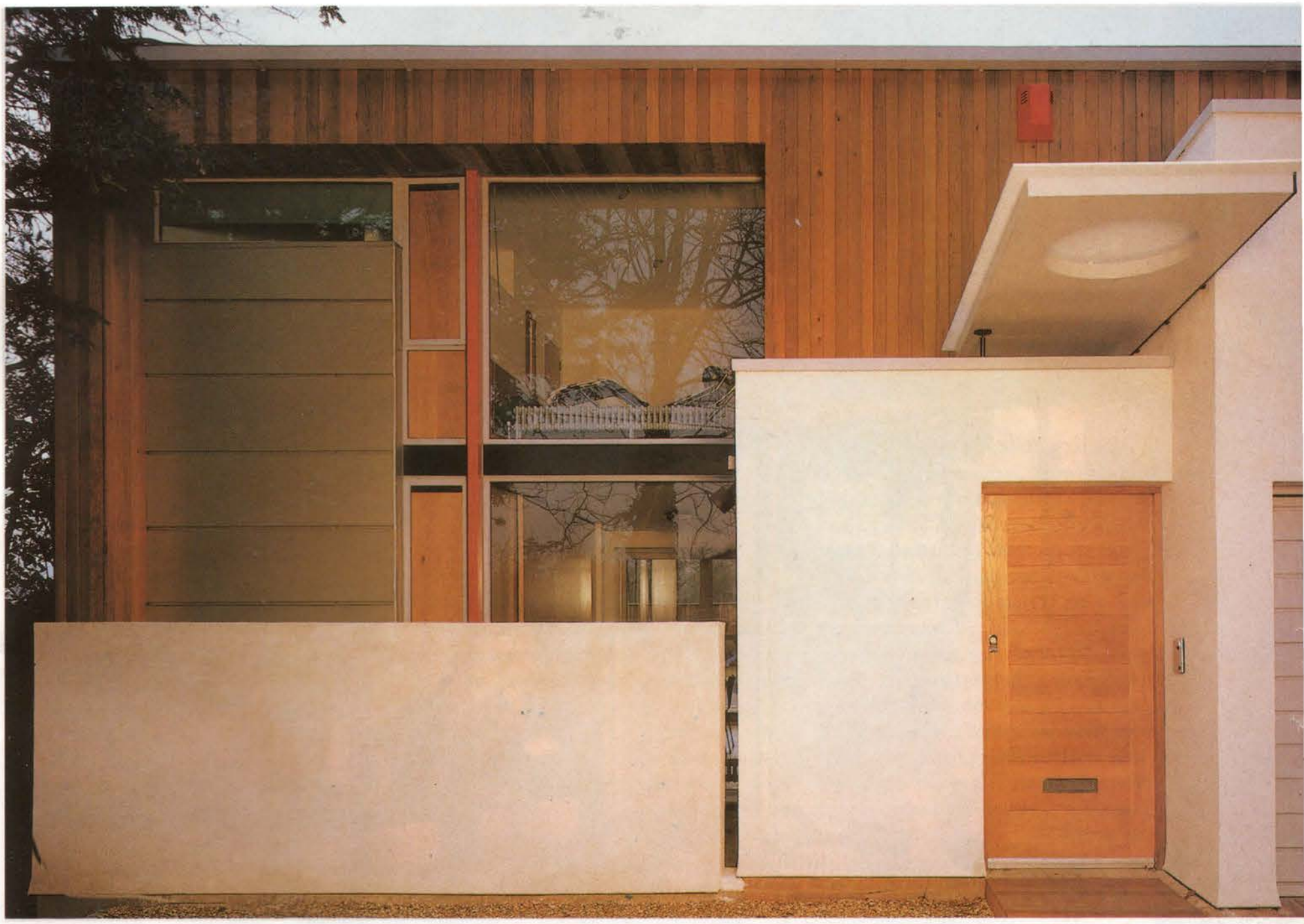
Designing the building of the year
Implications of Maastricht
Working detail: Foster at Fréjus

