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New meanings from old buildings

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The three modest house projects described here are by three fellow travellers – the two authors and David Lea – interested in the Organic side of Modernism. Conversational partners who have worked together in various capacities over many years, they share a common conviction about ‘working with the given’ (pp.305–311).

John Sergeant's house in Royston has the distinction of the most apparently unpromising starting-point. His pair of derelict sheds set behind the village street seemed neither attractive nor significant, and would almost certainly have been pulled down by any other architect or builder to yield a *tabula rasa* for a conventional house. Yet Sergeant kept the old structures and allowed them to inspire a very unusual house. Its intriguing and mysterious character reflects its origins as the factory for the first London Taxis, a unique aspect of the village's history preserved in the house's name and form.

Peter Blundell Jones's conversion of Padley Water Mill (Davey, 2001) appears so picturesquely blended with the landscape that little seems to have been done, yet the building involved more time, effort and money than a new-build. It was gutted and replanned internally accepting the given volume and fenestration, with adjustments to gain light, and since it had been part-buried in spoil over hundreds of years its relationship with the ground had to be renegotiated on every side. There was also a huge pond to be rediscovered and repaired. As it was listed as a protected monument (Grade 2)¹ painful negotiation with the planners was required, to dissuade some that playing eighteenth-century miller was the automatic solution.

David Lea's house extension (Blundell Jones, 1999) is new build, but on the end of an existing cottage which the new accommodation threatened to overwhelm. He eschewed the ‘obvious’ solution of extending the existing building to the same section, instead making a fruitful contrast between new and

old, with roofs at similar pitch but handled in quite a different way. The client is an organic farmer and wished to use oak trees from his own land. They appear both as exposed frame and in doors and other joinery, dominating the new building visually and through their vanilla-like odour.

Peter Blundell Jones

John Sergeant: The Old Taxi Works

(reviewed by Peter Blundell Jones)

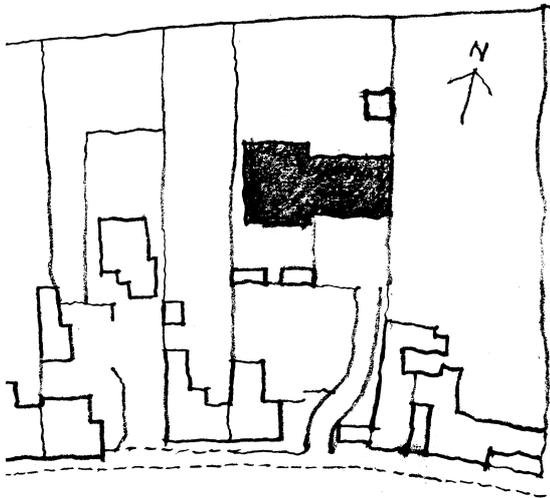
Bassingbourn is a linear village a few miles north of Royston set in a flat agricultural landscape. The backland site [Fig. 2a] north of the High Street is approached by a short drive and looks out to fields behind. It was occupied by a pair of industrial sheds in a ruinous state which most architects and developers would have demolished without a second thought. Lacking ‘special’ architectural features and even reliable weatherproof fabric, it was clear that little or no money would be saved by preservation, and the spaces seemed unpromising. Adopting the buildings even meant facing potentially expensive planning and pollution problems. Yet they carried the memory of an unusual local industry as the assembly site of London's first motorized taxis.

An orchestrated sequence

Sergeant was intrigued by what might be done with the two volumes and the site areas left over [Figs. 2b–d]. He sought to avoid the weakness of many if not most barn conversions: the contradiction of the building's scale by chopping into cells to make it

facing page

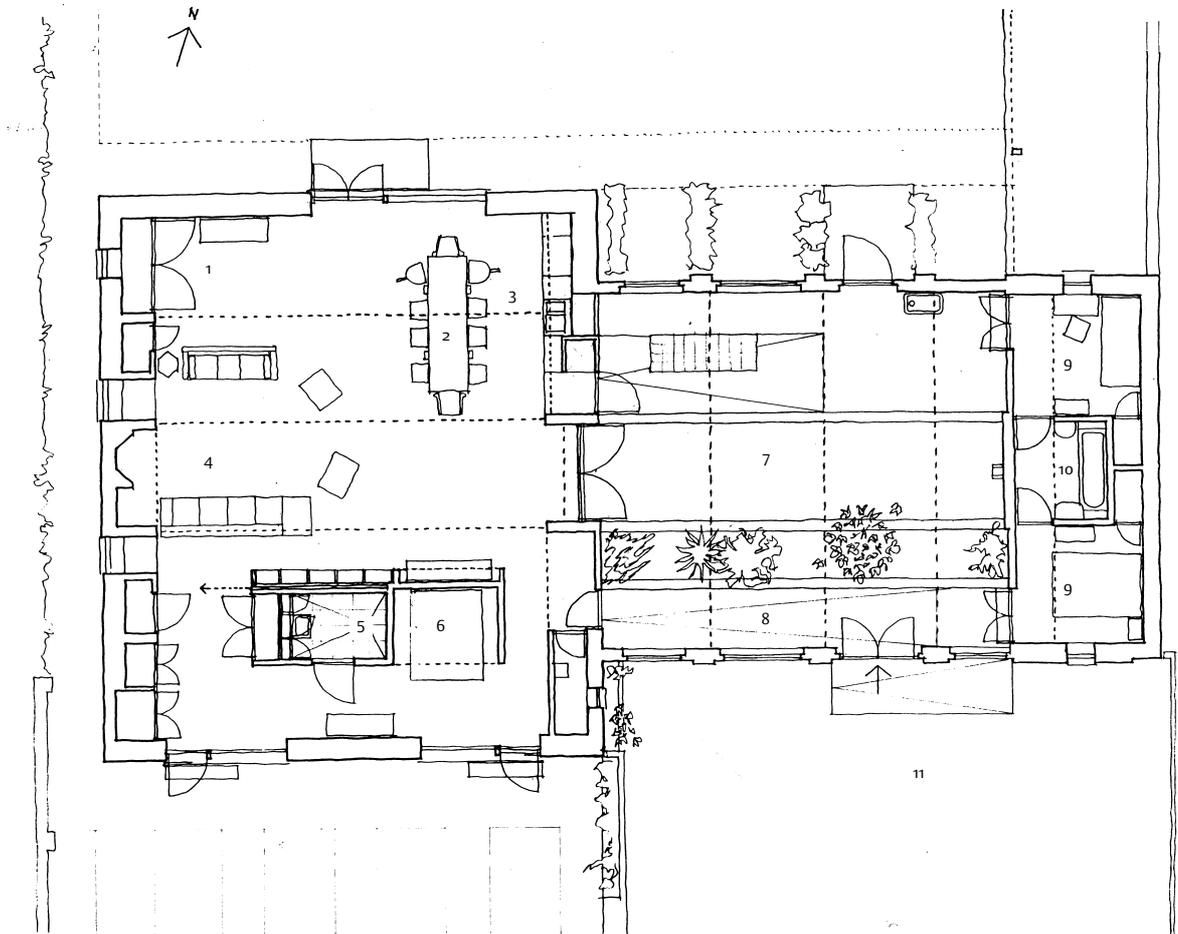
¹ Once an engineering works where the first London taxis were designed and built. Now the vestibule to a house. View from the living area, looking along the pool towards the guest accommodation at the far end.



