

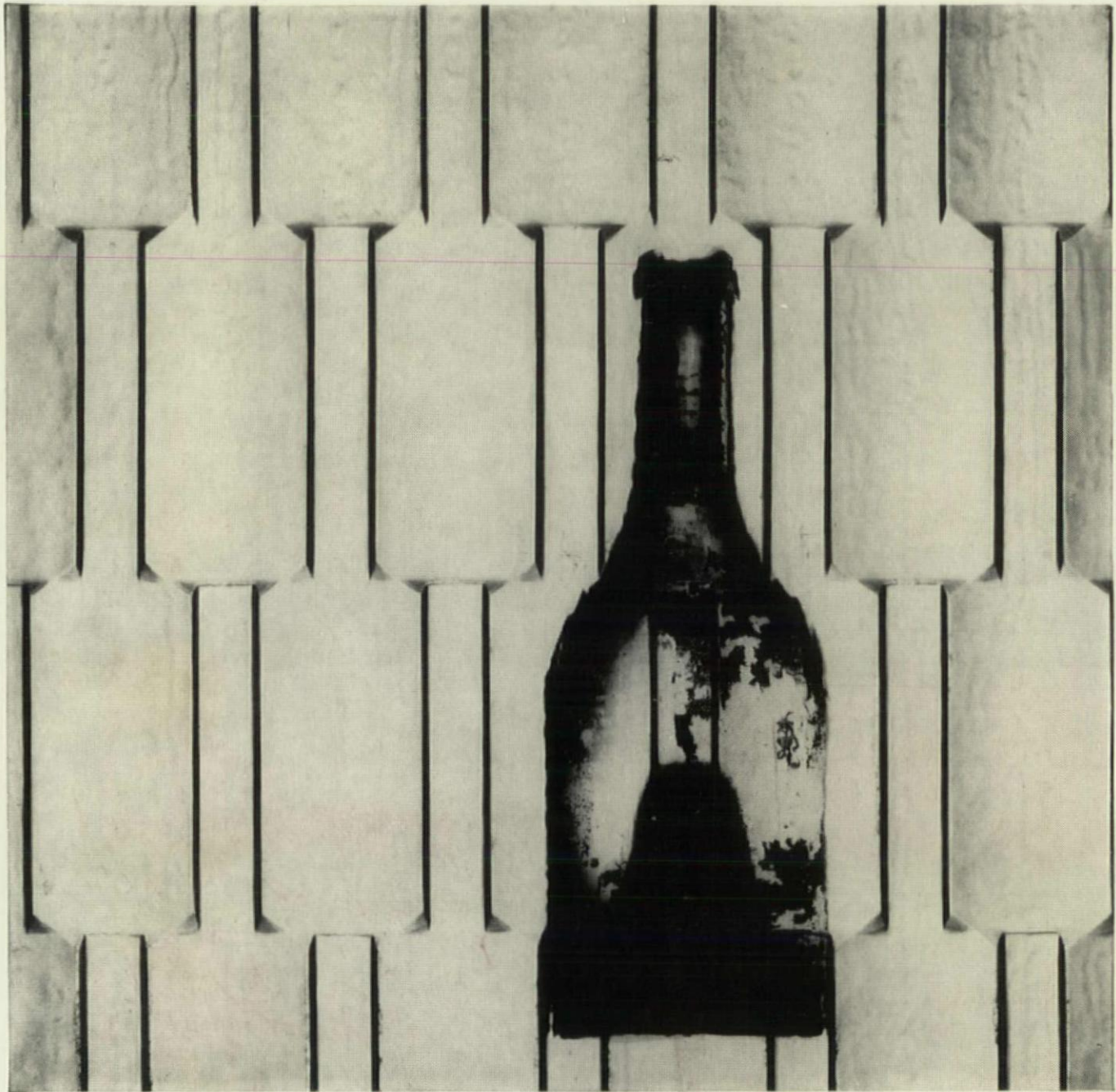
AR QE2



A SPECIAL ISSUE OF THE ARCHITECTURAL REVIEW VOLUME CXLV NUMBER 868 JUNE 1969 FIVE SHILLINGS

APT





## BOTTLE

One of three new patterns\* of cast glass designed by Glaverbel.

Bottle, a modern unusual design derived from the traditional wine flagon, and producing a novel light effect.

**Glaverbel** s.a. Brussels

*Distributed in the U.K. by:*

**EMILE REGNIERS & CO. (LONDON) LIMITED**

318, High Road, Ilford, Essex. Phone: 01-478 8201

\* Manhattan and Twist have also been designed for you.  
Samples on request.



The polypropylene chair business got off to a cracking start. But while other polypropylene chairs were putting architects in the hot seat by coming apart, we were still putting the Safe Seat together. The Proform chair.

It took us over a year's research to produce it. We made sure that our deceptively simple method of joining the shell to the legs (just two strong screws tapping into heavily reinforced bosses on the shell) was deceptively strong too.

And because we realise it is sometimes necessary for people to sit in rows, all our chairs have a special linking unit. We don't charge you any extra for this feature. We hate to think our prices were stopping people getting together.

And if for any reason anyone should be moved to throw our Safe Seat around, or jump on it from a great height, we thought of that too. We used ICI's very best polypropylene for the shell and we shaped it

to shape up to almost any punishment the chair has to take in its normal life.

When we'd worked on the works we looked at the looks. We produced the Safe Seat in five basic shell colours then we added a wide range of upholsterings to give you a chance to do your own things.

The legs got the full treatment too. A nice shiny coat of chrome. Or a coat of scratch resistant epoxy resin to make sure someone else's feet didn't put our legs to shame.

Having done all that work on making it we don't intend to sit down on the job when it comes to getting Safe Seat to where you want it. We'll have a stack of nice neat cartons on the doorstep in next to no time. We pack the Safe Seat in fives, ready assembled, just open the cartons when you are ready to use them.

We'll send you a leaflet if you drop us a line, but please make sure it's a Proform Polypropylene chair you specify.

It's better to be safe than sorry.

**PROFORM** by Mines & West

The Ryman/Conran Group  
Proform Division, Mines & West Ltd., Downley,  
High Wycombe, Bucks. Telephone 0494 30812/5.



WITHDRAWN  
FROM THE  
LIBRARY

THE BALTIMORE MUSEUM OF ART  
LIBRARY

# The safe seat.



# We offer seven reasons for specifying Bowater ceilings



Acoustic  
Random-drilled

and go to even greater lengths with  
our new crevasse panels

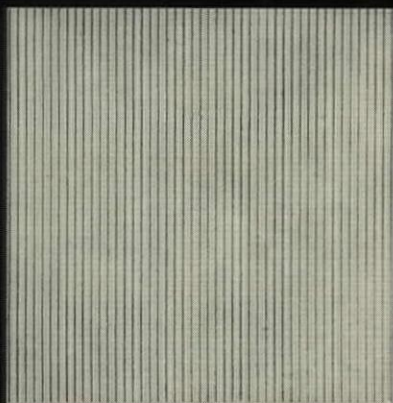


Crevasse  
—NEW sizes: 4' x 1' & 5' x 1'

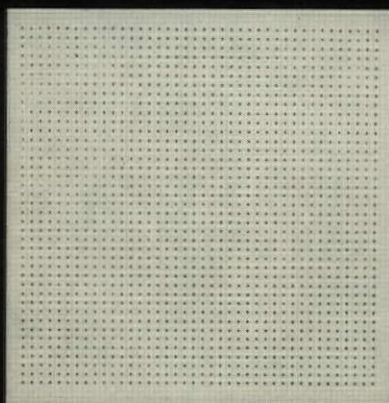




Fine Pin-hole



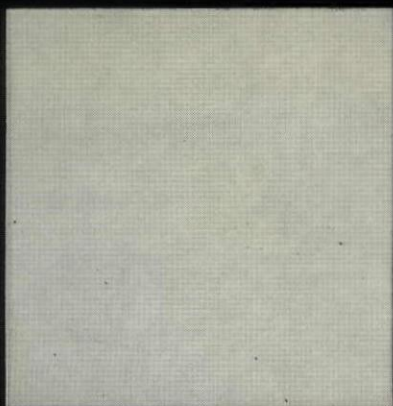
Striated



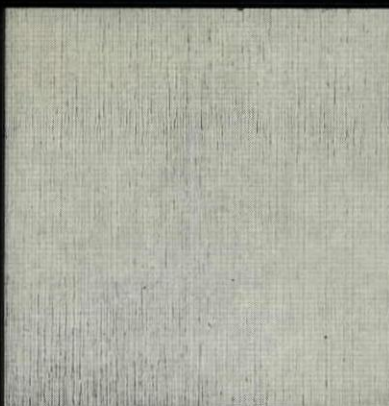
Acoustic  
Regular-drilled



Fissured



Plain



Crevasse

Endless scope . . . that's what you get with Bowaters Mineral Ceiling Panels. They are available in a wide choice of contrasting textures, sizes and fixing methods. Excellent sound/thermal insulation and fire-resistant properties

make them ideal for any location. The  $\frac{5}{8}$ "-thick white panels are available through our nation-wide network of distributors . . . all 7 textures in a choice of convenient sizes. Write, or post coupon, for samples and full details.

## BOWATERS MINERAL CEILING PANELS



To: Bowaters Sales Company Limited, Ceilings Department,  
87 King's Avenue, London, S.W.4. Tel: (01) 674 5871

I would like  
your representative  
to call.

NAME ☐ I would like full  
technical literature  
on Bowater Ceilings.

COMPANY ☐

ADDRESS ☐

TEL: ☐

Block capitals please



Designed by Robert Heritage RDI FSIA

for restaurants 'Britannia' and 'Columbia' in Queen Elizabeth 2.

The QE2 chairs incorporate many sophisticated technical features resulting from the ingenuity, skill and patient work of all concerned. Race Furniture wish to thank and pay tribute to all major suppliers for their generous co-operation.

# race

Race Furniture Ltd, 15 Rathbone St, London W1 P. IAF Phone 01.636.3248

**Alesbury Bros. Ltd**

Preformed backrest and seat shells with their upholstery liners

**The British Aluminium Company Ltd**

Aluminium H profiled extrusions for the two legged underframe

**CIBA (A.R.L.) Limited**

Resin adhesives bonding preformed plywood shells and aluminium joints

**The Dunlop Company Limited**

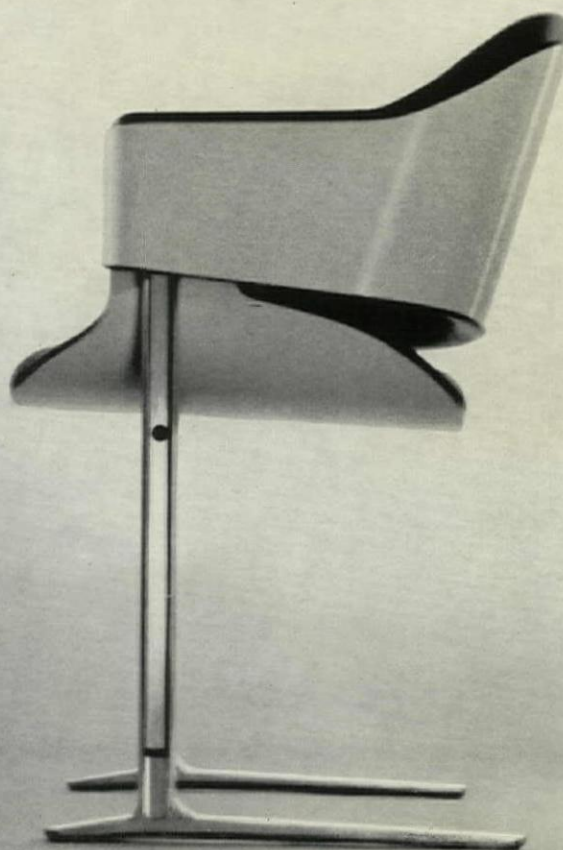
Dunlopillo moulded Polyurethane foam cushioning seat and back units

**Formica Limited**

Post-forming grade Formica laminate for curved seats and backs

**Gascoignes Non-Ferrous Foundries Ltd**

Aluminium castings for chair feet and cross rail





## ORCHID ISLE

Orchid Isle is the latest exciting addition to Shires range of bathroom suites.

It has been designed by John Cochrane MSIA, with many original features providing new standards of comfort, good looks, hygiene and safety at a moderate price.

The suite comprises coloured Perspex\* bath,

with matching vitreous china pedestal wash-basin, w.c. and bidet.

For the full details of Orchid Isle, including special features, dimensions, colour range, fixing instructions and trade terms, please complete and return the coupon below.

\*Registered trade mark for the acrylic sheet manufactured by ICI



To Dept. AR2 Shires Limited, Guiseley, Leeds.

☐ Please send me details of the Orchid Isle suite.

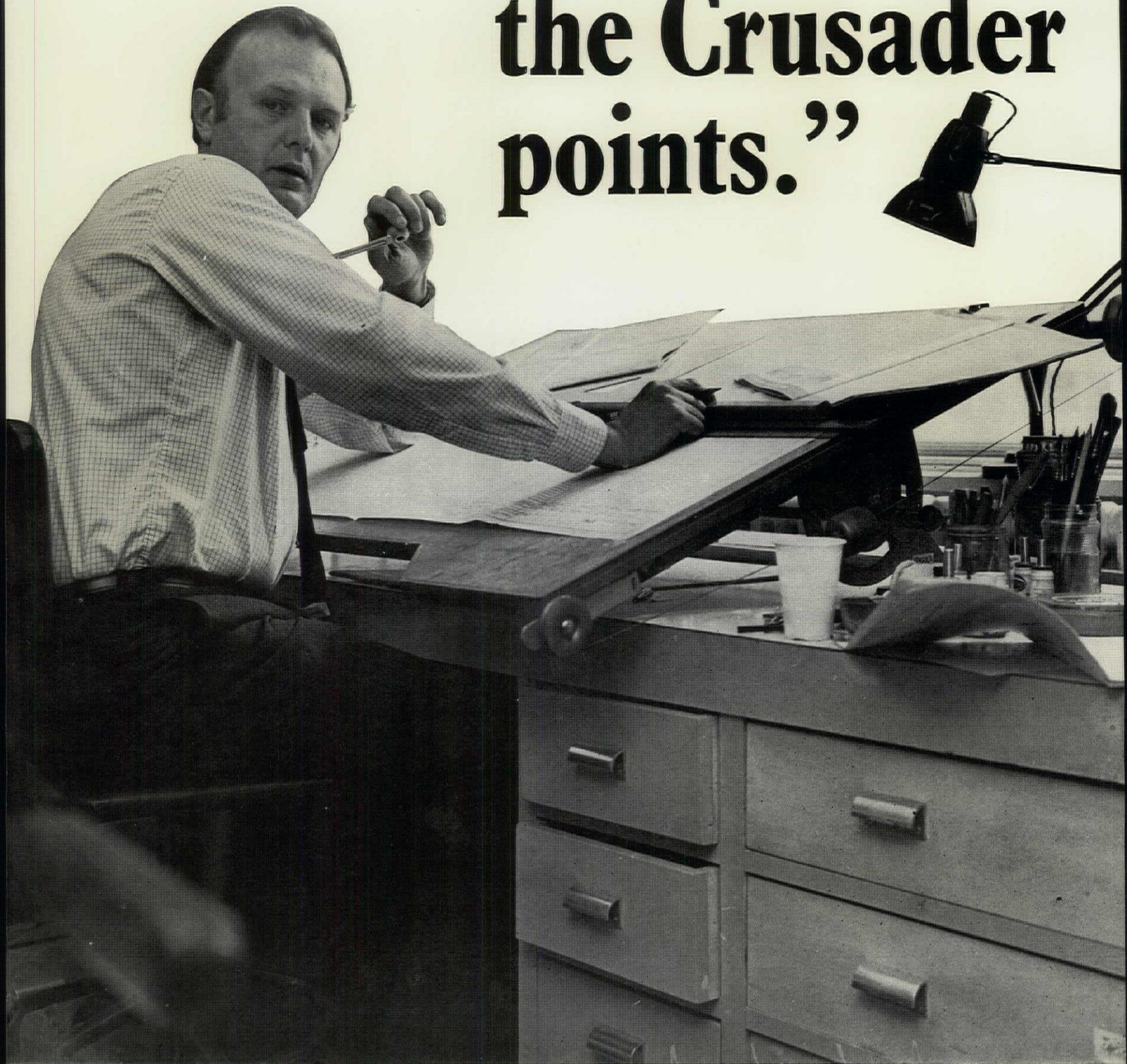
☐ Please tick here if you would like a representative to visit you.

Name \_\_\_\_\_

Address \_\_\_\_\_



**“Don’t forget  
the Crusader  
points.”**





More and more companies are turning away from regular teabreaks and installing automatic vending, resulting in *greater efficiency and a happier, more productive staff*. Refreshment areas should be planned in all new buildings, and it is advisable to provide for service points (water and power supply) even if vending is not immediately scheduled.

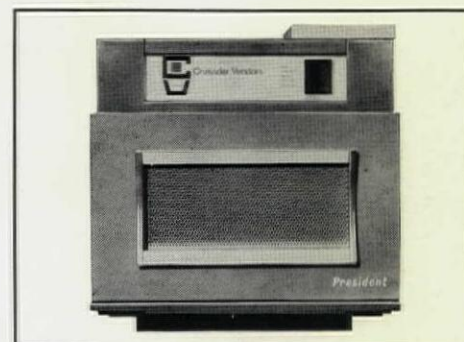
Crusader provide a *first class* refreshment service from a variety of well-styled machines suitable for both recreation and work spaces, either

individually, or as a bank.

The New Connoisseur range includes the celebrated Commodore Fresh Leaf Tea machine (which also provides excellent coffee, chocolate or soup); first class hot and cold snack machines; and a really refreshing cold drink machine.

In the planning of larger buildings, where a canteen is to be incorporated, Crusader offer a fully automatic meal service. Microwave ovens are used in conjunction with a Crusader

Merchandiser, having a capacity of 182 items. The fresh pre-cooked meals from the refrigerated merchandiser are inserted into the Microwave oven units.



*A piping-hot main meal can be obtained in a matter of seconds.*

All Crusader machines can be obtained on the unique **Rental-in-Arrears-Plan**, which means that there is no capital outlay involved.

**The Viceroy**

This is an attractively styled hot snack machine fitted with 'first in first out' loading mechanism to ensure freshness.

**The Commodore**

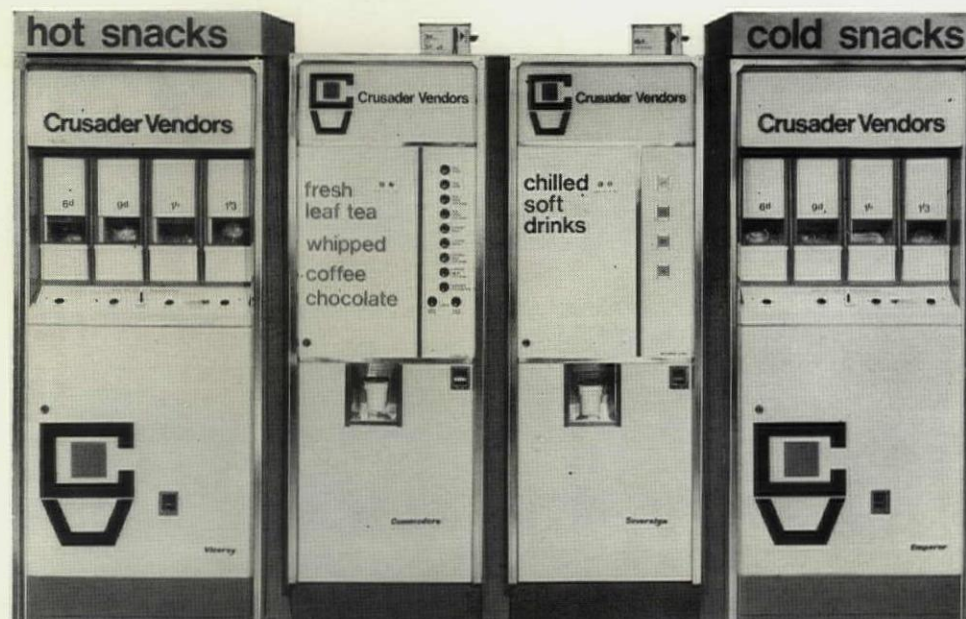
A Fresh Leaf Tea machine providing tea as good as from the pot at the push of a button.

**The Sovereign**

This is a cold drink machine providing instant cold drinks in a choice of four flavours.

**The Emperor**

This elegant machine provides cold snacks, and fitted like the Viceroy, has a 'first in first out' mechanism.



Please send me further details of the Crusader range.

Name \_\_\_\_\_ Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Telephone \_\_\_\_\_ No. of Staff \_\_\_\_\_

Nature of business \_\_\_\_\_

**Crusader Vendors Limited,**

Crusader House,

283/289 Cricklewood Broadway,

London, N.W.2.

Tel: 01-452 8040

Nationwide sales and service. AR2







# Tile appeal is à la carte

There are so many situations in any home where ceramic tiles can be used to real advantage. Was there ever a surface material better at setting a mood than modern ceramic tiles? Rich colours and devious patterns whisper intimacy. Textured tiles proclaim your taste for the grandiose. Plain tiles in subtle shades are cool, calm and restful.

All await you. An endless variety—plain, patterned and profile—sealed forever in a deep, hard, permanent, impenetrable glaze. That's the beauty of modern British ceramic tiles.

When planning new projects—make sure you don't underestimate the many advantages of British ceramic tiles. Have you seen the latest patterns, profiles and colours? Take a look at your files. If you have the slightest reason to think that you are not bang up-to-date, then fill in the coupon below and we'll make sure that you have everything you need.

Nothing does the job so well as British ceramic tiles



## British Ceramic Tile Council

Federation House  
Stoke-on-Trent  
Telephone: 0782 45147

### Members:

H. & R. Johnson-Richards Tiles Limited

Wall and Floor Tile Division:  
H. & R. Johnson Ltd

Fireplace Division:  
The Campbell Tile Co. Limited

Special Effects Division:  
Malkin Johnson Tiles

Pilkington's + Carter

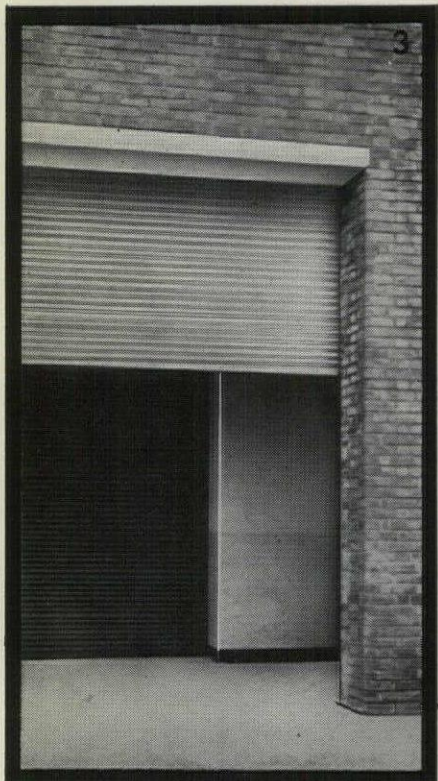
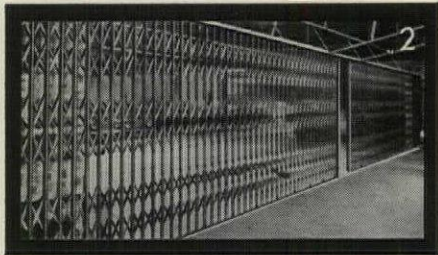
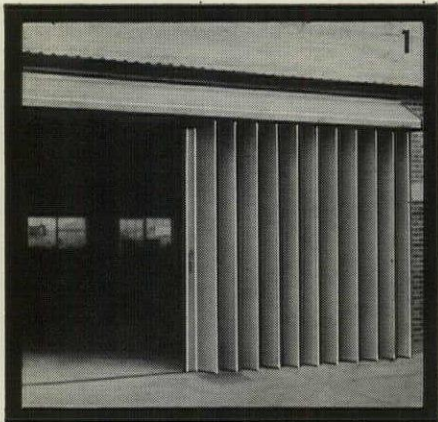
Pilkington's Tiles Limited and Carter Tiles

British Ceramic Tile Council,  
Federation House, Stoke-on-Trent.  
Please send further information  
about Ceramic Wall and Floor Tiles.