House of colour

CI/SfB 82

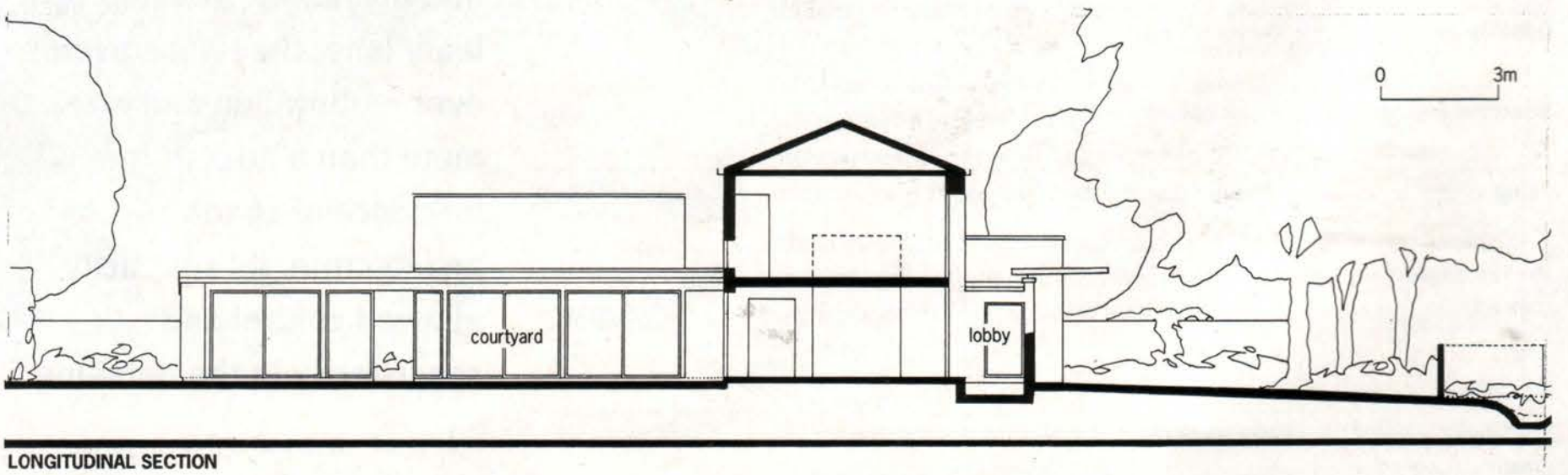


A house for family and formal living

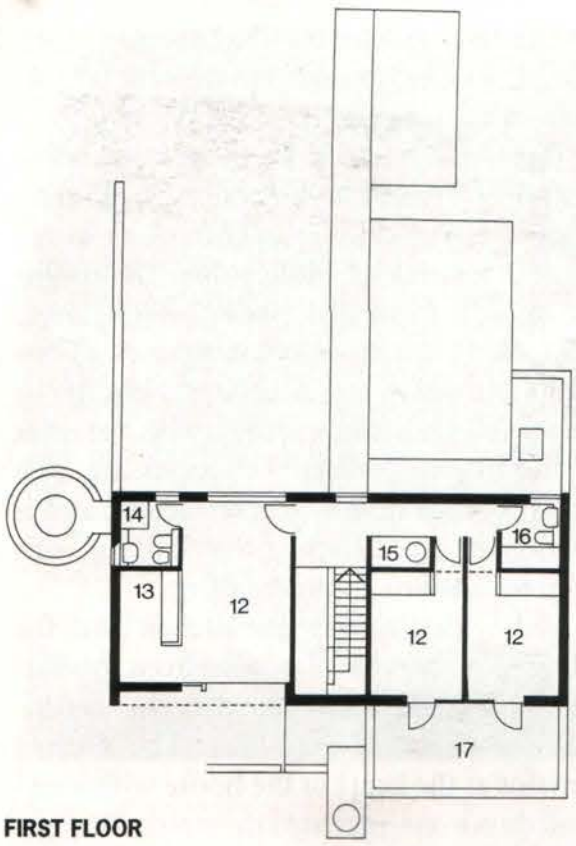
PHOTOGRAPHS BY CHRIS GASCOIGNE

Building	Pardey House, Lymington, Hampshire
Client	John Pardey
Architect	Pardey + Yee Architects, Winchester
Quantity surveyor	Pardey + Yee Architects, Winchester
Structural engineer	Albert Williamson-Taylor, London
Piling	Van Elle Piling, Alfreton, Derbyshire
Main contractor/ contract	Burt & Vick, Poole JCT Minor Works 1992
Cost/ floor area	£143,720/ 207m²
Start date/ practical completion	February 1993 August 1993

