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Past, present and future

The photograph opposite illustrates one of the most important landmarks in the history of reinforced concrete in this country. It is, of course, the Penguin Pool at London Zoo, designed in 1934 by Lubetkin and Tecton with Ove Arup, and recently refurbished (see page 2). Although it is, in itself, a small structure and not even for human beings, it was – as Sir James Richards once wrote in these pages – the one example of reinforced concrete in the 'thirties that captured public imagination and demonstrated succinctly and even wittily the plastic and sculptural potentials of the material. From such small beginnings, all manner of exciting possibilities were opened up.

As readers will have heard, this is the last issue of *Concrete Quarterly* to be produced under the present editorship which goes back 23 years to 1965. It seems, therefore, appropriate to recall the Penguin Pool as the concrete milestone that set the tone for so much that has since appeared in these pages. At a time when all the excitement of the pioneering years of the 'thirties' tends to be forgotten, and the word 'concrete' has taken on rather different connotations through the media, we could do worse than recall the brave new spirit of that epoch and what the whole modern architectural movement at the time was about. We might remember that designers and constructors in the 'thirties, in particular the internationally-minded MARS Group (Modern Architectural Research Group), were dedicated to sweeping away the cobwebs of the past and building a new world of space and light and air which would create a new mode of living, using the new materials at their disposal of which reinforced concrete was the most exciting and promising, because it possessed special qualities that no other structural material of the time had, i.e. plasticity, flexibility and the ability to encompass large spans. It could be easily and economically shaped into all manner of three-dimensional forms, and all this had immense implications – not only for architecture but also for society. And there exist many examples from that time which demonstrate the simplicity and freshness of vision that were hallmarks of design in the 'thirties.

Since then, much water has flowed under the ramps of the Penguin Pool. But there have been many highlights. Looking back over the years, one recalls, for instance, the vast and impressive vaulted spaces of the Italian engineer Pier Luigi Nervi, and the delicate curving shells of the Mexican Felix Candela, both in the 'sixties. And in the 'seventies there was also the drama of Sydney Opera House which may go down as the most famous building of the 20th century.

These were important and memorable moments. But *Concrete Quarterly* has for many years made a point of showing concrete in more everyday clothes, related directly to the human and environmental needs of our society – in particular, the crucial spheres of low-rise housing, landscaping and pedestrian urban spaces which seem to touch most vitally on human sensibilities. As part of this mood, and realizing that 'heritage' was going to be one of the biggest architectural issues in Britain, the subject of *Building in Harmony* – the relationship between new building and traditional surroundings – was introduced into the magazine in the 'seventies as a continuing theme, accompanied by a complementary series of lectures by the editor which, incidentally, are still in demand throughout the country.

Such is the 'heritage' that *Concrete Quarterly* now hands on to future editors, wishing them well in the challenging task of showing one of the most important building materials of the 20th century in the context of past, present and future.

FRONTISPIECE AND BACK COVER:

The recently restored Penguin Pool,
London Zoo – page 2.

FRONT COVER:

Painted concrete facade to The Living
Seas pavilion, Epcot Center, Florida –
page 22.

Photographs: George Perkin

LANDMARK OF THE 'THIRTIES RESTORED

Restoration of the Penguin Pool at London Zoo

Client:	The Zoological Society of London
Patron:	Peter Palumbo
Grant assistance:	English Heritage
Consultants:	Avanti Architects in collaboration with Berthold Lubetkin Project Direction Ltd Ove Arup and Partners
Main contractor:	Sir Robert McAlpine & Sons Ltd
Concrete sub-contractor:	Concrete Repairs Ltd
Photographs:	George Perkin

In discussions on the development of reinforced concrete in this country during the 'thirties, it is often said that it all started with the Penguin Pool at London Zoo. Writing in *Concrete Quarterly* 144, Sir James Richards, the great authority on architectural developments of that time, said that the Penguin Pool was the one concrete structure that brought home to the public more vividly than any other the material's plastic and constructional possibilities. The Penguin Pool is now 54 years old and recently it has been restored and improved with great care and sensitivity. John Allan of Avanti Architects, who were the architectural consultants for the restoration scheme, here gives us an account of the work carried out.

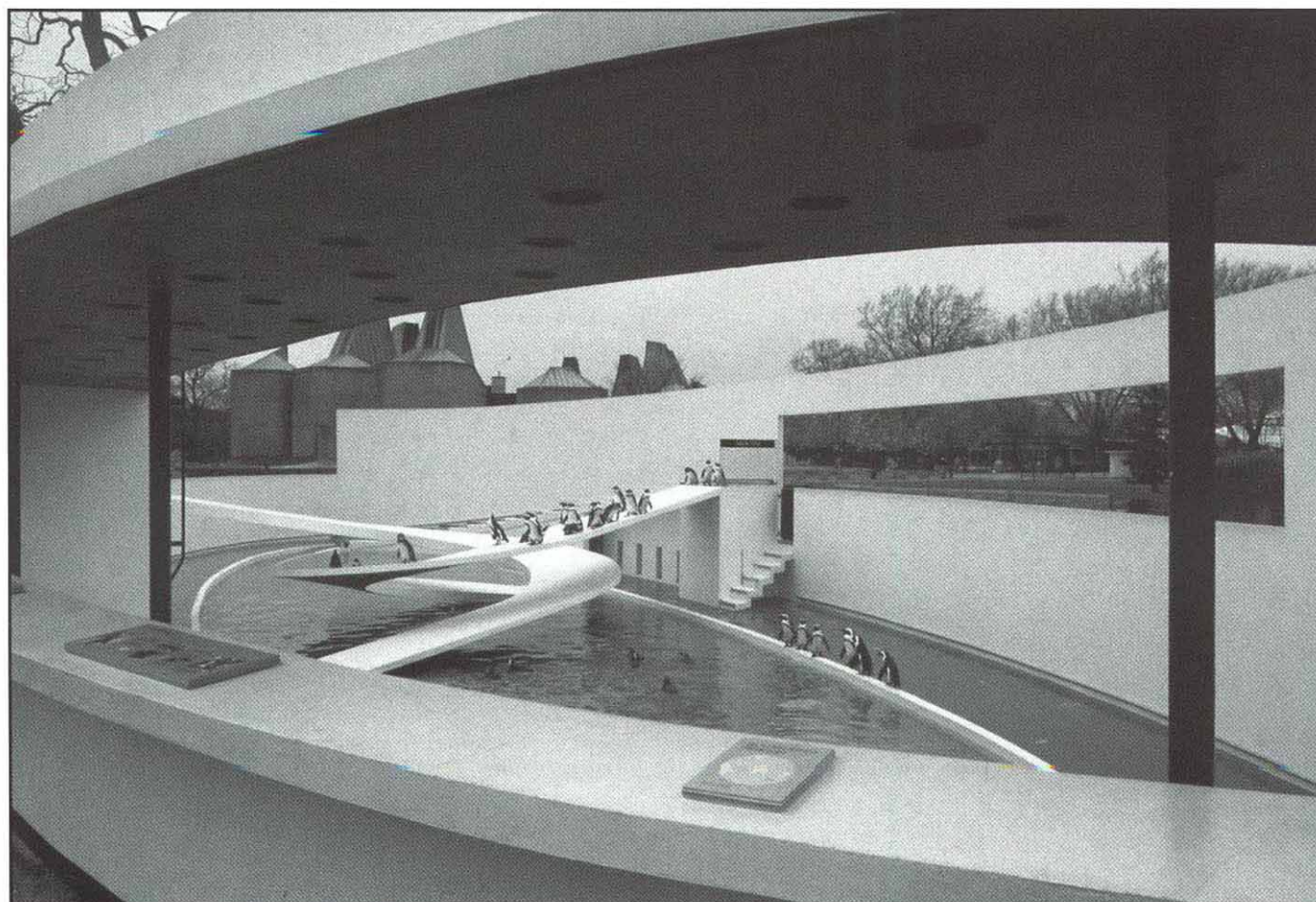
The background

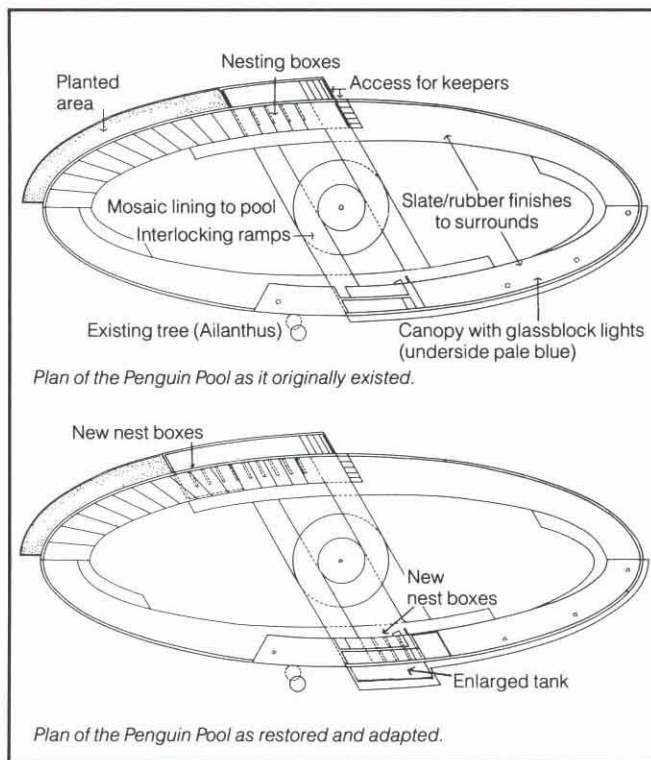
The Penguin Pool was originally constructed in 1934 at the Zoological Society Gardens in Regents Park, London, and in 1970 was officially listed as a building of special architectural interest. It was designed by Lubetkin and Tecton in collaboration with Ove Arup.

The exhibit contains 34 black-footed penguins – a species found on the off-shore islands of South Africa and now under threat of extinction. All the birds in the pool have been bred here, some having grandparents still alive and producing fertile eggs.

Opposite bottom: The crispness of the original reinforced concrete elements has been carefully preserved in the restored structure.

Below: General view of the restored structure from beneath the canopy.





The Penguin Pool is, in effect, a free-standing reinforced concrete sculpture defined by the proscenium screen walls, enclosing an elliptical swimming-pool served by two interlocking cantilevered spiral ramps. The perimeter section includes a deep diving tank and a series of nesting boxes. The design intention was to display alternately the birds' characteristic gait on land, and their grace and agility in the water:

In the half century since its first opening, the Penguin Pool has become one of the Zoo's most popular attractions.

Latterly, however, the structure and finishes have suffered general deterioration. In addition, the original diving tank had become unused and the nesting quarters inadequate.

The restoration

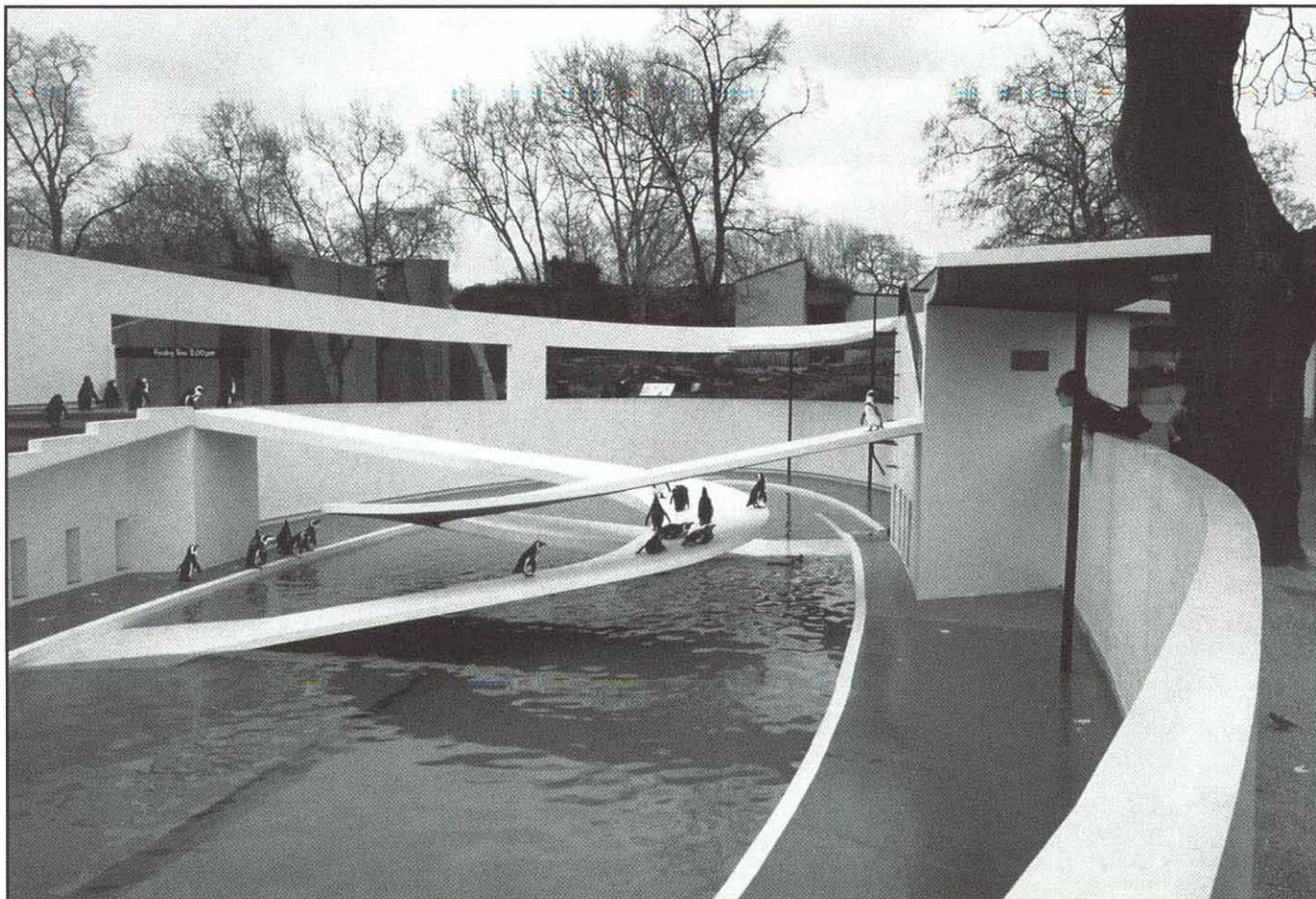
In 1987, with the assistance of a grant from English Heritage and generous private benefaction, a complete restoration was carried out including the repair and renewal of the structure and finishes, the reinstatement of an enlarged diving tank and the provision of additional nesting boxes. A completely new filtration plant was introduced to serve the diving tank and housed in an adjacent plant enclosure with underground connections.

The new-build elements involved excavating under the perimeter steps for the new nesting boxes which are finished with cement rendering and lined with rubber sheeting. On the south side, where the new tank was to be formed, the entire section of existing structure was cut out by high-pressure water-jetting to avoid disturbing adjacent ramp supports and overhead canopy. The new reinforced concrete tank, though comprising only a few cubic feet of concrete, required a sequence of shuttering that took eight separate pours. The new walls are thicker than the original – which in any case would not conform with current standards – but where a new wall presents a visible edge, its thickness is reduced to match up with the old. The viewing panel is formed of two 25mm sheets of laminated glass fixed in a stainless steel frame.

The new filtration installation is designed to provide diamond-clear water for the penguins to display their antics. Surface and low-level contamination is removed through quartz/silica sand filters, the water being dechlorinated then rechlorinated on the downstream line. An ultra-violet photo-chemical system is included, together with controls of pH value CO2 levels.

Repairs

The repairs element of the project involved comprehensive investigation of the existing structure and remedial



LANDMARK OF THE 'THIRTIES RESTORED

continued

treatment. In many instances there was failure and steel bars were visibly corroding. A full condition survey, including cover meter, carbonation and hammer tests, was carried out. Defective bars were cleaned or replaced, and local repairs were made with polymer-modified cement mortar. All the edges of both ramps were exposed back to the bob bars and entirely recast, whilst the top cover was enhanced with a two-coat Sikatopseal cement slurry. Movement joints in the perimeter wall were cut back and reformed.

Finishing

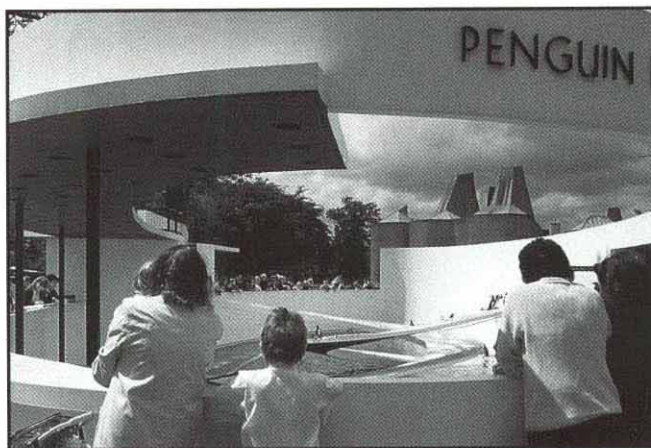
Once the structural carcass had been made sound, the task of re-establishing the geometric profile could begin. All arrises were formed with stainless steel beads screwed to the concrete.

By using a polymer-modified cement render in maximum applications of 6mm, it was possible to avoid any perceptible thickening of the original 100mm structure.

Icosit Concrete Cosmetic Acrylic paint was used generally, with Sikagard 65 Epoxy paint on wearing surfaces such as the perimeter paving, ramps and canopy.

The other main item of finishes was the mosaic lining to the pool floor which was entirely replaced using matching glass mosaic tiles bonded with Elastoflex on a reformed screed base. The same mosaic is used to line the inside of the diving tank.

All the metalwork accessories – handrails, gates, nesting-box doors, etc – were replaced in stainless steel, powder-coated black as appropriate to match the original effect of painted mild steel. Likewise all the plumbing services, including the central fountain and perimeter sprays – used both to wash the pavings and refresh the



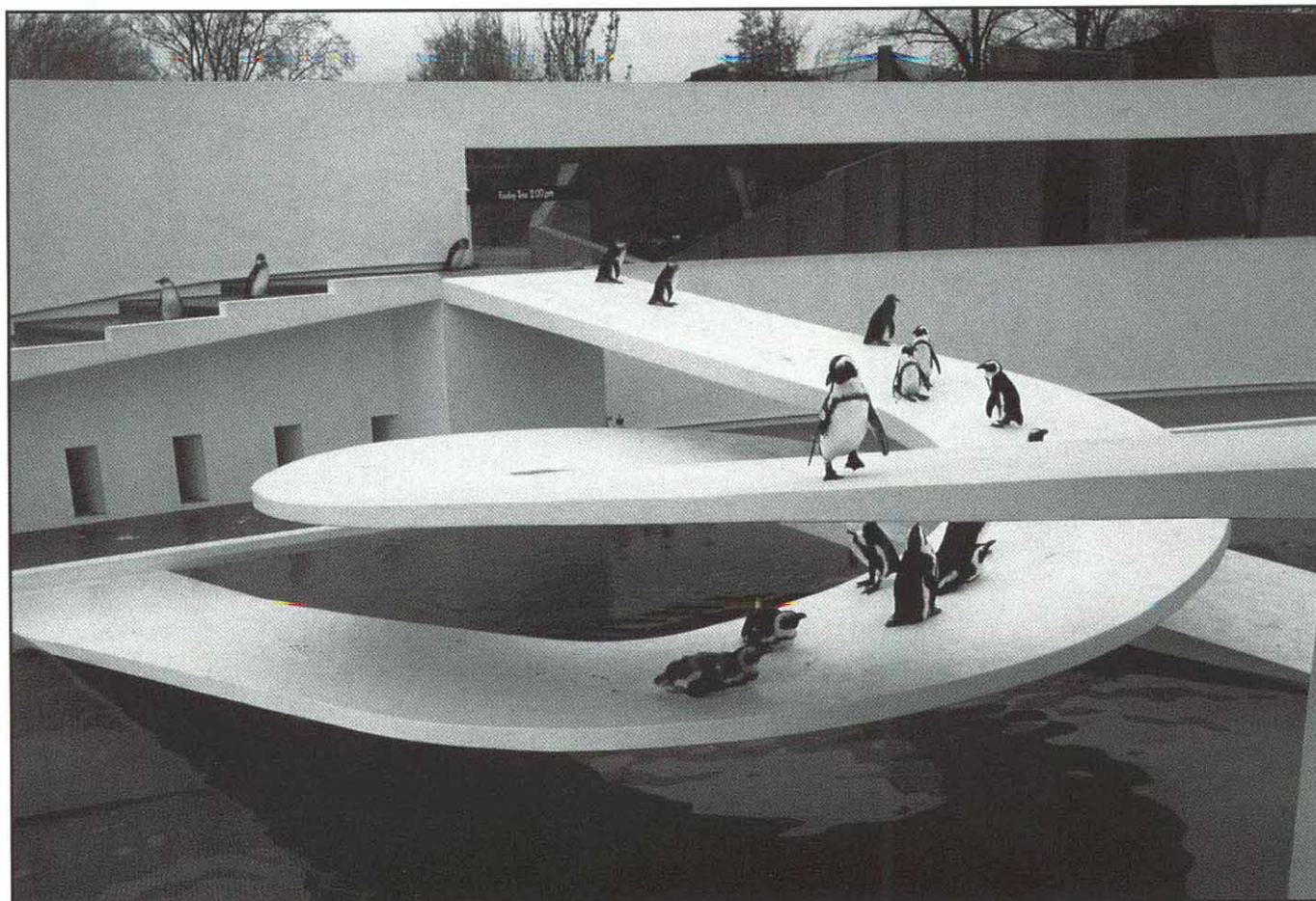
Above: The rendered exterior of the structure, strictly in the 'thirties idiom.