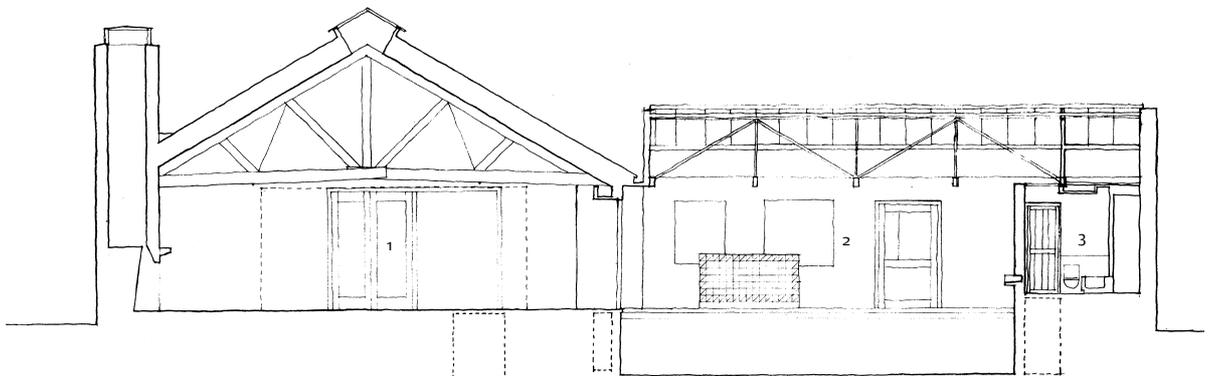
- 2 Two ruinous buildings saved and adapted
- a Location plan in Bassingbourn
- b Plan
- 1 Drafting area
- 2 Dining
- 3 Kitchen
- 4 Sitting
- 5 Shower room
- 6 Bed niche
- 7 Pool
- 8 Ramped gallery
- 9 Guest rooms

- 10 Guest bath
- 11 Entrance court
- c West-east section
- 1 Main house
- 2 Pool
- 3 Guest bath
- d Axonometric from south-west with, lower left, raised vegetable beds and, right, entrance court. The pergola link to the old shed can be seen top right

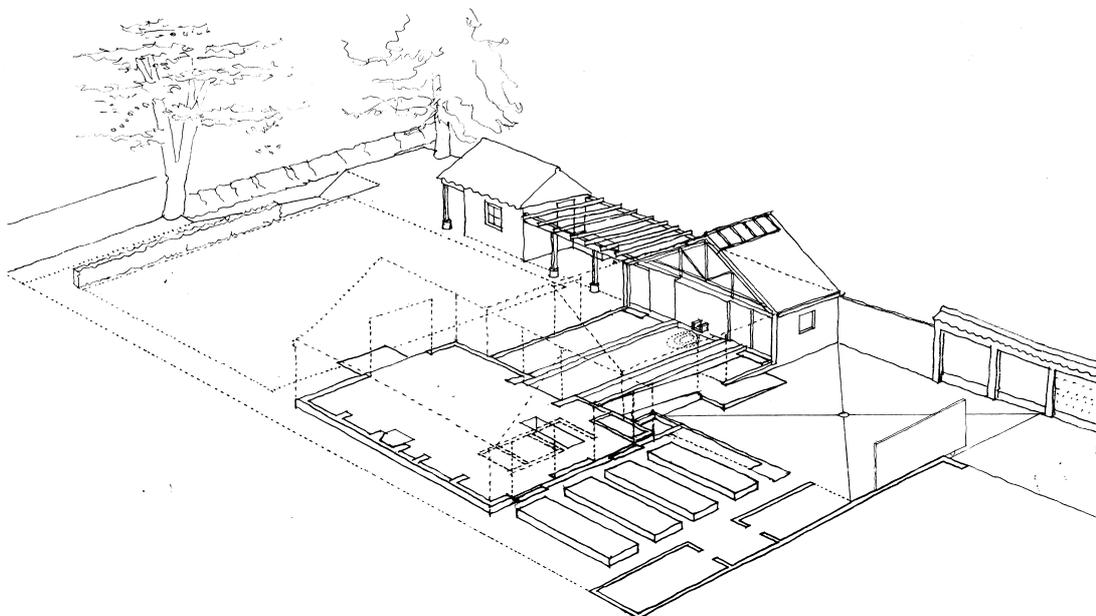
2a



2b



2c



2d

conventionally house-like. Instead he kept his main volumes intact and exploited the wide spans. He turned the narrower east-west volume into a vestibule and greenhouse with a small swimming pool, placing independent guest rooms at its east end. The larger volume became the house proper, its ceilings following the rafters to create a high space, exposing the old timber trusses and admitting daylight from the glazed apex. The larger part of this second volume was given to living and eating while the southern end is the sleeping area. The remaining site areas became three outdoor rooms: arrival court to south-east, walled vegetable garden to south-west, and main garden to north. The whole territory presents itself as an orchestrated sequence of in- and outdoor rooms. Even the humble shed to north-east takes a space-defining role, linked to the main complex by pergola and barbecue area.

From Bassingbourn High Street you see only a wall-flanked drive slipped between houses. Take it, and you arrive promptly in the square court behind [Fig. 3]. East and west are contained by walls, while the visible gable of the main house to left gives little away. Entry is via the vestibule building with its brick walls, corrugated tin roof, and steel-framed early twentieth-century industrial windows. Once commonplace but now rare, their utilitarian air and odd scale produce a slightly mysterious facade.

An elemental opposition

You arrive in a brightly daylight space [Figs. 1, 4a and b] dominated by the central pool and the sound of circulating water. There is no scent of chlorine, for the pool is filled with rainwater, conventionally sand-filtered and treated by ionizer. Beside the pool are exotic plants, those to south in permanent beds, to north in movable pots for over-wintering. Overhead is the old composite timber and steel truss roof, its apex bearing a continuous run of automatically opening greenhouse lights. Placed axially within its own volume, the pool aligns itself

with the central bay of the house, stating the axis of the whole T-shaped plan. An elemental opposition of hearth and water source – hearth to west as focus of the living room, water source to east – is the defining idea of the whole project, which also gives the relation between the two volumes a new *raison d'être*. The spaces are linked axially by double glass doors, the crucial threshold. These allow a permanent view from one space to the other, but with them open you can plunge from the living room into the pool. In summer they remain open, the building vented by the open apex; in winter they are opened temporarily after sunny days to transfer solar gain.

The pool and its attendant planter force a left turn into a ramped gallery leading to an inner vestibule. Here one encounters the main volume [Fig. 5a], which opens up as one traverses the space. A generous full-height window, the largest in the complex, illuminates the dining area and connects visually to garden and fields beyond [Fig. 5b]. To right is the kitchen corner, to left the study area, on the axis the fireplace with its projecting settle. To left a private area is created with a free-standing bathroom and bed-niche – an aedicule or building within a building. Passages lead past this to either side, allowing a southward view into a small walled garden beyond where vegetables are grown in raised planters [Fig. 6a], but the bed is concealed by the corner, so privacy is not compromised. The roof trusses set a gentle bay rhythm: two for dining, one for hearth, two again for sleeping area and attendant circulation.

The south-facing vegetable garden contrasts strongly with the larger one on the north, an area of grass treated not as sterile monoculture of lawn but as a meadow [Figs. 6b and c]. It can be entered direct from the living room or less directly via the buffer of the vestibule building, for a door in the kitchen corner connects to the utility area north of the pool, the symmetrical companion space to the entrance gallery. Here gardening and workshop tasks are



3



4a



4b

achieved, and a door opposite the main entrance leads to the garden. The old shed, boundary wall and pergola create a sheltered corner exposed to the afternoon sun where herbs can thrive.

Representing and locating activity

The internal perimeter of the main house is treated as a thick inhabited wall, swallowing kitchen equipment [Fig. 7a], cupboards, the study desk, and

even the whole lavatory in a series of bays or cupboards. The north flank of the bed aedicule swallows yet more cupboards and shelves, and a sliding partition closes the west side to conceal the sleeping quarters on social occasions [Fig. 7b]. The character of the space and its uses are set by its colour and the changing treatment of its periphery, every metre of wall representing and locating some activity. The lime rendered walls, redwood partition



5a



6a



5b



6b

3 Court with main entrance doors to right and main house gable to left. The windows are original

4 Entrance vestibule/pool building
a View from entrance. Door to main house at left
b The doors to the pool are kept open in summer. In winter they are opened temporarily to transfer solar gain into the house

5 The main house
a View from entrance diagonally across main volume. Left to right: living area around hearth, drafting area with storage cupboard doors open and dining area
b The largest window lights the dining area and provides another diagonal view, over the flower meadow and the field beyond

6 Outdoor spaces
a Raised vegetable planters outside sleeping area
b Flower meadow. Beyond, left to right, the old hut, pergola and pool house
c Looking back over the garden towards the pool house (note ventilating ridge light) and the main house (reverse view to 5b)



6c

and grey-green floor contrast with the 'secrets' of vibrant colour in the 'servant' spaces. The thick walls, besides absorbing life's necessities, form an additional insulation layer and reduce the span of the trusses. This was necessary, for the truss ends were rotten, and the desired 300mm insulation layer could also only be added within the original profile by readjusting them. Instead of standing on the original brickwork, the trusses are supported by

buttress elements of the thickened wall.