Name \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_

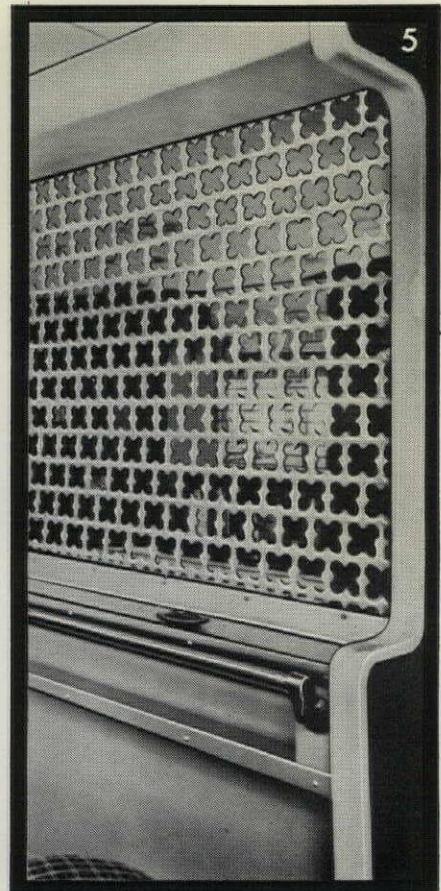
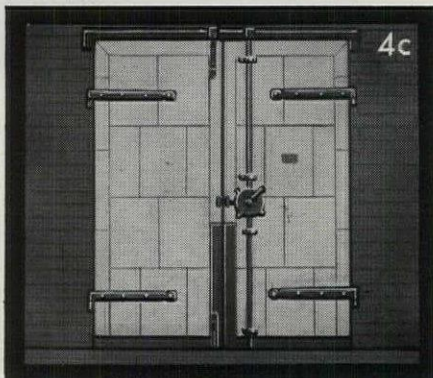
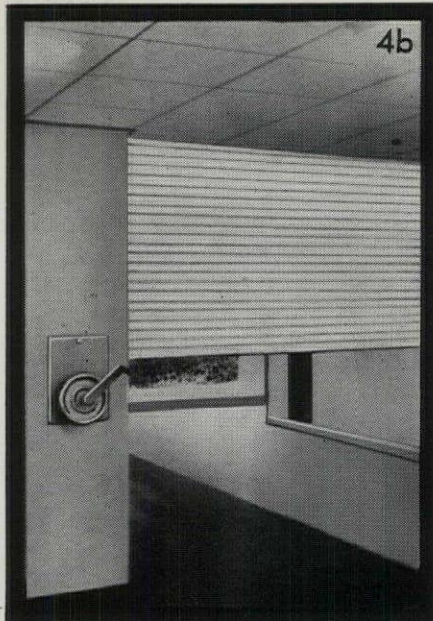
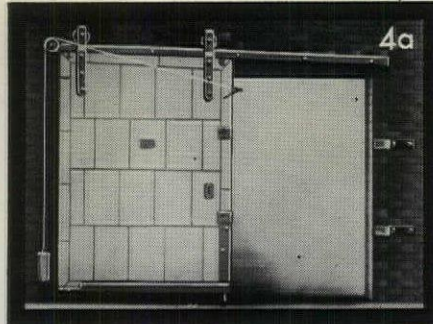
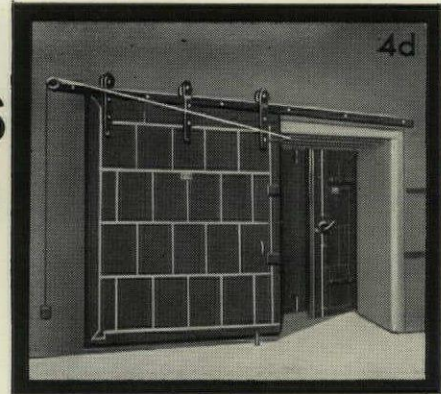
AR2





Kinneair  
Side Sliding Shutter Doors (1)  
Collapsible Gates (2)  
Rolling Shutters (3)  
Fire Doors and Shutters (4a, 4b, 4c, 4d)  
Kinylon and Kinrod Rolling Grilles (5)  
also Bar Shutters, Lifts,  
Sliding Door Gear, Rubber Doors  
Also approved makers of  
'Colorastic' Roller Shutters

## The custom-built answers to all closure problems.



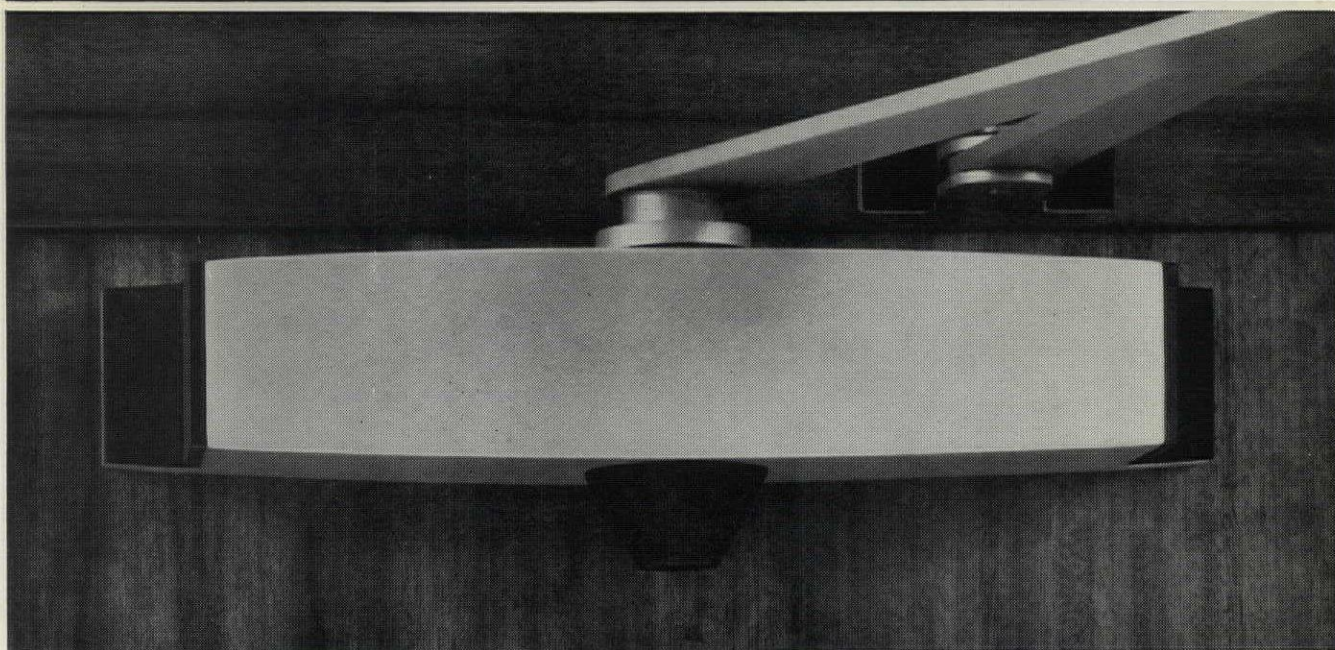
Kinneair shutters, doors, gates and grilles give the best of both worlds: maximum protection when closed; maximum access when open. And there's a Kinneair installation for every opening—custom-made to satisfy your specific need for efficient and inexpensive closures **plus** built-in reliability.

Send for full details to Dept. 10B  
Arthur L. Gibson & Co. Ltd.,  
Twickenham, Middlesex.  
Tel: 01-892 2276  
And at  
Birmingham: (Tel: 021-444 2804)  
Glasgow: (Tel: 041 Halfway 2928)  
Cardiff: (Tel: 0222-21983)

Quality engineered closures by **KINNEAIR**



# closers for designed interiors

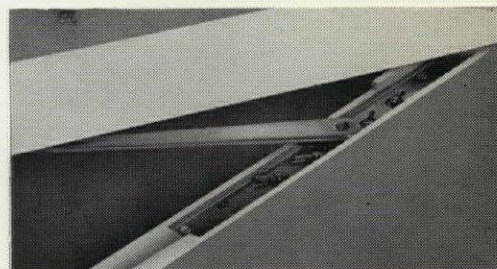


# briton

Tastefully designed doors need tastefully designed door-closers. That's why there's a Briton 2000. Into this compact aluminium shell has been packed the power to close doors 7' high  $\times$  2' 9" wide and up to 100 lb. in weight.

If you want your power out of sight, there's the Briton 507 (right).

Write for our catalogue 620.  
William Newman & Sons Ltd.,  
Hospital Street, Birmingham 19.



NEWMANS



# settle on Pel

## and you'll never settle for less

You have a seating problem? Pel have the answer. Take it from Pel. From the widest range of metal framed furniture in Britain. Pel for chairs.

Pel for tables. Pel for all kinds of colourful, comfortable, commercial furniture. Well designed and built to last . . . beautifully. Pel furniture in new and traditional materials, in combined or individual units. Fixed or free standing. Nesting or non-nesting. In singles, in pairs, in rows.

Every year, from standard range, or with custom-built designs, Pel provide the right answer to thousands of commercial furnishing problems. In the Pel catalogue you'll find the furniture that fits in exactly with your scheme of things. So don't just sit there. Write now, and relax.

PEL LIMITED, OLDBURY, WARLEY, WORCS. TEL : 021-552 1401  
SHOWROOMS : LONDON & GLASGOW.



# Pel



AR JUN

Tube Investments Ltd an advanced engineering group



Barbour Index: Sfb Un 6

**+<sup>®</sup>**  
**SUWIDE**  
VINYL COATED FABRICS

Any style in interior walls and upholstery furniture will be more attractive with Suwide, the supreme vinyl-coated fabric. Ideal for any application where colourful, distinctive appeal and hard-wearing, durable luxury are imperative. Available in a rich range of textures and colours. Write or telephone for a samplebook and full details.



Hatéma  
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LONDON E.C. 1  
Tel. 01-253-6433 and 6434

**hatéma**



**The low-level light  
that can handle  
tough guys**

**the bollard**



The Bollard low-level light was designed to be easily accessible, not easily destructible. So it is substantially vandal-proof.

The post is made of 7 gauge steel tube, the body of die-cast aluminium, and the lens of  $\frac{1}{8}$ " thick glass.

Of course it *can* be damaged, just like a parking meter, if attacked by a determined vandal with an iron bar. But this seldom happens. Research has shown that a mere 1% of replacement lens have been ordered from us.

And think of the practical benefits of the Bollard:

It is highly efficient and lights without glare; the cost per unit is cheaper than conventional column lighting; it is much easier, and much cheaper, to install and maintain; it looks attractive and blends harmoniously into any environment.

The Bollard was specifically designed for use around housing schemes, schools and universities, public buildings, shopping areas and car parks - in fact anywhere where controlled illumination is needed.

Write today for our leaflet giving full details of the Bollard light.



Frederick Thomas & Co. Ltd., Everton Buildings, Stanhope Street, London N.W.1. Tel: 01-387 0111.

**CoID  
design award  
1969**

*Frederick Thomas*  
**outdoor lighting division**



ci

Luxury in your kitchen with this new range of kitchen furniture. Doors and interiors veneered with Oregon pine, counter tops in solid teak or polished granite, fittings of brass, all combine to produce a warm elegant kitchen. The wide range of Cox KA units can be used free standing, as

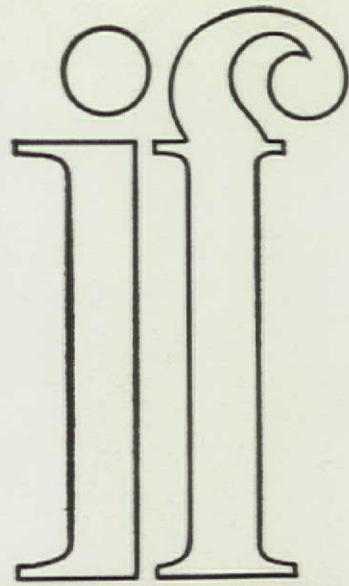
wall fittings or as room dividers. So if you are planning a new kitchen, start by writing for a leaflet and planning brochure.

**John Cox Associates**  
Littlewick House, Mill Lane,  
Chinnor, Oxford.  
*Cox KA is designed by Berge  
Mogensen, M.A.A.*

# Cox KA







our standard range  
doesn't fit  
your design...



we'll  
make it  
specialty!

How's that for service? As specialist contract furniture manufacturers, Horwood know all about the pounds, shillings and pence of producing attractive designs in durable materials.

So whether we manufacture *your* designs or supply you from our standard range, we are able to offer the highest quality at a really economical price.

Close co-operation with designers is achieved by our policy of personal attention at every stage. And we pull out all the stops to meet those all-important delivery dates!

Consult our advisory service at the earliest stage.



Horwood Catering Equipment Limited,  
Contract Furniture Division, 2-8 Stroud Green  
Road, London, N.4. Tel: 01-802 1155

Please send full details of the Horwood Range.

3 AR4

NAME: .....

POSITION: .....

ADDRESS: .....





This is no ordinary furniture. It's a new storage system made by Danish craftsmen to a very high standard of finish. It is available in two depths and four widths. Oregon Pine gives it a fair golden look and interiors are painted mid-grey. Fittings are brass. The system has been used in homes, offices, hotels,

universities and shops. Wardrobes and cupboard units are also available. Write for full planning literature to Cox BB, Littlewick House, Mill Lane, Chinnor, Oxford, or telephone Kingston Blount 208 and ask for an appointment to view.

*Cox BB designed by Grethe Meyer and Børge Mogensen M/MAA.*

# Cox BB

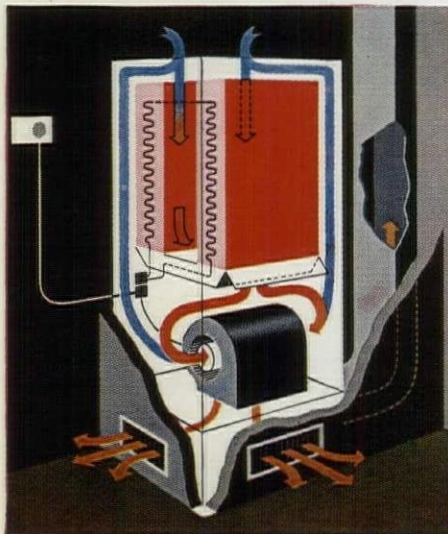




# ELECTRICAIRE

## The Electric warm air central heating that runs on cheap off-peak electricity

It fits your existing plans! It's easy to install! It runs on cheap off-peak electricity! These are just a few of the many reasons why Electricaire is today setting a new trend in central heating.



*A typical Electricaire unit*

### How does Electricaire work?

Simple! A central thermal storage unit is fitted in each dwelling. This unit heats up on cheap off-peak electricity and incorporates a fan which discharges warm air as and when required. The fan can be manually or thermostatically controlled and a boost provides for a rapid warm-up.

Units vary in size according to the output required but a normal unit will

fit into a space a little over 2 feet square.

A thermostat in one of the main rooms controls the air temperature at the level desired by the occupier. Warm air is directed into individual rooms through outlet registers. These are unobtrusively sited near the skirting or in the floor.

Whether you're building houses, bungalows or blocks of flats, Electricaire gives you efficient and economical central heating.

### 7 reasons for choosing Electricaire

1. Electricaire gives you complete freedom to plan homes the way you want to. The central unit can be sited almost anywhere and there are no flues to construct.
2. 100% efficiency. Electricaire, designed to Parker Morris standards, will give full value for every unit of electricity used.
3. Electricaire runs on cheap off-peak electricity. The running costs are competitive with all other central heating systems.
4. It's the cleanest, healthiest heating, too. No fumes, dust, ashes and the re-circulated air is filtered.
5. No stoking, no fuel storage. In flats, no boiler attendant is needed and storage space is saved. Each tenant controls the heating in his home and pays for the level of heating he selects.



*Outlet register sited near the floor*

6. Electricaire minimises condensation. The constant background warmth from the central unit, coupled with the absence of combustion, reduces the risk of condensation.
7. Electricaire is almost silent. The fan runs quietly and there is no sound of burners lighting and shutting off.

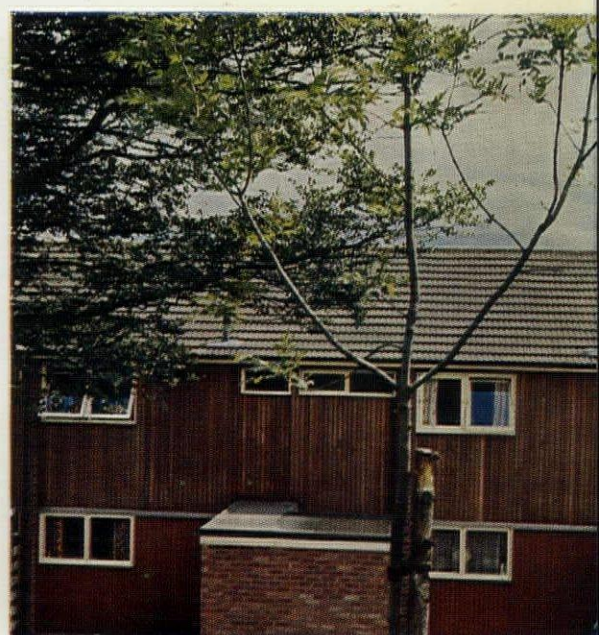
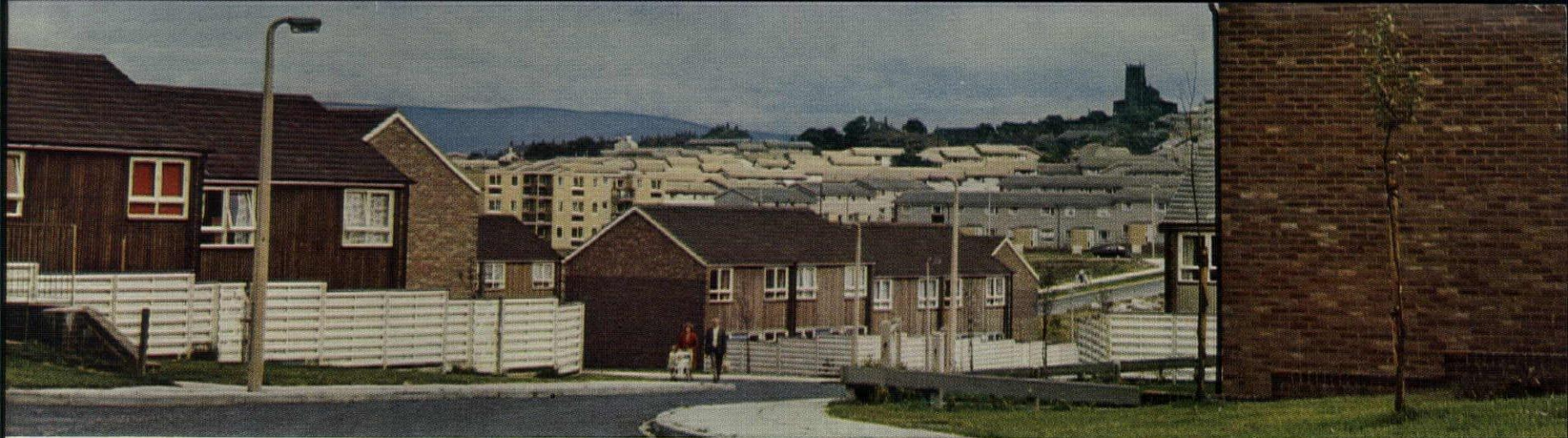
### Like to know more?

For advice and technical information about Electricaire, ring your Electricity Board; or write direct to: The Electricity Council, Marketing Department, Trafalgar Buildings, 1 Charing Cross, London, SW1.

## Better things are electric

*Issued by the Electricity Council, England & Wales*





### **"Electricaire is so warm, it's great," say tenants of exposed hillside estate near Manchester**

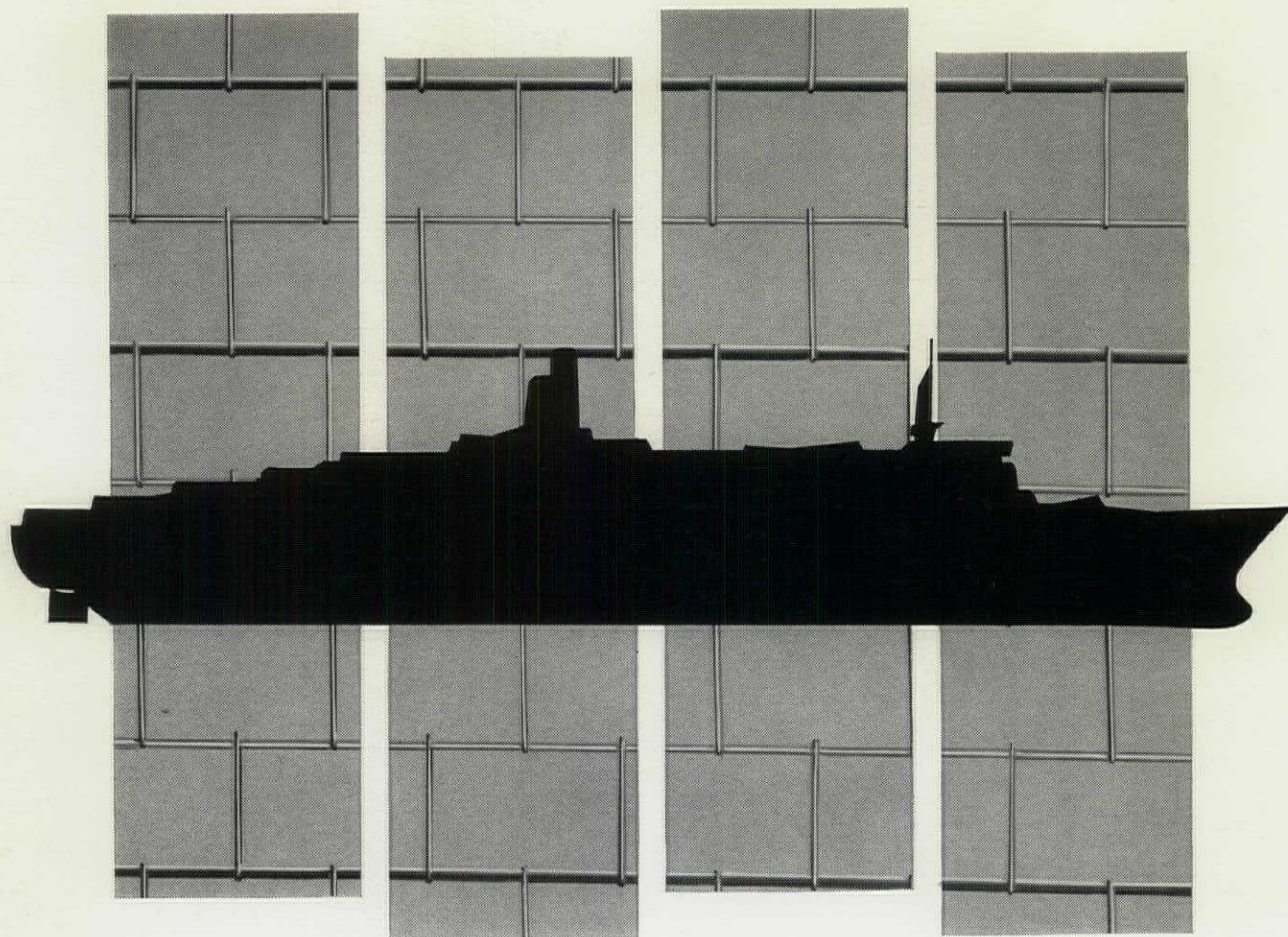
Exposed to the cold, north east winds from the Pennines, the Hattersley Estate near Manchester constituted one of the severest tests any form of central heating could face. Under these trying conditions Electricaire has proved a complete success!

The Hattersley development was carried out by the Manchester Corporation in conjunction with the West Pennine Consortium. It consists of 200 semi-industrialised houses—each with a floor

area of approximately 900 square feet. A 10kW Electricaire storage unit was installed in each dwelling and warm air was ducted to the living room, kitchen, hall and two bedrooms. The level of the heating is automatically controlled by a thermostat in the living room. In addition, a programme time switch combined with a heater selector switch is provided, so that tenants can vary the heating to suit their individual needs. Today's price for installations of this type

would be about £135 each. Running costs have been extremely economical. Over a full year the average off-peak charge in 20 typical houses has worked out at 16/6 a week. Here are a few spontaneous comments made by the tenants when speaking about Electricaire . . . 'You feel the warmth the minute you come home,' 'It's great,' 'We're well satisfied,' 'It warms the bedrooms as well.' Yes, Hattersley represents yet another big success for Electricaire!





**if this grille is good  
enough for the QE2...  
*who are we to argue?***

When Rely-a-Bell security grilles were specified for the bars aboard the new Cunarder, another notable installation was added to the impressive list of premises protected by Rely-a-Bell grilles.

Rely-a-Bell security grilles are designed by specialists in conjunction with architects ensuring that maximum protection is combined with high finish and styling. They are available in a complete range of mesh sizes and finishes making them the ideal choice, where elegance and styling matter.