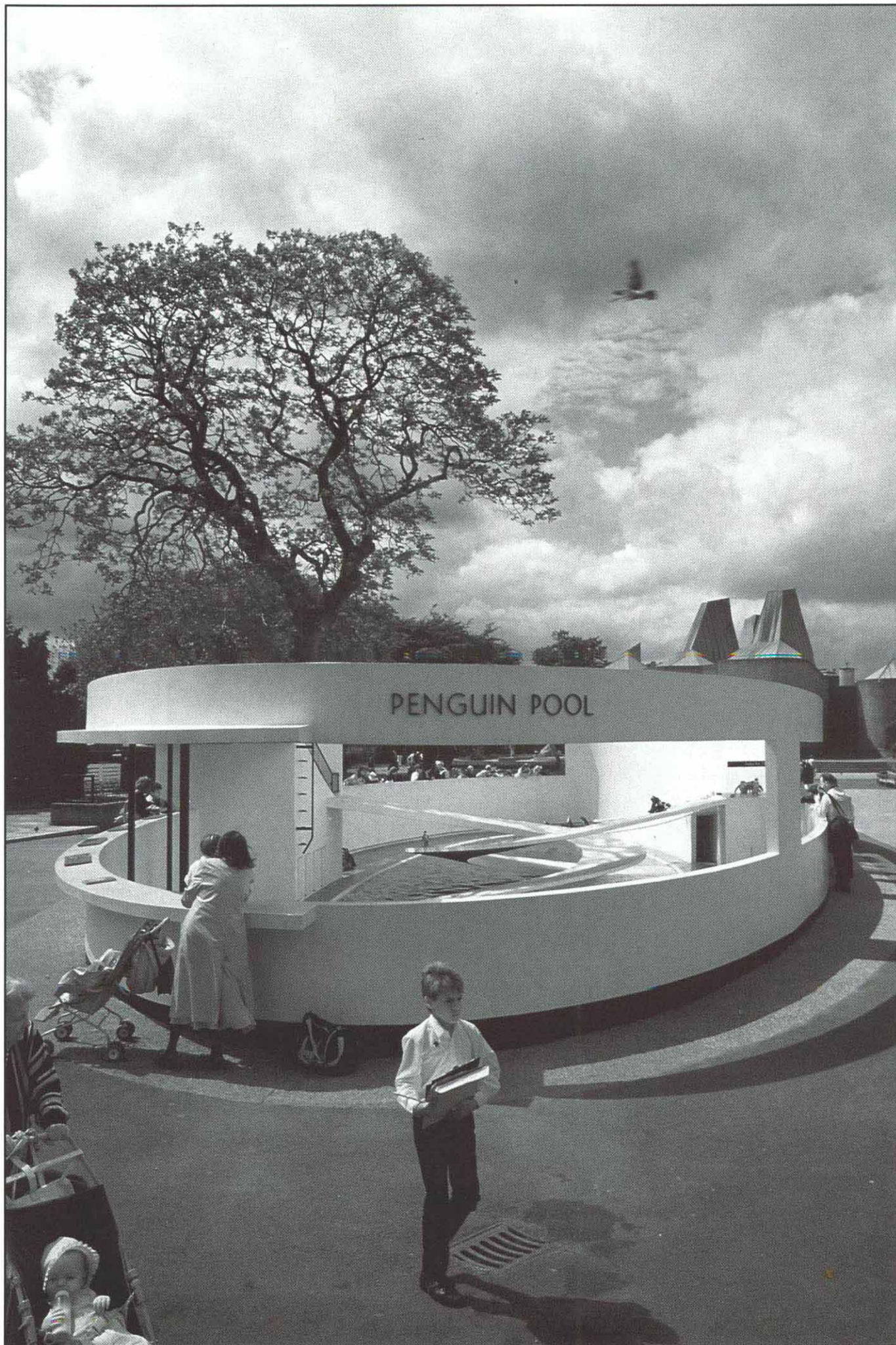
Below: Detail of the restored ramps. New nesting boxes are on the left.

Opposite: Overall view of the restored pool, ramps and surrounds, with the Elephant House in the background.

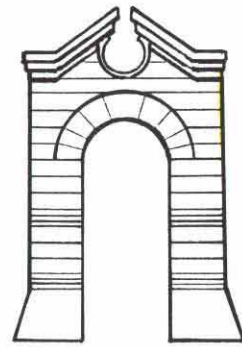
birds in hot weather – were renewed in stainless steel.

Site operations began in April 1987 and were completed in September 1987. The project cost was £210,000.





BRIGHTENING UP BATTERSEA



The Marcopolo development,
Queenstown Road, Battersea, London SW8

Developer:	Flaxyard Estates Ltd
Architectural design:	Ian Pollard
Structural and architectural consultants:	Peter Argyrou Associates
Services consultants:	Harrison Associates (mechanical) D.C. Engineering Services (electrical)
Main contractor:	Flaxyard Estates Ltd
Photographs:	George Perkin

For some months, commuters approaching Victoria Station in London have been noticing the large new development under construction just beyond the railway track, beside gaunt gasometers and not far from the now defunct Battersea Power Station. Having watched the progress – conventional enough – of the in situ reinforced-concrete structure, passengers were then intrigued to see the concrete carcass gradually sheathed in what looked like bands of grey and white marble (but actually is a new kind of Japanese cladding material called Neoparies), the whole capped with giant broken pediments. It turned out to be a grand theatrical statement – a gleaming presence – not quite expected in this dark and dingy ambiance of railway viaducts and gloomy rooming houses, lightened only by the fragile blossom of Battersea

Park defying the chill spring winds. It strikes, perhaps, a slightly bizarre note rather like Egyptian factories of the 'thirties along the Great West Road or, more appropriately, the black and glossy Daily Express building, also of the 'thirties, in Fleet Street – appropriately because half of the building is the new home of *The Observer* newspaper, named Chelsea Bridge House; the remainder, at the time of writing, is nearing completion internally and is to house British Satellite Broadcasting Ltd.

The decision to move the newspaper offices to this unfashionable and hitherto neglected area south of the river is perhaps no longer surprising these days: after all, *The Times* is at Wapping, the *Daily Telegraph* in the Isle of Dogs, and the upwardly mobile young executives are busily buying up the run-down terraced houses of Battersea at some £150,000 and more.

The Marcopolo development is, of course, a building to inspire passions in all directions, both for and against. But at the end of the day, no matter which architectural camp you fall into – Modern, Post-Modern, High-Tech or Classical – the fact remains that here is an office development of distinction and personality, which is more than can be said of the sensible, practical and eminently boring office blocks of the 'sixties alongside which do nothing to lift the spirits in this dark area. One enters

Chelsea Bridge House, beneath its lofty pediment, as through a triumphal arch so that you have a sense of occasion before you have got inside. And once inside, there is no disappointment either in the central atrium – a great galleried space with the central newsdesk, the focal point of the newspaper office, sunk down beneath a pitched roof forming a glazed lantern-light above. At one end, the focal point is a glass lift rising through the galleries, flanked by tubular frames and ducts of stainless steel.

When one considers the scale of the various engineering works around these parts – the mammoth Battersea Power Station, the giant gasometers and the lofty railway

viaducts – this is no place for small-scale gentility, but rather for a touch of theatre and panache. And in the striped and gleaming buttresses of this building, beneath their flamboyant broken pediments, that is precisely what we have.

George Perkin

Design

Ian Pollard, the architectural designer, set out to provide a building with a high profile in terms of image and environmental impact, in order to attract potential occupiers into this otherwise commercially unattractive

Right: The entrance to Chelsea Bridge House, the *Observer* newspaper's half of the Marcopolo development, next to the gasometers of Battersea.

Below: Contrast between the office block of the 'eighties and the standard blocks of the 'sixties. General view of the Marcopolo development on the left.



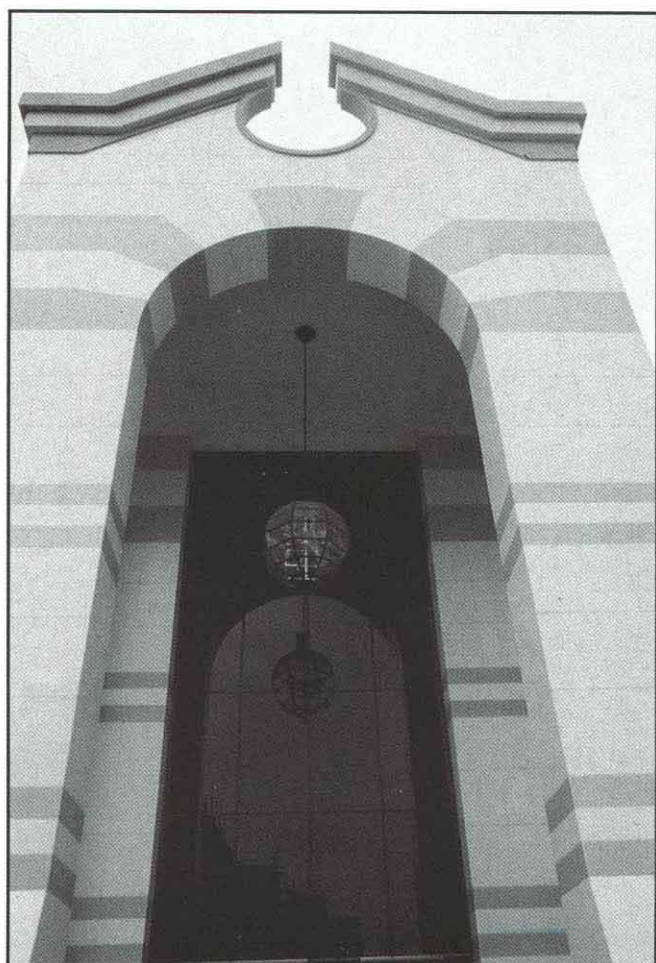
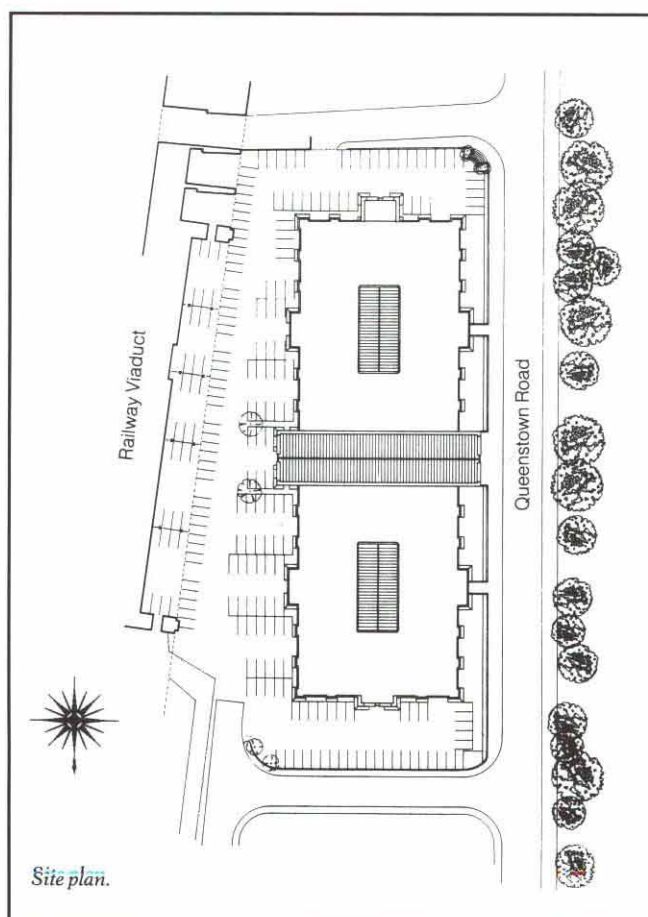
BRIGHTENING UP BATTERSEA *continued*

area 'South of the River', and with maximum on-site car-parking. The building was to be no higher than four storeys with an open plan for offices but with no spaces deeper than 15 metres for good natural lighting, and was to accommodate a wide range of mechanical and electrical services.

The structure is conventional and consists of an in situ reinforced concrete frame and floor slabs. The concrete structure is clad externally with Neoparies which are re-crystallized glass panels in translucent white with grey bands. This is the first use of Neoparies in Europe, although the Japanese have been using the material for some 15 years. The unbroken vertical fenestration between the outer buttresses is of Pilkington's black, planar, double-glazed and gas-filled units.

Below right: The central newsdesk, focal point of the Observer offices, sunk down in a galleried space and lit by a glass lantern light above. The lift is set in tubular frames and flanked by stainless steel ducts.

Below: Entrance portico to Chelsea Bridge House = a sense of occasion before you enter the building. The concrete structure is clad in Neoparies – re-crystallized glass panels in translucent white and grey bands.



HEALTH CLINIC

South Woodham Ferrers Health Clinic, Essex

Client:	North-East Thames Regional Health Authority
Architects:	Alan Willis (County Architect) Laurie Wood (Project Architect)
Structural engineers:	Essex County Council Architect's Department
Quantity surveyor:	N.E.T.R.H.A. Regional Quantity Surveyor
Services engineers:	Charles Gray Associates
Main contractor:	Wiggins Construction Ltd
Concrete blocks:	Aerated Concrete Ltd
Photographs:	David Bartram

This Health Clinic of excellent design is a good example of the positive psychological effect that a well-designed building can have on patients attending for medical treatment. The clinic has been built to serve the needs of the fast-expanding new town of South Woodham Ferrers in Essex and is a pleasantly welcoming and domestic two-storey building of well-considered proportions,

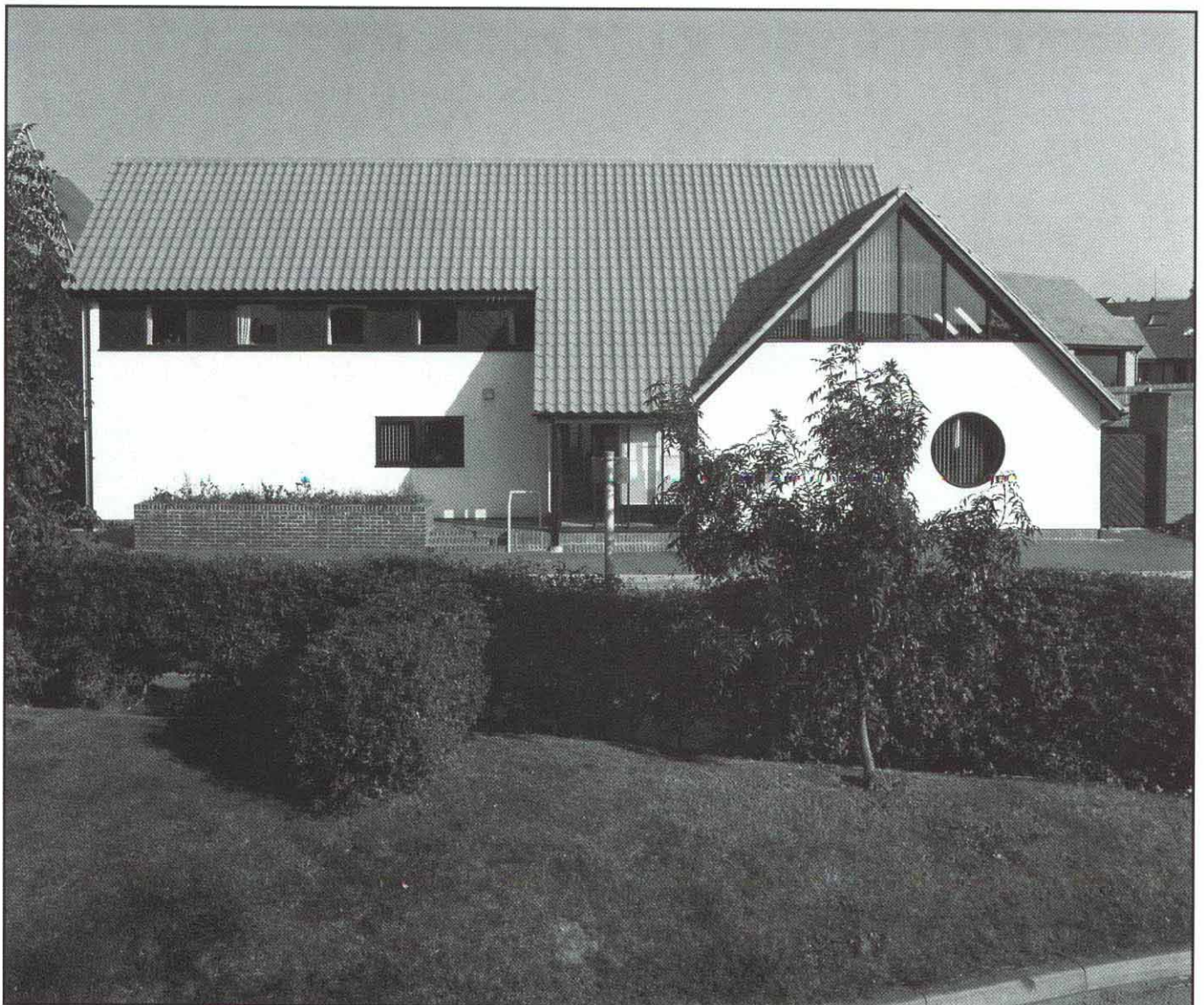
- 1 Main Waiting Area
- 2 Reception
- 3 Health Education
- 4 Courtyard
- 5 Consulting
- 6 Speech Therapy
- 7 Dental Suite
- 8 Stores
- 9 WC's
- 10 Interview
- 11 Chiropody
- 12 Plant



Ground floor plan.

materials and finishes. The medical facilities offered include chiropody, speech therapy, dentistry, clinic care and general consultancy. Various part-time peripatetic specialists and consultants use the treatment rooms and are supported by a full-time staff of eight.

Below: Front elevation of the Health Clinic.



HEALTH CLINIC continued

The site and access

The building occupies a narrow-frontage site overlooking the new town square and car park. It is sandwiched between a recently completed doctor's surgery and a new fire station. In line with the plan to enclose the square, the clinic has been sited up to the road frontage with a main entrance off this street. Push chairs and prams can be stored under cover next to the main entrance, and there is a staff car park with a separate entrance at the rear of the building.

Accommodation

Accommodation is on two levels with the public areas, consultancy and treatment rooms on the ground floor, the upper floor being used exclusively by staff.

The waiting area is wrapped around a small landscaped

courtyard enclosed by floor-to-ceiling glazing so that contact between inside and outside is preserved. Additional natural lighting is provided by Velux rooflights. Access to the treatment and consultancy rooms is off the waiting area, although the dental suite is separated by a corridor to reduce the sound of the dreaded dentist's drill.