In drawings and photographs the site seems flat and level, but actually the levels have been readjusted. Spoil from demolition and excavation – particularly the pool and a ramp down to the ditch at the north end of the garden – had to be disposed of. The place is on a flood plane so it was desirable to raise levels generally, and there was every reason to retain material on site, besides the expense and

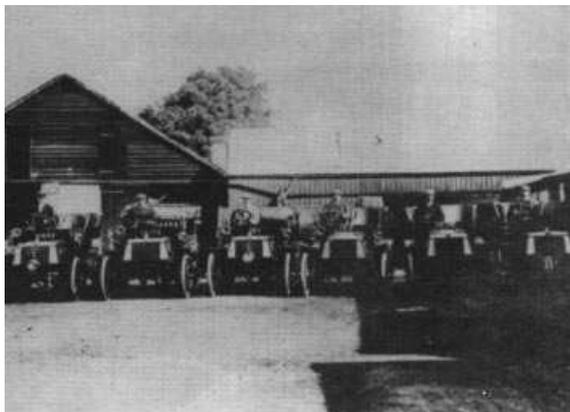
ecological incorrectness of removal to a dump elsewhere. The floor of the main house was achieved economically by incorporating the old slab as hard-core, casting a new one over it with membrane and insulation, then finishing with a screed containing heating pipes. These circulate water from a condensing boiler. The added floor thickness is the



7a



7b



8

7 The thick inhabited wall ...
 a ... swallows kitchen equipment and ...
 b ... the hearth and storage cupboards. The sliding screen can just be seen

projecting from the book shelving
 8 Memories linger – one can still recognize the place where the old taxis stood in this 1904 photograph

reason for the ramp up from the entrance – all other thresholds are negotiated by 20mm steel steps. The main garden was also raised. The decision to treat it as a meadow of wild flowers both reduces the work of maintenance and makes a virtue of the poor ground – rich soil would encourage the wrong flora. To avoid contamination from the site's industrial past (blue asbestos and foundry tailings) the vegetable garden has raised beds with specially prepared topsoil.

Exploiting opportunities

Materials throughout are used in a direct way, with large modern windows and no attempt to mimic the vocabulary of the old. Repointed brickwork and boarding display themselves outside, and the new industrial metal roof is functional and unobtrusive. Interior walls are finished with a natural unpainted render. The floor is a specially coloured and surfaced concrete screed mechanically floated in large areas between two expansion joints. Grey-green in colour, it offers a slightly polished surface and seems to be wearing well. Doors, shelves and other internal joinery expose the naked wood of two large trees which had both died. Sergeant offered to fell them in return for the timber, which was processed *in situ* by a tracker mill. One was a Giant Sequoia, the other a cedar of Lebanon. The first gave a wonderful rich red dining table, the second scents the whole interior.

The story of the trees epitomizes Sergeant's approach: to work imaginatively with the given, exploiting the opportunities life offers. Few of us live with real wood rather than MDF, let alone knowing what kind it is and where it came from. Fewer still know what the tree looked like and where it stood. What would have happened to the trees otherwise? If not lost as firewood, the planks would have disappeared anonymously into the market for structural timber, used indiscriminately here or there, or processed for furniture or strip flooring.

Interpretation, not opposition

The site was an even more important given, and the unpromising buildings would have been lost for ever had Sergeant not seen a way of reinterpreting them within his new programme. He does so in a way that makes the arrangements seem intended, without compromise. A convincing house with its two contrasting volumes, its relatively compact and super-insulated form also makes it very energy-efficient, the more so with pool/greenhouse as solar collector and climatic buffer. Yet working from scratch, Sergeant would scarcely have designed a house in this form. The whole design was a question of interpretation, not of imposition. And finally though it has a new identity, memories are still there: one can recognize the place in the photograph where the old taxis stood in 1904 [Fig. 8]. Stylistically the building is ambiguous, an odd hybrid, yet that is also what gives it a special character. It does not aspire to heights of beauty, and to imitate its forms directly would be senseless. Its lesson lies rather in the method and attitude, for if all architects were to work this way, there would be no problem of loss of place.

Peter Blundell Jones: Padley Mill

(reviewed by John Sergeant)

This is an encounter between a leading theorist of organicism (responsive design) and an abandoned Pennine mill. We are all familiar with the normal treatment given to converted mills and barns, their interior space blocked up, their exteriors suburbanized, and there will be many more as agriculture buckles under current strains; so this project has much relevance.

Padley is a good example of four square, three floor, gritstone vernacular, the key element in local eighteenth- and nineteenth-century industrial landscape-change [Figs. 10a-c]. In its first guise it is now an icon of Buildings-in-the-English-Countryside, and greets walkers from Sheffield as they start their tours of the Peak District. In its second it is a part of a profound and continuous re-design of nature, extractive and exploitative, which shows no sign of stopping. Blundell Jones' project is aware of both these qualities, and works with them to great effect [Fig. 9]. Both are part of the given, the point of departure for the three architects in this comparison.

Interior and exterior landscapes

The site [Fig. 11a] is 12 miles to the west of Sheffield over the moors, but simultaneously close to the city, since it is 100m from the main railway line east-west, at the point at which it enters a tunnel, 20 minutes from the centre of the city. The mill had a 4.5m backshot wheel, and water-power was once harnessed for bellows for lead-smelting, then from around 1750 to drive millstones to grind grain. It formerly contained three low, dark and deflecting floors, and by 1997 faced ruin. Before the change to family home it had been an ill-converted tea room, and its machinery had been removed. Outside, the mill pond had filled with sediment, and material from dredging and abandoned enterprises had covered the lowest windows and obscured the hydraulic interventions of dam and leat.

The architect has in effect worked in the manner of his hero Scharoun, whose authority he is,² and designed an interior landscape keyed to the valley outside [Figs. 11b-e]. The family now gathers to eat in a (rather vertical) valley excavated from the centre of the building, lit by a great glazed opening [Figs. 12a-c]. Its members retire to terraces around this, and the adults pilot the enterprise up-valley from their individual studies, one to each side. The new window (a source of much negotiation with the National Park planners) [see also Fig. 9] captures a view of small-scale, steep, wooded hillside. The principal private view is therefore to the north, a feature common to both Padley and Bassingbourn.

Topographical moves

This interior valley runs right up to the roof, is directly accessed from outside and contains the stair. Its foot, the old first floor, has around it the kitchen and children's and guest rooms. Its vertical placement, a metre above the lane but 2m below the dam, means that its view is upward to trees and sky;

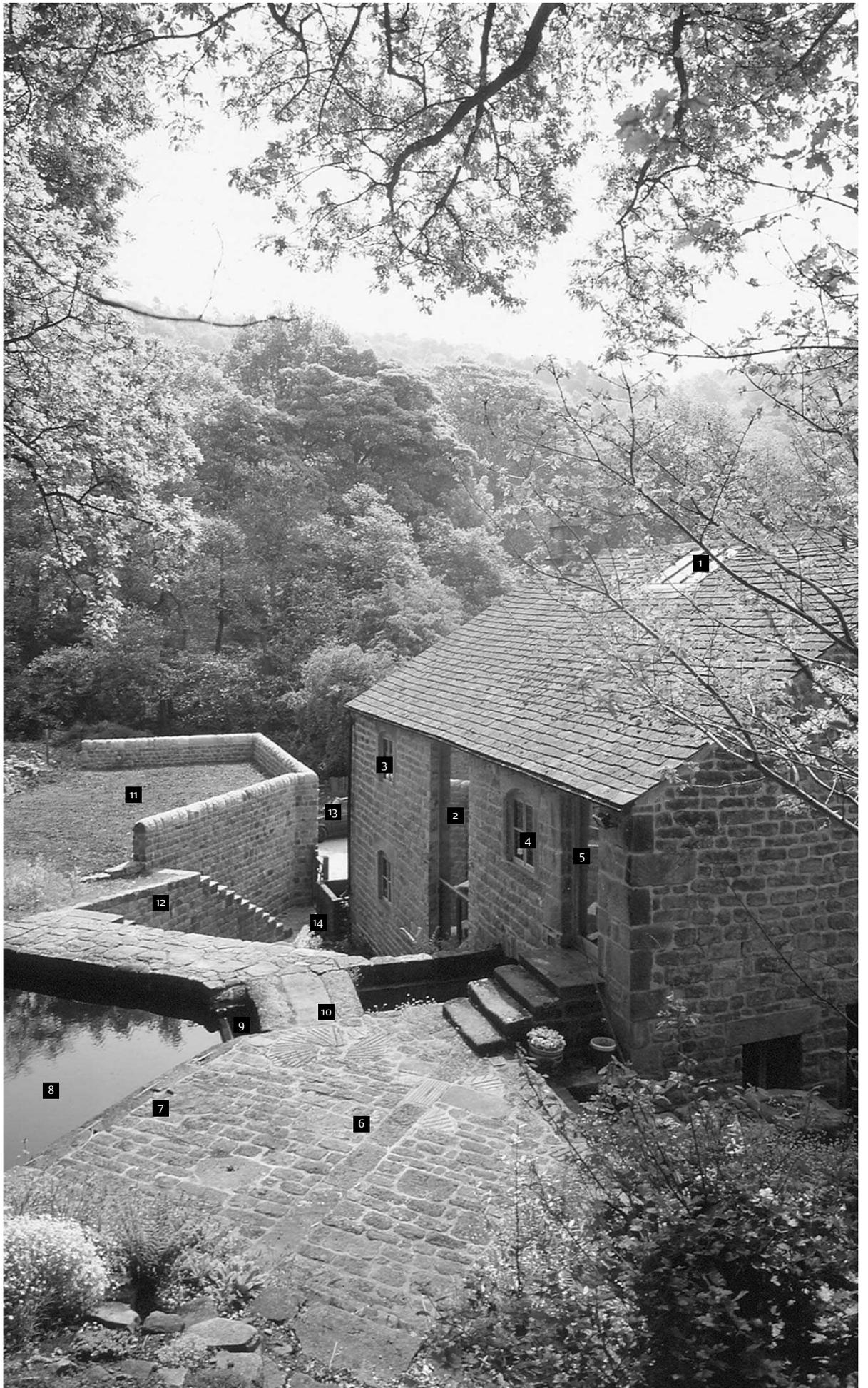
it is the kitchen, acting as a spectator to the central space, that is keyed to the water. A new 25mm thick glass opening aligns precisely with the mill race, which allows a view of water surface and peaty depth beneath from, provocatively, the worktop behind which it is placed. The physical forces of the valley are literally gathered up at this point, and below two giant stopcocks direct the water to the capacious wheelhouse beneath (the remainder of the basement is now used as workshop and store) from where it returns to the river to the south.