## **Rely-a-Bell Grilles**

483 Hale End Road · London E4 Telephone 01-527 2206/7



a member of the Chubb Group





Private House at Barton, Cambridge

Architects: Barry Gasson and John Meumier

# A guide to Forticrete Concrete Masonry 1

**Forticrete Concrete Masonry is a quality orientated product manufactured by the most advanced plants in Europe. Developed from the old 19th century concrete block by the technology of today to give the value required by the designers' of tomorrow.**

*Private House at Barton, Cambridge*  
*Architects: Barry Gasson and John Meumier*  
Of Modular Construction by Dimensional Co-ordination.

Yes—but alongside accepted dimensional discipline there is ample design-flexibility.

The short, simple rule with Forticrete Concrete Masonry is this; *design to a 4" module* (this will shortly be 100 mm). 4" is the space required for the unit and joint; thus all units are sized in multiples of  $3\frac{1}{2}$ ", allowing a  $\frac{3}{8}$ " joint. The present

Standard unit is  $15\frac{1}{2}$ " x  $7\frac{1}{2}$ ", giving a 4 M long by 2 M high unit. Metrication will make this unit 390 x 190 (allowing a 10 mm joint) again giving a 4 M x 2 M.

Forticrete Concrete Masonry units mean easy setting out for the Contractor, achieves best possible on site value for the client. Being complete, the Forticrete Concrete Masonry 'kit' eliminates wasteful cutting. Units are precision-machined with perfect arrises and angles. Being 'fair-faced' with an attractive natural texture, plaster becomes out-moded.

There's no doubt about the benefits that Forticrete Concrete Masonry brings to the Designer, the Builder and the Client. For a fully-detailed Forticrete Brochure just return the coupon and we'll do the rest.

Name \_\_\_\_\_

Position in Company \_\_\_\_\_

Address \_\_\_\_\_



THE SALES DIRECTOR,  
FORTICRETE LIMITED,  
PARK LANE WEST, AINTREE,  
LIVERPOOL L30 6UJ.  
Tel: 051-AIN 2371

AR/1



there's more to this  
than meets the eye



dent resistant for a start..  
10 years guarantee  
for a finish

- 16' long, 12" or 9" wide.
- Metal starter strip and self-aligning spline ensure fast, accurate fixing all the time.
- A completely pre-finished paint surface guaranteed for 10 years against surface cracking or peeling.
- 4 popular fade-resistant colours with fully colour co-ordinated aluminium accessories.

# Canadian Colorlok

X-NINETY LAP SIDINGS



**CIP Tentest Limited**

A subsidiary of Canadian International Paper Company  
Fiboard House, Oakleigh Gardens, London N.20  
Tel: 01-445 8801 (7 lines). Telex: 28383



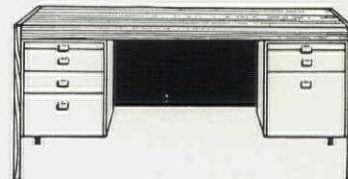
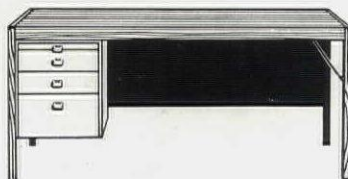
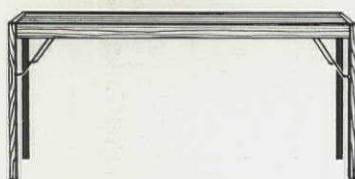


## In my day we just had a desk. Now it all has to be metric modular flexible functional coloured AstroPlan

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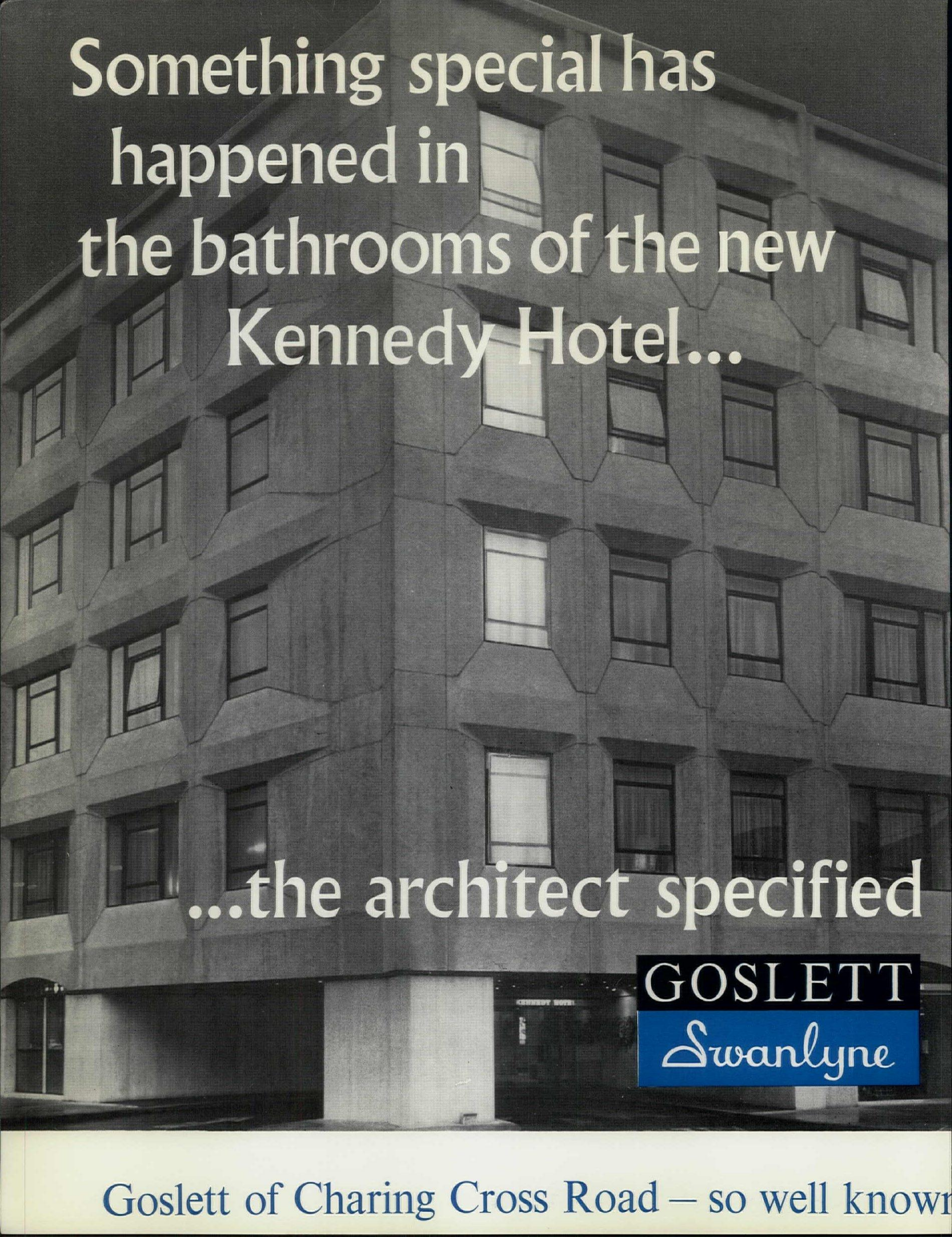
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A black and white photograph of the Kennedy Hotel, a multi-story building with a distinctive facade of large, protruding, hexagonal concrete panels. The windows are set within these panels, some of which are illuminated from within. The building is viewed from a low angle, looking up.

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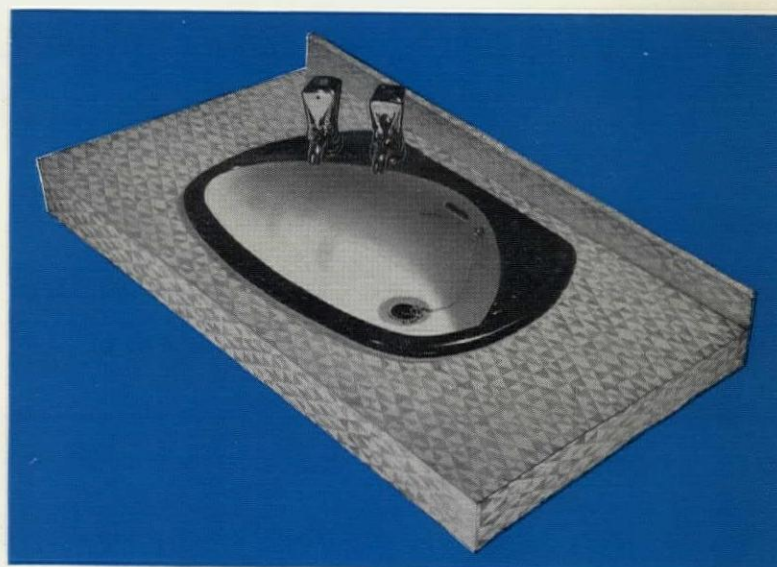
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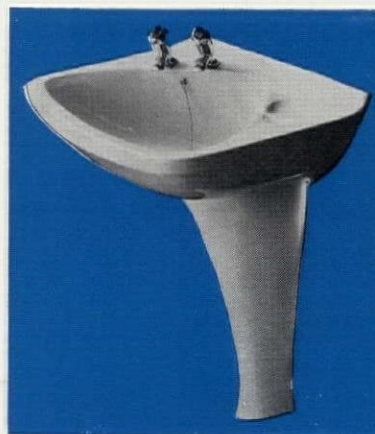
The new Kennedy Hotel, by Euston Station, reproduced by courtesy of Grand Metropolitan Hotels.  
Group Estates Manager: Mr. Marshall Walker, ARIBA, DIPL. ARCH., MRSA, MRSH.  
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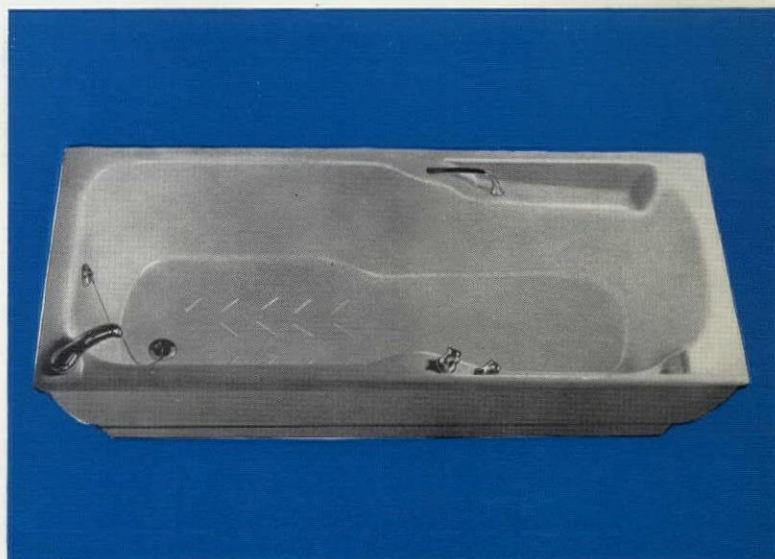
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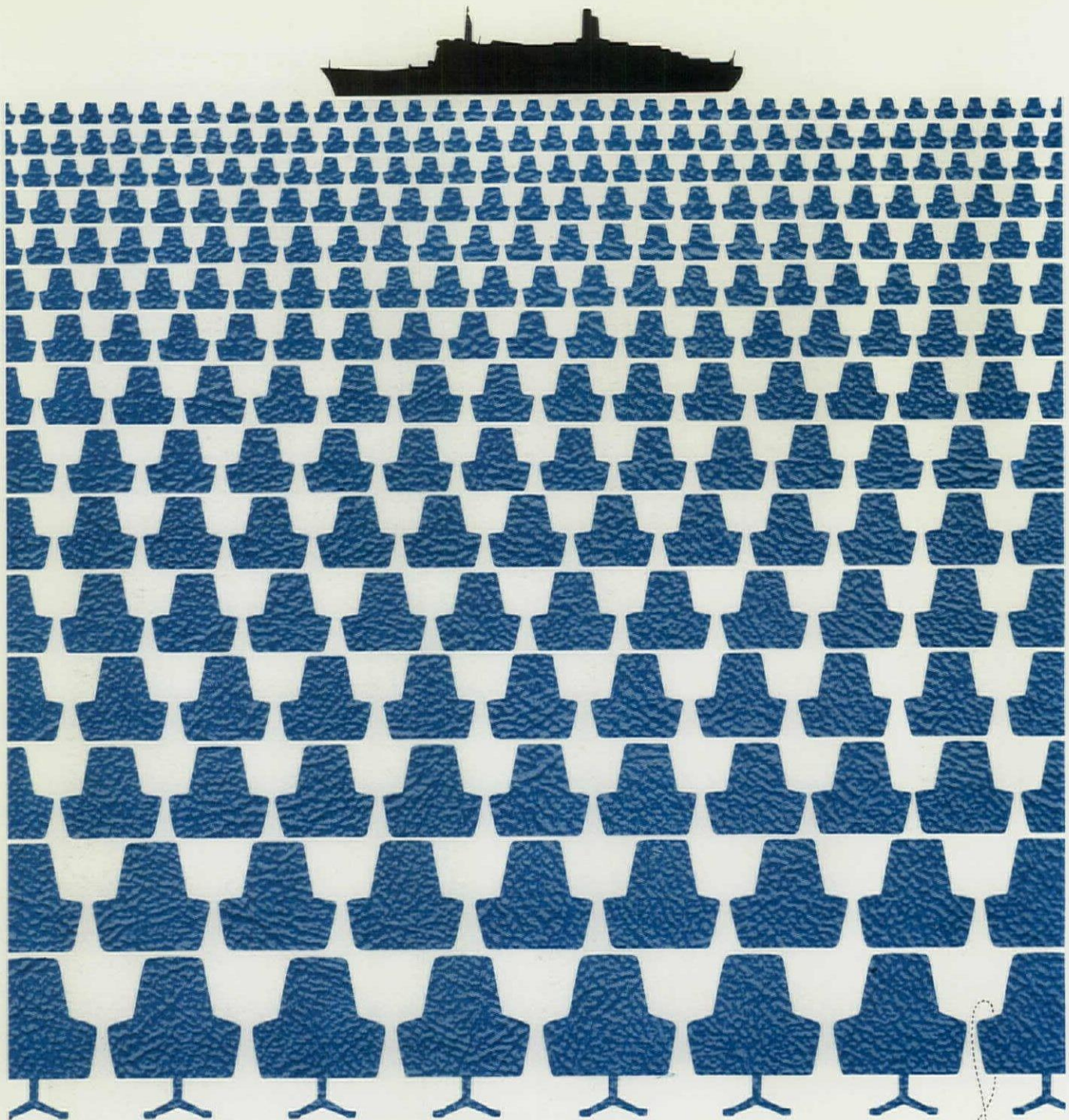
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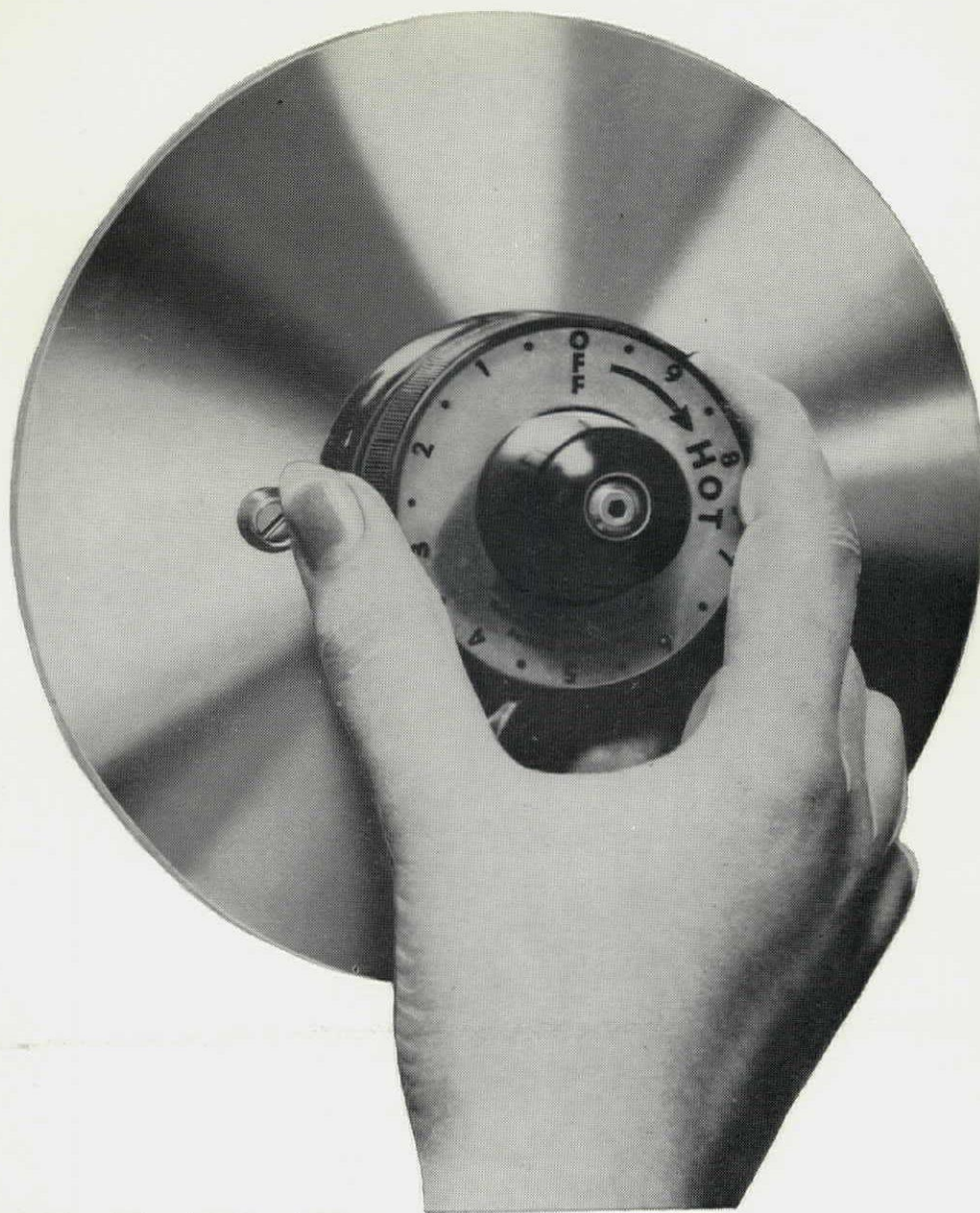


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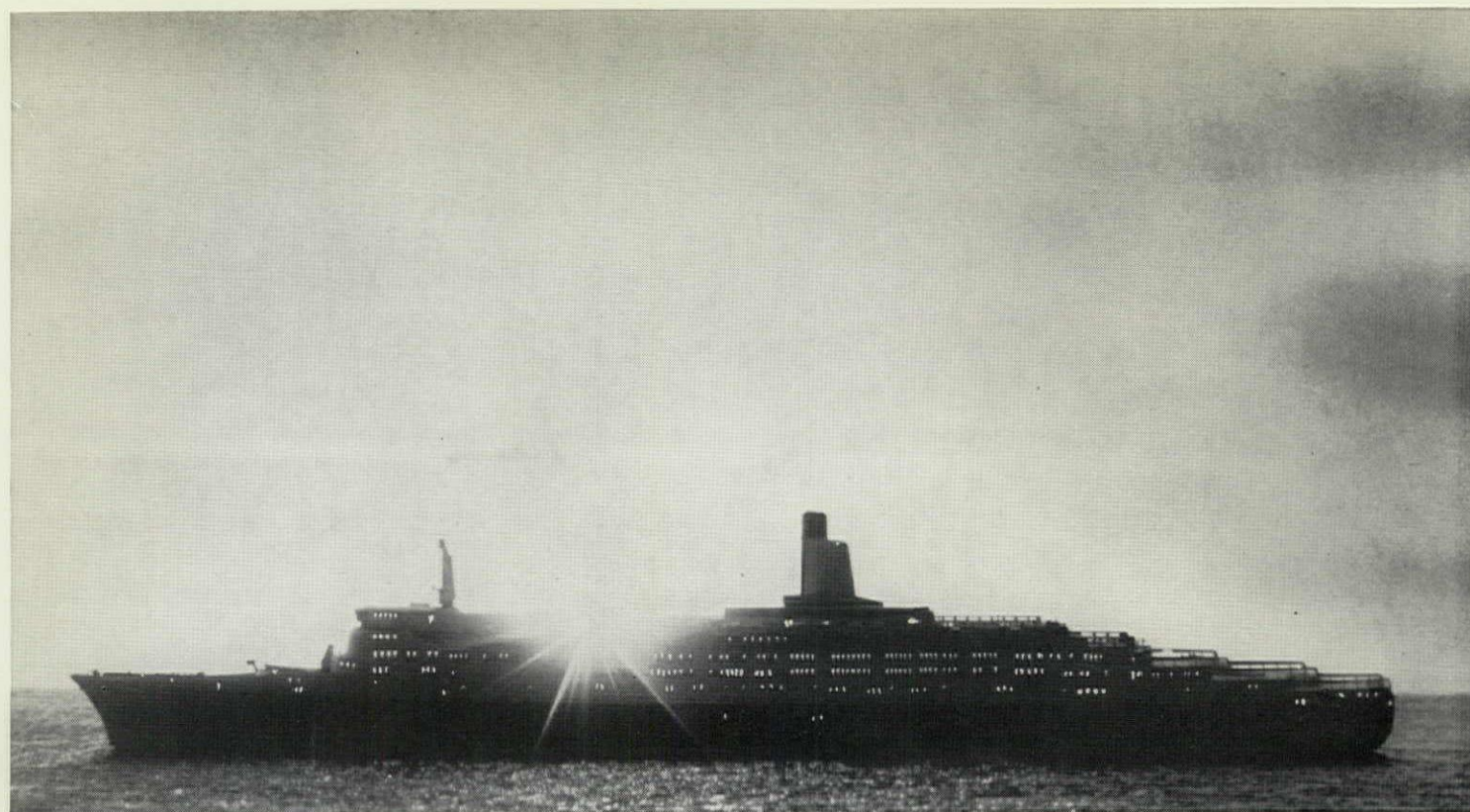
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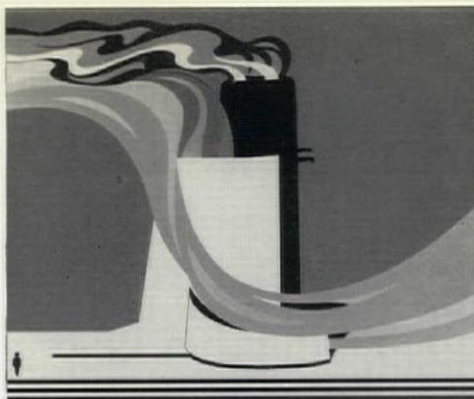
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The cover is a drawing by Wolf Spoerl illustrating the funnel of the QE2 and showing how air is ducted up in the scoop to carry away exhaust fumes from the engines, so that they clear the aft decks. It is one of a series which will appear in *The Making of a Queen*, a book to be published shortly by the Architectural Press (see note on page 470).

#### 'QUEEN ELIZABETH 2' A SPECIAL ISSUE EDITED BY SHERBAN CANTACUZINO

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# A SHIP IS AN ISLAND

■■■■■ inhabited yet mysteriously unexplored, self-centred, secretive, wonderful, unique. Silhouetted against a sunset horizon or towering white-topped above a quayside, ablaze with lights or gay with flags, it seems cut off in time as well as space—a presence whose scale is impossible to grasp, and whose indifference to admiration is as maddening as a cat's. Arrivals and departures are movements of effortless separation and rejoining. There is none of the heart-in-mouth drama of take-off and touch-down. Movements are almost imperceptible, voices pitched low. The strip of water widens or narrows, a hawser splashes, a tiny figure signals from aloft and it is done. A lifeline has been cut, the real world drops away as suddenly as a garment, its most commonplace features to be greeted on the day of landfall with childlike astonishment . . . 'Look, dear, there's a *bus*! . . .' On board the pages in the traveller's diary lie white and empty like sheets turned down upon an expectant bed. Despite every manner of ingenious device, communication with the shore seems pointless and absurd, the ship's newspaper—even the magically reproduced miniaturized facsimile of a London edition—for all its relevance might be reporting items from the moon. Mitty-like dreams of storm and conquest and adventure sink into a gorgeous routine of dozing, eating, sleeping, reading and gossip. Spare time, 'that blessed blessed void', lies waiting to be filled in a private stylish cocoon of polished corridors, soft lights, solicitous attendants and regular nourishment.