The first floor accommodation, reached by the spiral stair, is confined to the front of the building and houses four offices and a staff room with kitchenette. The latter overlooks the town square and is tucked into the roof space with extra character and interest added by exposing the roof trusses. The offices open into a glazed gallery overlooking the main waiting area.

Structure and finishes

The external walls are constructed of 200 mm aerated concrete blocks plastered internally and rendered externally with a spray-applied Blue Circle 'High Build'

finish. Internal walls are predominantly of 100 mm plastered concrete blocks. Fairfaced yellow stock bricks have been used internally in the main waiting area.

A difficult clay subsoil required the use of short-bore concrete pile foundations and in-situ concrete ground beams. Floors are of prestressed concrete beams with block infill, finished with a 50 mm screed. The 45° pitched roof is constructed with trussed rafters and clad with clay pantiles. External joinery is of stained hardwood.

Internal finishes include carpet, quarry tiles and vinyl on floors, and walls finished with a glass-fibre textured covering glued to the plaster and painted with emulsion to give a robust and easily-maintained surface. Ceilings to the waiting room are warmly finished in Douglas Fir open-jointed boarding. All internal joinery has been left either natural or with a stained finish.

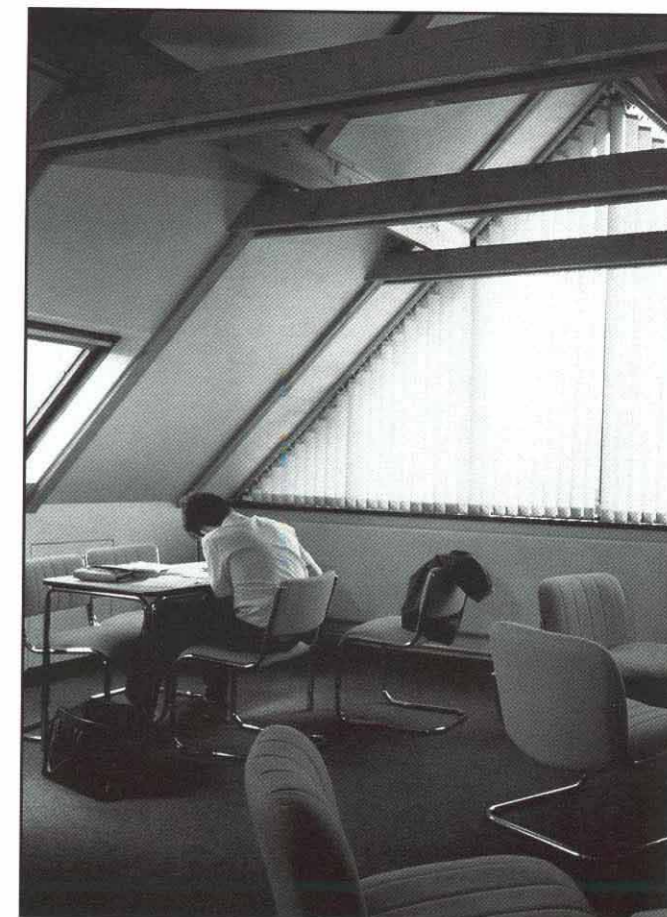
The building was completed at a cost of £380,000.



Left: Gable detail of the Health Clinic. Walls are of rendered aerated concrete blocks.

Right: Staff accommodation on the first floor of the Clinic.

Below: The waiting area of the Health Clinic with windows onto a landscaped courtyard.



ARCHITECT'S RETIREMENT HOUSE

Thorn Park, Mannamead, Plymouth

Owners:	Mr. and Mrs. Anthony Hollow
Architect:	Anthony Hollow
Builder:	G.J. Finch Ltd
Concrete blocks:	ARC Conbloc Ltd
Concrete roof slates:	Robert Abraham Ltd

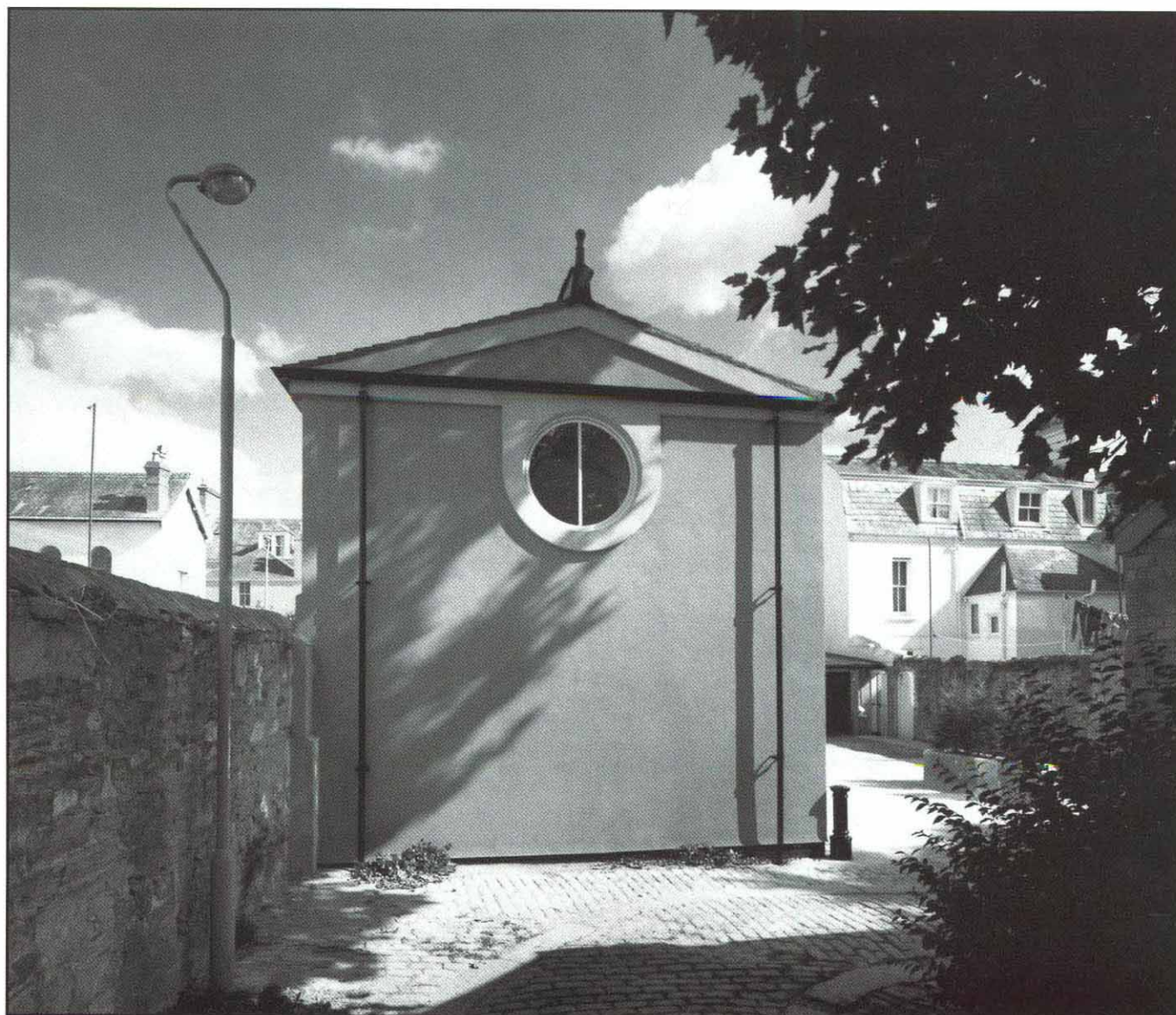
This relatively small house of distinction in Plymouth was designed by the architect Anthony Hollow as a retirement home for himself and his wife. The site was not altogether promising, being a back-yard with garages for which there was no demand, and in a built-up area. However, there are some pleasant stuccoed Victorian houses around, from which Mr. Hollow has taken his cue. One of the great bonuses of the house from the planning point of view is

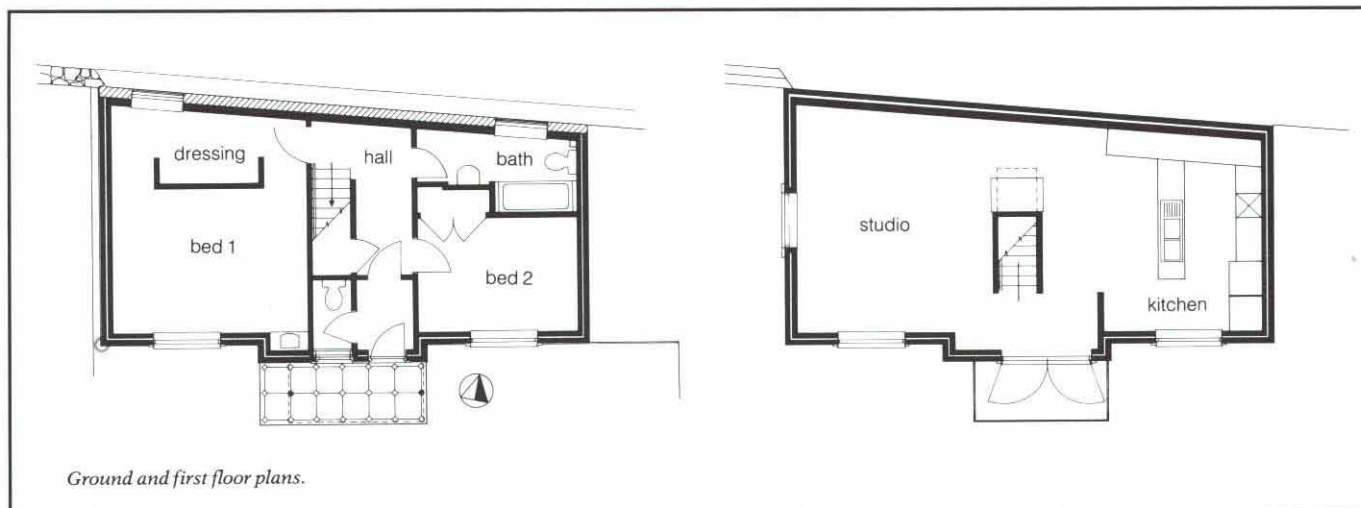
that the site is now fully and properly utilized: it also upgrades the immediate area and the infra-structure of the town with a positive architectural statement. Plymouth, including the district of Mannamead in which the house stands, is rich in Victorian architecture. The design of the new house endeavours to reflect this character with a house that also responds fully to the demands of contemporary living.

Because the site is enclosed all round with buildings and trees, the main living accommodation – a spacious studio sitting-room with kitchen – has been placed on the upper floor to get more light, air and privacy; the bedrooms are on the ground floor.

Construction is of concrete insulating blocks with cavity walls externally, supporting a pitched roof covered with grey concrete Hardrow slates, capped with traditional decorative ridges and finials. The external block walls have a cement rendering which includes local silver sand and is finished partly with a wood float and partly with a finely-set Tyrolean machine. To give a bold modelling to the surface, compatible with the neighbouring Victorian houses, the rendering is nearly 100 mm thick in places.

The house won a Commendation in the Arnold Sayers Design Awards for 1987 in the Single House Category.



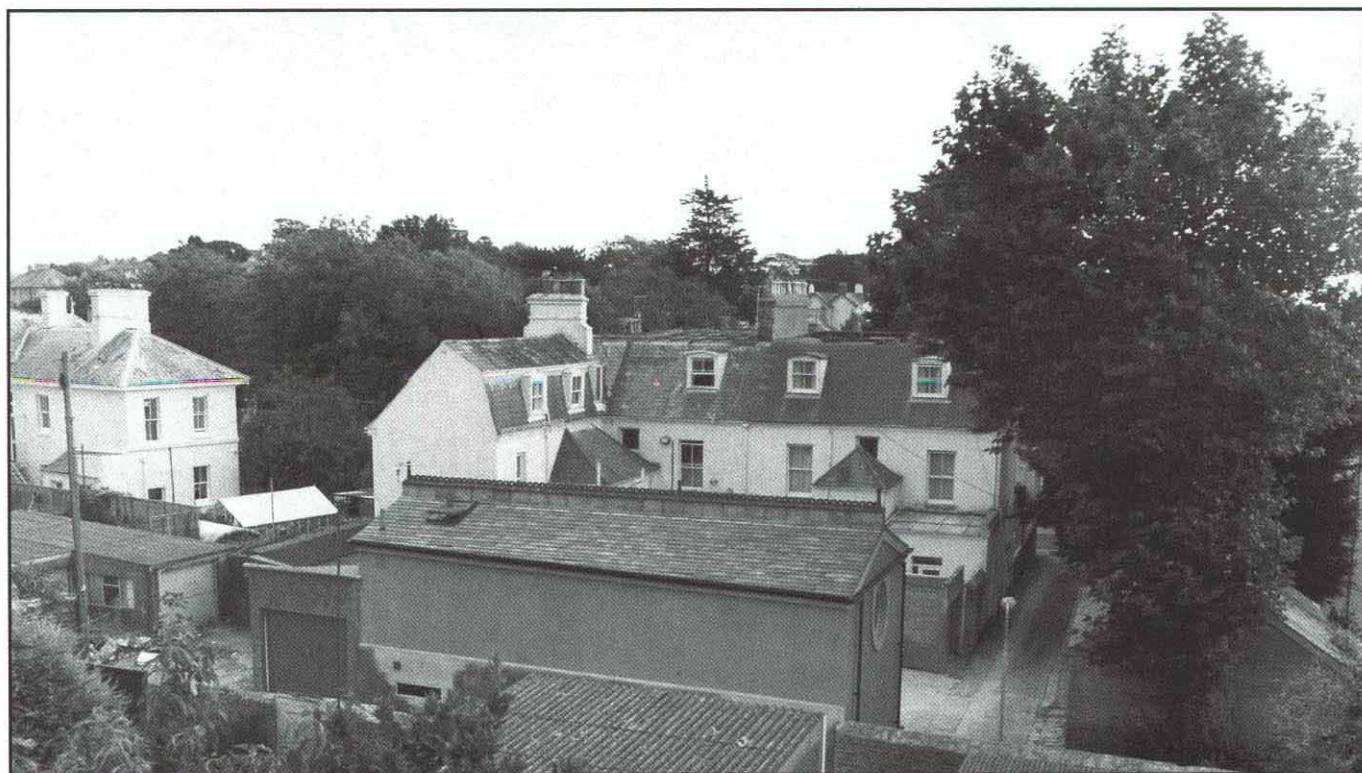
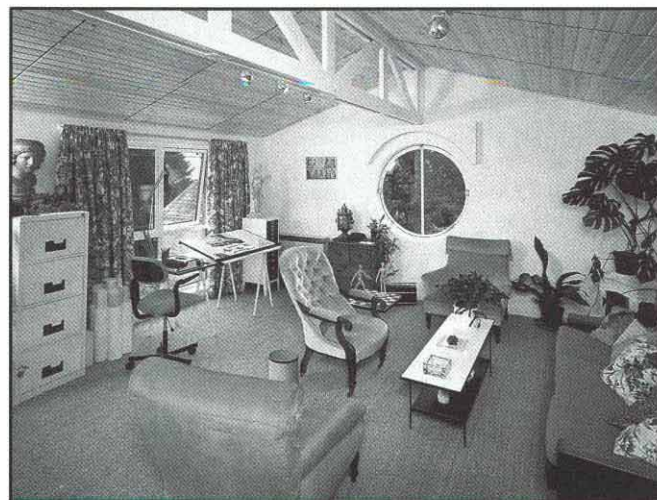


Opposite: Side elevation.

Below left: Entrance elevation.

Below: Studio interior on the first floor.

Bottom: The house is sited in what was a back yard with unused garages, but with pleasant Victorian houses around.



GENETICS CENTRE

Regional Medical Genetics Centre,
University Hospital of Wales, Cardiff

Client:	South Glamorgan Health Authority
Architects, engineers and quantity surveyors:	Welsh Health Common Services Authority
Structural engineers:	Grove and Wright
Main contractor:	Wimpey Construction (UK) Ltd
Concrete blocks:	Welsh Block Co Ltd
Concrete roof tiles:	Redland Roof Tiles Ltd

Over the last few years, the Welsh Health Common Services Authority has established a well-deserved reputation for good architectural design. Two examples of their work at the University Hospital of Wales in Cardiff were featured in *Concrete Quarterly* 135. The new Genetics Centre, shown here, is alongside these two buildings on what is virtually the last available site at the University Hospital, so it was important to make the best possible use of the site. The building scores architecturally with its simple and clearly articulated forms, oversailing pitched roofs and clean white rendered surfaces.

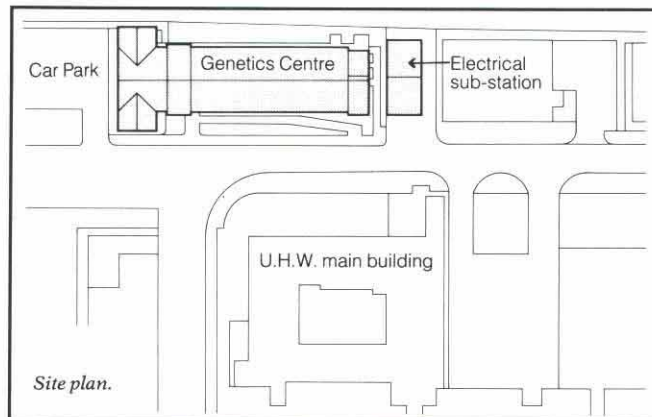
One of the main concerns of the architects was to provide a building that was reassuring and friendly for the patients and their families as well as pleasant and practical for the staff who work there. The other main concern was to get the best value for money and as much

Bottom: Entrance approach.

Opposite top: Side elevation and car park.

Opposite centre: Electrical sub-station.

Opposite bottom: The building has external walls of dense concrete blocks finished with an Alpine rendering, and pitched roofs clad with grey concrete tiles.



accommodation as possible for the budget, a fair proportion of which was provided by charity.

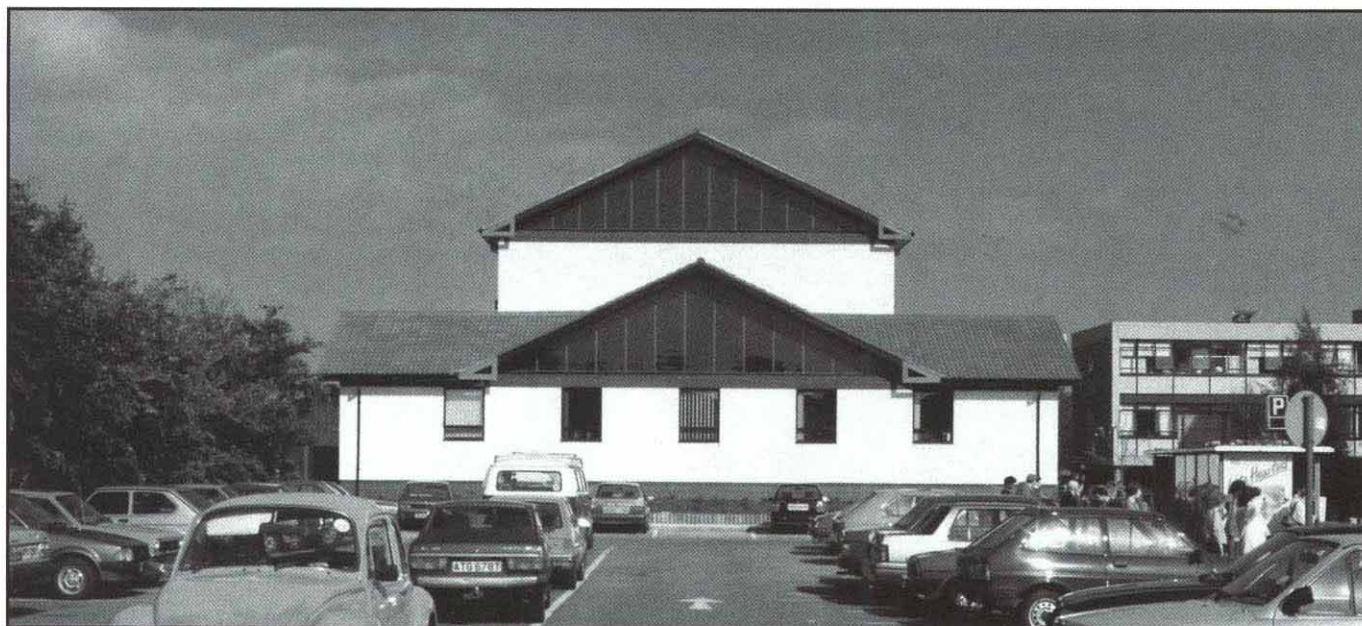
The new centre is the first of its kind in the United Kingdom so there was no prototype to follow. Close collaboration between the design team and the staff of the centre was therefore crucial. Fortunately there was an excellent rapport between the client and designer, reflected in the finished building and its smooth functioning.