An important secondary decision follows this topographical move. A new steel structure was necessary to support the existing beams which had rotted ends and serious deflection [Fig. 13a]. Had its chosen form, a metallic spine, assumed its natural physiological position it would have clashed with the mill's existing entrance, so Blundell Jones has swerved its alignment. This introduces an angled approach and makes a gesture of welcome: the stair offers itself to the hand and eye and a ricochet of deflections follows [Fig. 13b]. The quarry tile floor, set on the alignment of the old building, sets up a curious aperspectival experience, giving complexity with the simplest of means. The back surface of the 'valley' is angled throughout its height and this activates all levels. The first floor landing narrows as it approaches the living room and causes the built-in leather sofa to fold back in response, likewise the study behind focuses on the desk with its internal window back to the key space.

Negotiating connections

The first floor forms a platform, or theatre balcony, around the central void, terminating in a double-height living room aligned on an existing fireplace. It is contiguous with the parents' territory; two studies respectively dedicated to Art History and Architecture, and a generous bedroom facing south over the entrance lane, and down-valley. Sliding doors concealed within the walls allow less or more privacy. Because the bedroom and bathroom area has low ceilings (and attics above) the living room has been thermally isolated from the void by glazing in one of the two roof trusses, which together define the spaces. The attic can be reached by a ladder-stair continuing the main stair beneath, and the 'valley' is crowned by a skylight set to the north slope of the roof. The basement, a further distant territory, the memory of wheel-power, can be reached by a fourth flight hidden beneath this chief orienting element. Outside it on the south side, Blundell Jones has made a sunken yard at original ground level, building a retaining wall against the later elevated lane, so this basement work area is well lit.

Finally the interior levels have had to negotiate connections with the radically redefined 'ground' outside [Figs. 14a and b]. The kitchen leads to an existing open well with steps, and these in turn lead to the terrace around the millpond above. This is undoubtedly the critical level, constituting both dam and central promenade in the landscape [see also Fig. 9]. It will be reached directly from the lane by double stair and also by a short flight from one of



9 Padley Mill north side with alterations keyed

- 1 Main rooflight
- 2 Large central window replacing door and modern window
- 3 New oak casements in original openings
- 4 New stone surrounds to modern window opening
- 5 Solid door glazed and steps adjusted to floor level
- 6 New paving with old stone found on site

7 Paving taken to dam edge

- 8 Filled dam excavated and water system restored
- 9 Waterfall restored
- 10 Pentrough and pipes through kitchen restored
- 11 Underground garage constructed with roof lawn absorbing soil excavated from dam
- 12 Triangular court excavated and stairs formed with stone

from site

- 13 Gap created by 12 avoided breaking mill corner and created garden entrance
- 14 Stone tank discovered during excavation resited to collect roof water

- 10 A good example of the four square gritstone vernacular, a key element in the local landscape.
 - a The mill, before ...
 - b during and ...
 - c after conversion



10a



10b

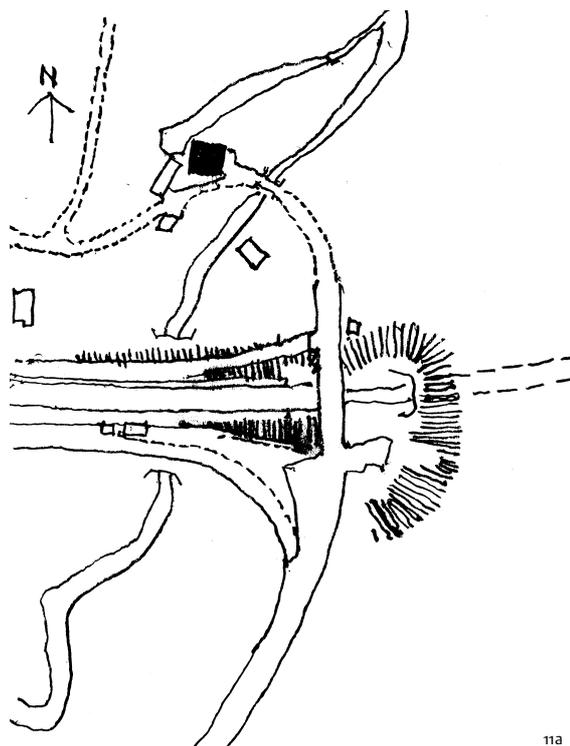


10c

the two studies. A ruin to the east has been recast as log store and herb garden, and together these form a fourth external platform, which will be linked eventually by a metal bridge to the first, internal, floor. The whole ensemble of levels will become a wrapped, intertwined spiral, a kind of joyous but solid, very Pennine, dance.

Appropriate and modest

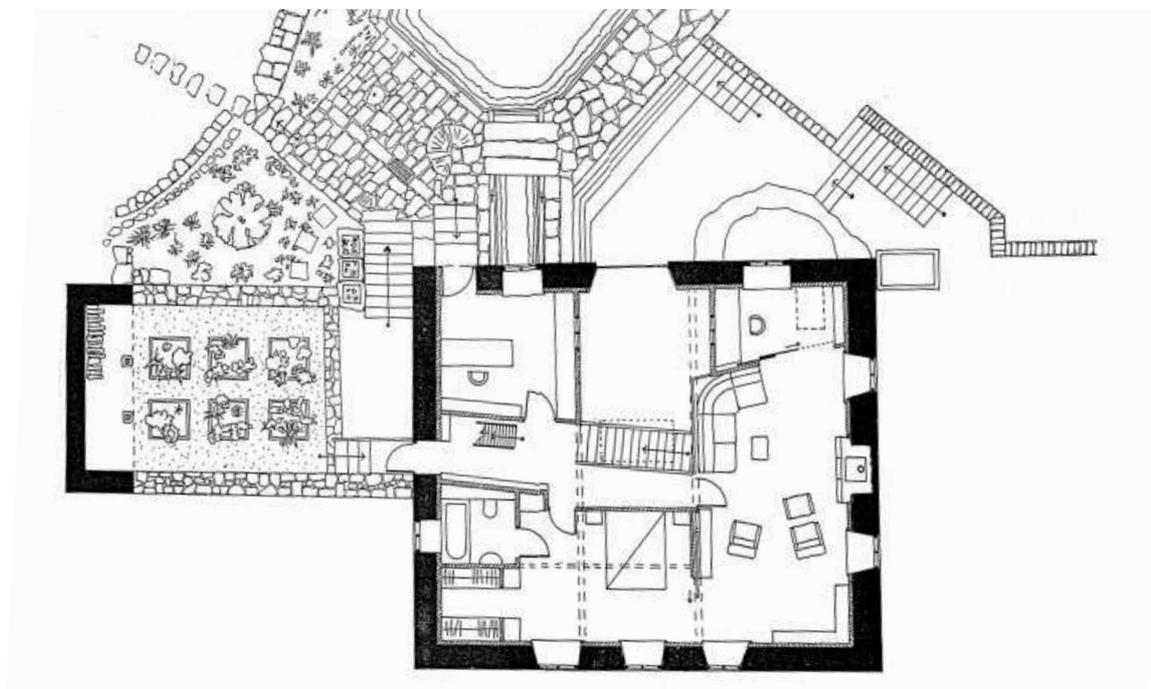
The material execution of the project is direct and original. The gritstone walls are everywhere primary;