To be for a time a voluntary member of this captive community, a conscripted voluptuary as it were, is a unique experience taken too often with too little wonder at those human skills that have devised for us this strange environment. Admittedly in these days of technical fireworks we are difficult





*'aircraft have kept their power to awe'*



*'hovercraft with their capricious skirts arouse curiosity'*

*Opposite: 'a ship is an island' (the QE2 on its first sea trials off the Isles of Arran)  
The colour illustrations on the following double spread show the QE2 under construction at the Clydebank yard of John Brown & Co.*

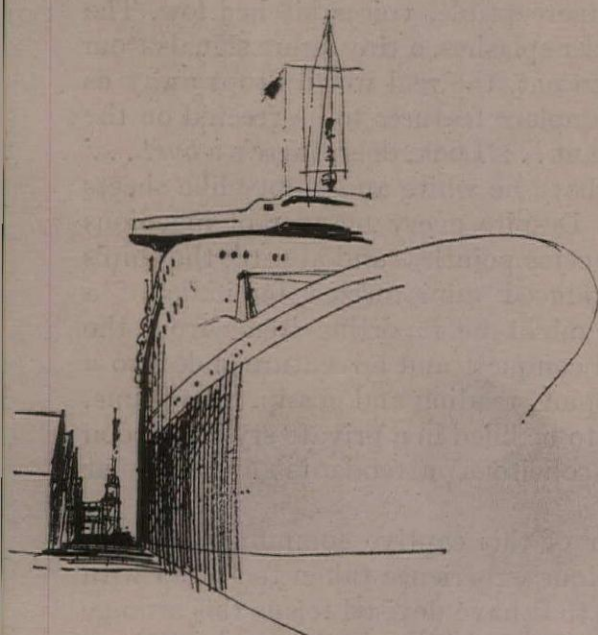
to surprise. To move at 600 m.p.h. and 30,000 feet above the earth, while sipping a Martini and watching a movie, has become, we know, a commonplace experience.

But at sea, where the elements in all their changing moods can be seen, smelled and even felt at close quarters, there is less excuse for such a detached and blasé view. It is not so very long ago, after all, that a sea voyage was as irregular, unpredictable, and certainly quite as uncomfortable, as a family picnic. It began when everybody was ready and finished as the luck of the weather might decide. But the arrival of steam and steel, the establishment of regular routes and fixed timetables—achievements in which Cunard were pioneers—transformed the picture, until today we take a ship's punctuality for granted. We grumble without shame at an hour's delay in a week's voyage and, when they fail us, it is not the failure of some impersonal mechanism but of a faithless mistress. This love-hate relationship between the traveller and his means of transport is centuries old and world-wide and notably capricious in effect. Motor cars, once as cherished, groomed and regularly exercised as horses, are now as anonymous as milk-bottles. Trains are still admired from the platform but treated by the voyager, once aboard, as shabbily as litter-bins. Aircraft have kept the power to awe and even to alarm but seldom to inspire love. Hovercraft with their capricious skirts arouse curiosity and little else. Ships alone invite and receive an affection that is almost personal in its intensity.

The job of every shipowner therefore is not just to attract passengers but to keep them. The Atlantic route has always been the pace-setter for standards of space, service and comfort, and Cunard's record in this has been exemplary. But the present and future problems that beset every shipowner are more complicated than this.

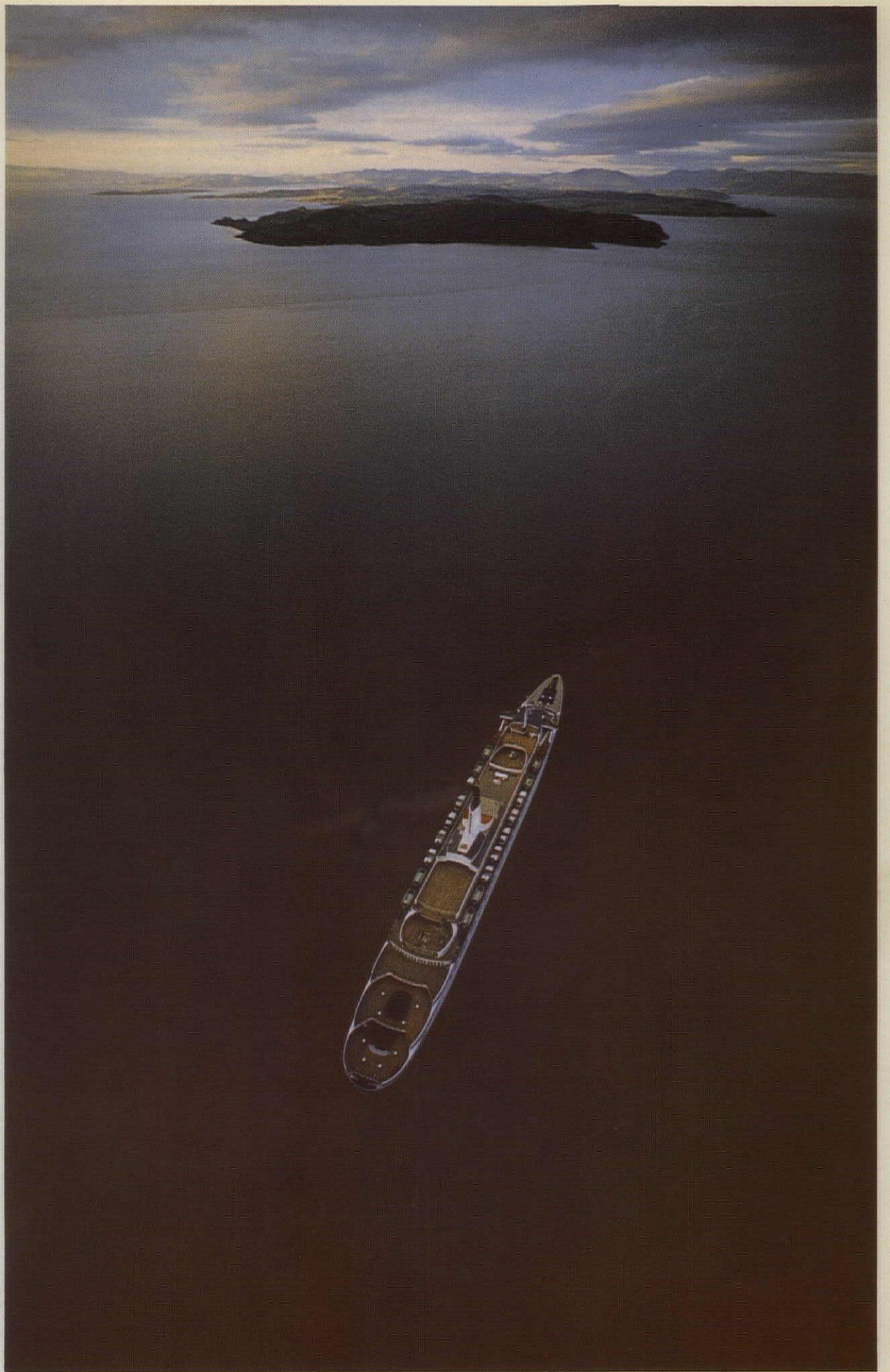
Obviously it takes a long time to build a ship. But it can take even longer to decide what sort of a ship to build. Even on her maiden voyage every ship is several years old already. Meanwhile travel habits, ideas in ship management and ship-building technology are changing at an increasingly swift rate and, like the Red Queen, the shipowner must keep running, if only not to be left behind. It means deciding, on the basis of experience supported by technical and market research, not only upon such points as size, capacity and routes, hull form and method of propulsion, but also upon a hundred subsidiary issues: life-boat operation, fire precaution and baggage handling, water reclamation and the proportion of public rooms to deck space—not forgetting the effect all this may have on harbour and canal dues. Nor are passengers the only people to consider. All shipowners face a growing shortage of labour. Automation, itself cripplingly expensive, will reduce in time the number of staff required to run a ship, but those needed will be more highly trained, and will expect privacy and comfort. The most essential quality needed in those who have to make these decisions is foresight. Mistakes can be very expensive indeed; so too can second thoughts. But such is the speed of advancing technology that second thoughts must occasionally in the long term interest be allowed to prevail. Perhaps the most vulnerable victim of these is the interior designer, upon whose skill and imagination so much of the success of a passenger ship will depend. It is no longer quite true that he is given the spaces left over when the working bits are done, and air-conditioning, improved sound insulation, escalators and mechanical aids of all kinds, although themselves space-consuming, give him more elbow room than he once had. But in this immense creative enterprise of designing a ship, comparable in scale almost with that of a new town-centre, he is still too often a late-comer to the team. His task is indeed a formidable one, and with few honourable exceptions (notably the pioneering Orient ships of the thirties) he will find little help, except in the shape of warnings, from his predecessors.

The physical discomfort of early sea travel ('I would rather go to prison', said Dr. Johnson, 'than go to sea') was sharpened by the moral disfavour of the period for poverty and its reverence for class. It was not so long ago that the windows provided in one famous line for the third class passengers were filled with frosted glass not so much to prevent them looking out as to

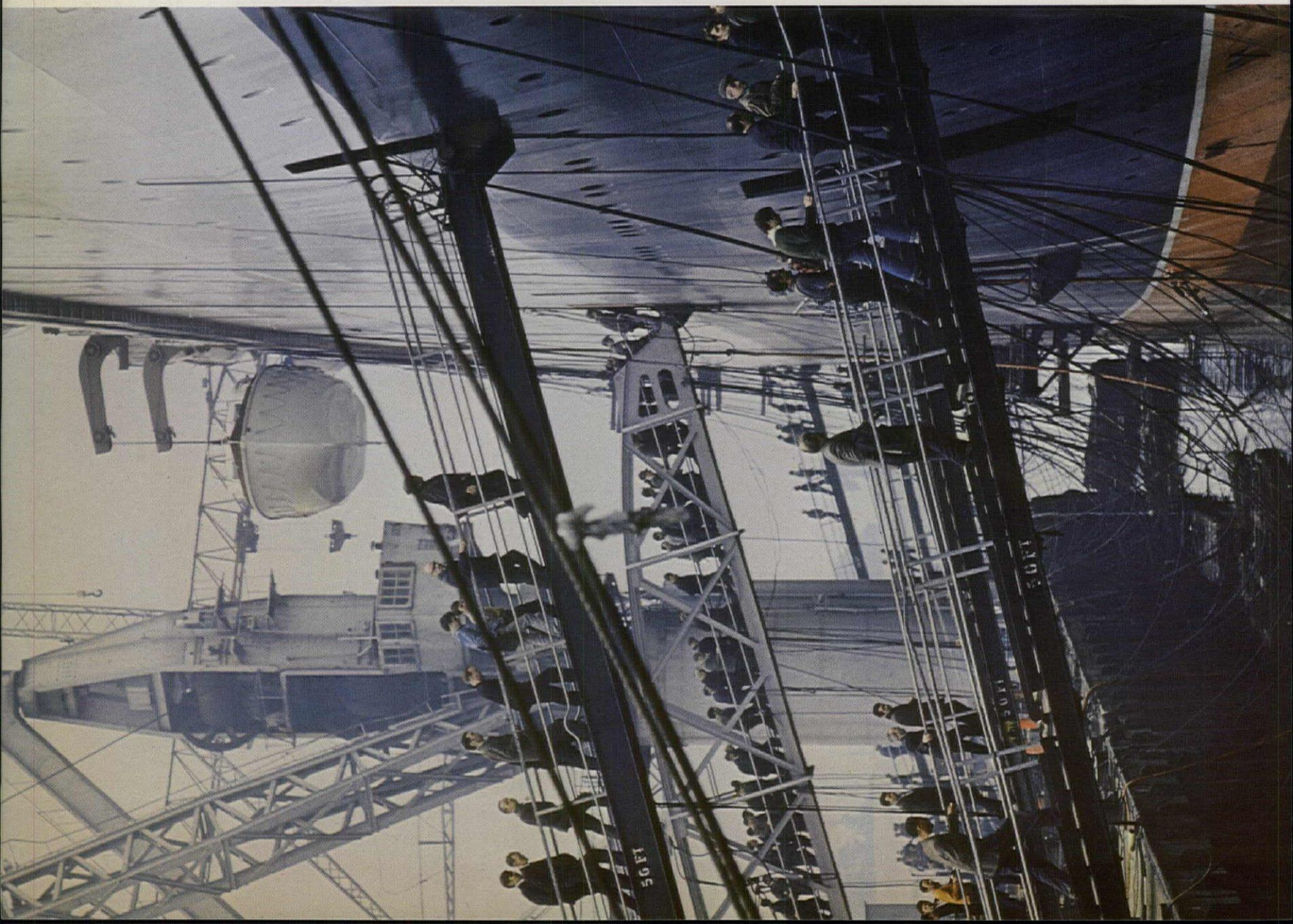
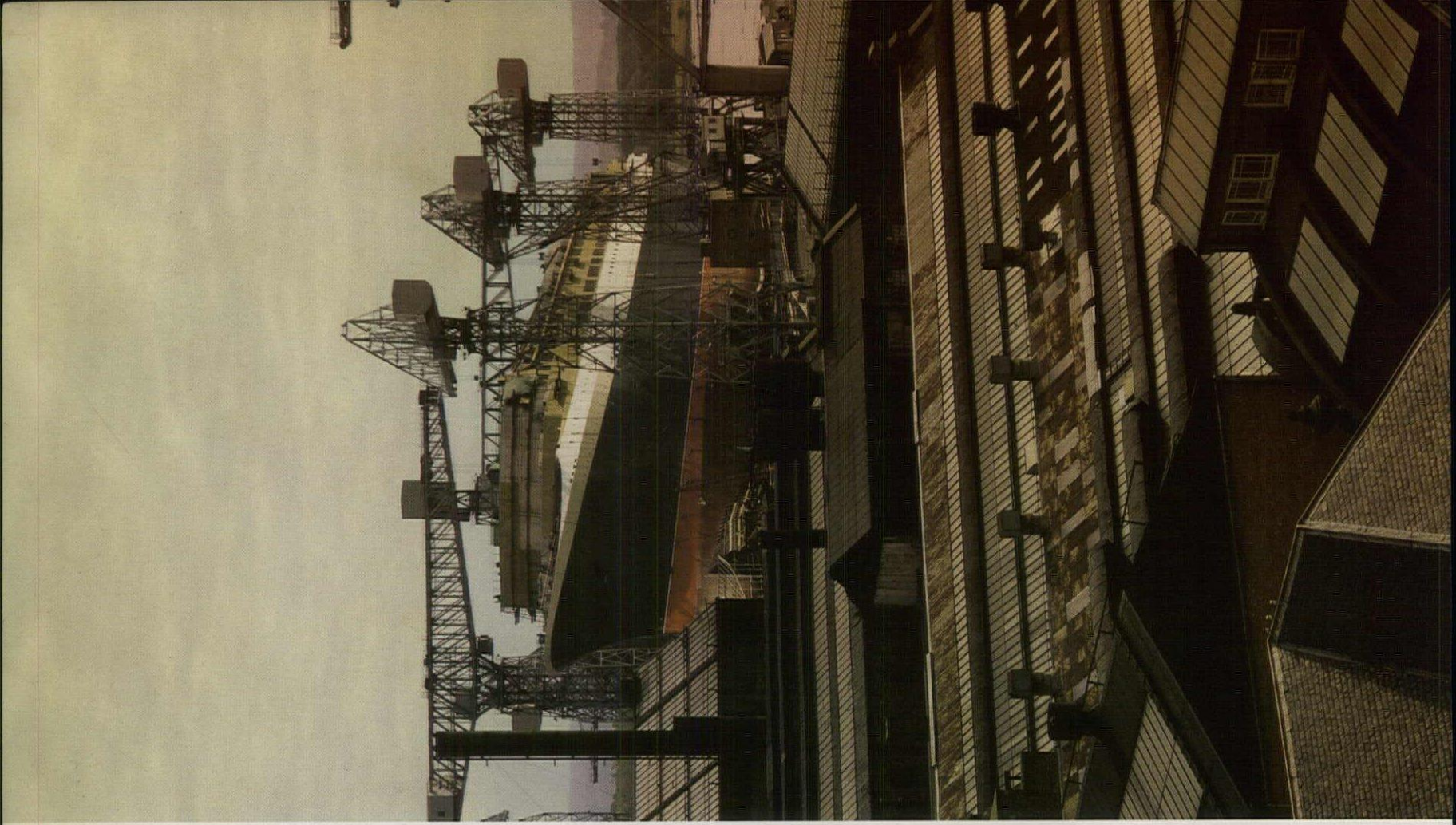


*'towering white-topped above a quayside'*











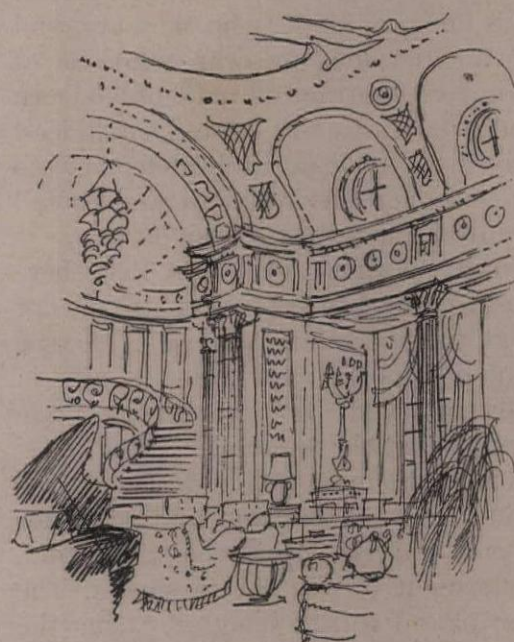
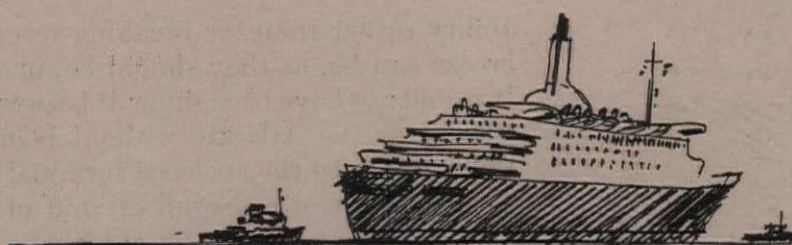








'once she is launched she is theirs no longer'  
(opposite page and right)



'the dressing-up box of history was ruthlessly pillaged'



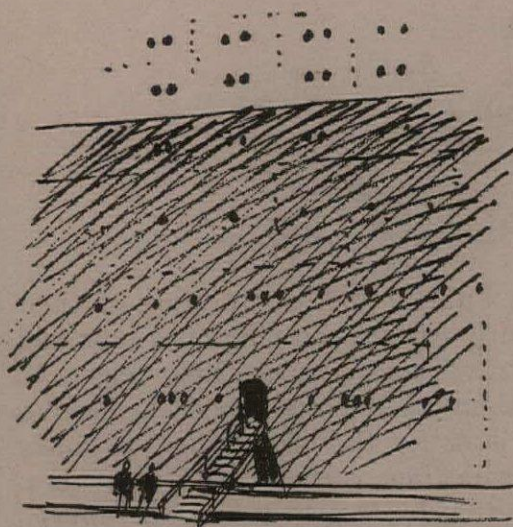
'self-confident magnificence' (the Queen Mary)

prevent their being seen by, or at least brought to the attention of, their wealthier fellows. And up to quite recently certain shipping lines that had held a route monopoly or government travel contracts saw little reason to overdo the luxury for passengers who had no other choice. Yet as far back as Nelson's day, attempts were made, at least for the officer class, to make between-decks seem like home, with panelling, carpets and candelabra. Even today it is not unusual to find pleated chintz pelmets and an embryo brick fireplace in a naval wardroom. Similar fantasies, defensible in professional sailors for whom the sea is as workaday (and often as tedious) as the workshop or office, were for years to dog the nautical interior.

In late Victorian times, and indeed until much later, most of this work was left to decorating firms and upholsterers, the owner occasionally selecting the carpets and china as though for his own house. But as ships grew larger and more complicated and competition for grandeur more acute, the professionals began to take over. Among them were J. J. Stevenson, a pioneer architect friend of William Morris, who worked for the Orient Line, and the famous London firm of Mewès and Davis (architects of the Royal Automobile Club and of the Ritz Hotel in London) who, for the first twenty years of this century, shared between them the major responsibility on the Atlantic run for what came to be known as White Star-Roman or Berengaria Baroque. Their influence was world-wide, and is still occasionally glimpsed. The dressing-up box of history was ruthlessly pillaged, and to walk through the public rooms of the great passenger liners of this period was to leaf through a gruesome catalogue of architectural styles. In the early twenties new facilities were constantly being demanded and the designers responded with a will . . . Pompeian swimming pools, Byzantine chapels . . . (there is a legend that on one famous liner the ship's chapel even boasted a leper's squint) . . . Viennese cafés . . . Rococo cinemas. In this race for custom Cunard kept always well ahead. Private bathrooms were installed in their ships as early as the 1870s and the *Gallia* (1879) boasted a fountain that played in the smoking room. The *Aquitania*, broken up in 1950 (her famous panelled lounge was saved and is now in a private English house), held the palm perhaps for elegant splendour until the arrival of the *Queen Mary* and *Queen Elizabeth*, two ships that epitomized in their self-confident magnificence the heroic decorative scale of a heroic but vanishing era.

It is easy to laugh at its absurdity or shudder at its vulgarity, to find distasteful above all the worship of size for its own sake. But it was not all perhaps quite as silly as it sounds. Sea travel calls up images of calm seas and hot sun, but the North Atlantic run rarely sees either. It was perhaps no wonder that passengers welcomed, we are told, the 'Holkham-Polkham' of linen-fold and Turkey carpets, the glowing electric logs, the heavy fringed curtains tight drawn against the elements. This need for reassurance touched with illusion has not disappeared even today—if expressed in less frankly theatrical a manner. The smoking room of a modern liner may look more like a Californian country club than say a Warwickshire manor, but the required atmosphere of being for a time in another world is still essential. Two things however have changed, one the volume of passenger traffic, the other the frantic race for speed. The figures speak for themselves. In 1954 one million passengers crossed the Atlantic by sea, almost twice the number carried by air. Ten years later the airlines carried 3,500,000, the ships under 700,000. The trend seems likely to continue. So there is no longer a need for a weekly Atlantic service all round the year, and the Blue Riband is no longer a prize worth seeking. In winter the QE2 can go seek sun and blue water wherever it can be found, and speeds can be chosen for comfort and reli-





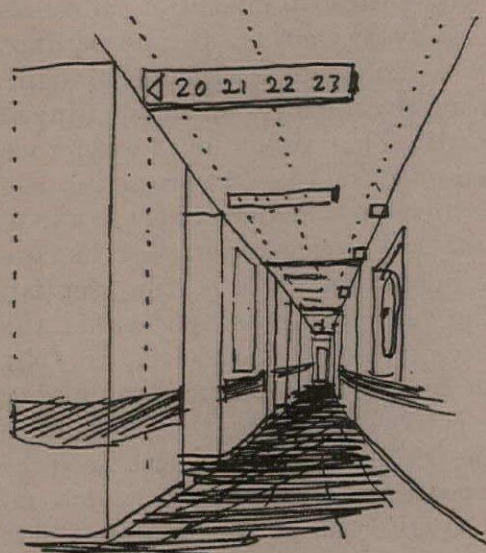
*'into the veneer-lined belly'*

ability rather than for breaking records. The sun, the sky, the sea and the breeze can be, as they should be, once more the true partners in the scene. It would not have been difficult between the wars—and the same applies today—to cross the Atlantic without being aware of the sea. Passing from the Pullman car to the enclosed terminal shed and then up a covered 'gangway' without sight of a seagull or sniff of sea-air, the passenger moved directly into the veneer-lined belly of his new home. A faint tremble of the floor told him he was on his way; its cessation, a few lethargic days later, informed him he had arrived. The sea remained an off-stage presence, dutifully inspected perhaps at ritual hours, but otherwise ignored . . . and, 'Why not', you may ask, 'if he likes it that way?' Even now, the designer will reply, nobody tries to stop him if that really be his wish, but if he is at sea, after all a unique experience, then surely this is something to acknowledge and whenever possible to enrich? This, at any rate, has been the policy—welcome even if belated—at least of post-war shipowners of all nations, and their designers have done their best to implement it.

How do they set about their work, and why are there usually several of them instead of only one or two? Is this policy, traditional to the industry, of dividing a ship, which is essentially a single coherent conception, into separate areas, each with a separate designer, a wise or even proper one? The only answer to this is that it depends how you do it, who they are, and who—if anyone—is in charge. Clearly the frequent pre-war solutions of handing out rooms to designers, or decorative contractors with no concern as to how these rooms, or their treatment, were mutually related, could lead to nothing but visual chaos—and usually did. But it is surely defensible to seek for variety of needs and moods in passenger environment and to call upon a diversity of talents seldom encountered within one designer?