The most economical form of design proved to be a three-storey building and in order to keep the scale as small as possible and the building fairly low, relating to the two single- and two-storey buildings, it was decided to sink the ground floor partially into the site.

Structure and finishes

The building has an in situ reinforced concrete frame and





floors, the latter of rib and trough construction. External walls are of dense concrete blocks for the upper two storeys, finished externally with an Alpine rendering; the lowest storey is faced with brick. Pitched roofs are constructed with steel trusses and purlins, and faced externally with grey concrete single-lap tiles. Window frames are of stoved aluminium.

Internal walls and partitions are partly of concrete blockwork, although the majority are of plasterboard with cover strips, stained in cheerful colours, for flexibility and easy access to services. The walls to the main corridor are 300 mm thick and house all the main pipes and ducts, the services feeding out horizontally within the walls to serve the laboratory fittings.

The building was completed in January 1987 at a cost of £1,069,305.



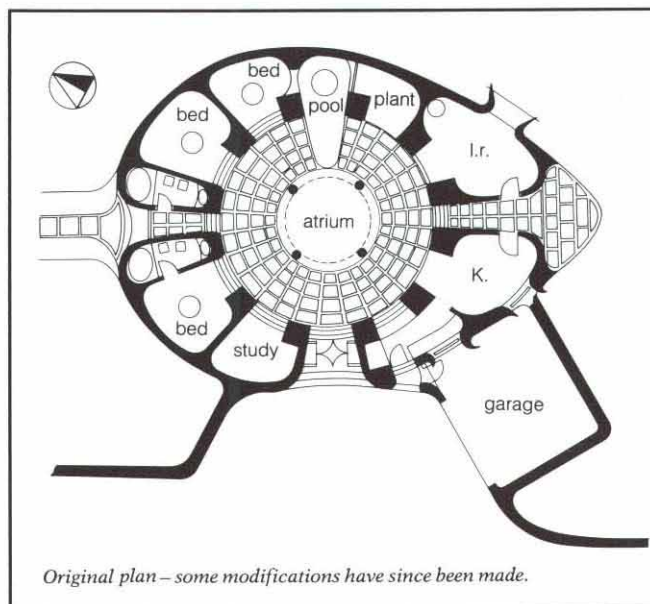
ENERGY BELOW GROUND

Earth-sheltered house at Westonbirt, near Tetbury, Gloucestershire

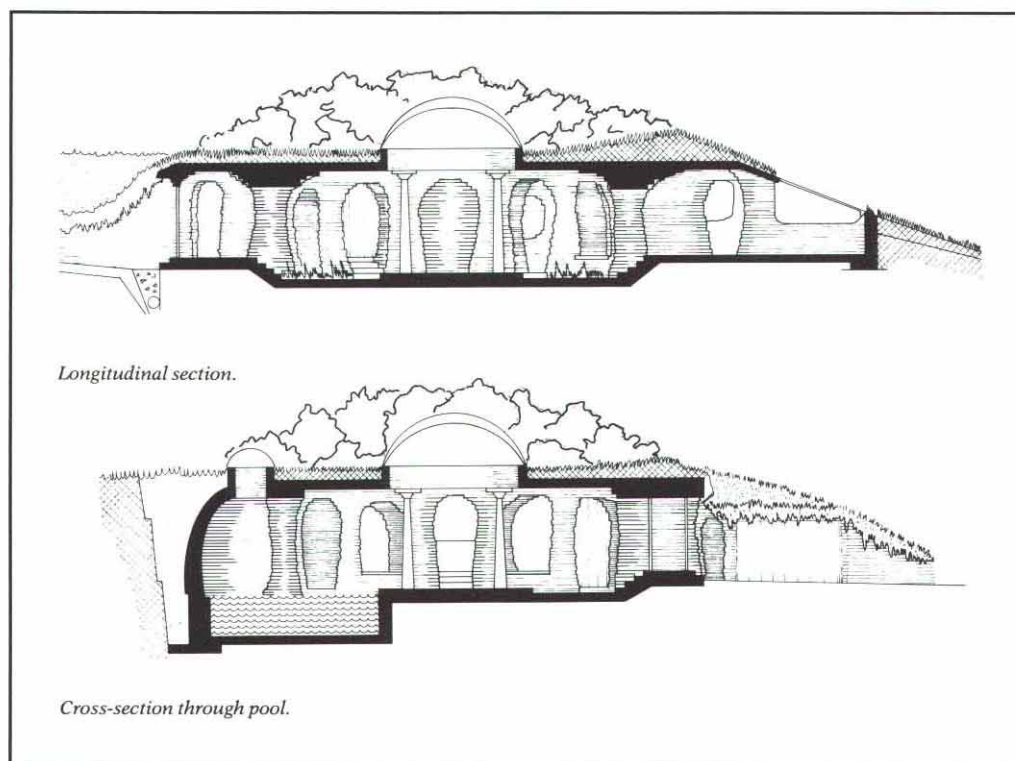
by George Perkin

Owners:	Stuart Bexon
Architects:	The Arthur Quarmby Partnership
Builders:	Direct local labour
Denzcrete Lytag blocks:	ECC Quarries Ltd
Ready Mixed Concrete:	RMC (Western) Ltd, Bristol
Precast columns:	Chilstone
Photographs:	George Perkin

The question of energy below ground has, in the case of this intriguing earth-sheltered house buried in a Gloucestershire meadow, two sides to it. First, the energy and enterprise expended by its owner Stuart Bexon and his wife Rosemary over the last three years to get the house not off the ground, but rather into it, are remarkable, with much of the building work either done or supervised by themselves. It is a story of vision, perseverance and sheer hard work which is now, in the summer of 1988, at last paying off. Second, the all-important question of energy savings in terms of heat and light demonstrated by such houses is something that Mr. Bexon quite rightly feels should be a national issue: it is estimated that savings of two-thirds over the conventional upstanding house can be achieved in heating, and – surprisingly – one third in lighting because, contrary to what you might suppose, living below ground can be lighter than in an ordinary house with standard external walls and roof. Stuart Bexon says, however, that it is an uphill struggle to get anyone in official circles interested in the figures, let alone the idea. On top of all this there is, of course, the question of maintenance, and Mole Manor – as the house has been affectionately termed (a name which has now struck) – is likely to be very low on maintenance costs, comparatively speaking.



All these down-to-earth practical considerations leave out, of course, an equally important issue in environmental terms: the design of the house allows the green of Gloucestershire to flow almost uninterrupted over the top, with little more obtrusive seen from the road than a circular oak front door flanked by low stone walls set into a grassy bank. In the meadow above, the acrylic domes that light the house and a small stone chimney are the only signs of human habitation. And this was an over-riding factor in getting planning permission for the house in the first place. The site is in the grounds of the nearby house that Stuart Bexon originally bought, and has fine views over the surrounding countryside. When he applied in 1980 for planning permission to build in the grounds of his house, it was turned down for environmental reasons. An idea then occurred to him: he had heard that no planning



Opposite top: Stuart Bexon on the roof of his house beside the main acrylic dome which lights the centre of the house.

Opposite bottom: Overall view of the earth-sheltered house in the green of Gloucestershire.



permission was needed for nuclear shelters, so why not build the house underground? The Yorkshire architect Arthur Quarmby, who is a specialist in underground houses and himself lives in a splendid house buried in the hills of the West Riding (*Concrete Quarterly* 116) – the only other one in Britain of its kind – was then sought out and consulted. Designs were made and submitted anew for planning permission which was immediately and enthusiastically granted in December 1983.

At the time, however, Stuart Bexon was unmarried and

the house was conceived very much as a bachelor pad for him. Since then, marriage and a new family have emerged on his horizons, so that the original design concept is not altogether tailor-made to his present requirements; Arthur Quarmby's house, for instance, is very much designed around family needs, with separate wings for parents and children. Stuart Bexon's house is egg-shaped on plan with all the rooms opening off a circular atrium space. Nevertheless, none of this invalidates the delight of the house in architectural terms, nor the practical



ENERGY BELOW GROUND

continued

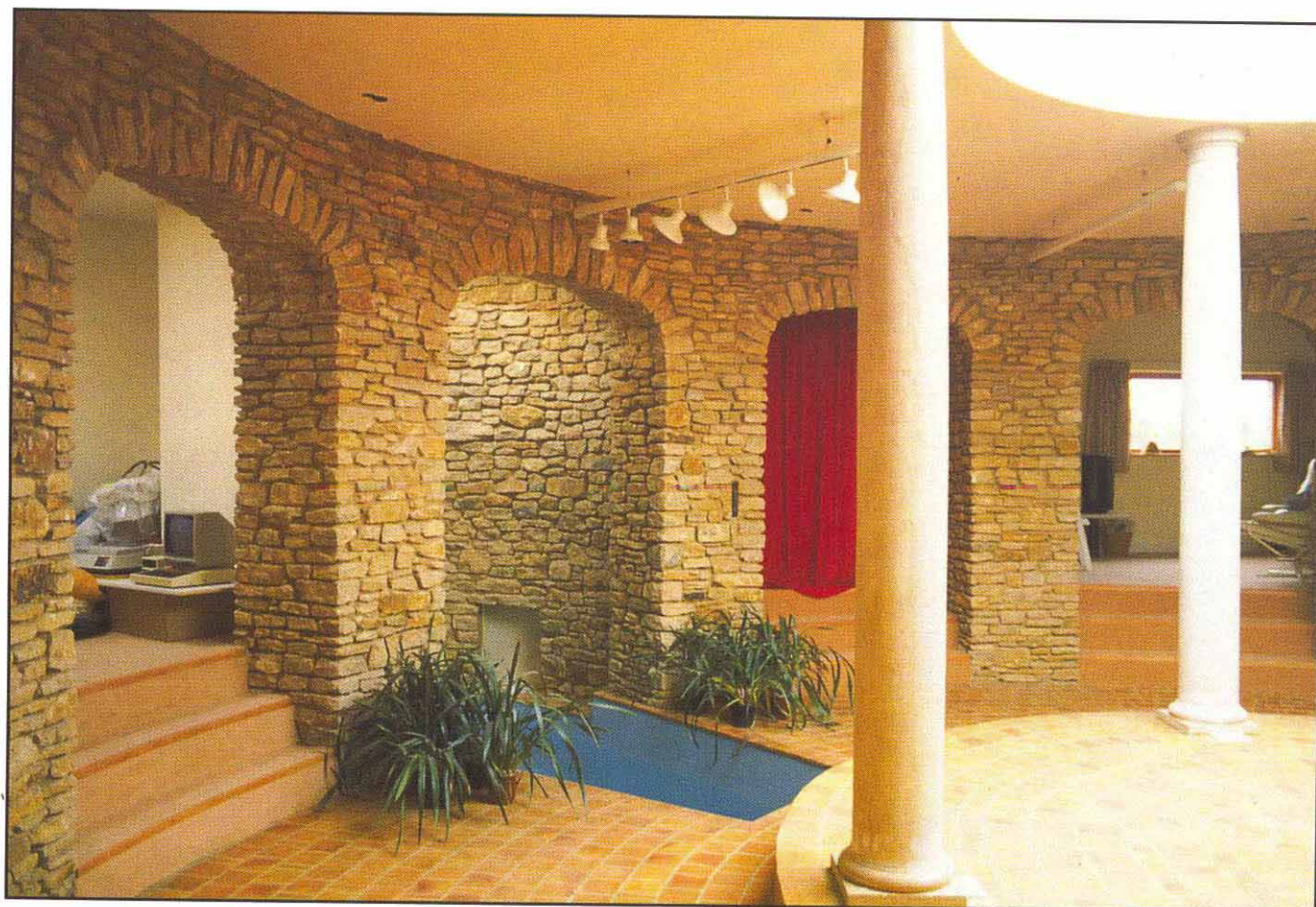
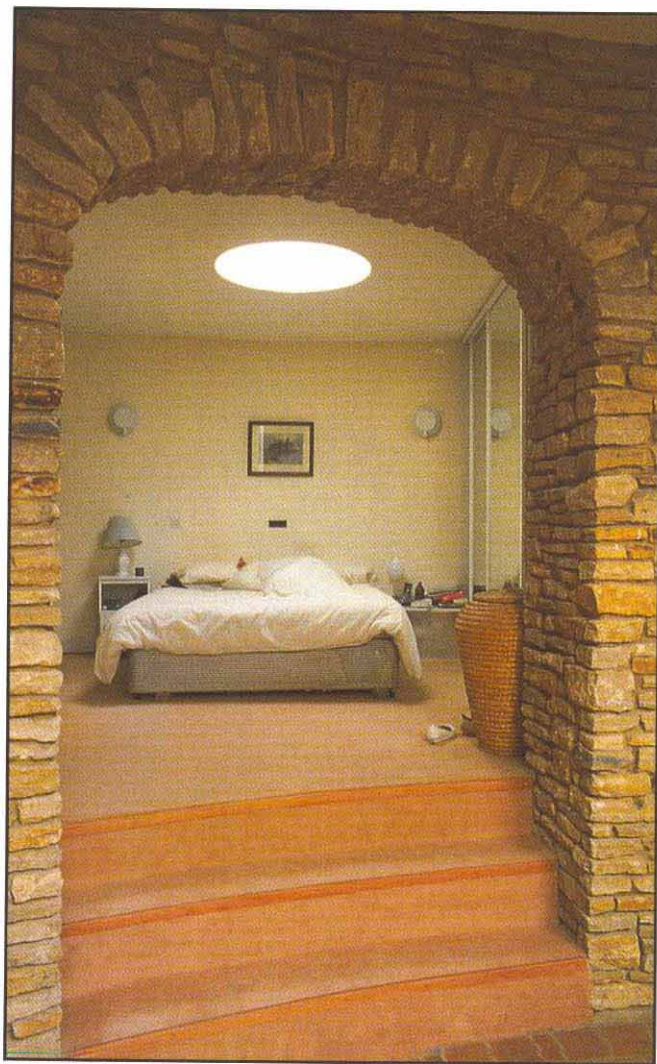
considerations of savings on energy and maintenance. Not surprisingly, the media have been hovering around Westonbirt for some time and there have been several articles in the national press and programmes on television.

Accommodation

The outer perimeter walls of the house, broadly egg-shaped on plan, enclose three bedrooms, two bathrooms, a kitchen with dining-room off it, a sitting-room, study, small swimming-pool, a plant room, a storage/utility room, a glazed triangular 'observatory' and a garage. The main rooms all open off a central circular atrium defined by four Tuscan columns and top-lit by the main acrylic dome which emerges into the meadow above. The rooms open into the atrium through a series of arches built of honey-coloured random stone from the excavation. There is, therefore, a feeling of great space and also of light because the domes that top-light the rooms take maximum advantage of the sun and open sky at all times of the day; in addition, however, there are also some double-glazed windows in walls where a view is important. Curtains are fitted behind the arches so that the rooms can be closed off for privacy as required.

Construction

The construction of the house is not so unconventional as might be supposed. The structure is based on an in situ reinforced concrete slab over the whole site, which is insulated and waterproofed with bituminous layers. The outer perimeter walls are of Denzcrete Lytag concrete blocks sprayed externally with a polyurethane insulating and waterproof lining. Outside the blocks are a cavity and an outer leaf formed of L-shaped precast-concrete agricultural silage units placed independently of the main structure. The house is roofed over with an in situ





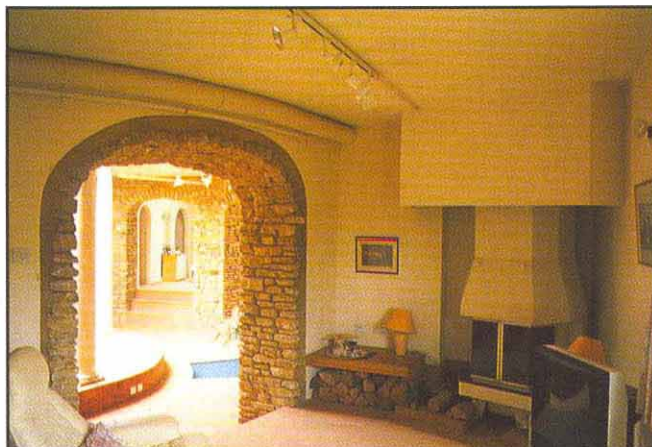
Opposite top: View from the central space into a top-lit bedroom.

Opposite bottom: Interior view showing the top-lit circular atrium, right, the precast concrete columns, the random stone arches and the small swimming-pool, centre.

Top right: The central circular atrium defined by four precast concrete Tuscan columns, seen from the main entrance.

Below: The kitchen has a wall window on the right with views over the countryside, and a small window, left, into the observatory.

Bottom: A corner of the living room with stone arch into the central space.



reinforced concrete slab 180mm deep, waterproofed externally for the soil covering above.

Some of the 2000 tonnes of stone excavated for the house has been used for the inner walls and arches surrounding the central atrium, and for parts of the external cladding at the front. This is an attractive-looking stone which also increases the thermal mass of the house and thus its heat-storing capacity.

The central atrium is topped by an acrylic dome 12 ft in diameter, built up in two main parts from an outer and inner ring. This is the main source of lighting for the house, supplemented by smaller acrylic domes over those rooms where there are no windows in the walls. A reinforced concrete ring beam around the main dome is supported by four precast reinforced-concrete Tuscan columns which form a central feature of the house. Double-glazed windows in the walls of the sitting-room and kitchen are placed to give good views over the countryside.

Heat storage

The heating system is designed to complement the natural ability of the earth wrapped around the structure to keep the house warm. The house acts as a kind of giant night-storage heater, with the insulating walls and earth greatly reducing heat losses. Using a heat exchanger, the passive solar heat gain from the central dome and observatory is extracted and pumped around the house; the surplus is redistributed to heat the 5000 gallons of water in the swimming pool. Underfloor polybutylene pipes carry warm water to heat all parts of the house.

The future

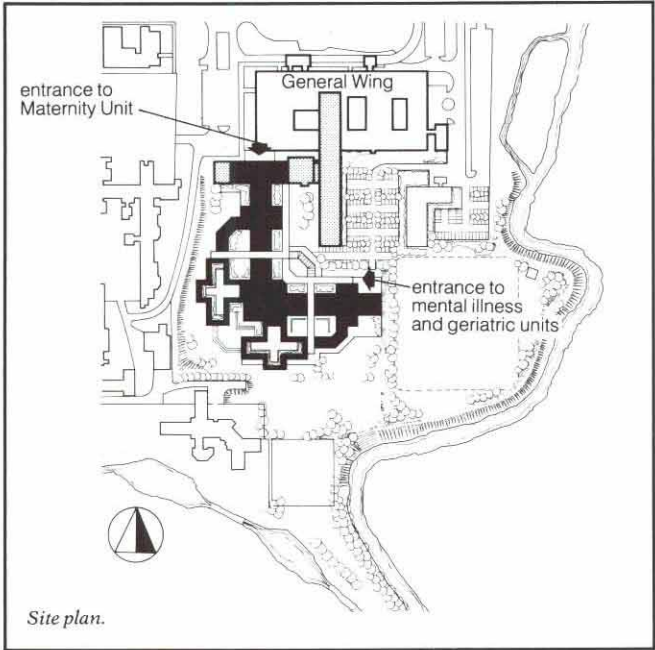
One might imagine that after three years of hard graft, Stuart Bexon would have had enough. But he is immensely enthusiastic about the possibilities of the earth-sheltered house, which he sees as an expanding theme throughout the country and beyond. He is helping others with the design and construction of earth-sheltered homes, and says that he will certainly undertake another earth-sheltered house project himself. Such is perseverance and staying power. But certainly the end product is one that many of us might find attractive to live in, both aesthetically and practically, and that deserves to be taken up on a much wider scale in this country and elsewhere.