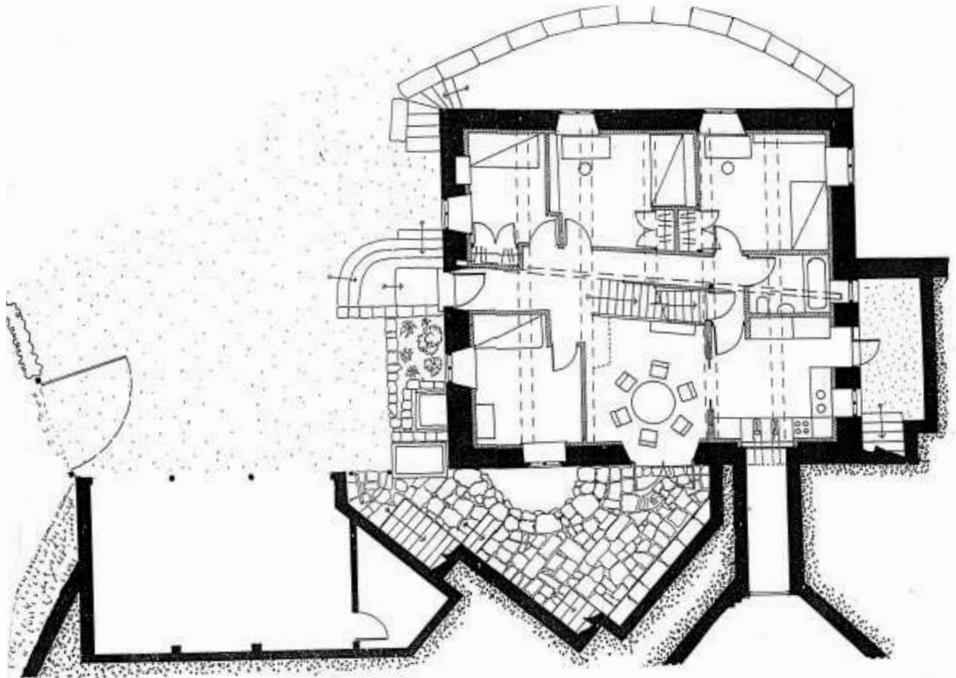
11a

gritstone is just that, able to sharpen a knife in few passes. Millstones, troughs, paving (riven Yorkshire stone), and retaining walls have all been given new life. The interventions are appropriate and modest [Fig. 15b]. Quarry tiles are used throughout for the new, integrally heated floors, and natural timber for doors and windows, oak outside and beech in. Doors are not traditionally framed, ledged and braced, but instead vertical boards are fixed by countersunk bolts to galvanized steel straps continuous with the hinge; these have tapped, welded steel dowels and dispense with diagonal bracing [Fig. 15a]. The result is very elegant, but it must be said that hot-galvanizing distorts small steel sections, and much skill must have been required, both with the stops and Suffolk latches. Here, and in the new industrial penstocks for water-control, the steel-working traditions of Sheffield have been recognized. Insulation has been introduced by packing out the interior walls to accommodate 100mm Warmcell finished with 25mm woodwool to key the 8:1:1 silver sand: lime: white cement finish. This gives a lively light. Points of body-contact are recognized with the oak stair-handrail, buttery hide sofa [seen in Fig. 12c] and sparkling coiled mosaic in the bathroom floors, by the artist Elaine Goodwin. The idea of taking out a single contract for the work was rejected as it would have had to include gutting the building, and many unknowns were anticipated. In the event the project was totally realized by day-work.³

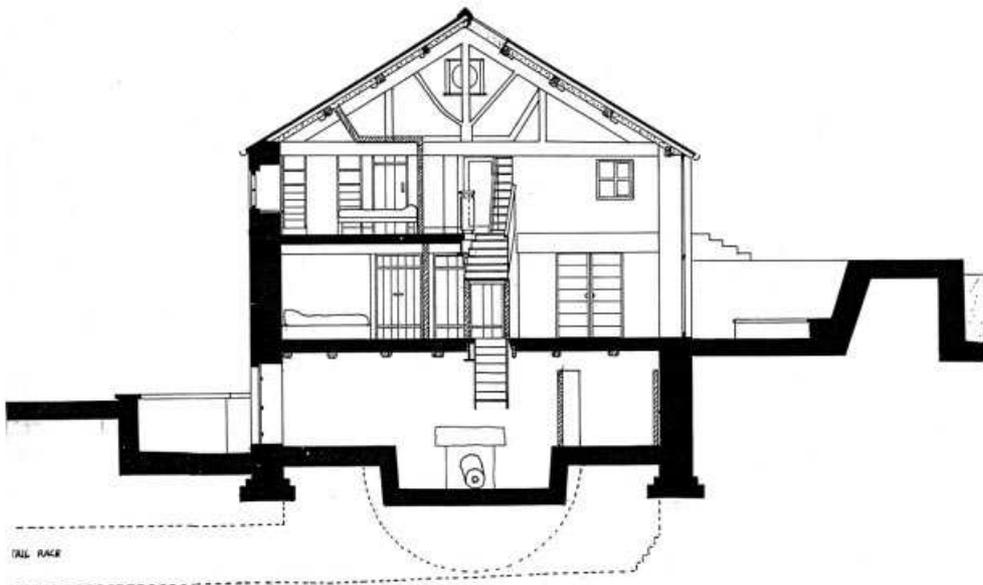
11 An organic solution
a Location plan
b First floor plan
c Ground floor plan
d Cross section
e Long section



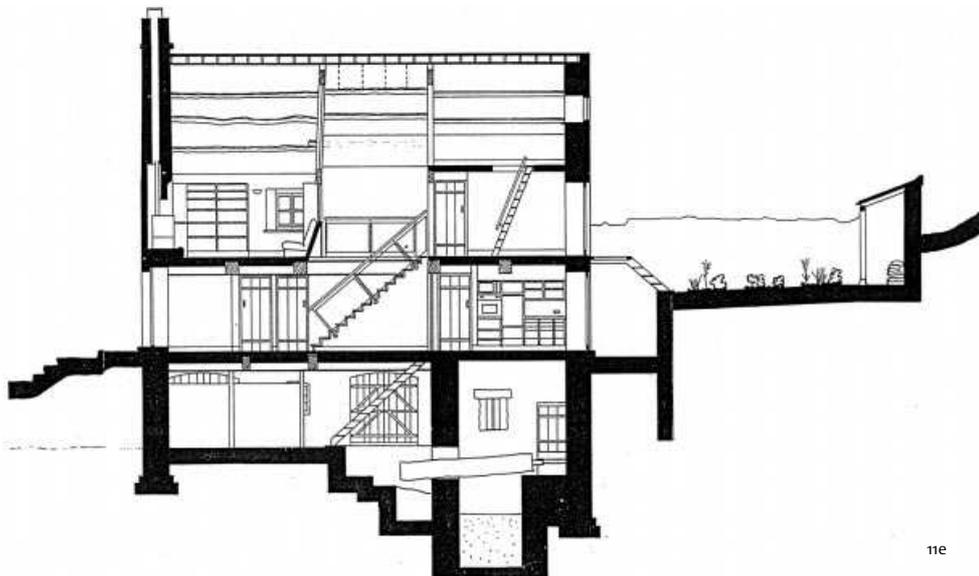
11b



11c



11d



11e



12a



12b



12c



13a



13b

12 The vertical valley excavated from the centre of the building
 a View from window of dining area with, above, terraces to each side
 b The large new north-facing window captures a

view of the wooded hillside. The small window looks out from one of the parents' studies
 c Attic level view into the valley. The living room with its curved leather sofa can be seen through the glazed screen.