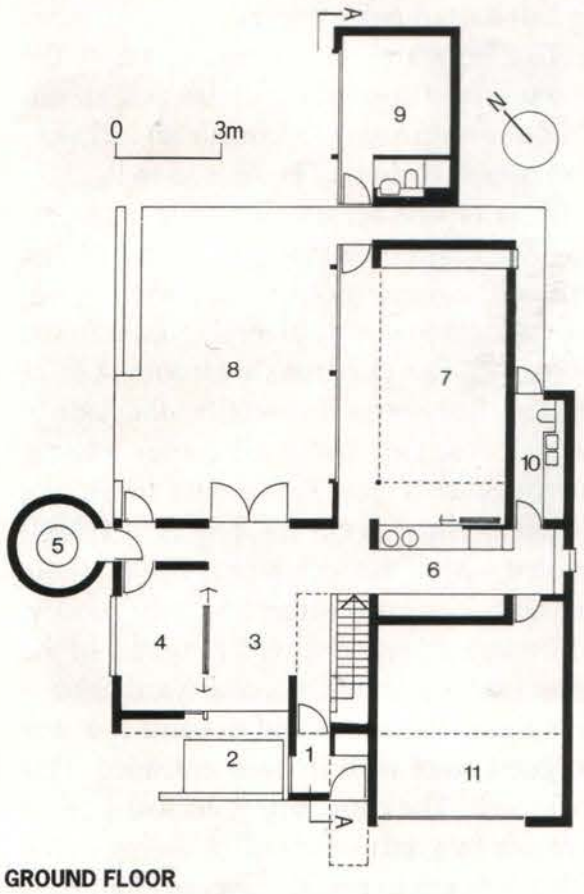
John Pardey and Ron Yee brought their years of experience to bear on the design of a home for Pardey and his family. Situated up a leafy lane, the house avoids over-elaboration and owes more than a little to the influence of 1950s architecture. Its simplicity allowed control and consistency in the detailing



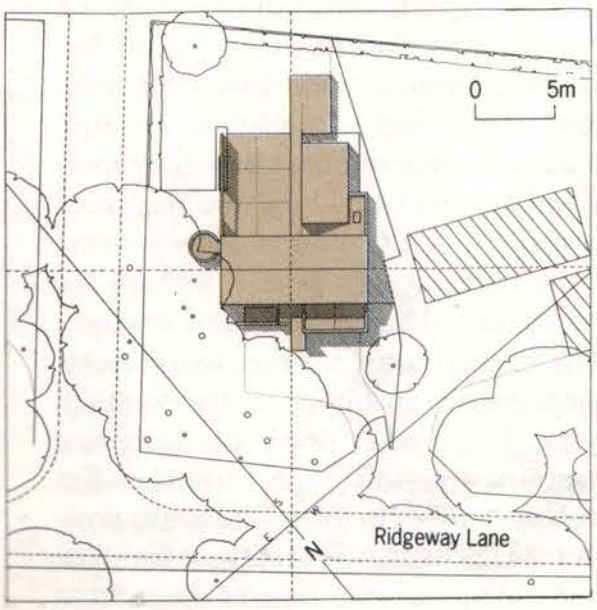
LONGITUDINAL SECTION



FIRST FLOOR



GROUND FLOOR



Key
1 lobby
2 pool
3 dining/hall
4 play
5 spa bath
6 kitchen
7 living
8 courtyard
9 study/guest
10 utility
11 garage
12 bed
13 dressing
14 shower
15 linen
16 bathroom
17 terrace

Previous page: the entrance façade is carefully composed, with a freestanding wall concealing a small pool. Inside, sliding doors partition the flexible entrance/ dining hall from the playroom, opposite. Left: floor plans and site plan. Right: the bedrooms make the most of views through the trees

Architect's account

JOHN PARDEY

Pardey + Yee Architects

There is an intense sense of frustration for my generation of architects who chose to set up in practice just as Britain slid into recession. So, having moved out of London after many years, it seemed imperative to build.

We found a site for a house fronting on to a lane which runs from the outskirts of Lymington to a coastal salt marsh on the southern edge of the New Forest. It is a site with two distinct aspects. At the front is a band of mature trees with views across fields to the north-east, while at the rear it opens up towards the sun, but also the visual intrusion of a backland housing development.

Our approach was to design a simple two-storey, wide-fronted form with a courtyard to the rear. The site was bought with outline consent which demanded integral garaging for two cars, the idea being to maintain the largely rural, car-free character of the lane. This was accommodated within the plan.

The house is clad in western red cedar, a reference to the surrounding trees. The additional forms of garage and porch are self-colour rendered, stepping back and breaking into a planar assembly at the entrance where a freestanding wall conceals a small pool. A 4.8m² recessed bay in the façade contains a collection of glazed aluminium and timber panels. These are composed around the horizontal floor edge and vertical post in a minor homage to De Stijl.