MATERNITY UNIT

Ealing Hospital Maternity Unit,
Uxbridge Road, Southall, Middlesex

Client:	North-West Thames Regional Health Authority
Architects:	HLM Architects
Structural engineers:	Clarke Nicholls Marcel
Quantity surveyors:	James Nisbet & Partners
Main contractor:	John Laing Construction Ltd
Concrete blocks:	Forticrete Ltd
Photographs:	Graham Challifour

This is by no means the first building by HLM Architects (previously Hutchison Locke and Monk) of Richmond to be illustrated in *Concrete Quarterly*. Among the most successful and recent examples of their work have been the home for the elderly at Woking (CQ 145), the Pathology Department at Cheltenham Hospital (CQ 147), the Princess Alice Hospice at Esher (CQ 152) and Broxbourne Council Offices (CQ 153). To this impressive range of friendly and efficient buildings, we now add the new Maternity Unit at Ealing Hospital, the first phase of a major redevelopment of the hospital site. As with all of these buildings, the most immediately appealing quality of the Maternity Unit is its human scale, its care over detailing and the imaginative use of materials; the elevations are faced with a combination of white rendering and horizontal bands of concrete blockwork in two colours. The building strikes an



almost domestic note in comparison with the original multi-storey General Wing to which it is attached – a fairly typical slab block dating from the 'sixties.

Site

New development will be considered on half of the existing Ealing Hospital site, the other half to be sold on the open



market. At present, the site is occupied by a conglomeration of buildings ranging from three-storey Victorian 'Nightingale' wards to the more recent 400-bed high-rise General Wing. The 55-bed Maternity Unit is placed close to the General Wing on flat, grassy playing fields with a pleasant southerly view over the River Brent and the Grand Union Canal. It was commissioned in the summer of 1985, on the basis of a fast-track Nucleus development, started on site in June 1986 and completed in March 1988.

Design and materials

The Maternity Unit has a standard cruciform template plan generated by the Nucleus package which was preferred by the project team because of its standardized briefing methods, integrated services and programme economies. The unit comprises ante- and post-natal wards, an ante-natal clinic, a central delivery suite with a special-care baby unit, and occupies most of the three templates provided, the remainder being taken up by an administration suite.

The accommodation is served by a new main-entrance link which is a lightweight glazed structure placed on the existing podium slab of the General Wing. It has a galleried two-storey interior and links the new maternity unit to the main hospital with access to the new hospital 'street'. The street will be extended in future phases to provide psychiatric and geriatric accommodation.

The Maternity Unit is a compact three-storey structure with an in situ reinforced concrete frame, ribbed floor slabs and concrete block walls with facings of 'Bath stone' and white blocks in alternating horizontal bands. These are contrasted with areas of white rendering. The pitched roof, clad with coloured profiled-steel sheeting, provides enclosure for services around the central plant room.



Opposite: The Maternity Unit seen against the original multi-storey General Wing of Ealing Hospital – a standard 'sixties' block.

Top right: The new main-entrance link block, on the existing podium slab of the General Wing of the hospital.

Right: The Maternity Unit is faced with alternating horizontal bands of 'Bath stone' and white concrete blocks, contrasted with areas of white rendering.

FLORIDA FANTASIES

Notes from the Walt Disney World,
Orlando, Florida

by George Perkin

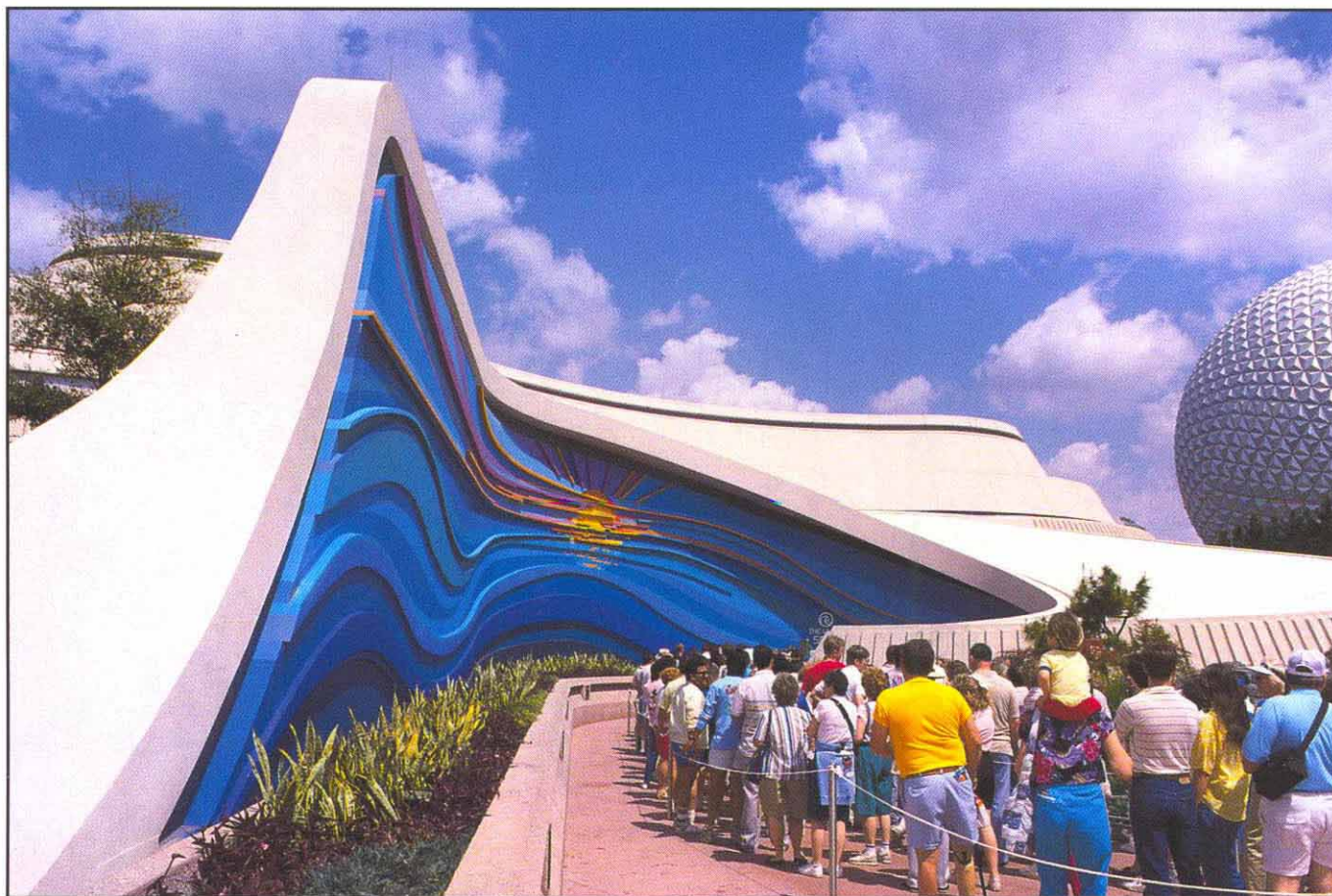
My American hosts were quick to point out that Florida is the playground of the United States and therefore not representative. And so it seems. From the air, the Florida peninsula appears as a flat green plain overlaid by a grid of motorways, which about sums it up. Not so many years back, of course, it was quite different and the land was taken up by farming and orange groves. The march of civilization has seen all that off, and the almost total lack of fresh fruit and vegetables is one of the first things you notice. The great transformation has taken place for two main reasons: one, obviously enough, is that Florida becomes every year fuller of refugees from the cold-winter northern states, particularly New York; two, that everyone comes to Orlando in order to see the great twin wonder-shows of the Walt Disney World which settled there some seven years ago – the Epcot Center and the Magic Kingdom. Between them, they have entirely transformed the whole *raison d'être* of the state of Florida, not to mention its ecological balance. "And this is only the start" the hotel manager, who came to Florida from India by way of Devon in the UK, told me as we drove in an extremely luxurious limousine along the motorway. "Oh well" I said as I got out and thanked him for the lift "I daresay you will not be going back to Devon. Have a nice

day". He drove off, diamond rings flashing in the bright sun. Maybe he was thinking of his early days in Calcutta.

In the hotel reception, a blonde lady who must have been all of 55 wore a black Mickey Mouse head-dress with large circular black ears. The breakfast menu offered juice, eggs-as-you-like, brown hash, grits, pancakes and jelly. The eggs were real. And this was more important than you might think, in a world where make-believe has been taken to its ultimate lengths. Here there are beautiful people with beautiful manners. Everyone is charming. No voices raised in anger. No vandalism. No graffiti. Almost everywhere, no smoking, and quite often no drinking either (none in the Magic Kingdom). And, of course, all the toilets are Rest Rooms. On the other hand, it may not be quite safe to walk into town alone at night. Significantly, a notice in the bedroom informs guests that a "Clergy Person" is in attendance, and there are 15 different religious denominations offering church services, from Baptist (Southern) to Charismatic.

But the Walt Disney World, some twenty miles outside Orlando, is no joke. It is to be taken with extreme seriousness. Surely never before (apart, no doubt, from its counterpart Disney Land in California) has Pretence been elevated to such a High Art Form. If it is escape you are after (and who isn't), then you can have lunch by the Doge's Palace in Venice and actually believe you are there. Alternatively, if High-Tech is your taste, then the Epcot Center will shoot you off in a rocket for a visit to Mars, and the seat goes up and down as you blast off and splash down – with a mocked-up emergency for good value. It is all riveting stuff, taken to a sophisticated professional level. It must also be one of the most lucrative attractions in the world, entrance tickets are about £17 each.

As to the buildings in the Magic Kingdom and the Epcot Center, the former will appeal to all conservationists, traditionalists and those concerned with heritage; the latter will appeal to all progressives and those who like to peer into the future through the marvels of technology. The





Opposite: The pavilion of the Living Seas at the Epcot Center, Florida – a striking example of painted concrete. On the right, the faceted glass sphere which is a centrepiece of the exhibition (See also front cover).

Above: The Space Mountain in the Magic Kingdom, architecturally one of the best pavilions in the exhibition.

Right: The concrete viaduct structure for the monorail, one of the main and most efficient forms of transport in Disney World, transporting large crowds of people speedily and comfortably.

Bottom right: Venice at the Epcot Center – Campanile, Doge's Palace and all.



Magic Kingdom is a masterpiece of reproduction and fake, with whole streets from past centuries, much of it done with great attention to detail and period; the Epcot Center includes some fairly smart triumphs of modern technology, a faceted glass sphere as the centrepiece, pyramids of water and reflections, and two or three interesting uses of concrete. The most obvious, and perhaps useful, of these is without doubt the extensive concrete viaduct structure supporting the overhead monorail trains which convey great masses of people smoothly, rapidly and agreeably across and between the exhibition grounds, with the advantage for the passengers of fine views out over the campus. One can't help thinking that such a system must have something to say to our overworked, overcrowded and wholly disagreeable public transport system in London. A second strikingly good use of concrete in a structure occurs in the pavilion of *The Living Seas*, which takes you in capsules down to the bottom of the ocean, and is a building of flowing concrete curves brilliantly painted in wave patterns of vivid marine blues. As an example of the effects that can be achieved with painted concrete, it is outstanding. A third is the *Space Mountain* in the Magic Kingdom – a domed and pinnacled concrete building of elegance and drama that demonstrates well the plastic potentials of the material and houses, incidentally, a place of startling adventures where you "Experience a winding, soaring race through space on a roller coaster-type ride. Note health restrictions and minimum height and age requirements... Loose articles should be removed and secured..."

On the whole, an experience not to be missed. Have a nice day – although actually you will need two.



TERRACE LINK

Housing at Ambrose Road/Crosby Road, Bristol

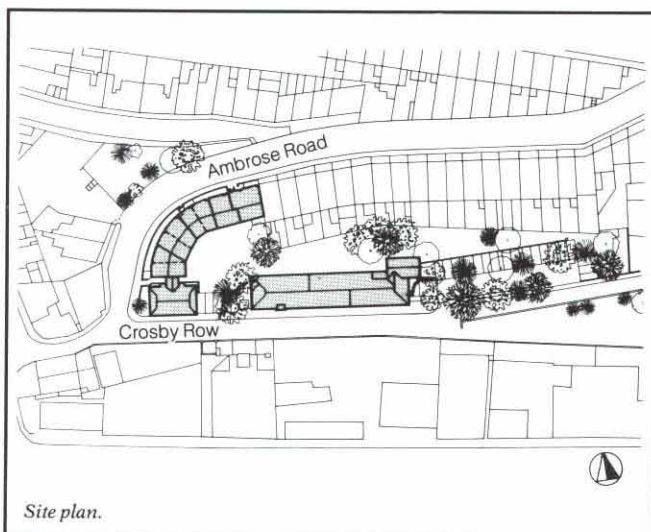
Client:	Knightstone Housing Association
Architects:	Moxley Jenner Ltd (Bristol office)
Structural engineers:	Clarke Bond
Quantity surveyors:	Banks Wood and Partners
Main contractor:	French Kier Construction Ltd (now Kier Western Ltd)
Denzcrete Super 6 blocks:	ECC Quarries Ltd
Photographs:	Simon Doling

Housing on a derelict bomb-site in an improving area of Bristol has finally risen like a phoenix from the ashes after 14 years of protracted discussions and investigations. The site had lain waste since the war and was overgrown with buddleia. One of the reasons why the site had been vacant for so long was the apparently insurmountable difficulty of building on it: parts of the site slope by as much as 1:1. Shortage of money and endless planning objections were further obstacles. But finally the architects Moxley Jenner Ltd of Bristol triumphed over all adversity, and the result is a smart crescent of flats in Ambrose Road for the Knightstone Housing Association which fits so well with the adjoining old terrace that some people think it has always been there and is merely refurbished rather than newly built. Alongside it, a further terrace – low-key and modest – replaces Crosby Row, a terrace of demolished cottages.

Planning and construction

The Ambrose Road flats are four storeys high and divided into separate individually-expressed bays, with at least half a floor difference in level between each bay because of the steeply sloping site.





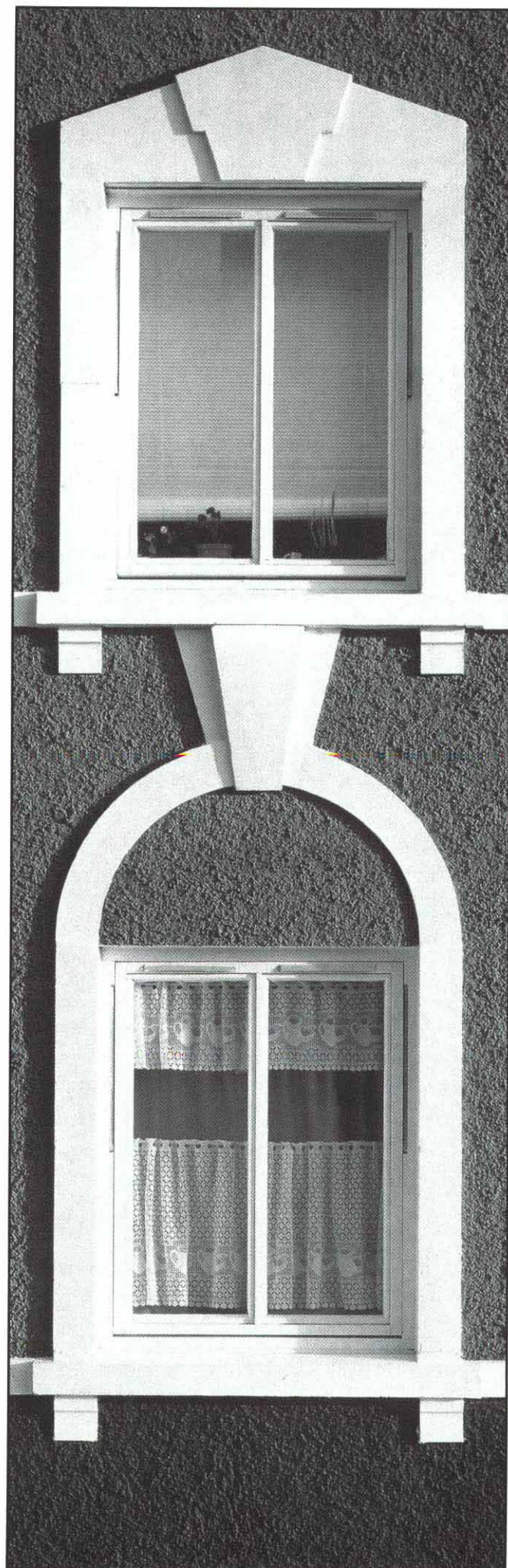
Opposite and right: The curved crescent of flats in Ambrose Road responds to the panelled and painted frontages of existing terrace houses with textured roughcast cement renderings of different colours. Precast concrete dressings are painted white.

The sub-structure was complex involving the diversion of a drain running diagonally across the site, and an extensive system of waterproofed in situ reinforced concrete retaining walls. In addition, a special concrete platform had to be erected at the top of the site to support a tower crane. The superstructure is generally of in situ concrete floor slabs supported by cavity concrete block walls; the inner leaf consists of blocks with bonded polyurethane insulation on the cavity face.

The architectural approach to the development was to some extent dictated by its historical background. For instance, it was decided to replace the demolished cottages of Crosby Row by a low-key modest brick terrace in which – unusual for a housing association project – the ground floors are occupied by integral garages; this was partly because the reinforced concrete retaining wall directly behind Crosby Row prevented the use of rear windows at ground level. The flats in Ambrose Road were more difficult: the new building had to join onto the end of an existing terrace; it also had to sweep in a sharp curve round a corner and down a very steep hill. In addition, the facade treatment had to respond to the panelled and painted frontages of the existing terrace houses, and this has been strikingly carried out in contrasting coloured renderings. These are textured roughcast cement renderings thrown at the concrete block walls and painted with Sandtex Matt in standard colours. The renderings contrast with crisp precast concrete units painted white which form window surrounds, horizontal bands at sill levels and vertical edgings; these were specially made to the architect's specifications.

The problem of relating the flat interiors to the steeply-sloping roadway outside was considerable, but far more difficult was the question of providing two rooms on each floor without destroying the rhythm of the surviving part of the old terrace. An ingenious piece of deception was thought out for the kitchen and bathroom windows which are skilfully concealed behind louvres in the vertical recesses between the separate bays; these alternate with similar vertical recesses containing rainwater pipes – a successful device which the architect once called "ludicrous and dangerous".

This pleasing example of architectural skill and perseverance in the face of nearly insuperable difficulties has resulted in 39 flats and 2 town houses, and was carried out for approximately £965,000.



BONNIER BANKS OF LOCH LOMOND

Improvements to the banks of the River Leven, near Loch Lomond, Scotland

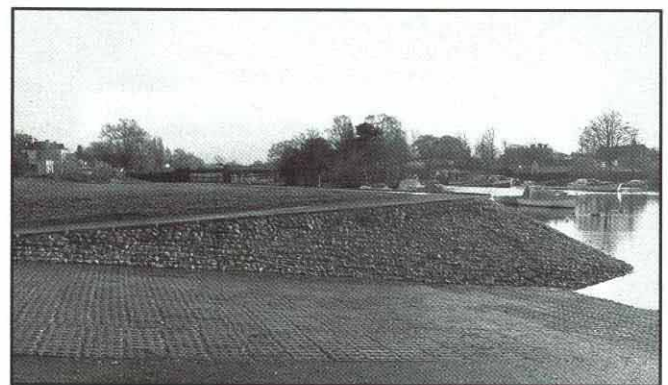
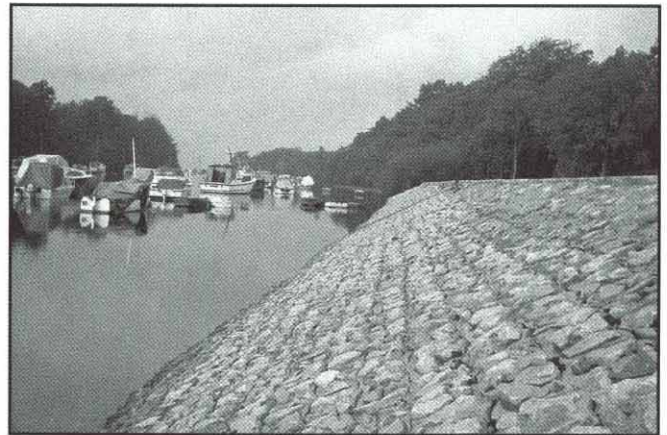
Client:	Dumbarton District Council
Consulting engineers:	Crouch & Hogg
Contractor:	Tough Construction Ltd
Revetment blocks:	RBS Brooklyns

Erosion to the east bank of the River Leven where it flows out of Loch Lomond, opposite Monkey Island, has been halted by reinforcing it with precast stone-faced revetment blocks. At the same time, the landscaping of the river bank has been carefully considered – a particularly important issue in such a well-known tourist area.