The other parental study is at far left

13 The topography of the entrance area flows from the alignment of the structure
 a The gutted mill interior showing the new beam which

Unsentimental care

Landscape works were for a time mired in officialdom, but planning permission was finally obtained for a new manipulation of levels. The millpond has been dredged for the first time in probably a century and Blundell Jones has formed an augmented platform at the level of the dam with the spoil. Because this is high in nutrients it will be too rich for the wildflowers which are elsewhere being encouraged, and this artificiality is being exploited by planting a lawn with a new garage concealed beneath: this strengthens the special quality of the modified landform, but caused problems for the planners. The enthusiastic support of the Peak Park



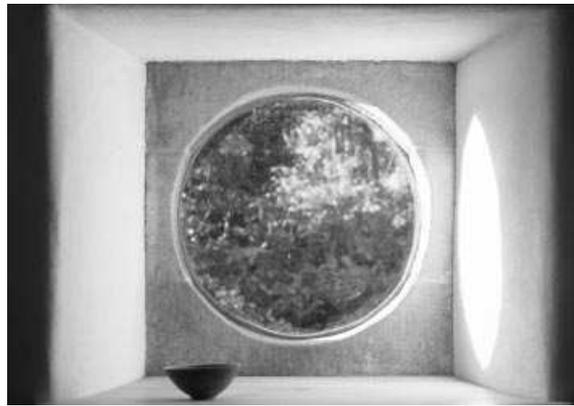
14a



15a



14b



15b

runs at an angle from the main entrance door and supports the sagging beams
b From the entrance, the stair offers itself to the hand and a ricochet of deflections follows

14 Interior levels negotiate

connections with the radically redefined ground outside
a Entrance court off lane with, right, new garages
b The fourth external platform with the log store and herb garden

15 Material execution is

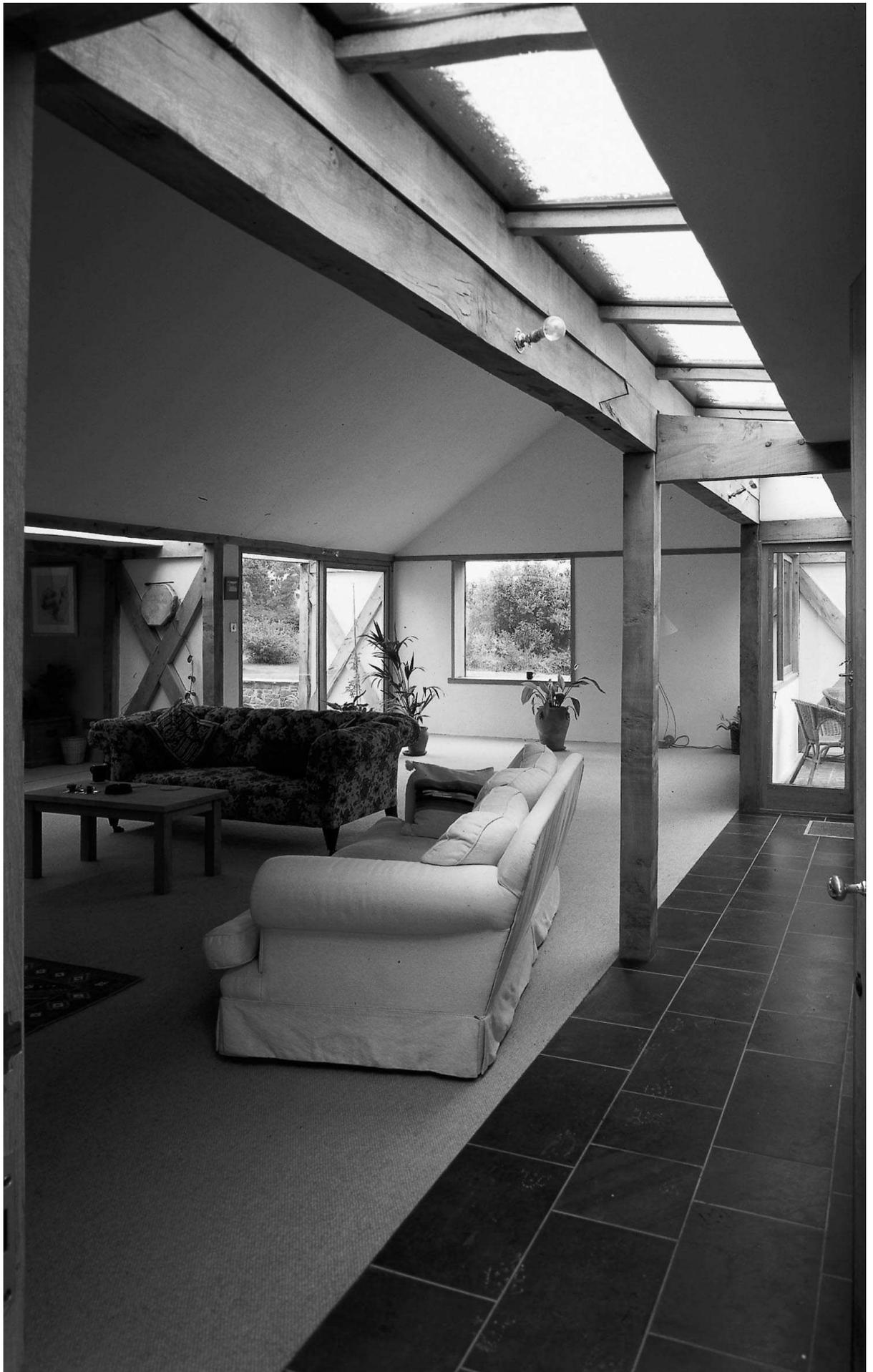
direct and original
a Front entrance door showing vertical boards fixed to straps. Note letterbox flap
b Direct glazing to small circular attic light in west gable

16 The newly dredged millpond seen from the terrace



16

architect was nonetheless enjoyed throughout. Derbyshire meanwhile literally excavates itself more than any other English county; ridges or trees screen vast quarries which transform and remove land. There is an imbalance here as elsewhere, between large economic forces (speculative housing) which is allowed, and sensitive design, which attracts opposition. All buildings modify the site as given, and removal of excavated waste is now financially and ecologically a central issue.⁴ We need to consider the material removed by our activities as a possible form-giver rather than unwanted export, and in this final detail as throughout, Padley Mill demonstrates an unsentimental care for the spirit of the place.



David Lea: The Segger House

(reviewed by Peter Blundell Jones)

Peter Segger is a successful organic farmer and distributor of organic produce. He was drawn to Lea by a mutual interest in natural farming methods and green philosophies. He and his family had outgrown, and therefore needed to extend, a typical three up, three down Welsh stone cottage. Standing in the middle of the farm, it is approached via a slightly sunken lane flanking the north side, and has an old farmyard serving for parking to the north-east [Fig. 18a]. To the south, the land rises to become a field. Built probably in the nineteenth century, the cottage has a formal front to the west with symmetrical sash windows, and originally it had a central entrance [Fig. 18c]. This contrasts with the informal back, largely solid wall but with a half-height window for the staircase. The roof is a double-pitch in slate, with a chimney in each gable.

Practically, it would have been easy to add more southwards on the same profile, but this would have destroyed the simplicity and scale of the cottage, producing a chain of rooms with the same outlook. Lea did something less obvious. He more than doubled the plan length and also made the extension twice as wide [Fig. 18b], but kept it to a single storey and roofed it with gables smaller than the original and of similar pitch. These gables run crosswise rather than along the building, and they progress from small to larger before meeting the cottage, the ridge of the larger not quite reaching the level of its eaves. The scale and angle of the new pitched roofs was only possible by adding flat areas in between. These are not the felted bodge-ups found in so many modern roofs but deliberate areas of lead valley and glazing to light the deeper parts of the plan. They fall into strips in a Kahnian rhythm of served and serving spaces, meshing with the organization of the structure [Fig. 17]. For despite the apparently reticent and traditional appearance of the building, its internal spaces are fully Modernist in inspiration.

Kahnian organization

The old cottage is a wall building with window holes. New stone walls do protect the extension towards east and south, but they are free-standing space dividers like garden walls, and where the house extension meets them it has its own dry internal lining. The structure of the extension is actually a green oak frame [Fig. 19b] standing on an insulated concrete raft, and the thrust of the two small slate roofs is taken not by the usual ties – which would break the internal space – but by a series of St. Andrew's crosses which transmit the lateral forces to the slab [Fig. 19b]. The structural crosses, doubled oak columns, glazed areas of roof, and b-a-b-c-b north-south rhythm of the plan are therefore all part of the same Kahnian plan organization which produces two major volumes (under the pitches) and three minor ones. The larger of the two main volumes next to the old house is the main living room, culminating in its fireplace and chimney

[Figs. 17 and 20a]. The other is the new master bedroom and office [Figs. 20b and c]. The narrow strips of space in between – serving spaces in Kahnian terminology – are low and daylight but also transitional. The one next to the old cottage produces the transitional space between the two buildings, but also two roofed porches to the sides. The middle one produces a passage and a further porch facing south. The end one produces light for the internal bathroom.