At ground level the house is planned around the courtyard, enclosing it on two sides with living accommodation and on a third by a freestanding cedar-clad wall. This contains a large opening which frames views through to shrub planting, but with a sliding screen to provide additional enclosure and shelter from winds.

Inside the plan is ordered by a 1m-wide circulation zone. Sliding screens further order the living areas, allowing subdivision of the kitchen and children's playroom.

Upstairs rooms are orientated to the front, benefiting from early-morning sun and views through the trees across fields. Circulation runs along the back, terminated at each end by blue mosaic-lined bathrooms. In this way bedrooms avoid views over backland housing (a single low window provides views down to the courtyard).

Internally, a minimal palette contrasting simple, painted plaster surfaces with natural oiled oak doors and flooring provides richness. Colour animates the walls and spaces, supported by blinds, light fittings and rugs.

A concrete frame takes the upper floor loads, with a single thickness of low-strength, highly insulating 225mm solid aerated concrete blocks providing a thermal store and a thermally efficient envelope. Heavily insulated, simple trussed roofs provide a thermally efficient lid to the house. Powder-coated aluminium windows and doors are thermally broken and double-glazed. Like the cedar cladding and render, these are maintenance-free.

The courtyard is arranged so that living spaces gain maximum winter sun, with Venetian blinds, sliding screens and cross-ventilation ensuring comfortable temperatures on summer days. The combination of thermal efficiency and a weather-sensitive energy-management programmer provides an even heating requirement during winter.

High U-values on the enclosing fabric mitigate the larger-than-average glazed areas, producing a total loss (including ventilation losses) of 10.03kW. Together with an allowance for thermal mass, this is dealt with by a 12kW gas condensing boiler, linked to enamelled radiators by jointless plastic microbore distribution pipework and a pressurised high-recovery hot-water cylinder. The boiler is closely matched to demand, ensuring operation in the condensing mode of more than 90 per cent efficiency.

Appraisal

STEPHEN GREENBERG

Editor, The Architects' Journal

The private house commission (usually for an obliging relative) used to be the principal opportunity for young aspirants to cut their architectural teeth. It is a perfect test-bed for ideas, and from a few houses would flow other commissions. The reverse is the case for John Pardey and Ron Yee. During the 1980s they were a glittering young practice, with an astonishing success rate in competitions of one-in-three. They also had a strong influence on the practices they worked for: Allies and Morrison and Richard Reid.

This house for John Pardey and his family is very much a first building but, unlike many, it is not overcooked. These architects have been around long enough and seen enough over-elaboration to avoid fussy little trims and late-1980s minimalist detailing. They are interested in architecture from the 1950s and have collected dozens of old books, full of houses, churches and schools. And the house does have a 1950s feel. 'So much of what we make a fuss over now and think is unique and original was done then,' says Pardey.

Its construction is simple, so the building could go up fast. The windows are not purpose-made (common on small buildings), nor the ever-fashionable W20, but a proprietary aluminium system with draught seals and thermal breaks – this shows a shrewd use of industrialised components. They are delivered pop-wrapped, ready-glazed and hung, complete with ironmongery.

Because of the current tendering climate and commercial nature of the structure, a larger local rather than a small country builder was used. Its tender was the most competitive, and the simple construction method enabled the project to be completed to a high standard in just six months. Simplicity ensured control and consistency in the detailing and not a single bad skirting or architrave junction. It also meant the architect could safely keep away from the site.

The approach to the house is up a leafy lane with a few Tudorbethan houses on one side and mature trees on the other. The formal front elevation includes a geometric composition of windows and a small *jeu d'esprit* of the punctured porch canopy. The porch area, front screen and garage walls are finished in a fibre-reinforced, self-coloured render that has a patina like Japanese paper. The projecting double garage, with its balcony above, balances the composition.

Inside, the house is devoid of many of the clichés of architects' houses – no double-height spaces (which frequently don't work) and not a speck of white paint. The rooms are simple rectangles, well-lit with large, well-placed windows offset against all the insulation and thermal mass. A bold use of colour (all Dulux standard) breaks the rules of the internal reflective component. The living room is in grey and terracotta, and is overlooked by a large galley kitchen with deep cobalt-blue cupboard fronts.