The improvement work is the result of consultation between Dumbarton District Council, The Scottish Development Agency and the consulting engineers Crouch & Hogg. The most effective solution to the twin problems of erosion and harmonious landscaping proved to be the use of Dytap interlocking precast concrete revetment blocks faced with a random pattern of Raynes limestone.

The scheme involved over a thousand square metres of Dytap blocks which were produced in the form of articulated panels for installation by the contractors Tough Construction of Glasgow. The precast concrete blocks are made in a series of sizes and are cast with holes running through the short axis to house flexible non-corrosive tendons which enable the blocks to be pre-assembled into panels. This allows the revetment blocks to be lowered under water and articulated to the curvature of the river bank. They are then secured at the top of the bank by fixing the tendons within an in-situ concrete anchor beam.

The scheme has been completed by the construction of a slipway using Dycel units – a similar form of articulated revetment but in cellular blocks. These create a practical



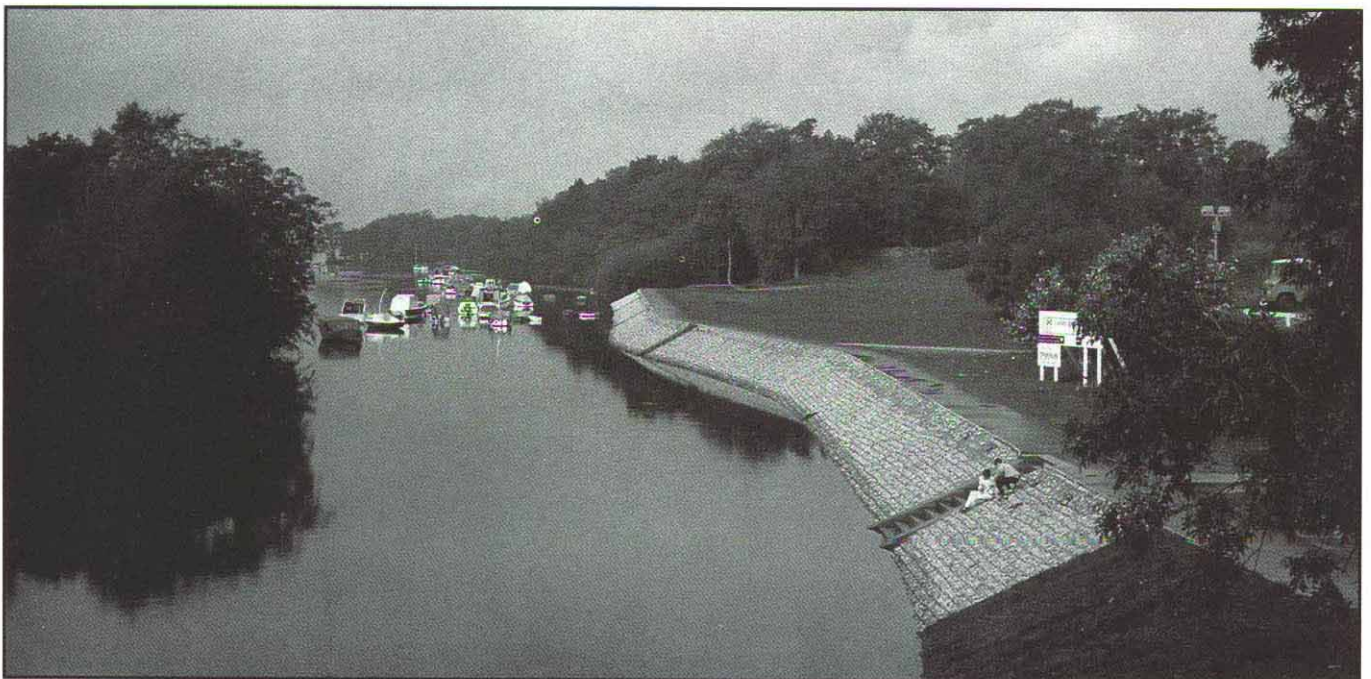
Top: Detail of the Dytap revetment blocks.

Above: The scheme includes a slipway using Dycel revetment units.

Below: General view of the Dytap revetment scheme showing the preservation of the bank of the River Leven where it enters Loch Lomond.

working surface, the cellular cavities being filled with gravel to blend with the surrounding landscape.

This revetment scheme is typical of many others, using the same blocks, that have been carried out for both inland and coastal protection schemes and have proved extremely cost effective.



COTSWOLD CONTEXT

Weston Manor Hotel, Weston-on-the-Green, Oxfordshire, and
the Hatton Court Hotel, Upton St. Leonards, Gloucester

Weston Manor Hotel, Weston-on-the-Green, Oxfordshire

Architects: Norman Machin and Associates

Contractors: Hinkins & Frewin (Oxford) Ltd

Bradstone roof slates: ECC Quarries Ltd

This major refurbishment scheme has won an Oxford Preservation Trust Award for the architects Norman Machin and Associates. It involved the conversion and renovation of a stable block at the Weston Manor Hotel in Weston-on-the-Green, Oxfordshire, which is a Grade 2 Listed Building of Cotswold stone walls and roof slates. The stable block had been severely damaged by fire some ten years earlier, and the hotel owner and proprietor, Dudley Osborn, was obviously keen that the refurbishment should blend harmoniously with the main hotel building. The new stable block provides additional accommodation for the hotel with 16 bedrooms and bathrooms.

The architects have commented that the existing stone slates on the stable block were unusable and that the cost of replacing them with new stone slates would have been prohibitive. They therefore decided to use Bradstone precast 'Cotswold' slates because they were both visually and economically an acceptable alternative, blending well with the existing stone materials. The new slates are weathering well and should soon be a very fair approximation of the original natural stone slates, if not almost indistinguishable from them.

Below: New precast 'Cotswold' slates have been used in the refurbishment of the Weston Manor Hotel at Weston-on-the-Green.



Hatton Court Hotel, Upton St. Leonards, Gloucester	
Consultant architect:	Barry Taylor, Warminster
Contractors:	Kenneth Needs (Contractor) Ltd, Bristol
Bradstone masonry and roof slates:	ECC Quarries Ltd

An important extension to a hotel in the Cotswolds has recently been built in which a prime consideration was the harmonious use of materials, both in the walls and on the roofs, to blend with the existing Cotswold stone building. This is the Hatton Court Hotel (formerly the Tara Hotel) at Upton St. Leonards in Gloucester, and the extension has enabled the hotel to offer fine facilities for meetings and private functions, making it one of the most attractive venues in the Cotswolds. About £1½ million has been spent on the extension.

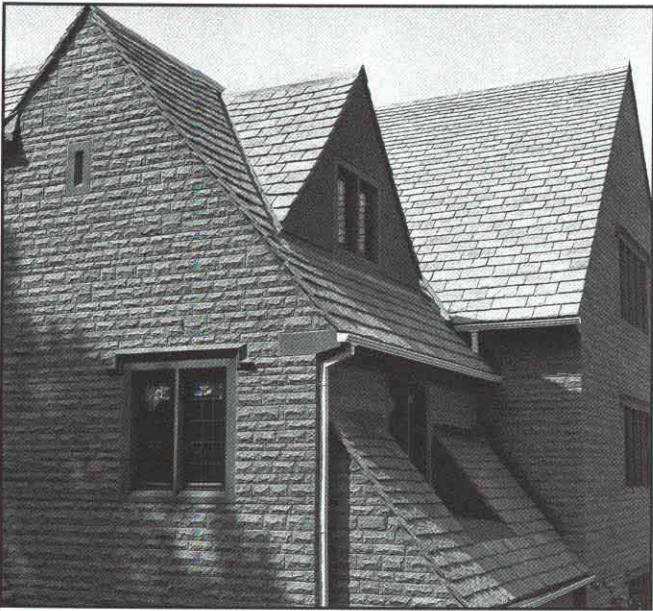
The extension was built with Bradstone precast masonry blocks in the new Squared and Pitched Walling

range. The blocks are of a Weathered Cotswold colour to complement the original building, and have been used in conjunction with window surrounds, lintels, sills, plinths and copings of a similar material. The walling is described as having "a slightly rocky texture, as was commonly found in 19th century buildings". The extension is capped with pitched roofs clad with Bradstone 'Cotswold' roofing slates in a Weathered Buff shade.

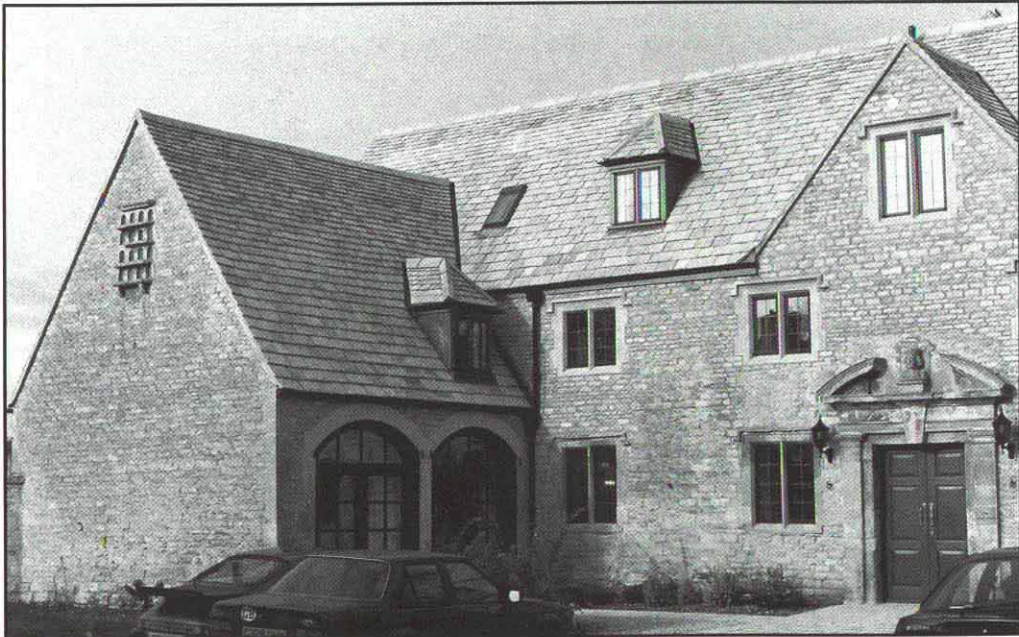
The Squared and Pitched Walling has the advantages of design flexibility and speed of construction, at the same time virtually eliminating cutting and waste.

Right: Detail of the precast masonry blocks and roof slates at the Hatton Court Hotel.

Below: General view of the new extension to the Hatton Court Hotel at Upton St. Leonards which has walls of Bradstone precast masonry blocks in the new Squared and Pitched Walling range and in a weathered Cotswold colour to complement the original building. The pitched roofs are clad with Bradstone 'Cotswold' roofing slates in a Weathered Buff shade.



Below: Two views of the refurbished stable block at the Weston Manor Hotel which has new Bradstone precast 'Cotswold' slates on the roofs – visually and economically an acceptable alternative to replacing the roof with new stone slates.

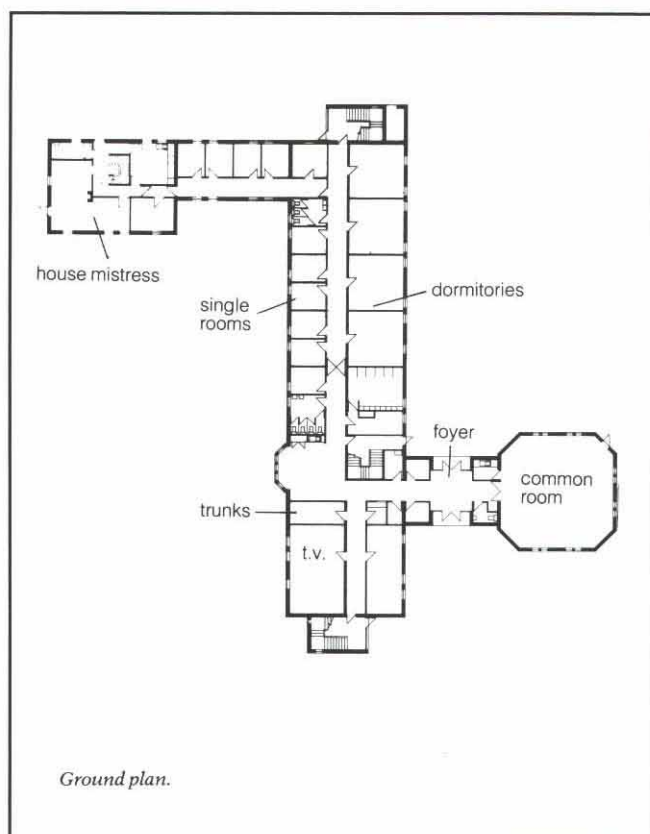


GIRLS' BOARDING AT GORDONSTOUN

New girls' boarding house,
Gordonstoun School, Scotland

Client:	Gordonstoun Schools Ltd
Architects:	Goodwin, Warner & Associates
Structural and M&E engineers:	Dinardo & Partners
Quantity surveyors:	Mason Revis Partnership
Main contractor:	David Forsyth & Co Ltd
Concrete blocks:	Tilcon Scotland Ltd
Precast concrete floors:	Bison Concrete Scotland Ltd

Although the well-known Gordonstoun School in Scotland, favoured by our royalty, has been co-educational for some years, this is the first purpose-built boarding house for girls at the school. Sited in a clearing of mature mixed woodland, the new building is unpretentious and of





extreme simplicity – as perhaps befits the austere setting – with its plain walls of pinkish-coloured rendering, or harling, punctuated by small windows and capped with slate roofs.

The new boarding house is designed to accommodate 60 girls in single study-bedrooms and dormitories for 4, 6 and 8 girls on the two main floors. In addition, the pitched roof space is used for single study-rooms for day girls and an assistant house-mistress's flat.

The house mistress has a two-storey wing of the building for herself and her family with direct access to the boarding house on both floors and a separate entrance. The main communal facilities are housed within the spine of the main building, the central corridor being widened in places for a social area with bay windows and facilities for making tea and coffee.

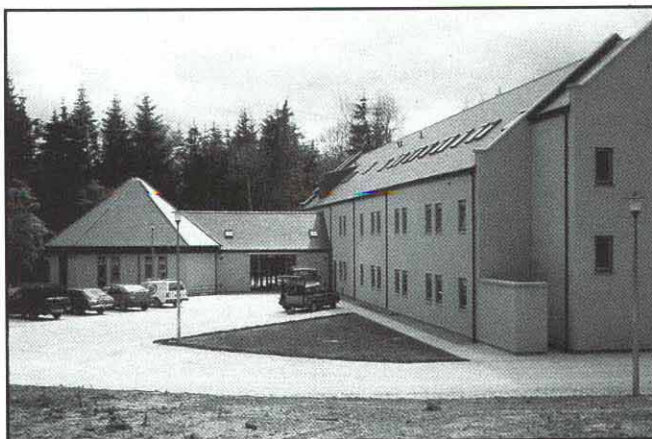
A special feature of the boarding house is the single-storey octagonal building with its open timber ceiling which is a mixed common-room for large-scale events such as social gatherings and discos when boys will be admitted.

Construction is of traditional loadbearing concrete blockwork harled externally with a warm-coloured cement rendering of a pinkish colour. Upper floors are of precast concrete, double-glazed windows of stained softwood, and the pitched roofs are clad with natural slate.

Building work began on site in February 1986 and was finished in May 1987. The boarding house was officially opened by the Duchess of York in September 1987.



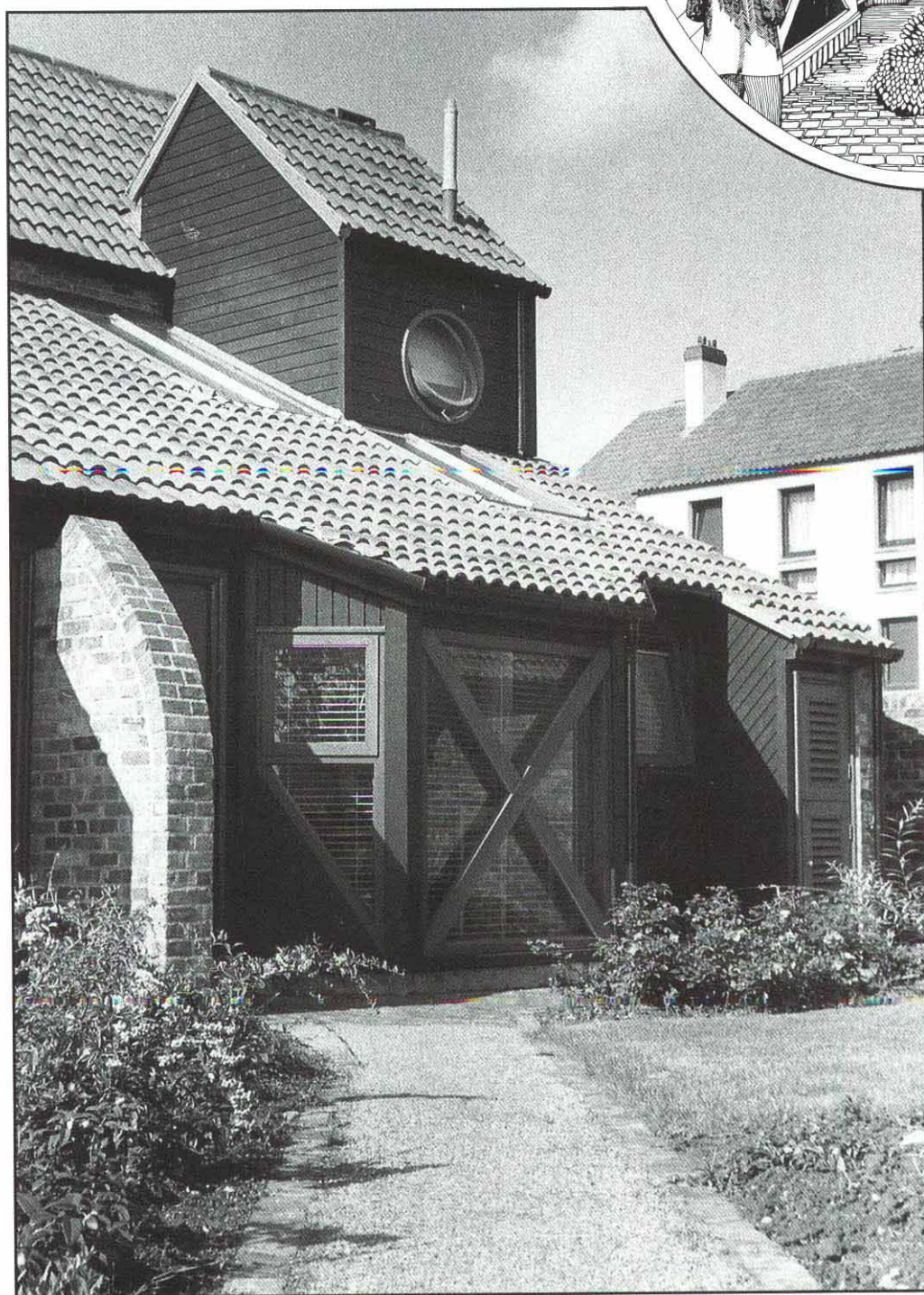
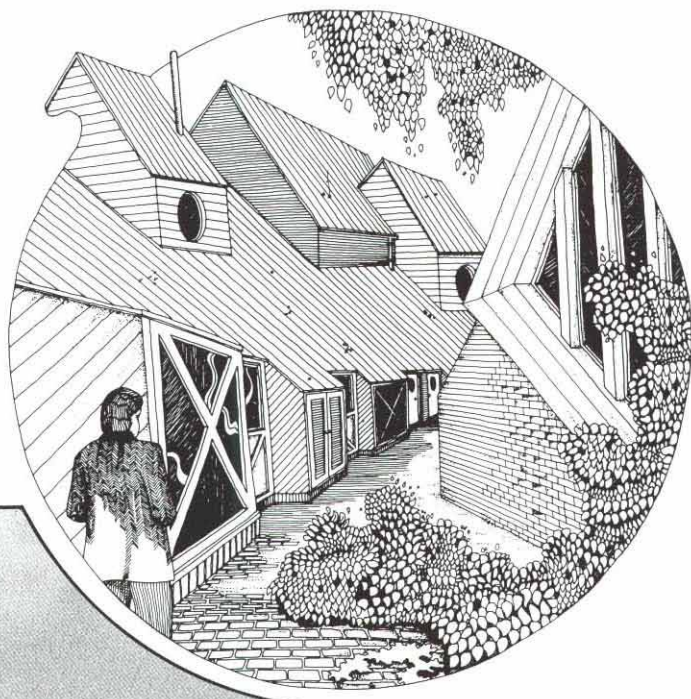
The photographs on these two pages show different aspects of the new boarding house for girls at Gordonstoun, sited in a clearing of mature mixed woodland. Walls are of loadbearing concrete blockwork harled externally with a warm-coloured cement rendering of a pinkish colour. Pitched roofs are of natural slate.