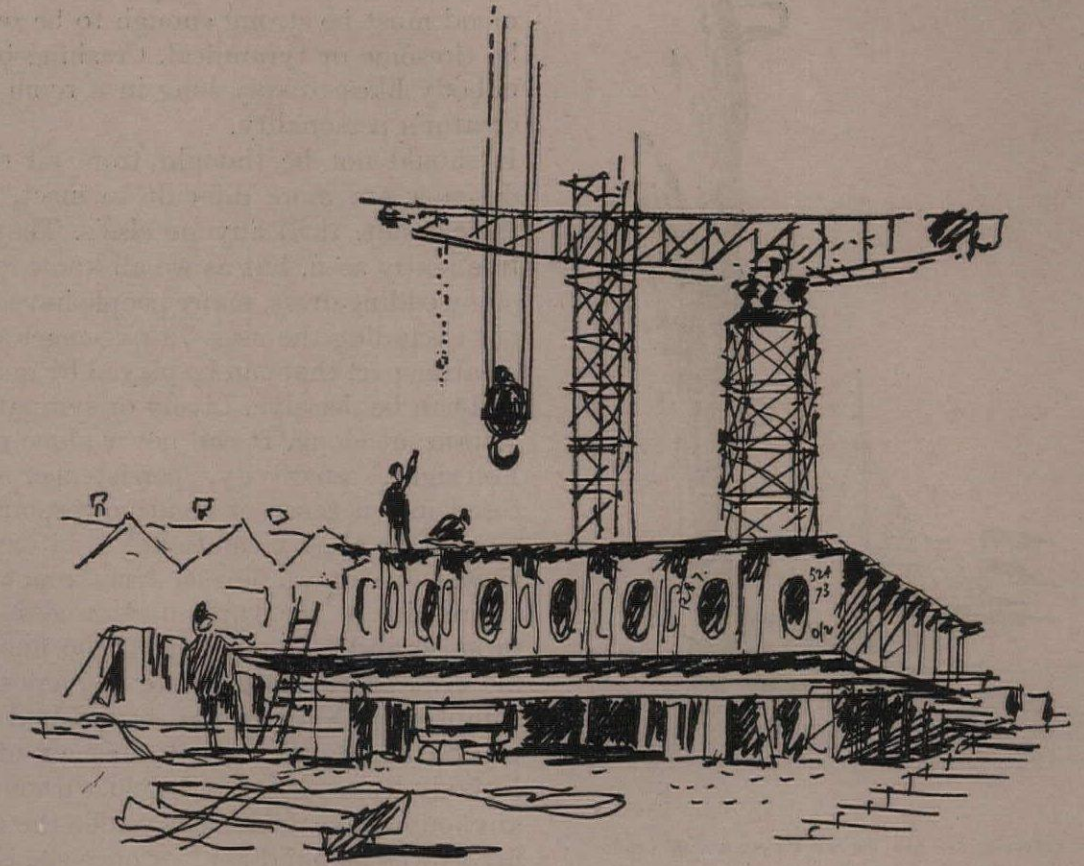
Provided that the chosen team shares a unity of aims and values, that there is clear demarcation of responsibilities and mutual respect, and strong, not to say tactfully tyrannical, leadership at the top, then a sense of shared creative responsibility will be borne and nourished and then the aim of diversity within unity can be successfully achieved. But whether the team numbers two or a dozen the same (or similar) problems must be faced.

At this stage management has already made the main policy decisions, the naval architect has established in outline the size, position and sequence (vertical and horizontal) of the public rooms and passenger accommodation, the placing of lifts and stairs and the allotment of circulation spaces. The builder with whom the contract has been placed will be busy preparing the yard and arranging with the naval architect those technical experiments with hull and superstructure models in wind tunnels and testing tanks, which will determine the details of her final three-dimensional form. Against this complicated background, partly rigid and unchangeable, partly still fluid, the designer is free to let his imagination play. For him the process is the same as in all design problems, the assembly of data, its analysis, and finally the solution. First he must face the facts, and at sea these are brutally clear. First among them is the fact that a ship is a vehicle and a vehicle moves. This means that every item fixed or loose is subject to constant or sudden stresses, that everywhere the saving of weight is of paramount importance and that space is so valuable that every inch must be fought for by competing interests. In addition, all walls and ceilings are virtually ducts containing a tangle of conduits, pipes and services which must be easily and—in an emergency—very quickly accessible. Add to this the fact that even in a large ship, floors are more often curved than flat and walls seldom quite vertical, and that during the time she is building many new devices, materials or equipment are perhaps invented or successfully developed and have to be incorporated at the last moment. Structural requirements, safety at sea regulations and the budget provide additional and unavoidable limitations. Next come the facts of performance. This ship will spend a high proportion, but not all, of her life in sunny regions. This means the rooms must look equally inviting at all times of the day 'in every sort of climate—from the Tropics to the North Atlantic'. Today every ship has to work hard for her living. This means quick turn-rounds and the minimum time for



*'ruthless standardization of corridors'*





*'this air of urgency and personal commitment'*

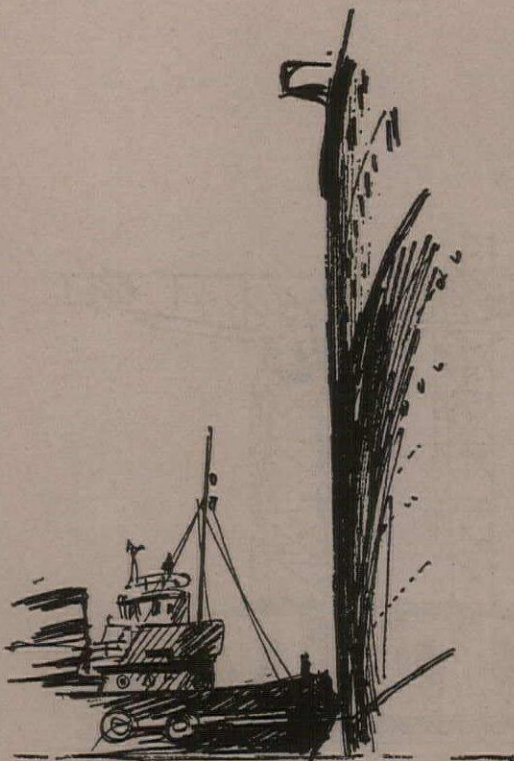
decorative maintenance and repair. All materials, hard or soft, therefore, must be hard-wearing and easy to keep clean. Furniture must be heavy enough to stay put, but not so heavy as to cause injury if thrown about in a storm. No detail is too small for attention, from non-slide shelves for books in the library to high arm-chairs in first-class public rooms—where the passengers are likely to be older and stiffer in the joints. Music stands and ashtrays, bed-linen and salad bowls, pickle forks, tooth mugs, writing paper, bath mats, pianos and altar cloths, teapots and play pens . . . the designer's shopping list is endless. It will be seen that if the designer is to ensure that the interiors look right on the day she sails (and even more important to *stay* looking right) he must have a firm purpose and a clear head as well as a powerful imagination.

There are no rules except those of suitability (Edith Wharton's word for 'Taste') enlivened by imagination. 'Over-shippy' attitudes to interiors can be as romantically unsuitable as plaster swags and wrought-iron grilles. The sturdy simplicity of the exposed trunking, ranked stanchions, white paint and deck lino may satisfy the shore-based sophisticated, but not the passenger who has paid heavily for comfort both actual and visual, and feels entitled to a sense of luxury and occasional illusion, however restrained. Clean, crisp lines, top quality materials, wood, leather, metal, plastics or silk—left as far as possible to look after themselves, ruthless standardization of such linking element as staircases, corridors, door furniture and sign-posting—these are some of the qualities to be looked for. Finally we must remember that the designer and his colleagues are dealing with Space, an element that is as unpredictable and volatile as the sea itself. Psychologists confirm what the sensitive already know, that space totally experienced by all the senses creates its own emotions. It means different things to different people at different times. Moreover the user of space—the observer—is always selective. He not only over-looks what he does not wish to see, he deforms it to meet his own needs and wishes at that particular moment.

It is the task of the designer—part architect, part illusionist, part psychologist—to take this element, to shape it, play with it, and above all to decide its character or mood. Certain rooms, e.g. the dining room, where the ritual of a meal is almost as important as its quality, require a sense of occasion.







'the strip of water . . . narrows'

Opposite: 'the sun, the sky, the sea and the breeze . . .'

In others, such as the nightclub or coffee-shop occupied for shorter and informal occasions, fantasy is justified, a *coup de théâtre* can be risked. This mood must be strong enough to be recognizable, but not so dominant as to be tiresome or tyrannical. Crashing bores can be seen as well as heard and nobody likes to stay long in a room where he is the helpless victim of its creator's personality.

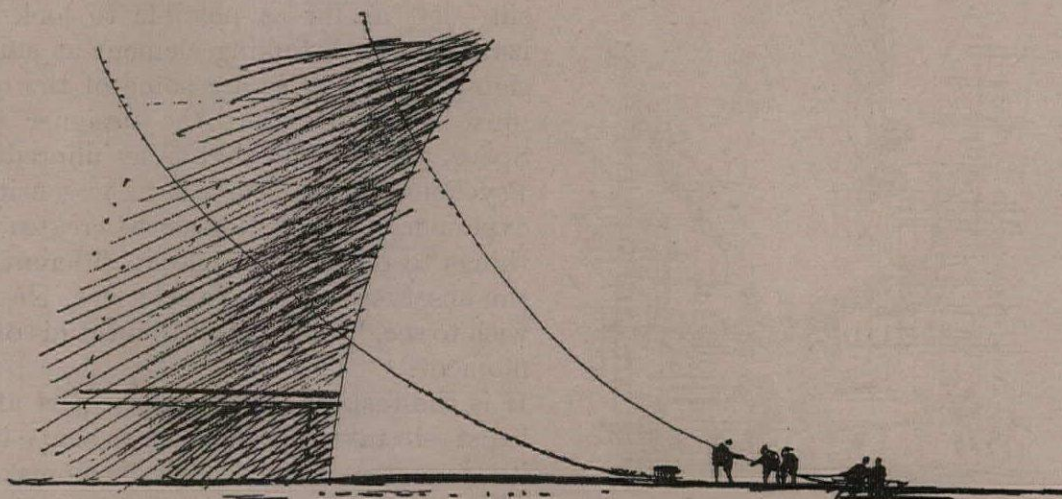
It should not be thought from all this that the problems of the interior designer are more difficult to meet, or their solutions more important in their result, than anyone else's. They may be more evident, because more frequently seen, but as we all know in any design project, be it a battleship or a wedding dress, many people have the right and the expertise to be heard, not excluding the user. In passenger ships, as in a restaurant or a hotel, the creative part that can be played by management is—or should be—enormous and can be decisive. Lively or sympathetic décor can always help a hotel or restaurant along. It can never alone make it a success.

Foresight, sensitivity, persistence, experience, tolerance, creative skill, fused into a sense of creative responsibility that, certainly in the last few months, is almost emotional in intensity, these are the qualities needed by those who at all levels, from managing director down to the youngest apprentice in the yard, must together battle their way through the compromise and misjudgements, the financial cuts and changes of policy, the material shortages and late deliveries, that beset a project of this size and complexity. Nobody who has visited a yard in the last few weeks of completion could fail to sniff this air of urgency and personal commitment. Nobody leaves this battlefield without the scars. Everybody realizes that if anybody bleeds it must never be the ship. They must nurse her and cherish her as well as build her, for once she is launched she is theirs no longer. They know that a ship once on her own quickly becomes an individual with her own distinct personality. Neither the owners, nor the builders, nor the architects and designers and sub-contractors can create this personality, for it is a combination of many things, good men in charge at all levels, smooth management, courteous service—but they can help to form it or, even more easily, to frustrate its growth.

In the end all the technical skill and inspired guesswork, helped here by a fine company tradition and public affection bequeathed her by her two great predecessors, can do no more than give QE2 a good start. The final test is when at last she is on her own. A ship—to use Kipling's words—has to be 'sweetened' at sea: 'Lay your ears to the side of a new ship at sea', he wrote, 'and you will hear hundreds of little voices in every direction thrilling and buzzing, whispering and popping . . . like a telephone in a thunderstorm . . . as all the bits and pieces of every size and weight and responsibility learn how to take individually or together the strains of movement'.

Only when she talks with one voice can she be said to have found herself and be able to bear the crown which we all believe to be her due.

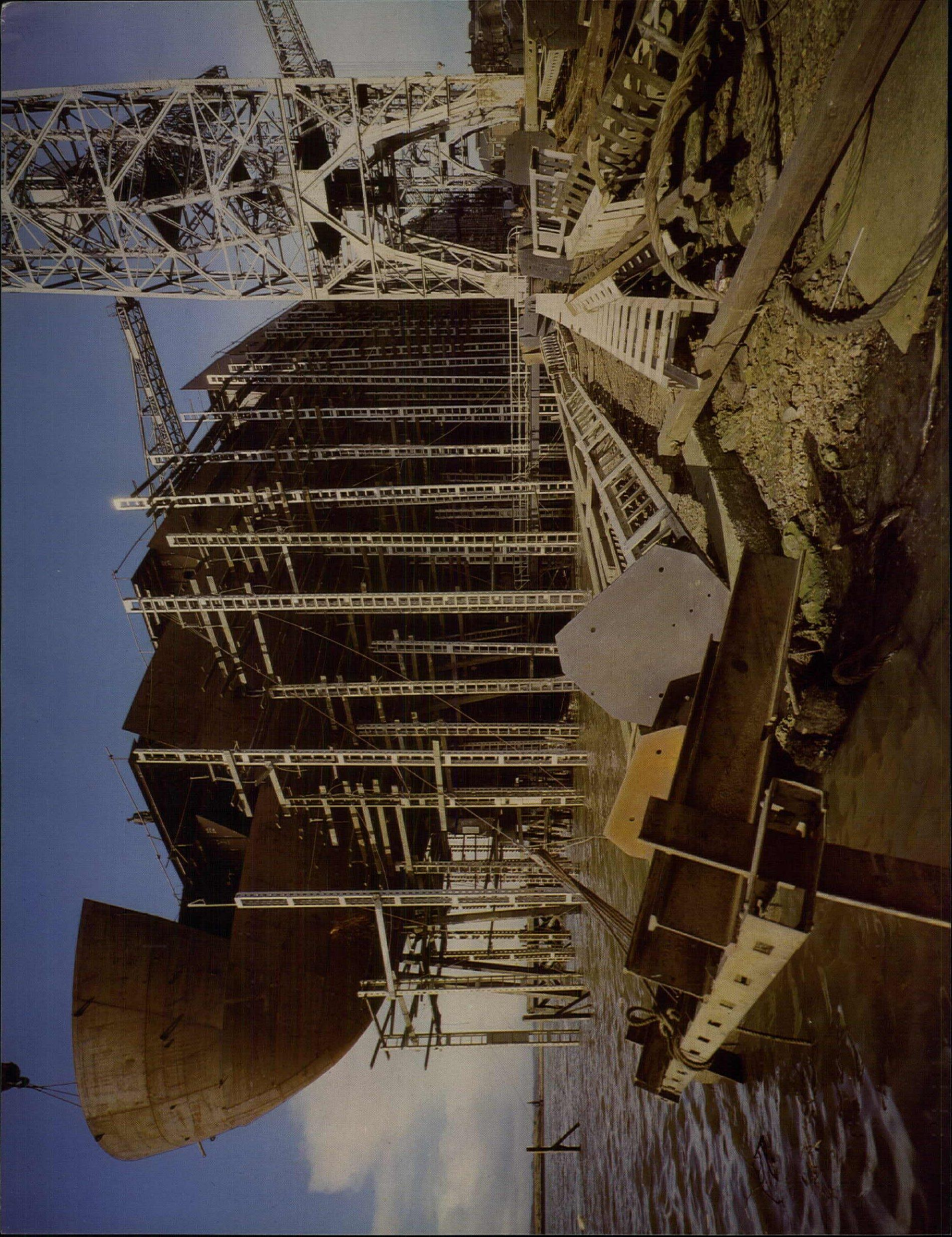
arrivals . . . are movements of effortless rejoining'













# CONCEPT TO CUNARD

1 (opposite), the stern being built at John Brown's. Technical director of new construction to Cunard: Tom Kameen. Chief naval architect to Cunard: Dan Wallace. Design coordinator for exterior: James Gardner.

## The Building of the QE2

Kenneth Agnew

A large cruising liner is the nearest thing so far to a completely man-made total environment. It houses every kind of human concern, work, play, health, sickness, birth and death, and at its best the scope of its facilities transcends most buildings and many towns. It is when this specification is seen as a secondary aspect only of a design task that the real extent of the naval architect's problem can be appreciated. The production of a fast vehicle which will safely include the accommodation is the primary concern. These priorities are reflected in the training of the profession and in the organisation of much passenger ship design—impeccable professionalism in technical design combined with an approach to environmental planning which has produced too many expensively appointed disappointments. This is not to say that the priorities are wrong. The name *Titanic* still appears in current text books of naval architecture and, as recently as April 1966, an Atlantic storm smashed the superstructure and caused 14 casualties in the 43,000 ton liner *Michelangelo* which had been launched only four years previously by respected Italian builders.

### Concept

Jet air liners extinguished the Q3 project, which was intended to maintain the North Atlantic shuttle service around which the *Queens* were designed. Cunard and their builders, Vickers and Swan Hunter, far into the planning of the new giant, had to accept that her passengers had disappeared into the sky. Out of the ruins of the design study for the lost liner emerged a new proposal, a dual purpose ship which would operate the Europe to USA shuttle in summer, carrying tourists, but which in the northern winter would cruise distant sunny waters. This was the ship, 'Q4' in journalese, 'No 736' on its builders' books, which was finally launched as *Queen Elizabeth 2*. The large one-off luxury liner is widely regarded as an archaism, but there was a certain logic for Cunard in building something fairly big. The tourists, tempted off the jets perhaps, would still be travelling to arrive, and for speed with comfort over the long North Atlantic rollers, size is essential. Similarly, if tourist passengers can be found, there is jumbo logic in pushing them along in large packages. Generous volume also makes sense in dealing with the provisioning problem in either role. It is not unusual for cruise ships to be provisioned for a whole season, and it is becoming increasingly economic to provision a 'shuttle ship' on the same basis, to cut down time on the numerous turn-rounds.

The older *Queens*, however, had been a little too big: their 39-ft. draught kept them out of Southampton at low water; and a missed tide added hours to the passage. The new liner would meet such problems in an intensified form. The itineraries of a cruising liner change from year to year in step with holiday fashions and the pulsations of sterling. She must follow the trends through shallow waters and into holiday ports where tugs are scarce. If

the Pacific is to be within reach, the Panama Canal must also play its part in designing the ship. The requirements taken together filter out a performance and a set of basic dimensions, which are uncomfortably tight for a luxury 'jumbo', especially when the luxury that its cruising customers want is space. The Panama locks are 1,000 ft. by 110 ft., and under a complex series of weight and volume regulations on which negotiation is possible they will take a ship only slightly smaller than this and with a maximum draught of about 35 ft.

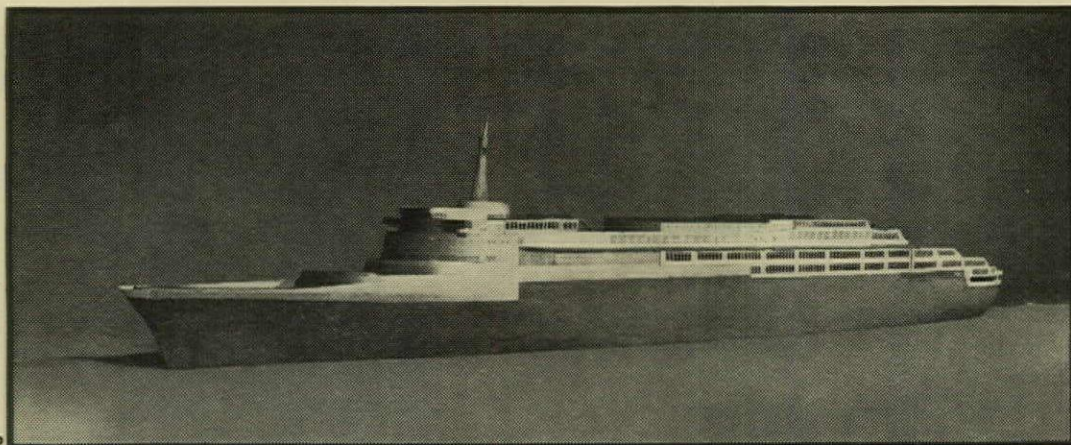
These constraints alone, and there were others, left options in only one direction: upwards. And the early glimmerings, emerging from the flotsam of the Q3, showed a tall, wall-sided ship, extruded under pressure through rectilinear regulations into a world not too interested in limitations. This holds as true for subjective environmental demands as for technical operating standards. The part played by the world's expectations in the genesis of QE2 cannot be put into figures. Those factors which are quantifiable can be arranged into a viable economic argument, but their extrapolation even into the near future involves some spiritual belief. It may be no accident that the name 'CUNARD' is welded on to the superstructure of this particular *Queen* in letters six feet high.

### Conception

The new proposal evolved with Vickers in October 1961, was for a ship strikingly similar to the *Oriana* which they had launched for P and O in 1960. *Oriana* was a dual purpose cruise or passage vessel, not a giant at 42,000 tons, but carrying 2,000 passengers on five decks in stabilized and fully air-conditioned comfort. She was novel in several ways: the first British ship to have an all-aluminium superstructure, and the first to have a bulb bow. She was a twin-screw steamer, and she had lateral propulsion units for independent docking. The new vessel proposed for Cunard could be described almost identically, except for its size—about 60,000 tons.

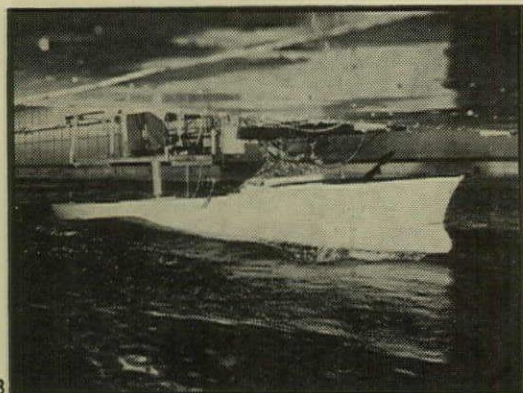
Vickers were commissioned, in May 1963, to carry out calculations for the vessel in close collaboration with Cunard who, by ship-owning standards, have an unusually strong technical department of their own. Their naval architect, Dan Wallace, and their chief marine engineer, Tom Kameen, supported by a small technical staff, maintain an exceptionally close involvement with the design and development of the company's ships. The development was to bring together three things: Vickers' ideas for improvements in the ratio between size, power and speed—Cunard's requirement to reach beyond the stringent American safety standards—and the many lessons learned by both from the Q3. The resulting design, which went out to tender in September 1964, described a centre-engined liner of nearly *Queen* length at 963 feet, and of unprecedented height above waterline. The drawings and six hundred



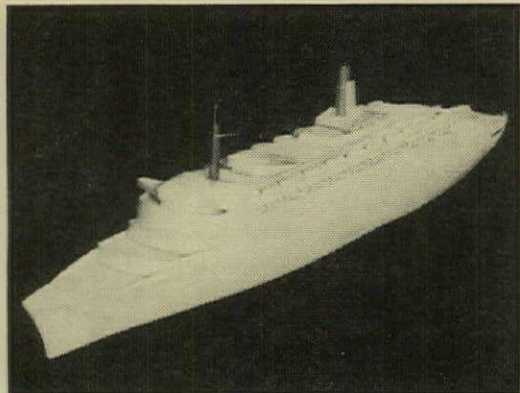


2

2, model of the QE2 at pre-tender stage. 3, model of the hull during a tank-run simulating exceptional sea conditions. 4, final waterline model for aerodynamic evaluation at the National Physical Laboratory.