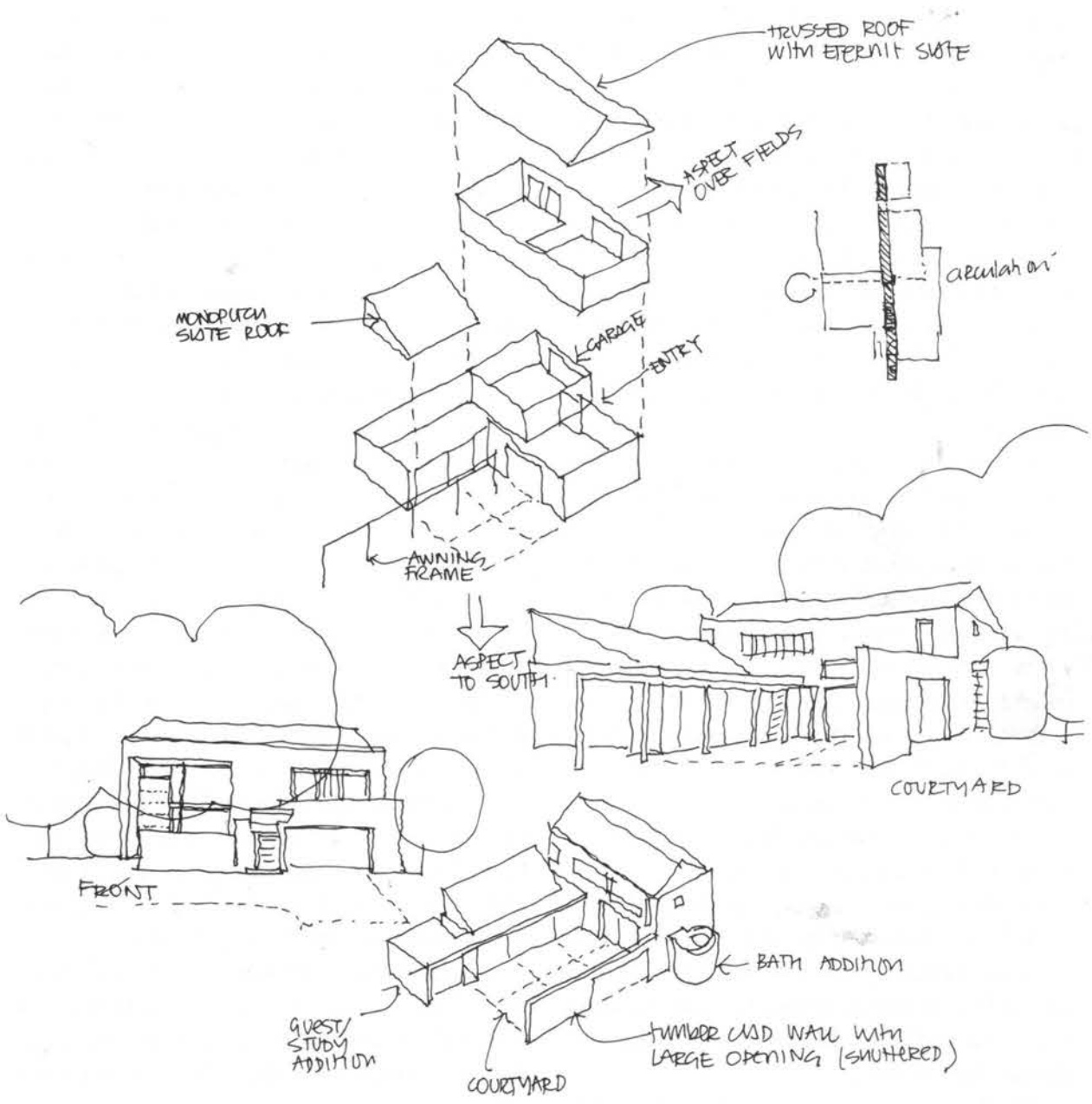
Sliding doors divide the kitchen from the living room and the playroom from the dining room, so the house can in moments conceal the chaos of Play-Doh. The kitchen remains at the heart of the house with views in all directions, except to the street. The dining hall has an oak-panelled wall and views out to a pool and the courtyard, where the garden screen conceals tricycles and so on. Few houses manage to reconcile an architectural agenda to domestic needs so well.