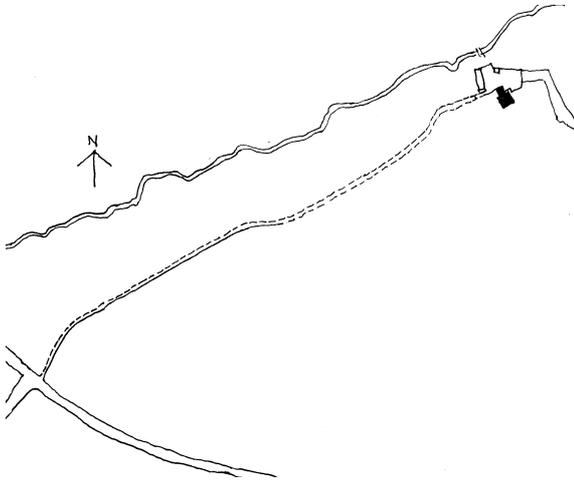
The liberation of frame from walls allows fully glazed bays, unthinkable in the technology of the old cottage, but the three pairs of glazed double doors bringing full modernist transparency do not open to the fields [Fig. 21a]. Rather, they open into protected little courts, contained outdoor rooms [Fig. 21b]. The only 'picture windows', in contrast treated as holes in the wall, occur in the west walls of the most important spaces – the living room and bedroom. These are relatively thin rendered walls, contrasted deliberately with the thick solid stone walls growing out of the ground which interpret the setting. The rendered walls belong to the frame.

Turning to the plan, we can observe four bays in the east-west direction. The living room takes three, leaving the easternmost to utility rooms and offices. The bedroom takes the middle two, echoing the width of the old cottage and leaving the east one for the office, the west to a small open terrace. Within the bedroom, the second bay is occupied by a special aedicule, a kind of house within the house containing the marital bed, focus of the home, and the adjacent bathroom, place of maximum privacy.

Construction and materials

Wherever possible Lea employed local materials: oak from the client's adjacent land was used not only for the green oak frame but also for the joinery, all left natural [Fig. 22]. Lea is adamant about leaving timber untreated to age as it will, for preservatives both arrest the natural ageing process and introduce toxicity. The stone was local and the roofs finished in Welsh slate. Slate is also used for copings and some floor finishes. Clad walls were finished in a natural sand-lime render, limewashed on the inside. This produces a natural wall surface without the artifice of modern paints. Sheepswool was incorporated as insulation, but as there was not enough it was topped up with Warmcell, recycled paper. To reduce energy consumption as far as possible, 300mm of insulation was applied to the roof and 200 to the walls. Lea's careful design prevents the roof thickness being anywhere visible, unlike some other 'ecological' houses where it seems clumsy and ugly. Along the eaves of the new roofs it just provides enough depth for the slope needed to absorb rooflight and gutter. But if the most visible materials are local and traditional, this is not the case with all of them. Large double-glazed windows are accepted, as well as low E double-glazed units for the rooflights, incorporating toughened and laminated glass panels. The gutters are lined with welded stainless steel and the flashings done with lead. Heating is supplied through an under-floor system of

facing page
17 In the Segger House, strips of glazing mesh with the structure and illuminate the deeper parts of the plan

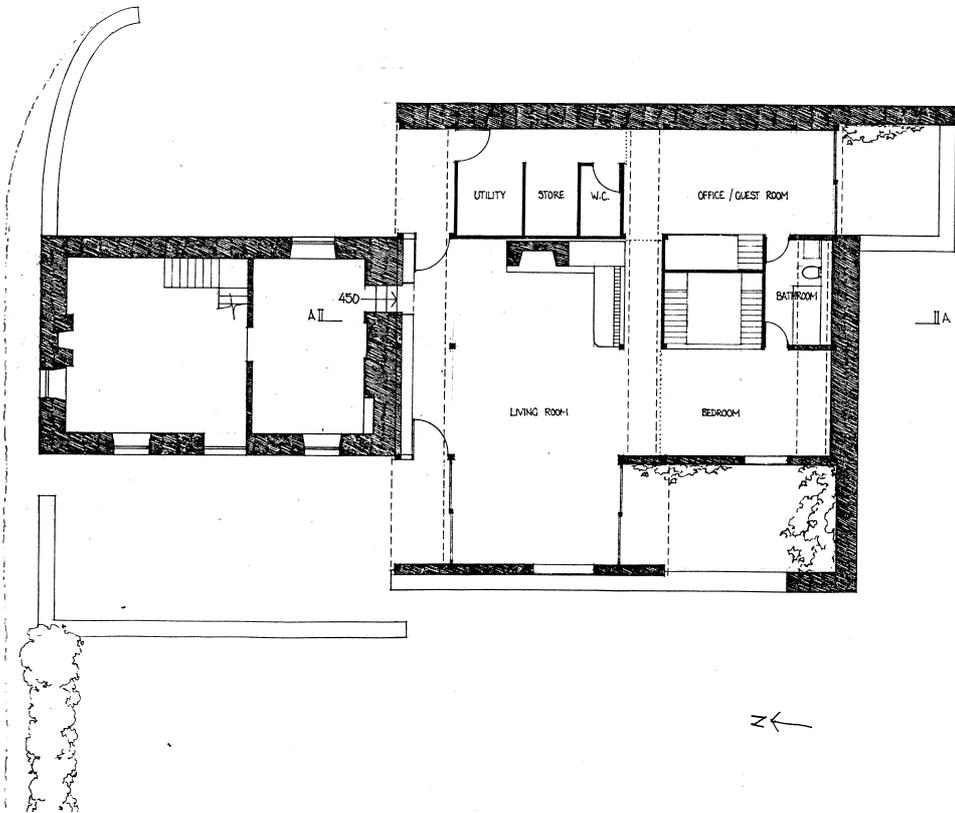


18 Located in rural Wales, the house is sited at the centre of an organic farm
 a Site
 b Plan
 c West elevation

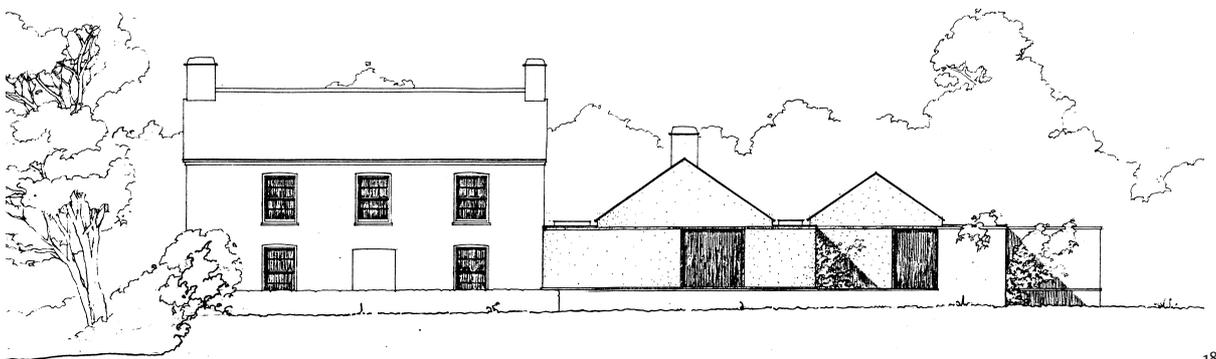
a Plan of extension showing the deep framed wall sections – some of which abut free-standing new stone walls
 b Section revealing two major volumes and three minor ones. Note thickness of insulation