3



4

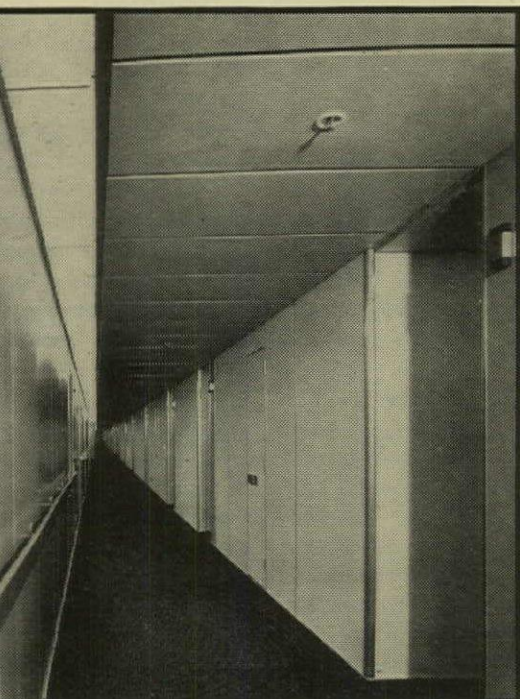
pages of specifications were accompanied by a model which showed a more slender hull than its predecessors, and a rather demure appearance due to its lack, at this stage, of a funnel. Three companies tendered on the specification. Their bids, as invited in the tender documents, including their own views on certain basic features of the design such as speed, power and the number of propeller blades. Thus the 'owners' design' was supplemented by a 'builder's design', and an amalgam of these paper ships formed the basis of a £25½ million building contract. The task which faced John Brown when they got the contract was still a design job—a

collaborative operation between two design groups, owners and builders, with similar professional skills, the common private language of naval architecture, and the opposed pulls respectively of near perfection and shipyard economics. Cunard's 'specification for a twin-screw passenger liner' was the output of unique operational experience. It left considerable play, however, for the builder's constructional experience; and while its phrasing reiterated the fact that this was no ordinary vessel, it placed as always the responsibility squarely on the constructor to build a fast, functional and seaworthy ship. In planning terms QE2 followed cruise liner

5, services in one of the corridors being built in the passenger accommodation. Perforated beams and unusually strict planning of pipework give greatly improved headroom. 6, the same corridor after completion.



5



6

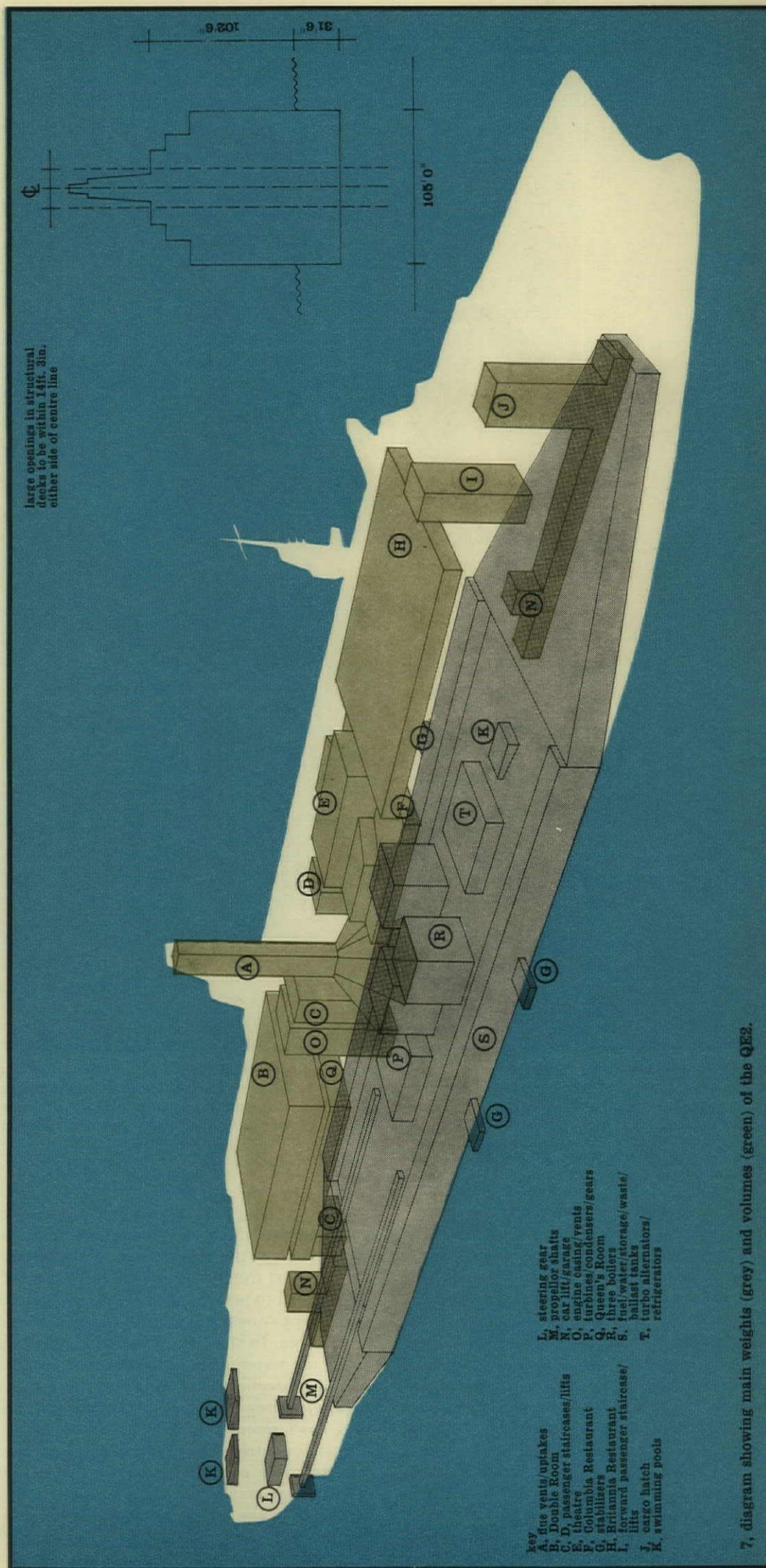
design trends in general and Cunard trends in innumerable particulars. The general trends demand ever more 'outside' cabins with portholes, an increasing variety of public rooms with big windows and a commanding view and, finally, ever greater areas of sheltered deck open to the sun and to the eye, but not to the wind. Cunard's response to these requirements has tended increasingly to place all circulations in-board, running the cabins to the outer shell, and higher up to peel off the strips of open deck which traditionally encircled the superstructure, and consolidate them into a cascade of open play-decks aft. In the light of this the new ship emerges as a cellular mantle of passenger spaces—cabins, public volumes and open decks—moulded over, around and behind a long, narrow core of machinery, circulations, cargo and crew space. The expanding demands of the environmental mantle, and the irreducible requirements of the functional core, influence virtually every decision in the structural design. The great height above waterline reflects the attempt to get the optimum usable volume out of a hull which is perforce slightly shorter and 10 per cent narrower than the earlier *Queens*, yet like them must carry 2,000 passengers and, unlike them, eighty cars. In line with other findings of the market research, the public rooms, some of them of great size, were all to be placed in the superstructure. Even the restaurants, normally placed lower down to soften the effects of rolling, were to have vantage positions with spectacular views through large windows. All of which increases the demands on the stability of a liner already to be taller, narrower, shallower in draught, and 29,000 tons lighter than her predecessor. Such requirements in fact could only be envisaged in the light of the now widespread practice of building part or all of the superstructure of passenger liners in aluminium alloy, and fitting the hull with power-operated stabilizers. Both tactics were implicit in the earliest design considerations. Allied measures were equally far-reaching. Special weight and space studies had been conducted for the Q3 and these bore fruit in the QE2 design. They showed at the structural level in the extensive perforation of beams and joists for lightness, and the unusually careful pre-planning of trunking, pipes and cables to make full use of these openings and thus maintain maximum headroom and minimum depth of deck. This rigorous approach also showed organisationally in the requirement that the builders should appoint staff whose entire responsibility, during detailing and subsequently during construction, would be to ensure that no excess weight was built into the ship. The saving of space was equally vital. Care in deck and services design, plus the alloy superstructure, would allow a complete extra deck, but even this would not suffice for a dual-role ship. The older 'Queens' were fast North Atlantic passage liners returning to home port facilities every two weeks. QE2 was, in addition, to be able to cruise for a complete season, with up to three months away from home facilities. Storage and



stowage correspondingly had to be both ample and flexible, the volume required being found mainly from a more than 50 per cent reduction in the space allotted to the main engines and boilers. Cunard's engine specification, in line with the general development of heat engines, described an extremely compact 'power package' using four large boilers running at high temperatures. The old QE had twelve boilers, and the machinery space took half the length of the hull. The positioning of the engines in large ships is a live question in a period of rear-engined mega-tankers and ore carriers. Centre engines and their attendant central funnels plus long propeller shafts have real drawbacks, but the balancing factor literally is weight. If 5,000 tons of machinery is sited aft, then this must be balanced by fuel and ballast placed well forward, the result being to place the two main structural loads at some distance from midships, the centre of buoyancy. Bending loads on a long hull are consequently greater, making demands on strength which are all the less acceptable because of the remaining biggest, and oldest, design problem of all—the North Atlantic. There is no other regular passenger route like it in the world. The long and frequent gales can produce rollers 40 ft. high and measuring 500 ft. from crest to crest. Such waves can meet a Queen-size ship head-on as 15,000 tons of green water travelling at a relative speed of 50 m.p.h. A fast ship for use in these conditions must be built with tremendous strength, and the Cunard specification called for plate thicknesses and constructional details in excess of the Lloyds requirements at many points in the lower hull. Finally, the new liner was to be an all-welded ship, lightened of the innumerable flanges and laps required for rivets—10 million were used on the old QE—but lacking also the stiffening effect of all the double thicknesses, and subject now to the problems of distortion and quality control which accompany the welding of sheet or plate structures.

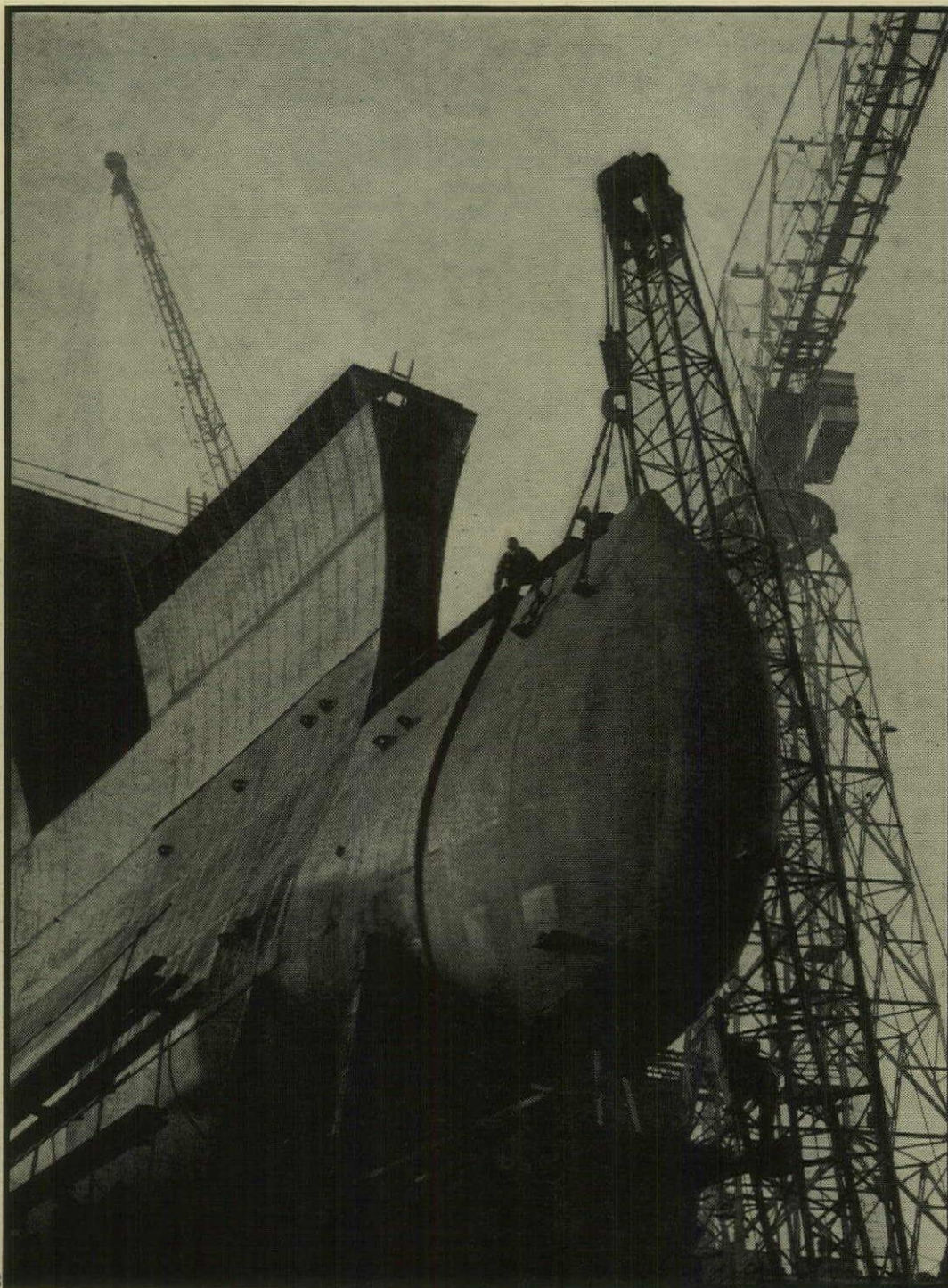
### Construction

The builders began, as usual, with a detailed study of the hull—its internal organisation, and its external hydrodynamic performance. Two changes were agreed in the early stages. The first placed the turbo alternators (a 16½ megawatt power station) forward of the boilers, instead of behind them and just ahead of the engines. This now placed the boilers between the two main items of steam-using equipment and reduced costs. The second suggestion concerned the underwater form. This had already received extensive investigation and tank testing during the pretender design study, and the general hull form with its bulb bow was quite tightly described in the tender drawings and specifications. But hull design is not fully subject to calculation, and John Brown themselves possess a test tank—one of the few in the country—plus the hull records for the scores of ships they have built, including among them the *Lusitania*, *Aquitania*, and both the earlier *Queens*. The small modifications proposed after work with a 16-ft. wax model of



7, diagram showing main weights (grey) and volumes (green) of the QE2.



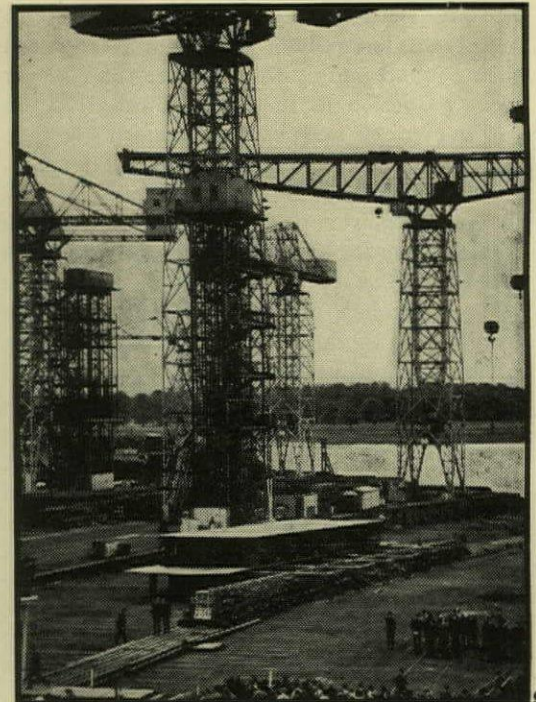


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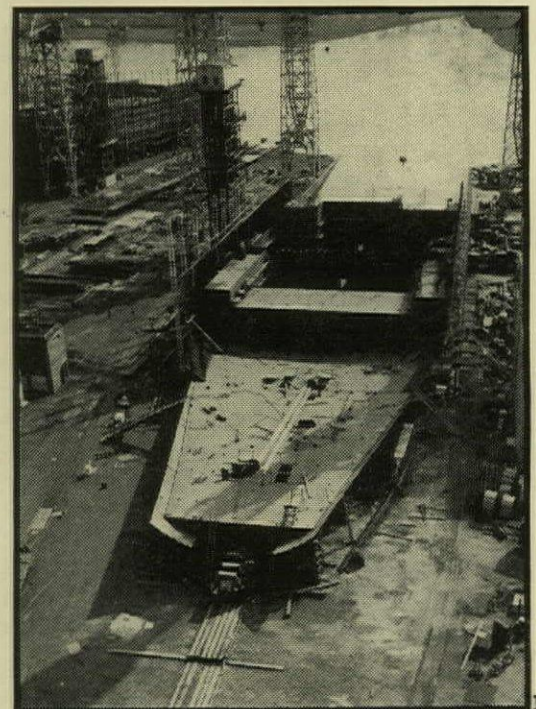
8, the bulb bow is swung into position for welding. The lifting lugs are subsequently removed by flame-cutting. 9, the first prefabricated section of the double bottom is placed in the ship. 10, the side tanks are complete and the cranked wall of a water-tight bulkhead rises at the aft end of the machinery space. 11, the QE2 was assembled in the slip from pre-fabricated units, limited in size only by shed and crane capacity. On-ship welding was left to a minimum. 12 (opposite page), the stern and rudder just prior to launching. The use of two propellers instead of four has made possible an exceptionally efficient after-body form for a large liner.

the hull in the Clydeside test tank gave a slightly faster shape with good stability. The hull now had its final shape. More slender than the *Queens* and with much less displaced volume, it otherwise closely resembled them, the yacht-like curvatures of the underwater form giving little hint of the long parallelism and rectangular cross-section of the body above waterline. The most noticeable difference from the older ships was the ram-like bulb at the bottom of the stem, which at cruising speed would 'de-tune' the waves set up by the fore part of the hull, reducing their amplitude and their resistance with a corresponding saving of propulsive horsepower. For the moment it was the most refined liner hull the world was capable of building.

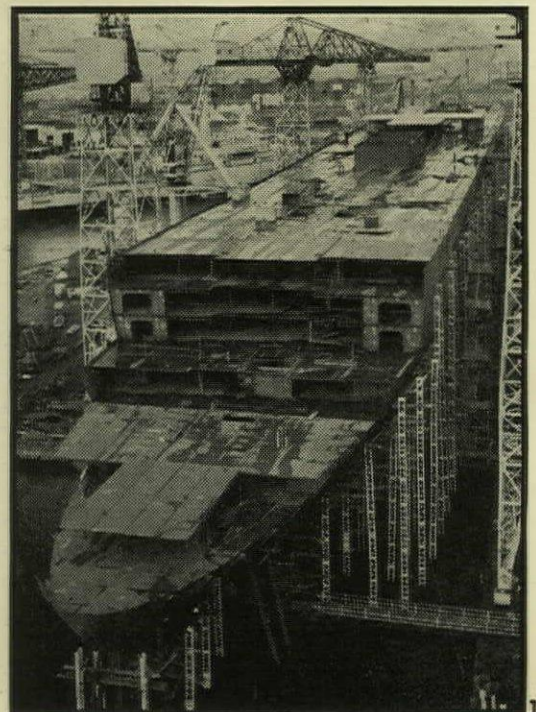
Structural design is dominated by safety requirements which exceed all others. Ships are probably the only form of transport which, apart from their normal service, must be designed to perform in specified ways after receiving a variety of specified damage, much of it severe. In the case of the QE2, the hull below the waterline is divided conventionally into 15 watertight compartments. The rules require, among many other things, that the ship shall remain safely afloat and regain almost level trim after side damage to any two adjacent compartments, even if these are the huge boilers and engine room spaces. Structurally the hull is a box girder formed by the outer shell topped by the uppermost continuous deck—the strength deck.



9



10

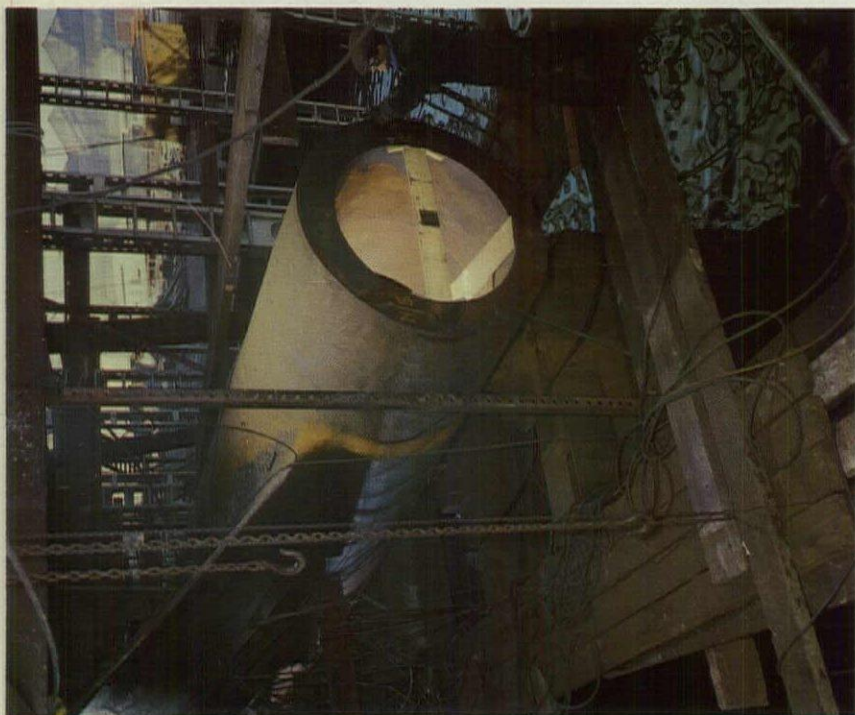
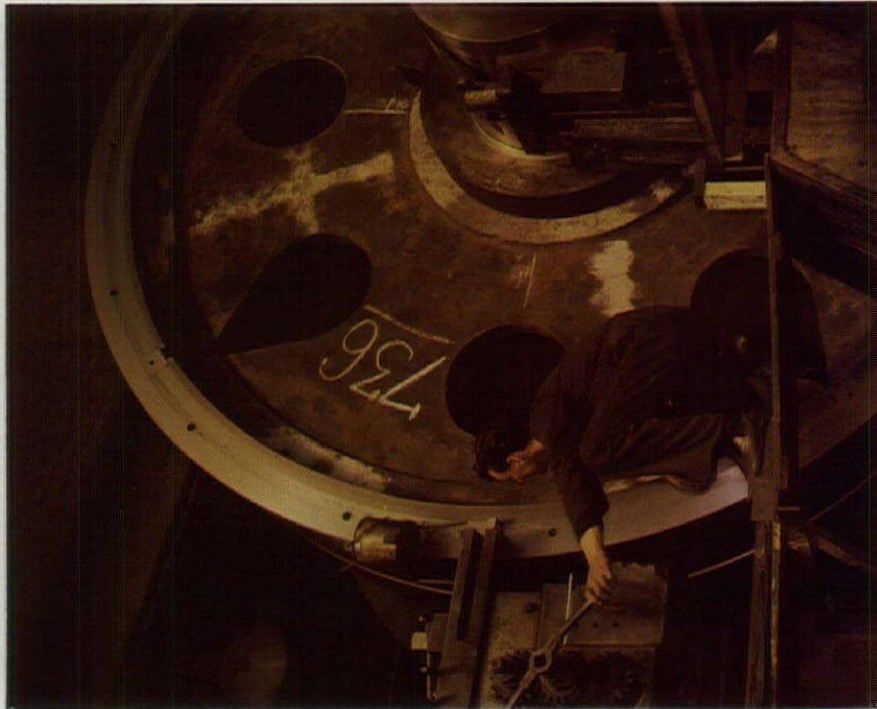
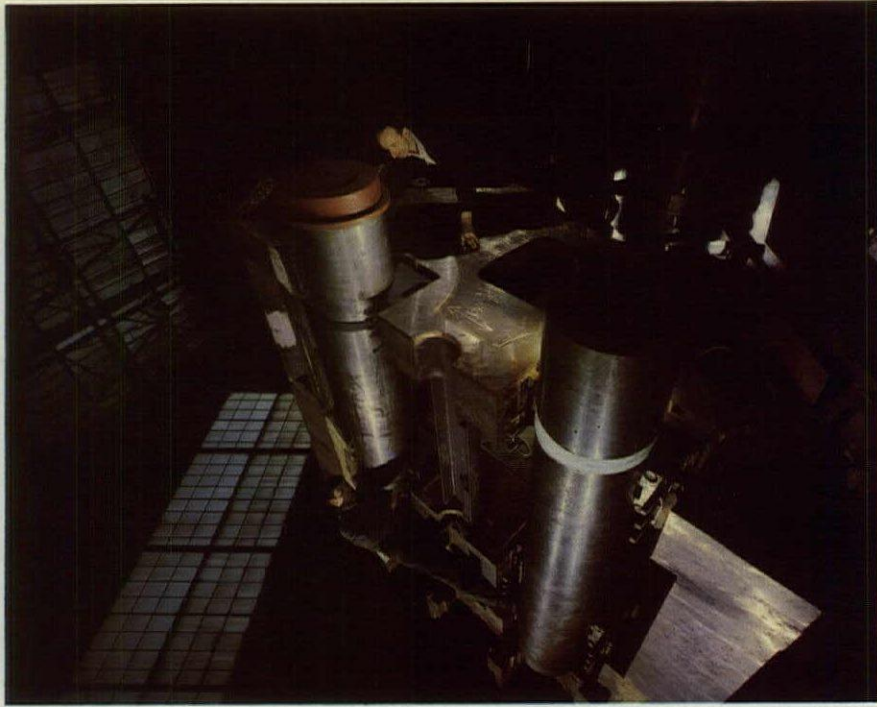
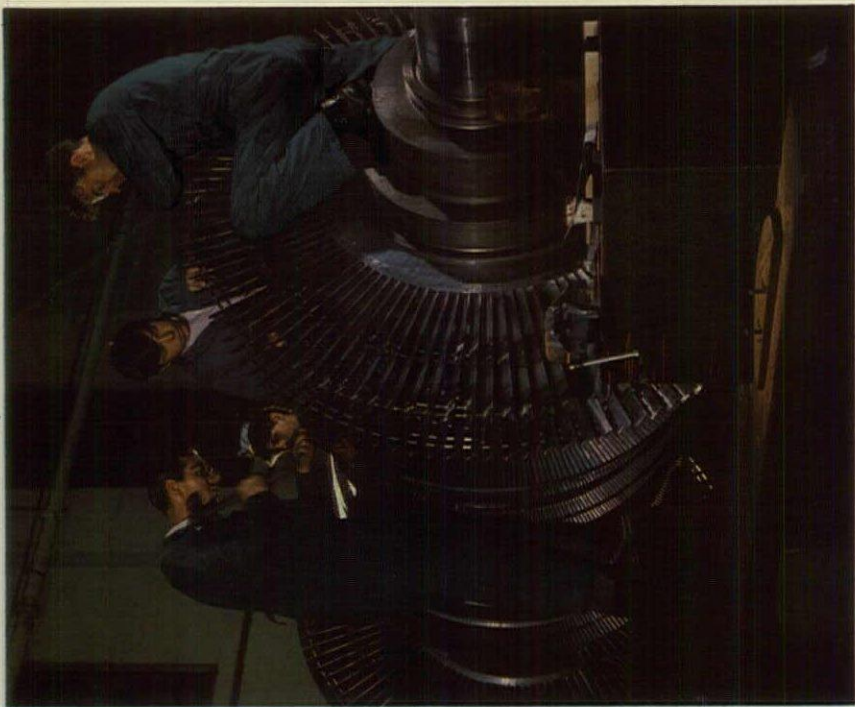


11











Ship-building is a unique mixture of heavy engineering and precision craftsmanship. This is illustrated opposite by the assembly operations on the tail-shaft liners, 13, condenser tubing, 14, low-pressure turbine rotors, 15, propeller mounting, 16, alternator disk, 17, and turbine bearings, 18, of the QE2.