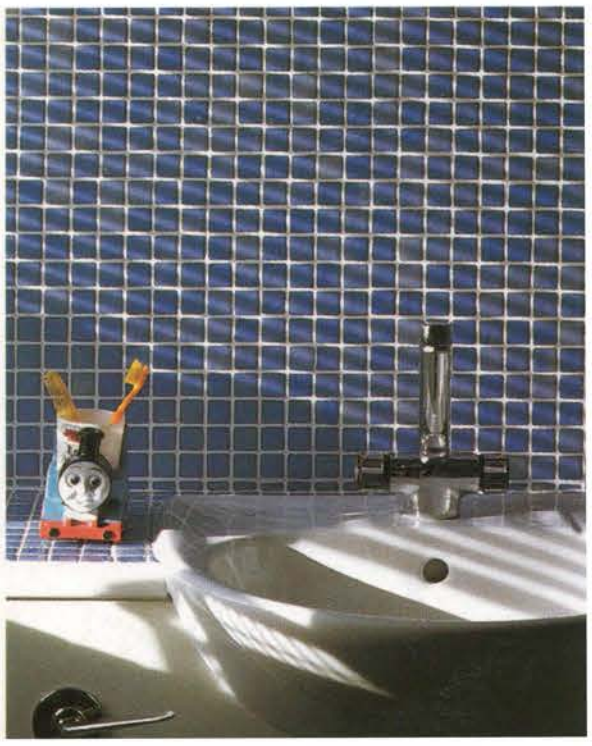
Upstairs, the house feels calm and private. The main bedroom is in restful greens with a big window looking out into the trees. Another window at floor level looks into the courtyard. The children's bedrooms are in effect in their own wing, on the other side of the stairwell. One has a red colour scheme and the other is blue. Bathrooms, the litmus test of any architect, are simply and well detailed with iridescent-blue mosaic – these architects know just where to put the money.

A single-storey addition at the rear of the house forms one side of a courtyard. It contains the living room and beyond it a studio/guest suite with its own entrance. This works well. The courtyard is enclosed on its third side by a cedar-clad wall. A sliding screen within it opens to reveal a layer of planting. I can't help feeling this screen should have been rendered like the one at the front.

If the house has a fault, it is that the living room is too big. But then it did have to take a stunning Helen Yardley rug along the full length of its glazed wall. Also, what John Pardey calls 'a minor homage to De Stijl', with its beige-grey coloured Broderick roofing used as a wall cladding, and oak-faced ply panelling to a Glostal window system's opening vents, doesn't work – perhaps the colour of the red mullion isn't dark enough.

The modern house has been one of architecture's great contributions to the twentieth century. It proposes ways of occupying domestic space which can transform our way of life, typified in this house by the position of the kitchen, its flexibility for family or formal living, and the flow of space from room to room and inside to out.





Opposite: architect's sketches. Top: bathrooms are detailed with iridescent-blue mosaic tiles. The house is clad in western red cedar, a reference to the surrounding trees. Right: inside the spaces flow together with the kitchen at the centre, which can be screened from the living room

Structural engineer's account

ALBERT WILLIAMSON-TAYLOR

Albert Williamson-Taylor, London

Along the front of the Pardey House site are several mature trees. These demanded a foundation solution that would not disturb the low- and high-level tree roots and would limit the amount of excavation.

Low-strength block walls were specified to achieve a thermally efficient building with low running costs. The structural solution had to be achieved within a particularly strict budget.

Piled foundations support the two-storey section of the building close to the mature trees. These consist of 14 driven steel-cased concrete piles, causing minimum disruption to the tree roots.

Ground beams of 600mm x 300mm deep connect the top of the piles. These are used to support the ground-floor beam and block floor.

Because it is significantly distanced from the trees, the single-storey rear section of the building is constructed on a raft foundation, with a full-height vertical movement joint between sections.

The front two-storey section of the building consists of a concrete frame structure to the first floor, supporting the upper beam and block floor as well as all first-floor blockwork and the roof structure. The frame transfers all the upper floor loads directly to the piles thereby limiting the loads on the ground-floor blockwork and restricting the depth of the ground beams.

The roof structure consists of timber trusses. Glulam timber beams support the roof at large floor-to-ceiling openings. A 25mm-diameter vertical dowel bar and three horizontal, solid dowel bars embedded into the walls support the cantilevered timber and acrylic canopy at the front of the house.

Cost comment

Pardey + Yee Architects

It was decided to proceed with the piling before selecting a main contractor because of the urgency of the programme.

Piling began in January 1993. Fixed-price tenders were then invited, based on a thorough set of drawings and specification. Tenders reflected the current lower rates.