19 The green oak structure is organized on b-a-b-c-b rhythm

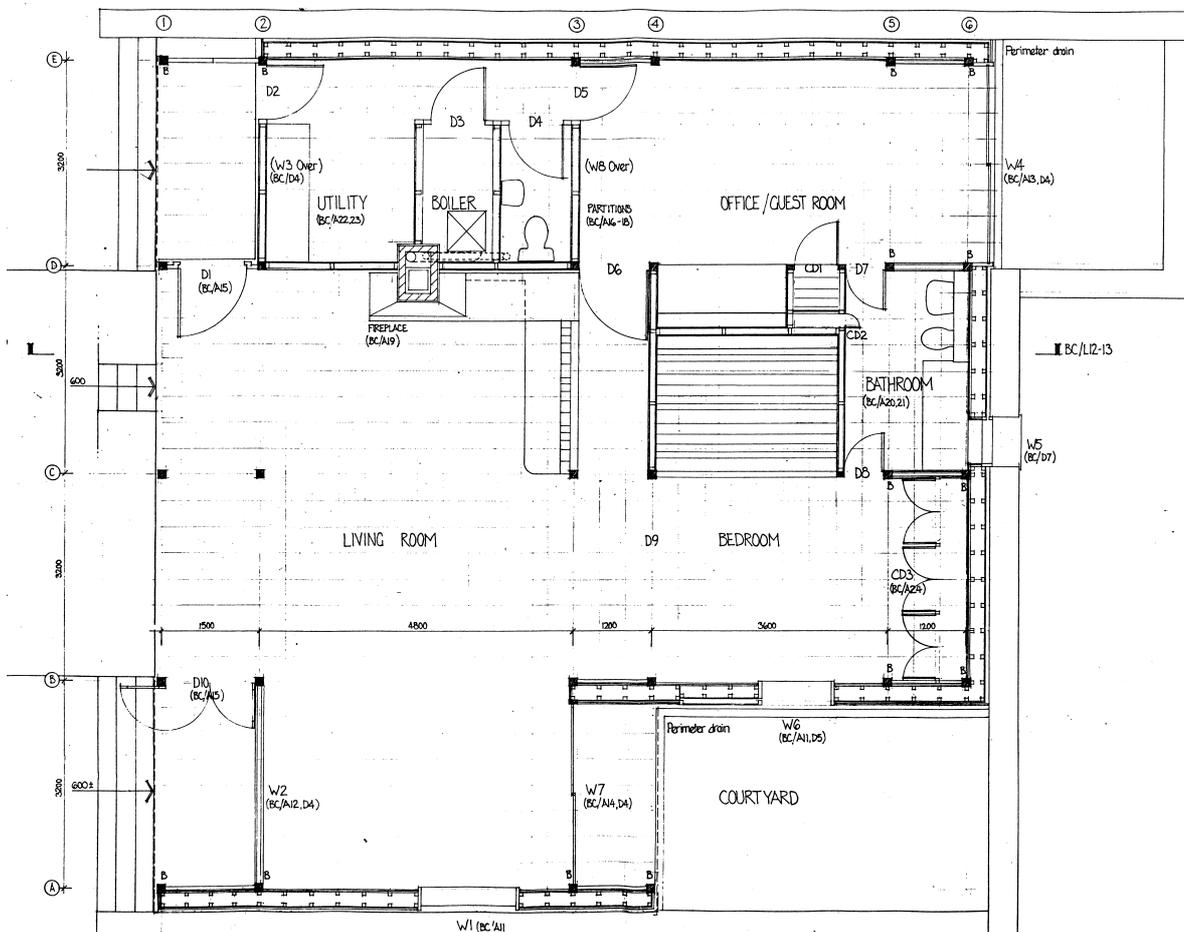
18a



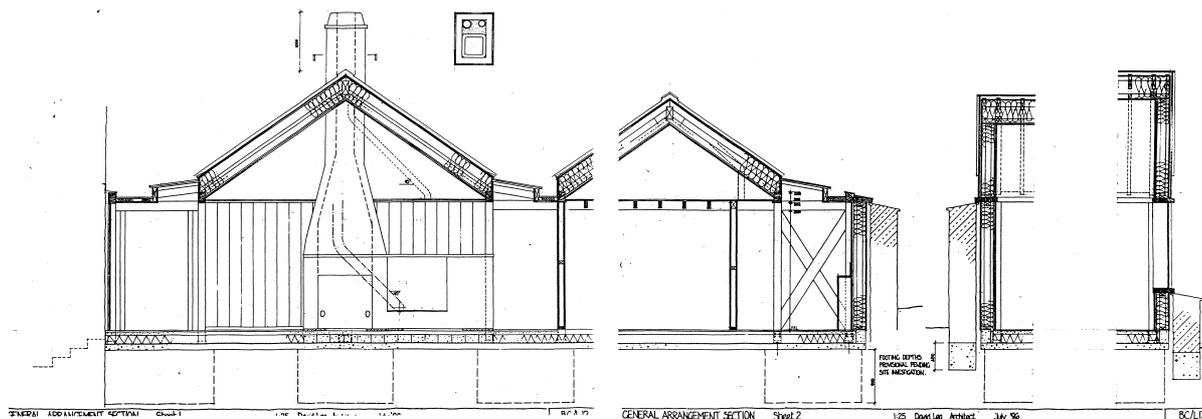
18b



18c



19a



19b

plastic pipes fed by a condensing boiler and helped around the circuit by electric pumps. Numerous details could belong only to the late twentieth century.

Modest and anything but traditional

The more one looks at the building, the greater the contrast with the old cottage. In terms of light, structure, and indeed its whole tectonic concept it owes nothing to the mother building. The planning, too, is anything but traditional. The play between directions and the containment of space with free-standing walls suggest links with Mies (the Brick country house, the Barcelona Pavilion) and with

Frank Lloyd Wright (asymmetry and shifts of axis). The alternating bays, and the idea of served and serving spaces show the influence of Louis Kahn, a rich source which Lea has mulled over in a whole series of projects. The Kimbell Museum, with its long vaulted bays divided by narrow strips of servicing has been a huge focus of speculation. Not only did Kahn make wonderful architecture out of the rhythm of servicing provision, he also stretched to extreme the difference in span between one axis and the other, producing an unexpectedly powerful contrast between the experience of moving with the vaults and that of crossing them.⁵

The interior of the new Segger House is dramatic



20a

and generous, a fine flowing sequence of spaces wonderfully lit. The ubiquitous presence of solid naked oak is a visual feast and leaves a lasting impression, its grain revealing the growth of decades and the twist and turn of the trunks. This reminder of the nature of wood makes the everyday world of chipboard and laminate seem even more tacky on one's return. From the outside, the cleverness of David Lea's design is that it seems remarkably modest. In form and organization it complements the old cottage wonderfully, reinterpreting its relationship with the surroundings in a positive way. The cottage retains its identity, and the two roofs in the other direction echo the old one enough to suggest kinship without mimicry. The use of screen walls around the terraces allows the generous glazed doors to be absorbed visually without presenting themselves as 'window', so the difficult question of relating fenestration in new and old is largely sidestepped. In wet Wales the light is the most surprising thing, for even on a dull day the strips of daylighting make it seem cheerfully bright: my photos were taken on a rainy day.



20b



20c



21a



21b



22

20 The three served spaces
 a The living room. The entrance to the cottage can be seen between the two columns in the centre
 b The master

bedroom. Part of the bathroom can be glimpsed at right
 c The office cum guest bedroom. At the far end is the wall concealing a 'served' area

21 The possibilities offered by the liberation of the frame from the walls are handled with restraint
 a View from south-west showing, centre, large window

to living room and, right, courtyard area
 b South elevation with hole-in-wall window for bathroom and small outdoor room outside office

22 Local materials were used where possible. Oak from the clients' land was used for the green oak frame and all the joinery – and left in its natural state

Notes

1. Listing in Britain is a way of protecting buildings from demolition or inappropriate alteration; all changes have to be approved by the appointed authorities. Grade 1 listing is for the most important buildings and is most stringent: Grade 2 usually involves a more lenient attitude to the interior.
2. Peter Blundell Jones is the author of *Hans Scharoun* published by Phaidon, London, 1995, and of other books and articles on this German architect (1893–1972) best known for the Berlin Philharmonie.
3. All site work was paid on an hourly basis, rather than particular items of work being done to a contracted price. This method makes it less likely that the work will be skimped but can prove expensive if it runs slowly.
4. In the matter of aggregates (just a part of general development) the U.K. annual requirement is 250 million tons: this is 1 million tons per working day! The Glensander superquarry above Loch Linnhe

ships out 70,000 tons a day. The Channel Tunnel required 1.5 million tons of concrete. Both Kent and the Pas de Calais have been changed by excavated material. High impact projects indicate the lower-key but incremental effect of architecture in general.

5. See Peter Blundell Jones 'Texas masterpiece', a critical analysis of Kimbell Art Museum at Fort Worth by Louis Kahn, *Architects' Journal* 4/3/92, pp.42–49.

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- Davey, P. (2001). 'Home Ground' in *The Architectural Review*, July, pp.61–63.
- Blundell Jones, P. (1999). 'A sense of material' in *Touchstone* 5, April, pp.6–13.

Illustration credits

Architects: all drawings
 Peter Blundell Jones: all photographs except 8
 W. Robinson: 8

Credits

The Old Taxi Works:
 Architect: John Sergeant

Structural engineer: Philip Cooper of Harris & Sutherland
 Main contractor: York Construction

Padley Mill:

Architect: Peter Blundell Jones
 Draughtsman: Steve Jones
 Engineer: Roger Plank
 Mason and foreman: Jez Taylor

Segger House:

Architects: David Lea with Tom Miller
 Structural and energy calculations: Pat Borer
 Contractor: CLS Construction

Biographies

Peter Blundell Jones is Professor of Architecture at the University of Sheffield and author of major monographs on Scharoun, Häring and the Graz School.

John Sergeant used to teach at the University of Cambridge and now designs, restores and builds in Catalonia.

David Lea practises from North Wales and has promoted ecologically sensitive construction methods for over 30 years.

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