The shell is held in shape by 340 transverse frames standing vertically at roughly 24 in. to 36 in. intervals along the length. The eight decks within the 'box' are all structural, being stiffened by 15-in. deep longitudinal beams running the length of the ship. To maintain longitudinal continuity, large openings in decks can extend only a limited distance from the centre line, thus dictating the placing of hatches, lifts, staircases, uptakes, and even the well of the ballroom. At about 60-ft. intervals a frame is taken across the hull as a continuous steel diaphragm forming a watertight bulkhead below water line and in many cases a firewall above. Vertical loads within the hull generally are carried down by five lines of square pillars, one on the centre line and others 14 feet and 32 feet each side of it. The problem of siting pillars to serve five or six differently planned decks above, say, an engine room can be imagined by any 'land' architect. Only a nautical eye, however, might notice that the deck structure lacks one ship-like feature—sheer—the long parabolic curve down from bow to midships and up again to stern. It normally results from regulations intended to maintain a constant safe margin between the water surface and the top of the compartmented lower hull when a damaged ship is down by the bows or stern. In QE2 production has been simplified by building all the decks straight, keeping them horizontal for the length of the main body, but following the parabola roughly by sloping them upwards to bow and stern in the end sections. The substitution of straight lines for curves provides a basis for the cheaper fitting-out of the entire ship, at the price of a slightly more complicated arrangement of the watertight compartments.

The floor of the hull is a continuous stratum of tanks for fuel and ballast. These are sealed off groups of cells in an egg-crate structure 6ft. deep, of vertical steel plates which form the webs of the transverse frames and, in the other direction, the longitudinals parallel to the keel, which stiffen the webs and with them support the plating.

The 'tank top', the inner skin of the 'double bottom', forms the lowest deck. Directly on this, midships, stand the turbo-alternators, and behind them three boilers now instead of the original four. Aft from the boilers everything is in pairs, each propeller shaft having independent equipment, so that each side of the centre line there is a turbine unit and condenser, a reduction gearbox and a thrust unit. The baseplate of each is carried on vertical webs of steel plate which stand on the tank top with its underlying grillage. Behind the engine space proper and astride the shaft tunnels is an array of water-processing plant and desalination units which

produce the main fresh water supply for the entire ship. Very little fresh water is carried from port. In the middle of the engine room two raked tunnels, 3ft. in diameter, pass down through the double bottom to take in sea water for the main condenser. The machinery space is flanked for its whole length by oil fuel tanks, whose outer skin is the hull plating itself, and whose inner skin is a structural bulkhead terminating two decks higher up at water level.

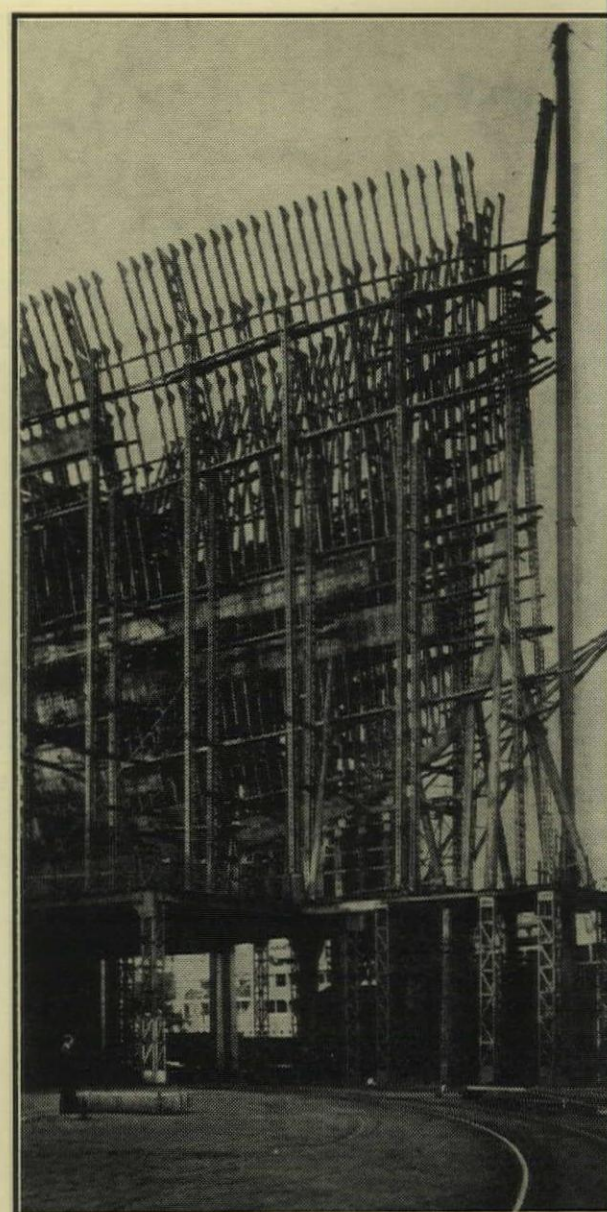
The side tanks contain recesses for the stabilizer housings. Characteristically here as elsewhere there is only a slight increase in local stiffening, the live loads from the stabilizers soon being lost in the general structural strength. The same holds true for the 240-ton horizontal load which each six-bladed propeller exerts on its thrust unit, and for the torque from the hydraulic rams which turn the rudder. The side tanks terminate fore and aft against watertight bulkheads running the width of the hull at each end of the machinery space. Thus the complete 'power package' is cradled securely, protected by a structural 'inner hull' against penetration of the shell, and still operable if other parts of the lower hull are flooded.

The boiler and engine space is packed almost solid. The compression of a 110,000 hp system into less than half the space required on the earlier QE has produced a dense jungle of gigantic pipes whose logic is organic rather than geometric. There is a successive superimposition of heavily lagged steam mains, sea water feeds, fresh water feeds, cooling circuits, pneumatic lines, firemain, and cable runs. Many of these are duplicated and some are backed up by completely independent emergency systems.

Structurally the machinery spaces are only divided by watertight bulkheads between the boilers, engines and alternators. The resulting volumes, several decks high, are intersected by the grid of pillars which carry the loads from the upper decks, provide a space frame for the piping, and pick up the lifting beams over the main machinery. Hull spaces and cabin accommodation are straightforwardly arranged. Three deck shows the great area required for air conditioning plant, which takes up half the inboard core with nine units serving the entire ship.

The planning of the superstructure gains most from the abandonment of the three-class approach, with its consequent demand for triplication of nearly every type of public room. This and the unusually small area needed for the funnel and ventilating uptakes has allowed the placing of the two restaurants high up, and with them the main kitchens, in space which could normally be ill-spared for utilities. Several rooms take the entire width of the ship, and the Double Room, two decks high, has a plan area of 20,000 sq. ft.

The superstructure of a large ship always poses problems: it adds nothing to the stability and usually contributes very little to the hull strength. Sited high above the neutral line of the hull girder, it is liable to enormous strain as the hull flexes with the passage of the waves beneath it. The steel



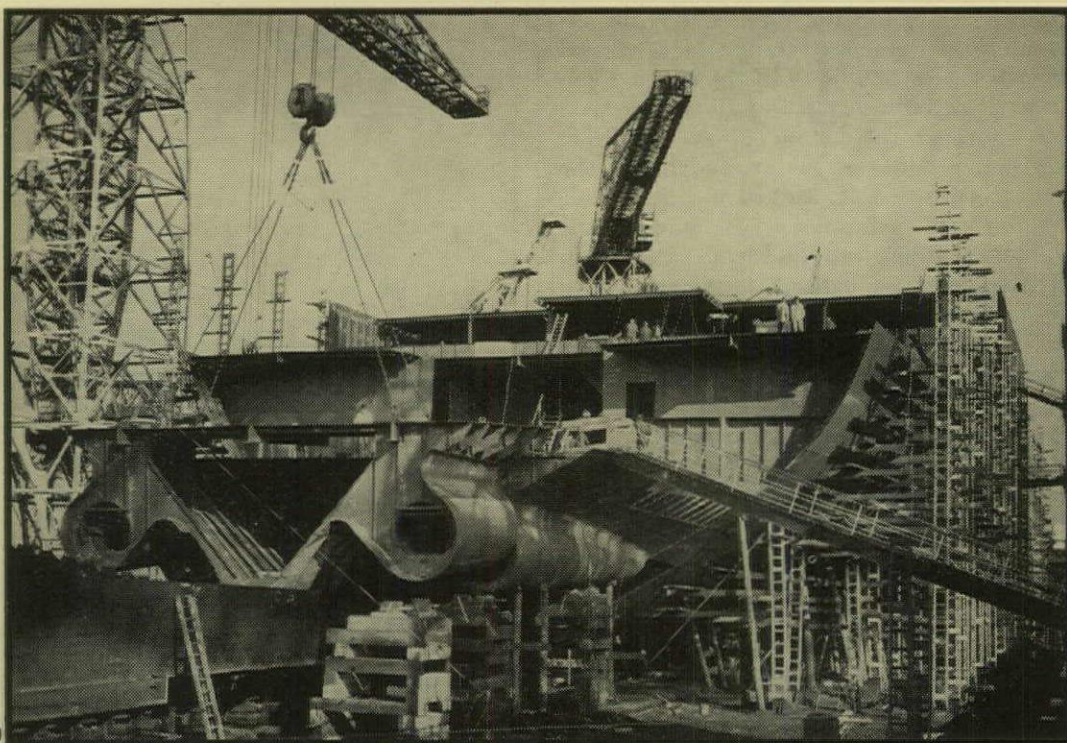
19, in contrast to the QE2, the old 'Queen Mary' was fabricated in the slip. Vertical webs and longitudinals were erected first, then pre-cut plates were riveted on.

superstructures of the earlier *Queens* was not continuous with the hull. Vertical joints in the upper-works allowed them to behave like separate boxes fixed to the strength deck. This, although it used to be common practice, was never entirely satisfactory. The bottom of a working joint forms a dangerous focus for local stresses, while the superstructure becomes simply a further load for the hull, which also has to withstand unaided the entire longitudinal bending stresses. The hull therefore has to be stronger and heavier, especially high up at the strength deck, which on the old QE was formed of two continuous layers of steel plate up to 0.6in. thick, with a total weight in the region of 2,000 tons.

Apart from the steel casing around the uptakes, the QE2 superstructure is built entirely in aluminium alloy, and it is structurally continuous with the steel hull below it, the join being signalled externally by the double line of 1-in. rivets girdling the 750-ft. length of the quarter deck below the sills of the lowest line of large windows.

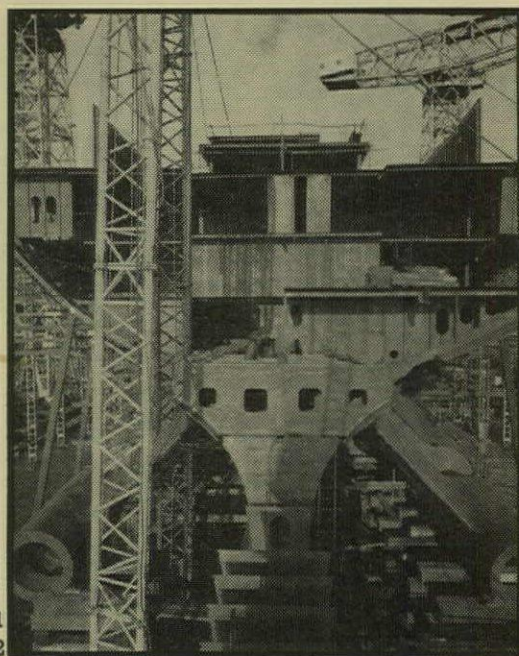
The plate thicknesses in the upper part of





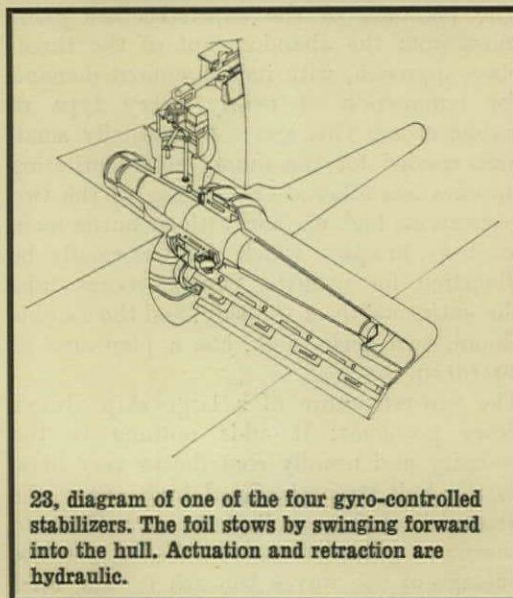
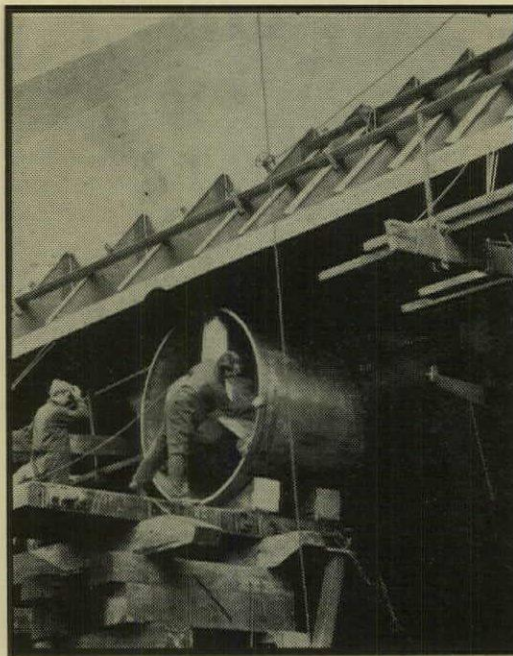
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20, a prefabricated section of keel with both shaft bossings is assembled to the after body. 21, the shaft bossings are supported by cantilever brackets from the stern frames. 22, one of the two 1,000 h.p. bow thrusters is inserted into the forward hull. The thrusters consist of 6ft. diameter propellers driving across the axis of the ship to move the bows laterally when docking. At sea the openings in the bow are closed by butterfly doors.



21  
22

the steel hull are slightly reduced to allow a moderate amount of stress to 'get through' and be resisted by the superstructure. The thicknesses of the alloy plates in the shell, beams, decks and structural partitions of the superstructure itself are also carefully controlled, and the material is quite highly stressed. The comparatively large movements under stress, inevitable so high up in the ship, are permitted by the greater elasticity of the alloy. In addition to working stresses transmitted from the hull, there are wind loadings from North Atlantic gusts up to 70 m.p.h., together with loads from the boats on their davits high up on the boat deck. Finally the structural shell is perforated by numerous large external windows. As a result the superstructure, apart from the change of material, is given the same rigid construction as the hull. Even the largest



23, diagram of one of the four gyro-controlled stabilizers. The foil stows by swinging forward into the hull. Actuation and retraction are hydraulic.

public rooms retain the standard grid of pillars and webs. The exception is the theatre, for which all pillars had to be eliminated. At this point concealed transverse beams are used above the auditorium, combined with an elegant use of longitudinally spanning structural partitions over the after part of the space to support the balcony and the deck above it. The junction of the transverse webs with the outer shell at the sides is specially stiffened by solid plating for 3 to 4 feet fore and aft of each web, to improve resistance to vertical shear stresses from the hull. This plating divides the large windows into irregular groups on the side elevation. Special stiffening is also given to the bridge front structure to prevent both heavy weather damage and vibration of the wheelhouse. The whole 1,100-ton alloy superstructure is argon-arc welded. Distortions are inherent in welding a material which combines poor thermal conductivity with high thermal expansion, and there is noticeable sinking of some of the internal deck plating between the widely spaced stiffeners beneath it. In general, however, few of the surfaces betray the fact that the whole ship was prefabricated in 5 to 40-ton chunks, and the hull in particular shows that the machine welding of heavy plate can achieve a striking consistency and finish.

#### Cunarder

A major cruising liner has to attract passengers by force of personality; it has got to be as glamorous as the places it goes to. It must look—and feel—safe and luxurious, and it must be fun. If the same ship is to double as a North Atlantic packet, one must be convinced that it is safe, luxurious—and fast. As a would-be passenger's first contact, the overall appearance of a ship is a vital part of its operators' commercial equipment. And as such it justifies a major design investment. Basically the visual 'feel' of a ship is a problem which rests squarely in the hands of the naval architect. The massing, the 'sit' and the end-to-end coherence, go hand in hand with the vessel's technical evolution. At the same time the problems of visual organisation and environmental design, increasingly merged, demand another major input: the employment of specialist designers. Persuasion on this latter point was not achieved overnight in this case, and the resulting scars on the Cunard psyche are still faintly visible. Even so, more visible is the presentation and impact of the QE2 as the outcome of a collaboration, abrasive but largely fruitful, between Dan Wallace, Cunard's naval architect, James Gardner, coordinator for the overall appearance and external details, and Dennis Lennon, coordinator for the interior. This collaboration hinges in turn upon another, with the team under John Rannie, of Upper Clyde Shipbuilders, who developed, engineered, detailed and built the ship—and delivered perfect trim and contract speed over the measured mile. Their achievement was marred by a disastrous turbine fault, a type of mishap not too rare in large advanced ships where the systems, particularly the power train, must be



24, the five decks of the aluminium superstructure under construction, seen from the stern.

25, cross section of the hull and detail of bi-metallic joint. In the preparation of the metal surfaces at overlap the steel is power-sanded to bare metal and is given two coats of 'Colturiet metal' and one coat of 'Plascote 1320'. The aluminium surface is prepared to bright metal and given one coat of 'Impervo wash primer.'

26, an Araldite fillet completes the lap joint.

27, aluminium deck beams in the superstructure. Threaded bosses, placed with stud welding guns, provide fittings for piped services, cable trays and ceiling panels.

28, welding the aluminium structure of the theatre balcony. The side panels are structural, spanning the wider space below.

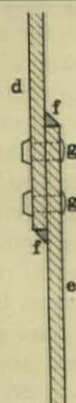
29, installation of the bridge and wheelhouse. Such units were usually prefabricated upside-down and turned over in mid-air by two cranes during installation.

30, a 10-ton turbine rotor is lowered into its bed. Blade failure in the two high-pressure rotors crippled the ship during the first sea trial.



24

key  
a, line of pillars  
b, edge of webs  
c, bi-metallic-joint  
(see detail right)  
d, aluminium  
e, steel  
f, Araldite  
X83/328 fillet  
g, lin. dia. steel  
rivet