The main contract started in mid-February with a 20-week programme. The cost of the structure is much higher than normal

Right: construction pictures showing, top, concrete slab and columns and in situ formwork below. Bottom: a Helen Yardley rug delineates the glazed wall of the living room. During the day this room is filled with natural light. Opposite: at the rear, the house is planned round a courtyard. The wall on the third side has a screen which opens to reveal further planting. The low-level window avoids views over new housing

JOHN PARDEY

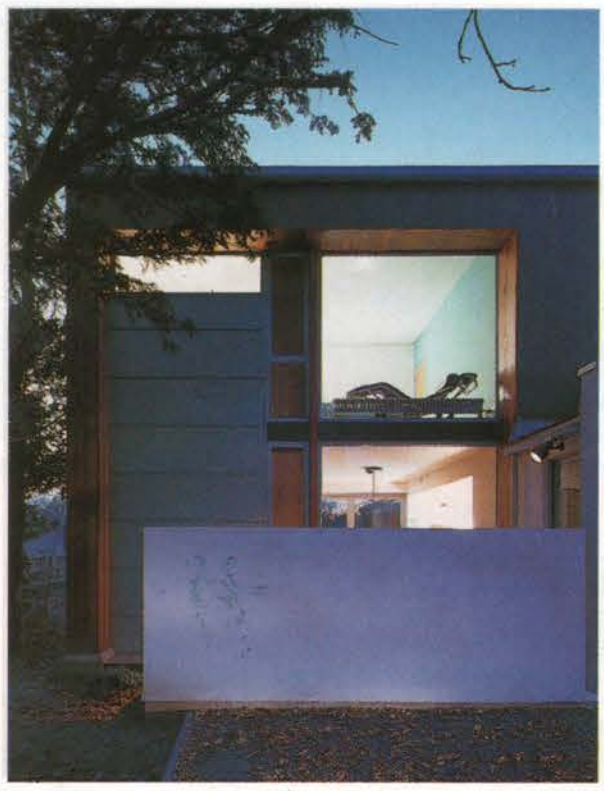
JOHN PARDEY

domestic construction, but this was a prerequisite due to the proximity of mature trees, all subject to preservation orders.

The benefit of having a small works division of a major contractor became clear when it took the commercial nature of the construction in its stride. The piled structure dictated reinforced-concrete skills on site.

A reinforced-concrete frame enabled precast floors and consequently low-strength but highly thermally efficient solid blockwork.

Rainscreen wall construction proved cheaper than a quality brick/cavity system which partly balanced the cost of the structure. The house uses high-quality materials (a collection of favourites) with unusual details and techniques without exceeding the original overall budget. □



Left: the aluminium-framed windows are off-the-peg delivered complete to site

Cost analysis

SUBSTRUCTURE

FOUNDATIONS/SLABS £78.65/m²
Reinforced concrete ground beams on to 14 narrow-gauge, bottom-driven, steel-encased piles supporting insulated prestressed beam and block suspended ground floor to two-storey part of house. Edge-thickened, reinforced-concrete raft with bituthene tanking to single-storey areas.

SUPERSTRUCTURE

FRAME £14.98/m²
Reinforced concrete frame supporting first floor

UPPER FLOORS £21.05/m²
Prestressed beam and concrete pot suspended floor

ROOF £75.49/m²
Man-made, slate-covered, trussed-roof structure incorporating glass-fibre insulation to pitched and monopitch roofs. Pvf2 colour-coated, standing-seam aluminium roofing to porch, living room and study/guest room, incorporating rigid insulation. Asphalt 'upside-down' flat roofing to utility area and terrace

ROOFLIGHTS £1.62/m²
Coxdome double-glazed rooflight with ventilating kerb to utility room

STAIRCASES £5.12/m²
Oiled oak woodstrip flooring bonded onto ply forming treads and risers into painted softwood strings. Oak handrail on to painted steel brackets. Painted ply balustrade into mild steel flat framework

EXTERNAL WALLS £87.72/m²
Tongue-and-groove western red cedar boarding over battens and waterproof breather paper on to 225mm solid 3.5kn aerated concrete blockwork and lintels. Three-course stock brickwork plinth on to ground beam. Fibre-reinforced, self-colour render on to stainless-steel carrier system to garage/porch/wall areas

WINDOWS £57.37/m²
Thermally broken, polyester powder-coated aluminium windows and screens with double safety-glazed units and solid oak vent panels

EXTERNAL DOORS £5.31/m²
Oiled oak purpose-made front door. Aluminium automatic up-and-over garage door