HOUSING FOR THE SINGLE

Newton Court, Stowehill Road, Paston,
Peterborough

Client:	Nene Housing Society Ltd
Architects:	Mathew Robotham Associates
Structural engineers:	Michael Stokes Associates
Quantity surveyors:	Clarence E. Smart & Partners
Landscape design:	Landscape Design Associates
Main contractor:	F.E. Peacock & Son (Thorney) Ltd
Concrete blocks:	ARC Conbloc Ltd
Concrete roof tiles:	Redland Roof Tiles Ltd
Precast concrete floors:	Trent Concrete Ltd



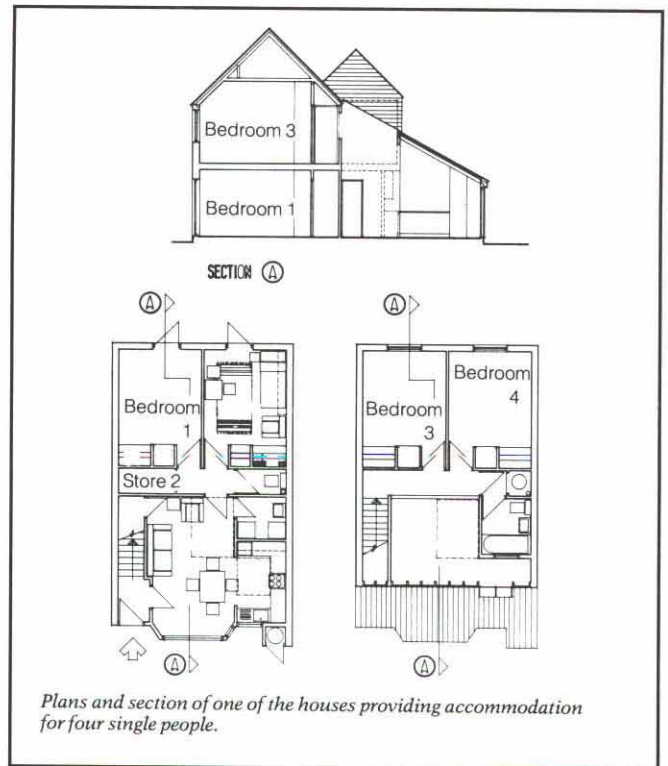
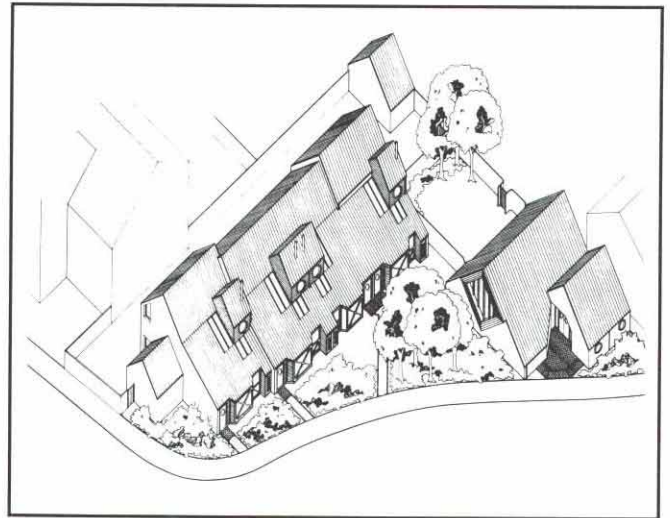
Above & Opposite top: The drawings show the relationship between the housing, with its dominant pitched roofs, and the landscaped surrounding spaces.

Left: Details of one of the four houses of shared accommodation for single people. External finishes combine timber stained black and red concrete roof tiles.

Over the years, it has always been a pleasure to show in *Concrete Quarterly* the housing schemes of the Peterborough architects Mathew Robotham Associates which invariably display not only the mark of their own personal idiom, but more importantly a real understanding of what makes a pleasant domestic environment, with as much design attention given to the spaces between and around the buildings as to the buildings themselves. This small-scale housing scheme at Paston in Peterborough is very much in the same tradition with a series of houses providing shared accommodation for single people, linked to a meeting hall by a walled garden. The scheme actually forms part of a much larger development of 270 dwellings for the same Housing Society and the meeting hall is intended to serve the community as a whole, so that it is appropriately placed at the entrance to the large development.

Design

The scheme consists of four houses of shared accommodation for single people, each containing four bed-sitting rooms, a bathroom, a kitchen and a communal living-room, together with the meeting hall. The houses and hall enclose a pleasantly landscaped garden – a green space dominated by the large lozenge-shaped window of the hall. The scale of the houses has been greatly reduced by bringing the pitched roofs down over the living-rooms at the front to form a single-storey facade. The roofscape, which is a dominant part of the design, is punctuated by projecting bathrooms and rooflights which give the scheme a lively character. The garden at the back of the



Below: General view of the terrace of four houses for single people showing the dominant roofscape.



HOUSING FOR THE SINGLE *continued*

houses is communally landscaped whilst the walled garden to the hall provides an enclosed link between the two buildings.

Construction

The buildings are of traditional construction on concrete trench-fill foundations, with concrete blocks for the inner cavity leaf of the external walls, and screeded precast-concrete planks for the upper floors; the outer leaf of the cavity walls is of brick. Pitched roofs are of timber construction clad with 'Bold Red' concrete pantiles which form a major part of the external finishes.



Right & below: Community hall and window detail.



ALL SEWN UP

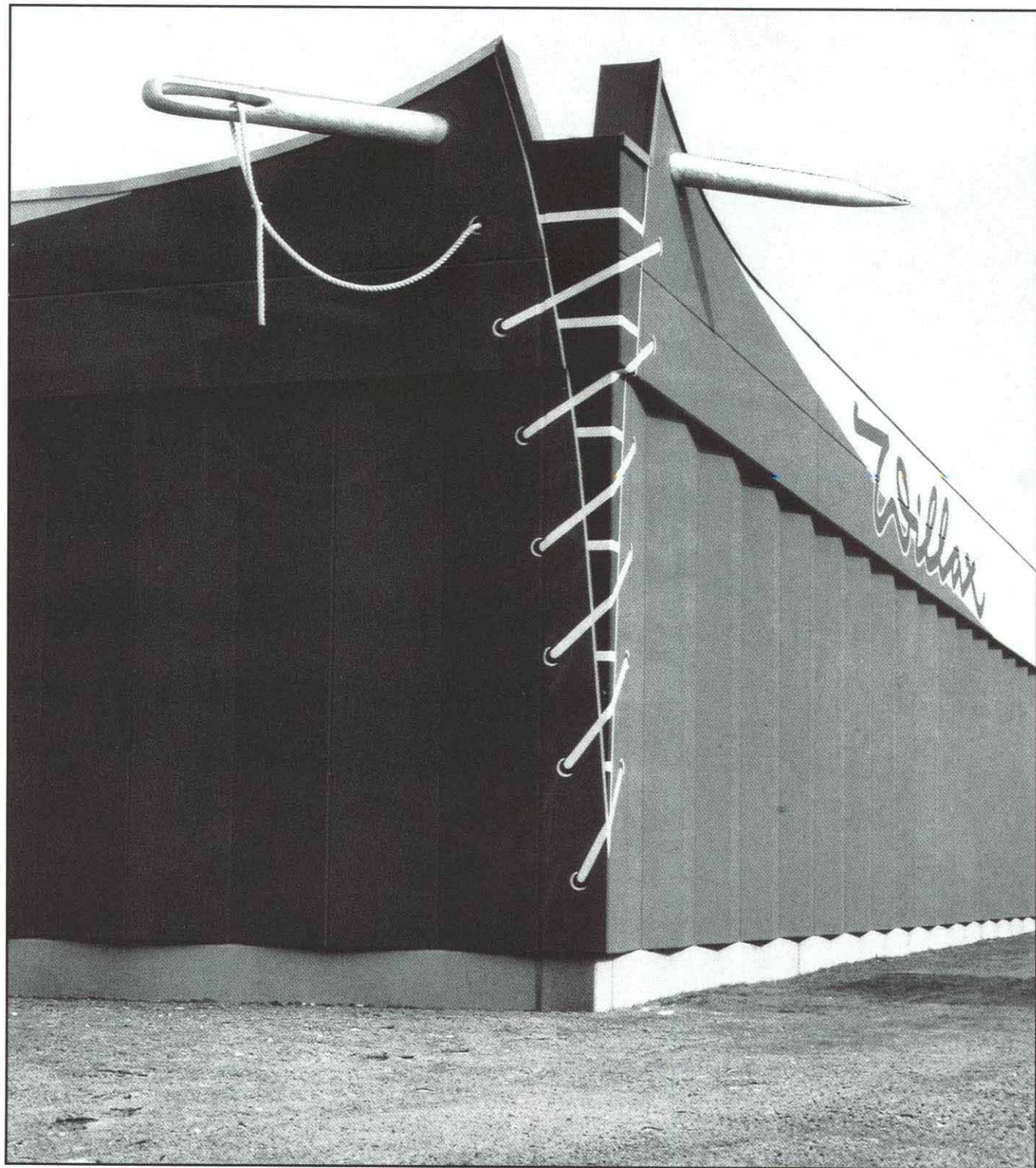
Willax Textile Company factory,
Beilngries, Bavaria, Southern Germany

Client: Willax Textile Company

Design and manufacture
of wall panels: Ytong Bayern GmbH

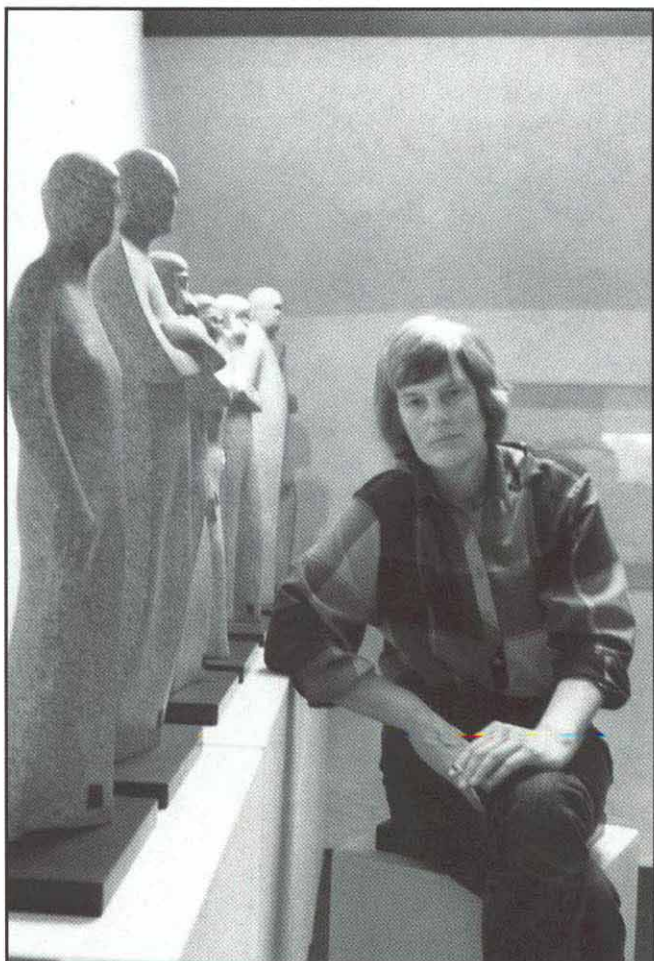
Architecture as advertising is a subject that some will approach with a good deal of circumspection. However, there are times and places where it might be appropriate – particularly if treated in a lighthearted jokey manner as in this clothing factory in Southern Germany.

The wall panels are of Ytong lightweight aerated concrete and are trapezoidal and capped by a parapet of specially-shaped sections. The material Ytong has many qualities to recommend it for this particular purpose: being a quarter of the weight of dense concrete, the panels are flexible and easy to handle – qualities which obviously were useful in this factory. It has good compressive strength, excellent fire resistance as well as good thermal and sound insulation properties. The panels may be either loadbearing or used as cladding to a framed structure, and are made in this country by Ytong Nord GmbH of Peterborough.



TWELVE GOOD MEN AND TRUE

More sculptures by Carole Vincent

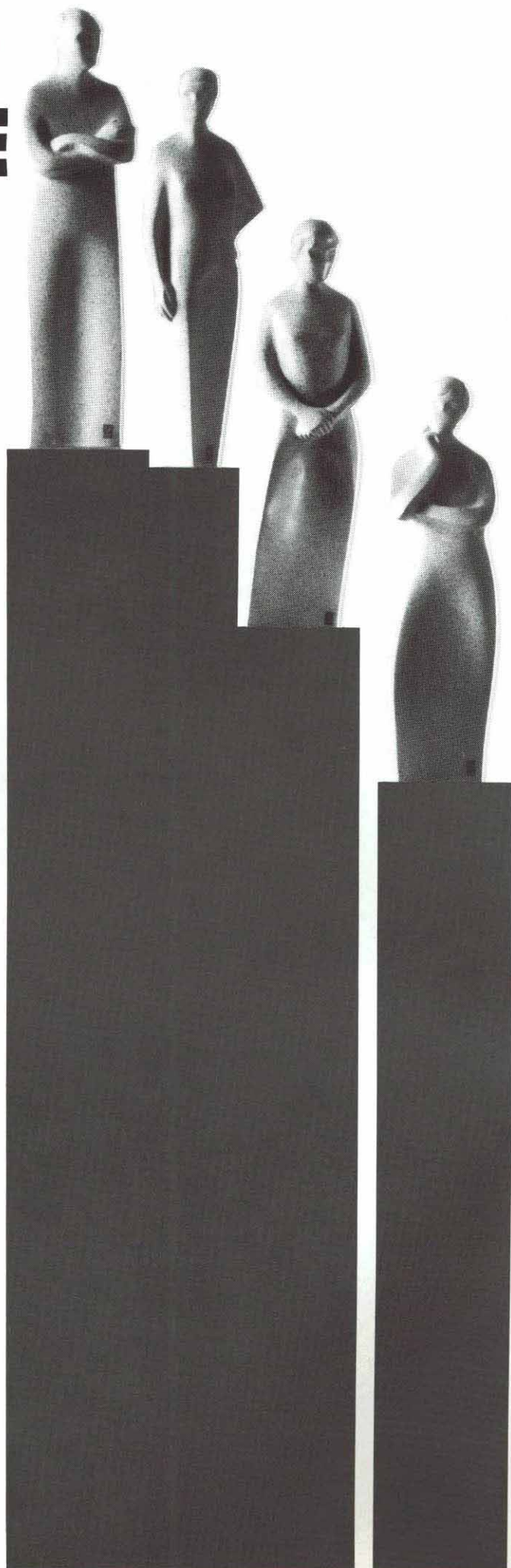


Above: Carole Vincent with her Twelve Good Men and True sculptures in concrete.

In *Concrete Quarterly* 149 we showed examples of Carole Vincent's impressive sculptures in concrete. We now include further examples of her work in which the same attractive qualities of simplicity in general form and shape, clean lines and smooth finishes are again in evidence. Carole Vincent works from her studio at Half Acre, Boscastle, Cornwall. From the point of view of this journal, her sculptures are particularly relevant because they exploit the plasticity of the material concrete and use it in a way that not only suits the nature of the material but also the character of her subjects.

One of her recent ideas is illustrated here – "Twelve Good Men and True" interpreted as twelve strikingly simple figures in different poses. She originally envisaged them as forming a skyline to the new Crown Courts in Truro on its hill-top site, although at the time the actual design of the building was not known to her. The architects liked the idea, but in the end, for various reasons, the sculptures were not used and are still looking for a home.

The idea for the figures was originally pursued in maquette form with figures about 2 ft high. Carole Vincent thought that twelve anonymous figures might lack character, so they were finally based on portraits of her family and friends. It took a year to complete them, and



she now feels that there is no need to make them any larger as much of their impact would depend on the right setting.

Casting

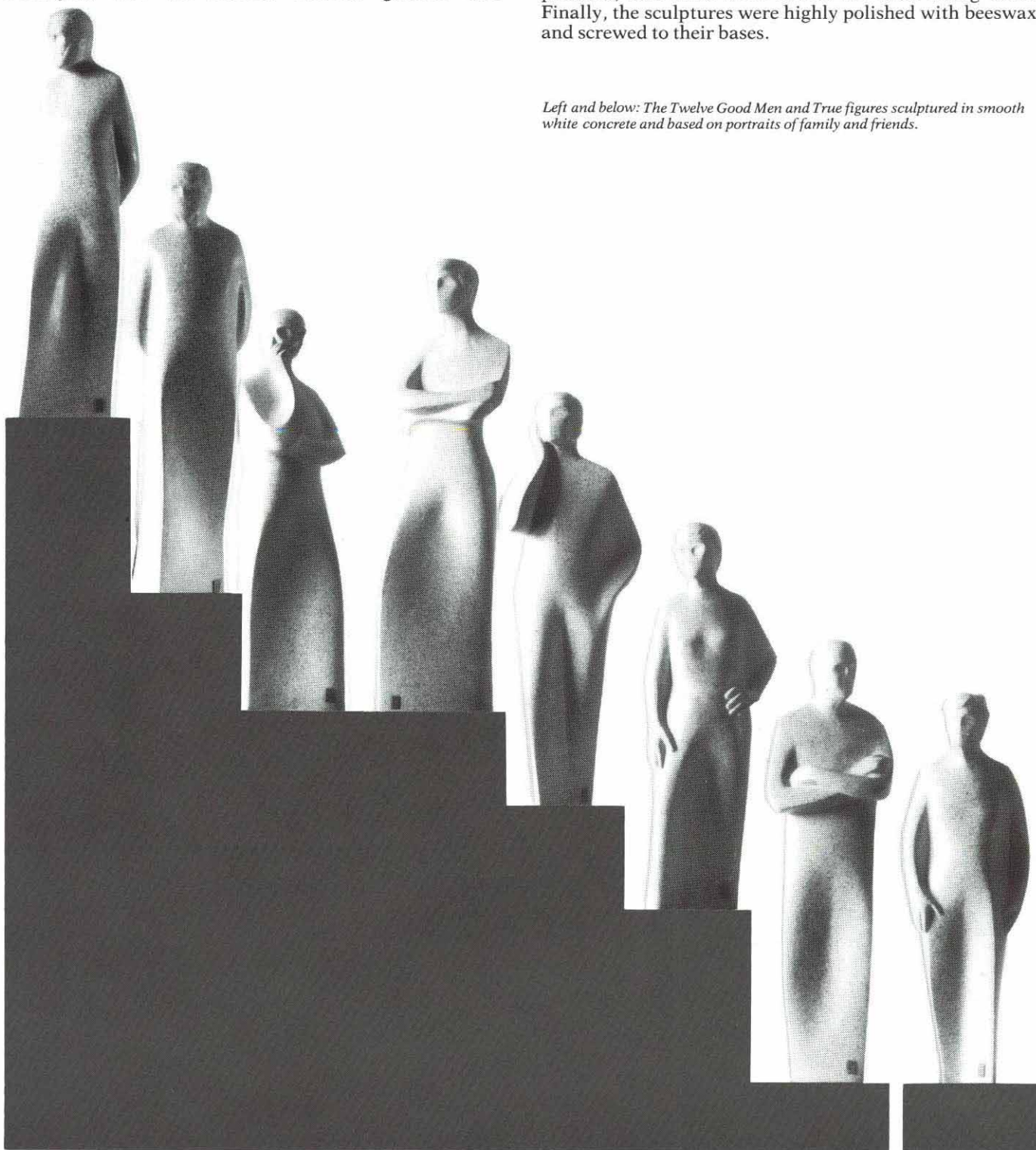
Like most of Carole Vincent's recent work, *Twelve Good Men and True* (actually women as well as men) are cast in concrete. The original figures were made in clay with a wood armature, first roughly modelled to give a general effect. The person for portrayal was at this stage called in to sit, the sculptor aiming at a timeless portrayal of character without superficial detail. The clay was then allowed to go to the hardness of leather so that it could be carved instead of built up. On completion, Mr. Charlie Burr was called in to make plaster moulds. Two or three of these were made at a time for convenience, the clay figures being kept in a damp condition with wet cloths and a polythene bag. The moulds were made in pieces so that they could be pulled off the concrete and then fitted together again like a jig-saw for a second casting. When they were completed, the clay figures were removed and destroyed, and the moulds washed, greased and

re-assembled ready for the concrete casting.

Stainless steel armatures and sleeves, for later fixing, were then fitted ready for the concrete. The concrete used was a mix of Delabole slate aggregate and white cement in a ratio of 4:1. The mixture was only made as wet as was necessary to allow ramming down and the exclusion of air pockets. When the moulds were filled, they were left for a week.

The moulds were then removed piece by piece and imperfections made good. This consisted of removing the fine surface skin to reveal the aggregate, sanding down under water, and re-establishing the sharp lines which are so essential to Carole Vincent's sculptures. Any air-holes were filled with the same aggregate using a 'bag-rub' technique. After three more days in a polythene bag, the surface was more finely sanded and any pin-holes filled. Small slate 'logos' with the initials of the person portrayed and the sculptor, together with the date, were then carved and inset into the sculpture bases. These were sanded and polished, and holes were drilled for brass fixing bolts. Finally, the sculptures were highly polished with beeswax and screwed to their bases.

Left and below: The Twelve Good Men and True figures sculptured in smooth white concrete and based on portraits of family and friends.



TWELVE GOOD MEN AND TRUE *continued*

Other work

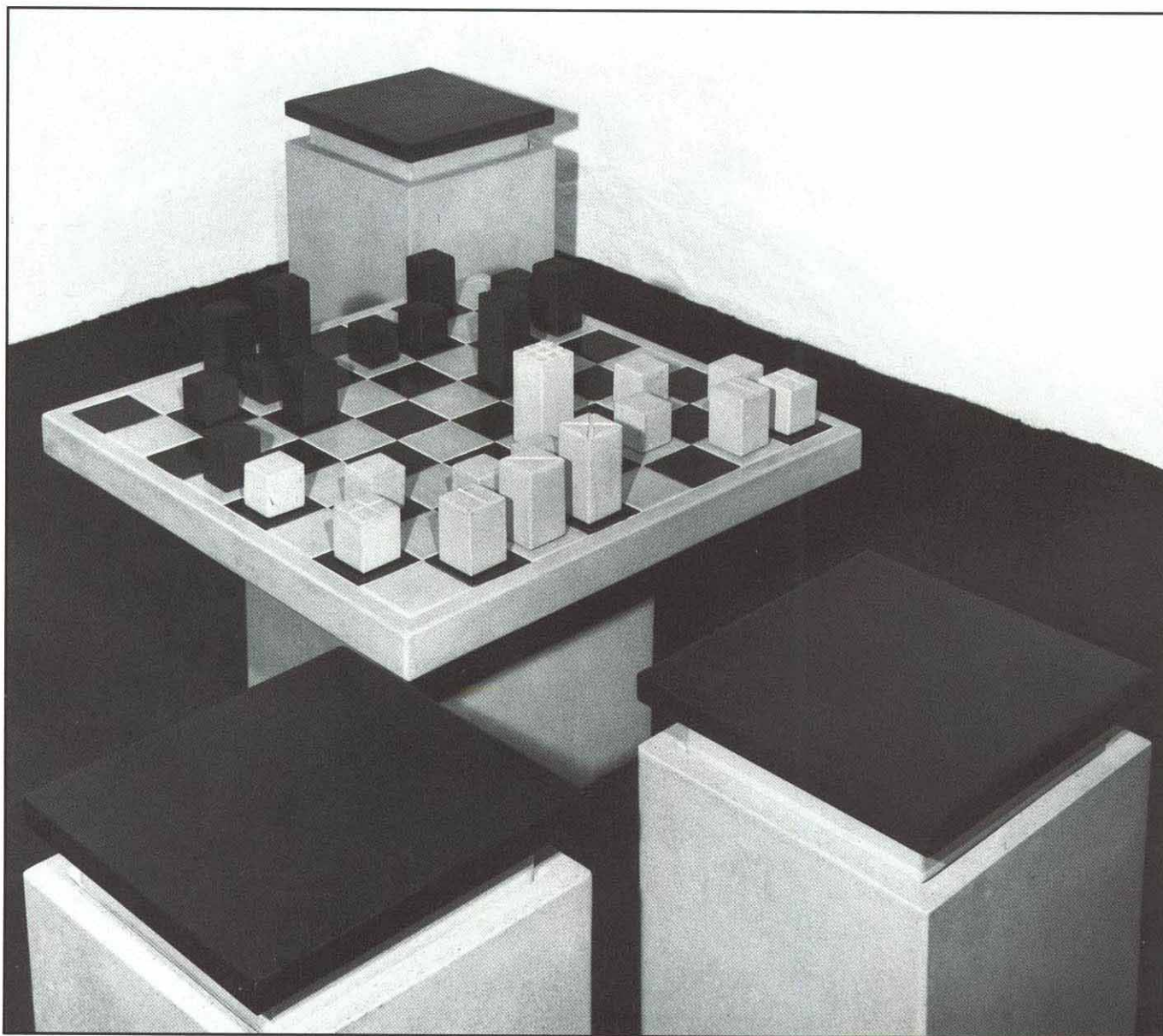
Other recent examples of Carole Vincent's work in the same material include a chess table, chessmen and stools which are made from her original designs by Alan Jones, and two strikingly eloquent figures, illustrated here – a mother and child, and a seated figure with cat.

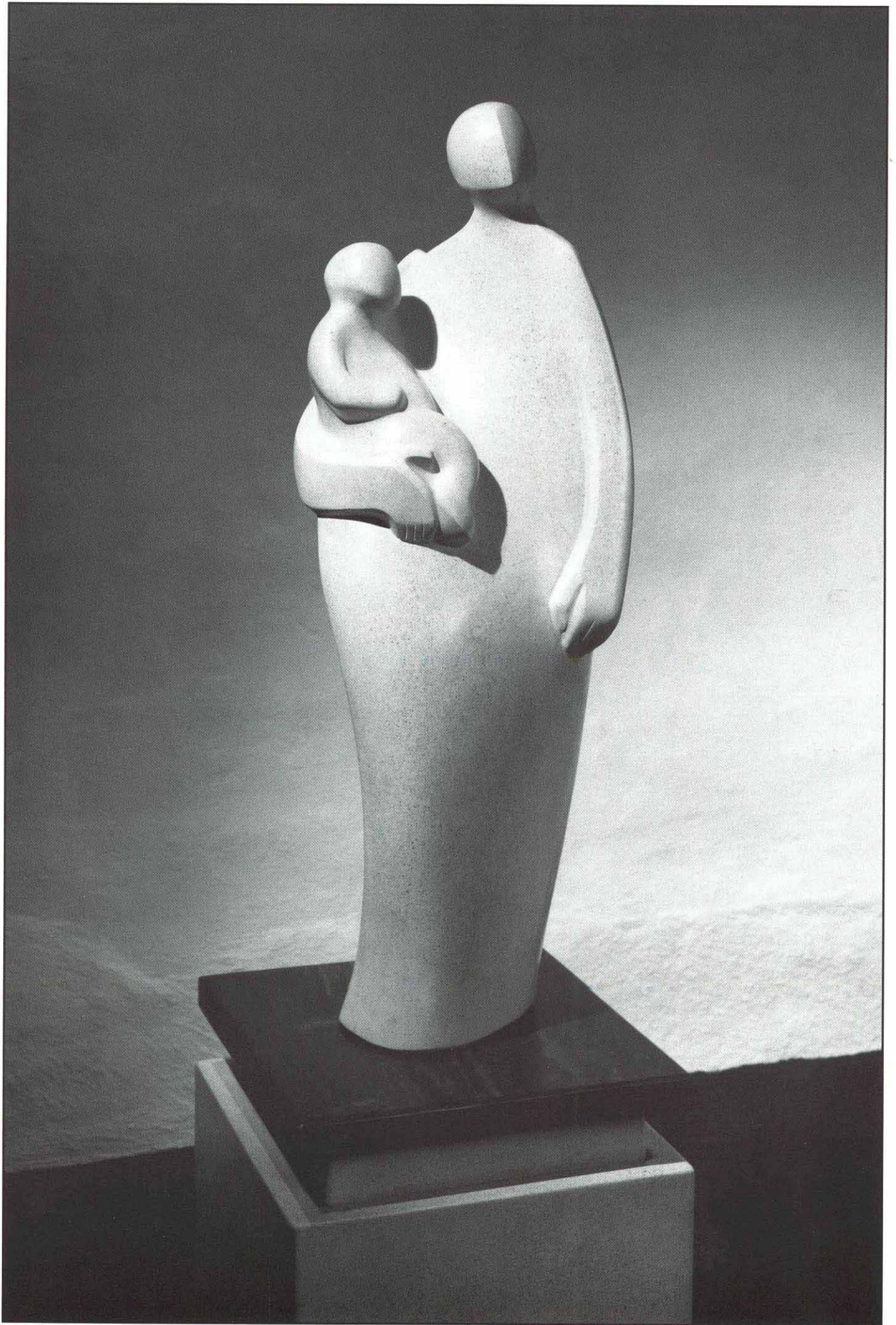


Opposite: Another sculpture in smooth white concrete by Carole Vincent – mother and child.

Right: Seated figure with cat, cast in the same material.

Below: Chess table, chessmen and stools made in concrete from Carole Vincent's original designs by Alan Jones.





GEORGE PERKIN

This is George Perkin's last issue of Concrete Quarterly. During his 23 years as Editor, his name and that of the journal have become inseparably linked.

Throughout that time, every issue has reflected his humane and perceptive judgement and his literary and photographic talents. His contribution to generating a greater appreciation of good architecture and the proper use of concrete, among professionals and lay people alike, has been immeasurable.

In addition to his skill in drawing together features on concrete construction from all over the world, George Perkin will also be remembered for his editorials, and particularly the very personal viewpoint expressed in 'Casting around'.

Many readers will also recall with pleasure that George Perkin's talent as a communicator extends to the lecture platform. Whether he is addressing an audience of construction industry professionals – in this country or overseas – or members of a village amenity society, he has that rare talent of establishing an individual rapport with each of his listeners.

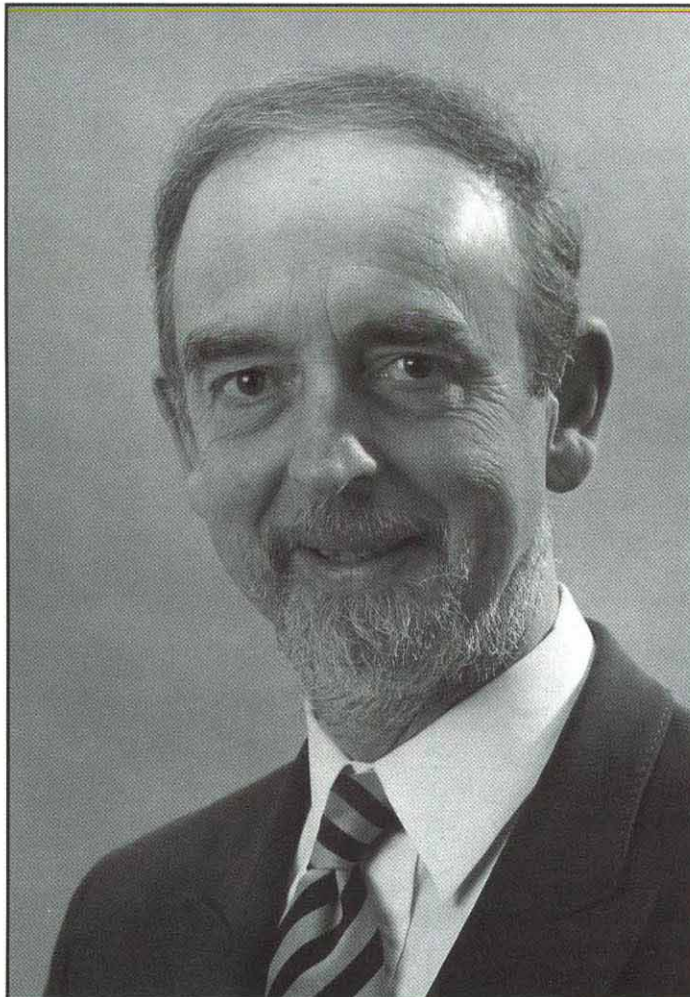
The apparent effortlessness of his polished work – both in print and as a speaker – belie the countless hours of meticulous preparation which he invests in everything he does.

The Association, the architectural profession and the construction industry at large are indebted to George Perkin for so effectively bringing their achievements to the notice of a wider audience.

We hope that his words and pictures may, from time to time, continue to grace the pages of future issues of Concrete Quarterly.

Ken Newman

Ken Newman
Director of Marketing and Standards
British Cement Association



Casting around

a quarterly column of notes and comments

In retrospect

Many years ago, in the London offices of the late Cement and Concrete Association, there was an exchange of memos that everyone thought were my marching orders, entitled "Curtains for Mr. George Perkin". Actually, they were simply about whether my status and position in life entitled me to hang curtains in my office, and if so what expenditure, quality and colour might be considered suitable. The matter was difficult, but finally resolved by a happy circumstance: the Director General's suite was being done over, so what better than to allocate me his cast-off curtains? In due course, a man was dispatched with a step-ladder to hang the curtains in my office. When we stood back to admire them, the effect was sensational: they came exactly half way down the window. I recall the incident because this time round it really is Curtains for Mr. P. and this, alas, is my last column. It reminds me how it all started – exactly 20 years ago, I see, in issue No. 79 of 1968, although I actually came on the scene in *Concrete Quarterly* 30 years ago in issue No. 38. I remember thinking that after 40 pages of solid concrete, the readers – not to mention the editor – might welcome a little light relief. The idea was sparked off by a rather good column that the *Architects' Journal* once ran called Not Quite Architecture. I wanted to do something that was Not Quite Concrete, but it seemed a bit of a crib so I called it Casting Around. The whole point was to try to put the material concrete into a much broader social context which, after all, was where it properly belonged. What I hadn't expected was that the column would forge a link between husbands and wives, because I kept getting these letters to say that the magazine was always taken home from the office on account of the inside back cover. And I thought that perhaps this was no bad thing as most wives found relatively little to interest them in their husbands' work. Paradoxically, however, I once got impaled on the barbs of Women's Lib just when I thought I was Striking a Blow for Women. It struck me then – as indeed now – that society undervalued the bringing up of children. I had just been amazed, I recall, by an article about a successful business woman who remarked that she had not started work until she was 30 because before that she had had three children! Unfortunately, my piece was interpreted as being Anti Careers for Women, and several cross ladies wrote to say that henceforth *Concrete Quarterly* would be regarded as a sexist magazine.

Not all our women readers, however, voiced disapproval. For instance, there was that mysterious telephone call one day from an unknown lady: "You'll think it an awful cheek because you don't know me, but will you come and have lunch?". I thought perhaps I had better be careful – you never knew, these days. Was she in London? Oh yes, she was in London, but she thought that lunch in her flat would be rather dull and that it would be much more amusing where her husband worked. And where did her husband work? "Well actually..." she hesitated... "Well actually, in the House of Lords...". It turned out one of my golden days, with a tour of the House and a debate thrown in for good value. Things have sometimes happened in the concrete world.

And then there was travel. In days gone by, the C&CA used to run some very imaginative foreign tours for designers and constructors to some of the notable buildings of the time, often to meet their architects and engineers – something you couldn't do on your own. There was Scandinavia for many years – all the rage for quality precasting – and Milan and Rome

for Nervi's buildings, and then, more ambitiously, the Far East: Japan was currently much in vogue architecturally. I see that my column on India, where we went en route, had some rather startling details: "Mr. Harbajan Singh dragged us through the bazaars to see cheap jewellery and pouffes... and also laid on bears and snakes. Mrs. Crosby-Manning, who was fastidiously dressed in a gauze hat like a meringue, gave a strangled scream..." Oh yes, things happened in those days. And it was in India that my life's Really Awful Moment came, with a passage that reads: "Arrived at the Road Research Laboratory in Delhi in a large coach with only two other people, the entire rest of our party having chosen to go shopping. The Laboratory had laid out elaborate food and drink for 85 people on the lawns, specially for us, with a band playing, waiters in gold turbans and a reception committee of some 30 people with ladies in fine saris..." The three of us were almost too embarrassed to get out of the coach. It still gives me a twinge whenever I think of it.

But when I look back through Casting Around, over the years, there are odd snippets that I find can still make me smile. For instance, there was that Poem of Love by a Mexican, Manuel Duran, that I was always quoting in my younger days: "And the miracle will happen, your mouth will have the taste of wet earth, of cement..." And then Neville Conder telling us about the "Ugliness of Flowers", meaning how carelessly they were often used, and how he had just seen the Queen handed a bouquet like "a dead baby wrapped in cellophane". I remember that the Elephant and Castle in London was a particular hobby-horse of mine and that once I went down into those dreadful underpasses and found a dear old man wandering about who said "Excuse me, I am not quite sure... where I am going...". We went and had a cup of tea to decide where we were, and all this gave rise to my interest in design for pedestrians. I see that in 1971 there was a lovely dead-pan bit of humour in an otherwise serious Paris exhibition on future urban projects. One architect presented a carefully illustrated panel with his proposals "To concrete over the 20 *arrondissements* of Paris to the top of the Eiffel Tower". Future projects: "Concreting over Western Germany. Concreting over Chicago. Concreting over Manhattan. Etcetera. Etcetera...". I particularly liked the Etcetera. About that time, graffiti

came in with a vengeance, and I recall going to work one day in a train carriage plastered with horrendous obscenities, but on the ceiling – in large red aerosol letters – was the ultimate, it seemed, in exotic tastes with the dreaded words: "*Len Roberts likes modern housing estates...*" We all stared at it aghast.

There are many minutiae such as these that I like to remember, but of course there were also the 'causes' that I felt impassioned about from time to time – closed-in shopping centres, for instance, (still have my doubts), multi-storey car parks (most of them awful), housing estates (sooner have the old terraced streets) and the demolition of still-solid and worthy Victorian buildings, even though they may not be of the first order architecturally (Mansion House scheme). And I am glad that I included photographs on this page of whole chunks of 'old London' before they went under the bulldozer, including half of Buckingham Palace Road, a whole block of Ebury Street and the old Army and Navy Stores. But I remember that a real *cri de coeur* came when I started giving lectures to the public on Building in Harmony (relationship of new to old) and found that I couldn't say what my job was, otherwise nobody would come. But of course they would find out: "We learn that our speaker" the Chairman of the Civic Society would remark with heavy accents "has been cemented in for 30 years..." Collapse of audience.

But of all the scribbles and jottings that have appeared in Casting Around over the years, I would choose this one to end on – from *Concrete Quarterly* 101 in 1971. It came from an anonymous Cockney gentleman and gives me heart for the future (hopefully, you too): "Life 'aint all yer want. It's all yer 'ave. So 'ave it. Put a geranium in yer 'at and be 'appy."

George Perkin

Below: The editor at home in a London garden. Paving and vases are made of you know what.