INTERNAL WALLS AND PARTITIONS £11.60/m²
Aerated concrete block partitions

INTERNAL DOORS 13.41/m²
Oak-veneered solid core doors generally into painted soft wood linings with exmet architrave beads. Oak-veneered sliding screens to dining/play area. Laminated MDF sliding screens to kitchen/living room

INTERNAL FINISHES

WALL FINISHES £28.78/m²
Plaster and emulsion paint. Glass mosaic tiling to bathrooms. Granite splashback to kitchen

FLOOR FINISHES £54.10/m²
Oiled oak woodstrip flooring to ground floor with oak skirtings. Bonded sheet vinyl on to waterproof chipboard to first floor with painted soft wood skirtings. Bonded vinyl safety flooring to kitchen and bathroom areas, incorporating vinyl skirtings

CEILING FINISHES £15.46/m²
Plasterboard, skim coat plaster and emulsion paint with exmet bead 'negative' cornice detail

FITTINGS AND FURNISHINGS

FURNITURE £25.90/m²
Purpose-made veneered MDF kitchen units with granite worktops. Purpose-made veneered MDF wardrobes, cupboards, shelves and bathroom casings. Purpose-made oak-veneered storage unit in living room

SERVICES

SANITARY APPLIANCES £7.43/m²
White vitreous china appliances. Purpose-made shower trays with welded vinyl safety floor finish

SERVICES EQUIPMENT £16.91/m²
Fitted kitchen appliances

DISPOSAL INSTALLATIONS £14.25/m²
PVC-U pipes and fittings. Polyester powder-coated aluminium gutters and downpipes

MECHANICAL INSTALLATION £58.77/m²
Mechanical services including hot and cold water, gas, heating and ventilation installations

ELECTRICAL SERVICES £37.48/m²
Electrical services including internal and external power, lighting, TV, telephone, entryphone and intruder alarm systems. Low-voltage light fittings

BUILDERS' WORK IN CONNECTION £6.93/m²

PRELIMINARIES AND INSURANCES

PRELIMINARIES, OVERHEADS AND PROFIT £59.97/m²

CREDITS

PARDEY HOUSE, LYMINGTON, HAMPSHIRE

ARCHITECT
Pardey + Yee Architects
CLIENT
John Pardey
CONTRACTOR
Burt & Vick, Poole
STRUCTURAL ENGINEER
Albert Williamson-Taylor
PILING
Van Elle Piling, Alfreton
SCULPTURE
Richard Lawrence
RUGS
Helen Yardley
SUPPLIERS
pre-cast concrete floors Tarmac, *blockwork* Durox, *slate roofing* Eternit, *aluminium roofing and cladding* Broderick, *timber cladding* Meyer International, *render* Rendalath/Fibrerend System (BRC Spencer), *windows and doors* Glostal, *garage door* Catnic, *gutters & copings* Cannon Rainwater Systems, *block paving* Marshall, *oak flooring* Junckers, *vinyl flooring* Altro, Bonar & Flotax, *sanitary ware* Twyfords, *lighting* Itre, iGuzzini, *boiler* Stelrad, *distribution pipework* Wirsbo, *controls* Honeywell, *radiators* Zehnder

EXTERNAL WORKS

LANDSCAPING, ANCILLARY BUILDINGS £6134.93
Gravel dressed driveway. Precast concrete paths and pavings. Freestanding cedar-clad wall and shutter. Children's play shed

Cost summary

	Cost per m² (£)	*Per cent of total*
SUBSTRUCTURE	78.65	11.32
SUPERSTRUCTURE		
Frame	14.98	2.16
Upper floors	21.05	3.03
Roof	75.49	10.87
Rooflights	1.62	0.23
Staircases	5.12	0.74
External walls	87.72	12.64
Windows	57.37	8.26
External doors	5.31	0.76
Internal walls and partitions	11.60	1.67
Internal doors	13.41	1.93
Group element total	*372.32*	*53.61*
INTERNAL FINISHES		
Wall finishes	24.78	3.57
Floor finishes	54.10	7.80
Ceiling finishes	15.46	2.23
Group element total	*94.34*	*13.60*
FITTINGS AND FURNITURE		
Services	25.90	3.73
Sanitary appliances	7.43	1.07
Services equipment	16.91	2.44
Disposal installations	14.25	2.05
Mechanical installation	58.77	8.46
Electrical services	37.48	5.39
Builders' work in connection	6.93	1.00
Group element total	*167.67*	*24.14*
PRELIMINARIES AND INSURANCE	59.97	8.65
Total	*694.30*	*100.00*