signals deck

sports deck

boat deck

upper deck

quarter deck

one deck

two deck

three deck

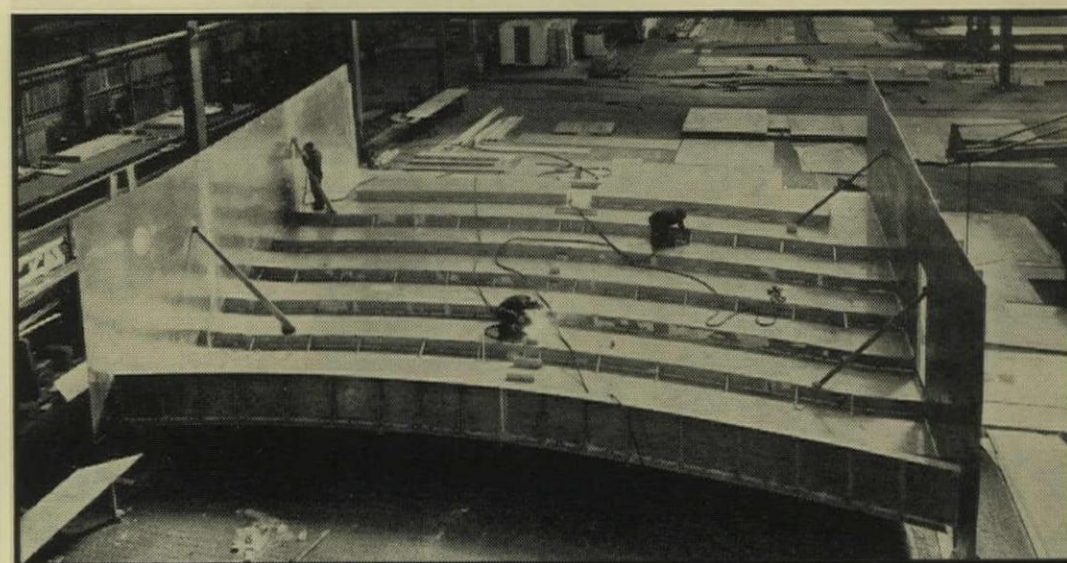
four deck

five deck

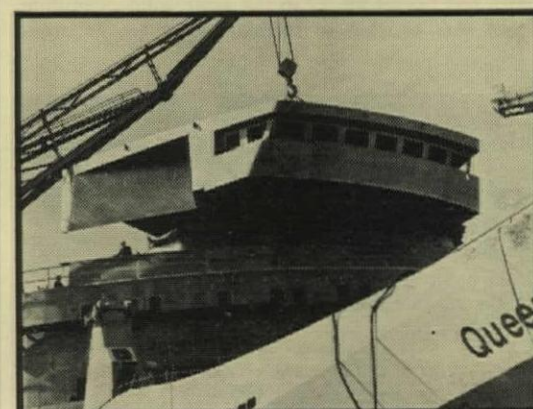
six deck



26  
27



28

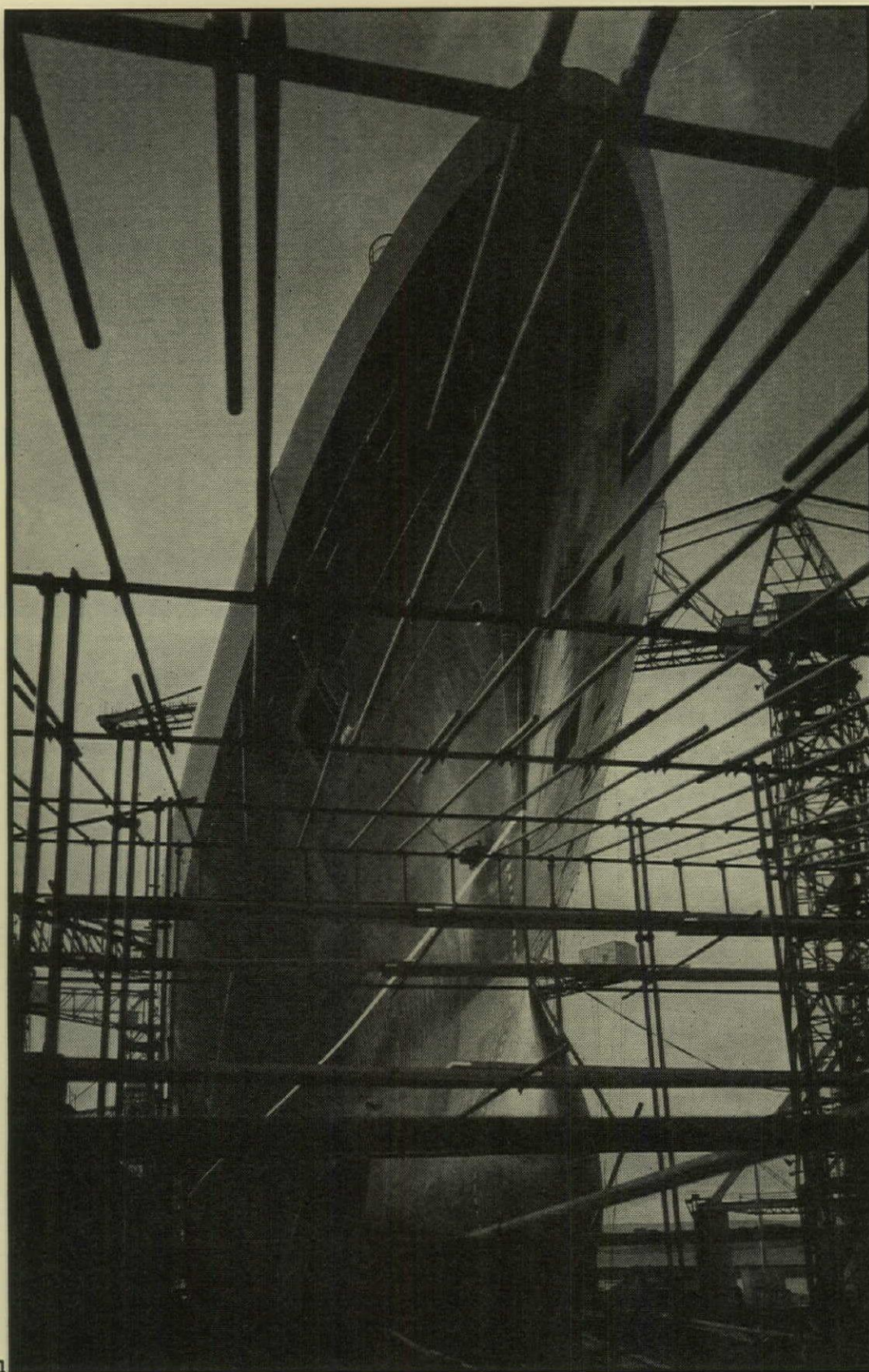


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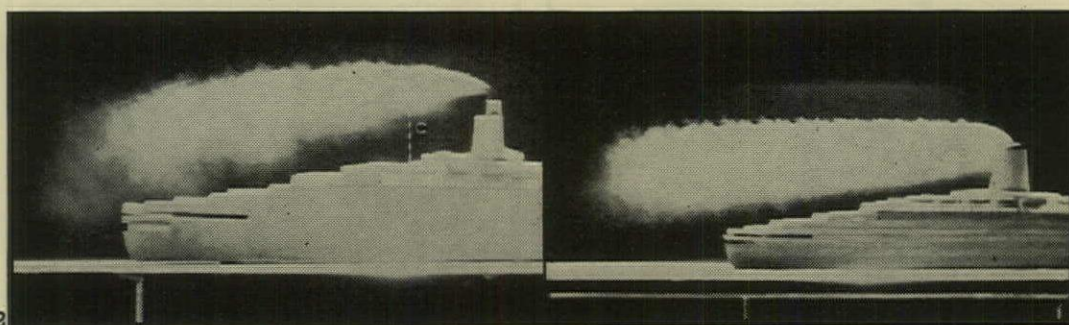
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31

31, the completed bow shows the quality of surface provided by machine-made butt welds without finishing. 32, model of the QE2 with test funnel no.8 in the National Physical Laboratory wind tunnel. The relative wind speed is 26 knots from dead ahead. 33, the model with test funnel no. 17 in the same wind conditions. 34 (opposite), installing a propellor. A six-bladed pattern was adopted to reduce resonances at speed.



32

33

run up in the completed ship at sea, with all the associated flexures and subtle resonances which could never be replicated 'on the bench.' The evolution of the form above water shows mainly in the strengthening of the profile of the top deck forward of the funnel. The earlier break, down to the boat deck, was eliminated in favour of a continuous signals deck with a large well in it to light a sheltered enclosure on the boat deck. The roof line of the wheelhouse and the coamings of the bridge-front galleries were eased by double curvatures, which involved the builders in the working of aluminium alloy plates to shapes more usual in aircraft construction with materials a tenth of the thickness. A host of other items were pulled more tightly into a coherent scheme—swimming pools, deck screens, crane cabs, multiwave aerials and the cantilever mast which hides the main kitchen vent inside its aluminium overcoat.

The funnel is a triumph. For the first time the design and arrangement of the power plant has enabled a giant liner to be single-funnelled, liberating an extra half-acre of play deck—a premium passenger attraction. The form of the funnel and the sculptured casing which encloses it evolved through a long series of wind tunnel models. It reflects the intuition of James Gardner and the aerodynamic open-mindedness of the engineers, rather than a precise science. The result is a mixture of very old and very new; tall thin smoke stacks for the boiler gases, plus a novel casing to lead up some of the huge exhaust from the air-conditioners to balance pressure behind the stack and help blast the stack gases skyward. Finally there is a wind scoop to shovel clean air into the aerodynamic vacuum behind the casing. From the wind tunnel results this should be the first liner ever to have its open decks consistently free from stack gases and smuts.

There remained only the application of the familiar and very functional livery, dark grey to smother soot and stains on stacks and hull, near-white for luxury elsewhere. Next came the harmless ritual of joining the colours half-way up the slab-sided body to suggest the by-gone days when hulls were separate and the superstructure was set back. To reduce the apparent height still further the real set-back, at the boat deck, is stressed by a grey-green shadow tone. Against this background the various lifeboats, launches and jet boats are carried on davits which are necessarily irregular in placing and detail, and this clutter is smothered under a coat of khaki. Windscoop, company name and first boat are Cunard red. This ship is not another *Queen*. Externally she lacks their British bluntness; something of the yacht idea comes through instead; and internally she lacks most of the heavy-handed luxury. Her emergence was dogged by doubts, defects, delays—and an optimism in scheduling which staggers belief. Her design was a matter not of great innovation but of evolution and anxious care. Her structure embodies mature North Atlantic experience. In these latter things *Queen Elizabeth 2* is pre-eminently a Cunarder.











# QE2 INTERIORS

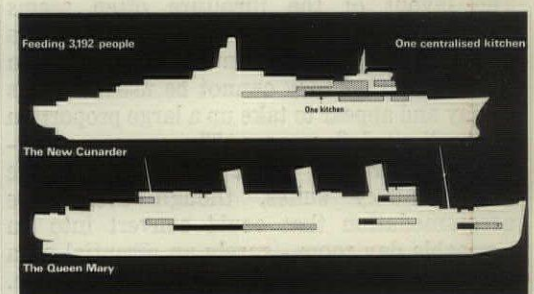
The opportunity for large-scale interior design where the different parts are related is still the exception rather than the rule—once in a while the public rooms of an enlightened hotel or the prestige offices of a publicity-conscious company. The design of a very large passenger ship by a team under the direction of one coordinator is a rare event indeed. **SHERBAN CANTACUZINO** examines the qualities and assesses some of the successes and failures of this unique achievement.

Boat Deck	736 Club The London Gallery The Coffee Shop Boat Deck Aft	Double Up Double Up Bar The Juke Box	The Shops Theatre Balcony Telephones
Upper Deck	Britannia Restaurant The Look-Out Theatre Theatre Bar	Double Down Double Down Bar Upper Deck Library Tour Office	Port Foyer Starboard Foyer
Quarter Deck	Columbia Restaurant Port Dining Room Starboard Dining Room Quarter Deck Lido Quarter Deck Pool	The Queen's Room Quarter Deck Library Q4 Room Cardroom	Midships Bar Conference Room Port Ante-Room Starboard Ante-Room
One Deck Stairway G	Cabins 1001-1121 The Grill Room and Bar One Deck Shop	Hair and Beauty Salon Men's Hairdressing Salon Laundrette	One Deck Lido One Deck Pool
Two Deck	Cabins 2001-2152 Forward Lobby Midships Lobby After Lobby	Bureaux Banks Safe Deposit	Doctors Enquiries Telephones
Three Deck	Cabins 3001-3188	Synagogue	Laundrette
Four Deck	Cabins 4001-4266		
Five Deck	Cabins 5001-5283		

The first thing a critic will look for in the interiors of a large ship is unity, the second is character. Does the design add up to a whole and what, if any, are its distinctive features? That it is possible to answer the first of these questions in the affirmative is due to Dennis Lennon and Partners, the architects who were given the task of coordinating the interior design. In this they were helped by the fact that all the public rooms, including the restaurants, were concentrated on the top three decks, providing an almost continuous sequence of spaces. Mr. Lennon has not only given us a sequence of related areas designed by himself, such as the promenade, bar and restaurant on upper deck (see pages 433-435), but has succeeded in keeping control over other sequences where each part is by a different designer. His coordinating job was not simply a matter of directing others, but encompassed the design of the all-important circulation areas—promenades, stairways, and corridors—and the job of seeing that these areas were properly signposted by the appointment of Crosby, Fletcher, Forbes as graphics consultants. Details such as door handles, or the sturdy armoured plate doors to public rooms, are ruthlessly standardized, and it is this feeling of a common denominator running through the whole ship that does more than anything else to give the interiors cohesion.

The planning of the decks is basically symmetrical, but there was never any question of developing a grand sequence of rooms down the central axis of the ship in the manner of some of the older, especially French, passenger liners like the 'Normandie'. With the QE2's single compact central stack this would indeed have been much easier if rudimentary economics had not demanded consistently low ceilings and a maximum number of decks. In these circumstances period décor would also have been highly unsuitable, quite apart from the fact that Dennis Lennon would not have agreed to it. Most of the public rooms on the QE2 are entered quietly from the sides and this is particularly effective where, as in the case of the Queen's Room or the Double Room, the sides of the ship—the promenades—have been incorporated into the central space.

The basic planning of the ship had been completed by the time Dennis Lennon & Partners were appointed, though the decision at that point to change from three-class to one-class accommodation for cruises and two-class accommodation for the trans-Atlantic route enabled them to have an important say in the rationalization which followed. This rationalization, most obvious when the restaurant-



kitchen relationship is compared with that of the older Queens, was of fundamental importance to the final plan, for it virtually opened up the ship. Whereas the old Queens had been deliberately designed to keep passengers in their respective classes, and to disguise as far as possible the fact that other classes even existed, the circulation of the

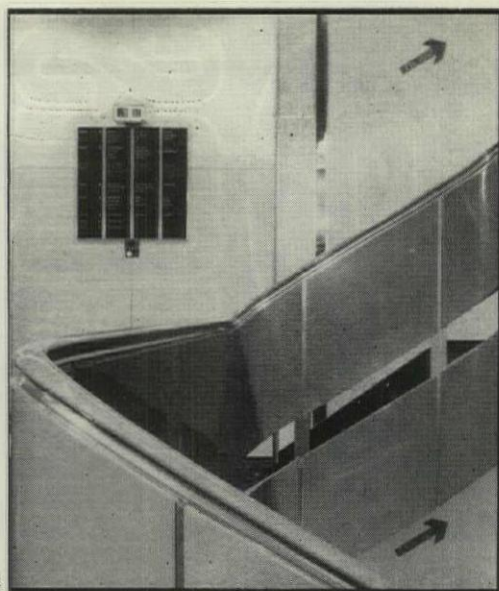
1 (opposite), the Queen's Room designed by Michael Inchbald (see page 444). 2, the standard signboard which is on every landing, designed by Crosby, Fletcher, Forbes. Small Formica units slide in aluminium frames. 3, QE2 and Queen Mary kitchen-restaurant relationship.



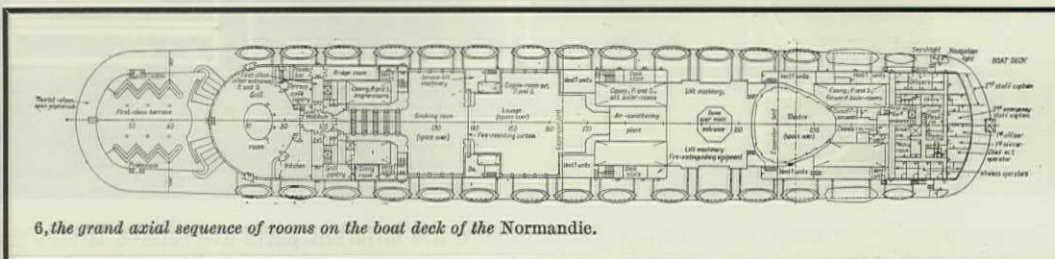
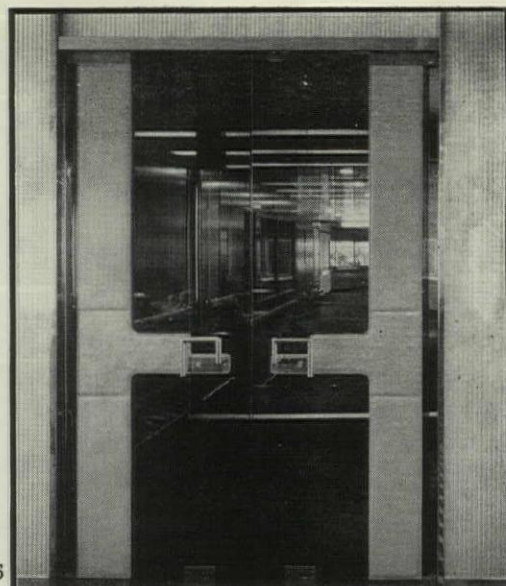
QE2 is designed without obvious barriers, and the difference between, say, the Coffee Shop and the Midships Bar reflects different functions rather than classes.

Unfortunately, no such compelling reason existed for reconsidering the cabin layout in the tourist class (four and five deck), which had been planned in an elaborate interlocking manner by the naval architect to give portholes to as many cabins as possible.

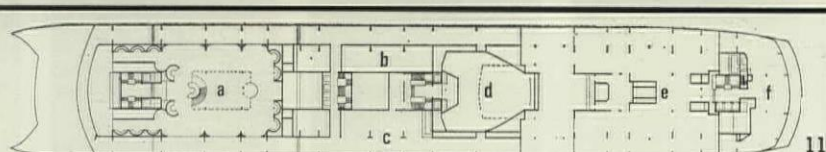
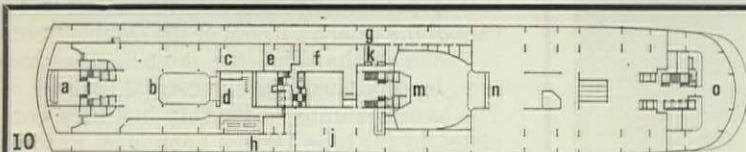
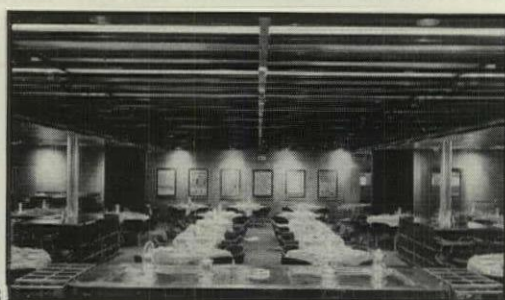
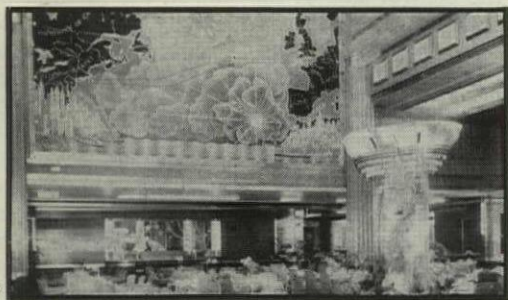
A comparison with the layout of the 'Canberra' reveals a fundamental difference of approach. The 'Canberra' has a central corridor and groups of six cabins (three-deep) planned around public 'courts' which break up the endless corridor and provide regular glimpses of the sea. The shape of the room was considered more important than portholes. The QE2 has two corridors (the width of the two ships is roughly the same), and a continuous row of narrow cabins one or sometimes two-deep. Notwithstanding the pleasing character of some of these rooms (often an area no larger than 6 ft. by 6 ft. with a desk and chair is the only excuse for a porthole, while the main part of the cabin lies further back), it is a pity that they did not undergo the same sort of rationalization that Dennis Lennon brought to the design of the circulation areas or Lord Queensberry to the restaurant tableware (limited to 24 items instead of the 90 items of the old Cunard liners). The large number of variations in cabin type (50-60) must have been costly to build and will be costly to maintain. The



4, the standard moulded fibreglass balustrade on the stairways. 5, the standard armourplate door which precedes most public rooms.



6, the grand axial sequence of rooms on the boat deck of the Normandie. 7, the lofty first class restaurant on the Queen Mary. 8, rudimentary economics demanding consistently low ceilings—the Columbia Restaurant on the QE2. 9, 'the sides of the ship—the promenades, have been incorporated into the central space'—the Double Room on the QE2.



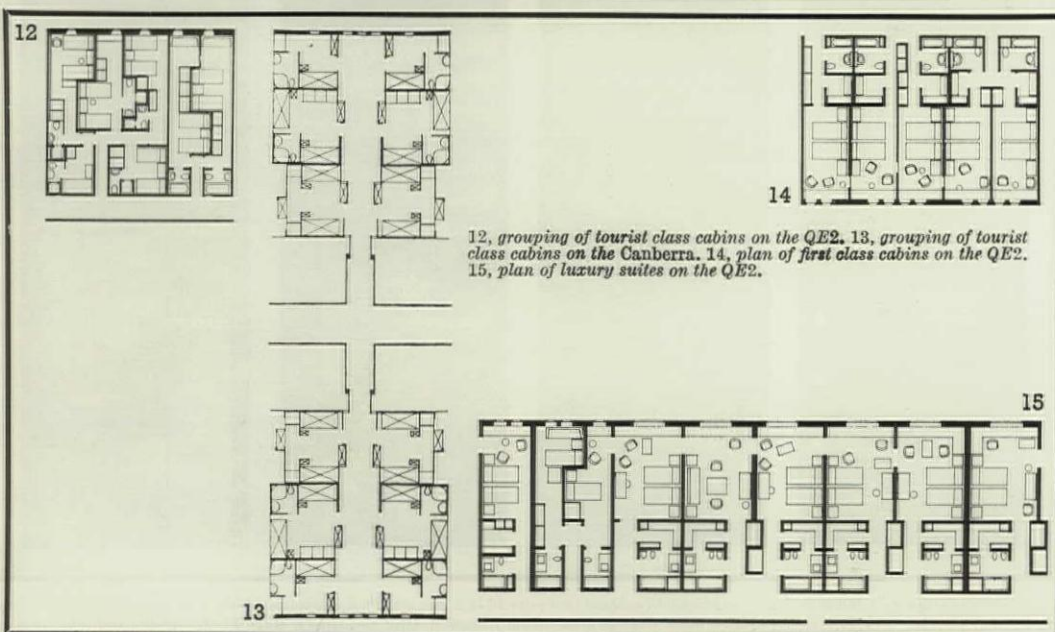
10, the quarter deck of the QE2 before rationalization. (a, cabin class bar. b, cabin class lounge. c, cabin class library. d, cabin class shop. e, cabin class teenagers. f, tourist class teenagers. g, tourist class promenade. h, cabin class promenade.

j, cabin class cocktail lounge. k, first class teenagers m, theatre. n, cabin/tourist class restaurant. o, tourist observation lounge.) 11, the quarter deck after rationalization. (a, lounge. b, library. c, cocktails. d, theatre. e, restaurant. f, observation lounge.)

variety desirable in public rooms is unnecessary in private cabins, which need only to be simple and comfortable.

The layout of the furniture often seems cumbersome. The beds in the first class cabins are placed in the conventional head-on manner so that they cannot be used as sofas by day and appear to take up a large proportion of the limited floor area. The same arrangement is certainly more acceptable in the larger luxury suites, though even here accommodation that could convert into an agreeable day room—surely an essential on a 30-day cruise—would have been preferable. Once again the arrangement of the 'Canberra' cabins seems superior. From this point of view the best rooms on the QE2 are the tourist class cabins with an L-shaped arrangement of sofa-beds round the walls (see page 459).

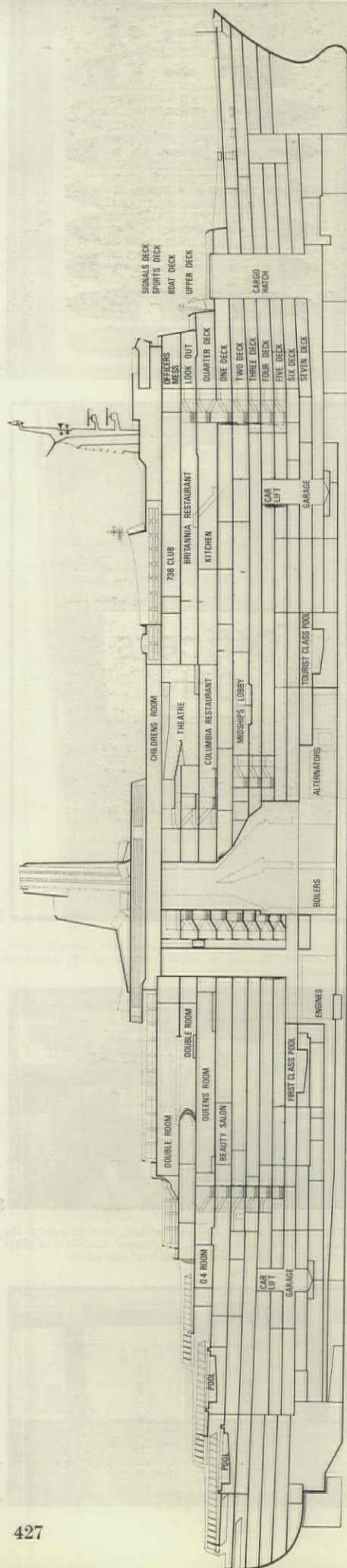
If standardization could be said to form the basic grammar of a common design language, other consistent features of the design, applied by common consent and rather more freely,



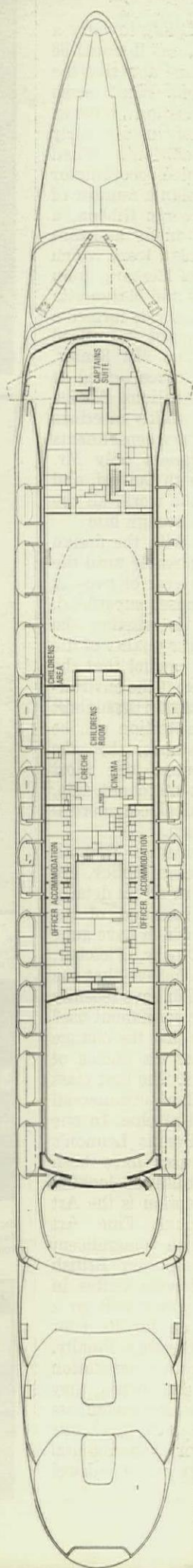
12, grouping of tourist class cabins on the QE2. 13, grouping of tourist class cabins on the Canberra. 14, plan of first class cabins on the QE2. 15, plan of luxury suites on the QE2.



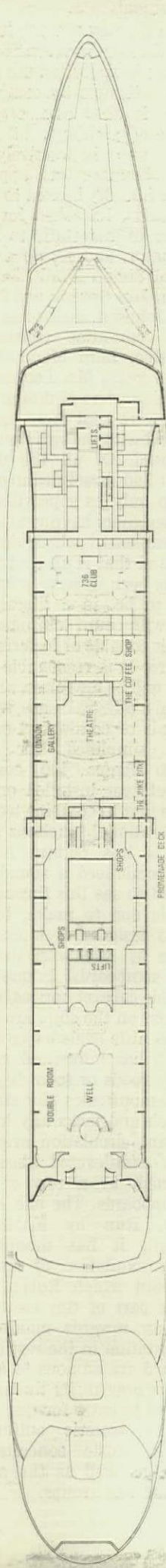
# QE2 INTERIORS



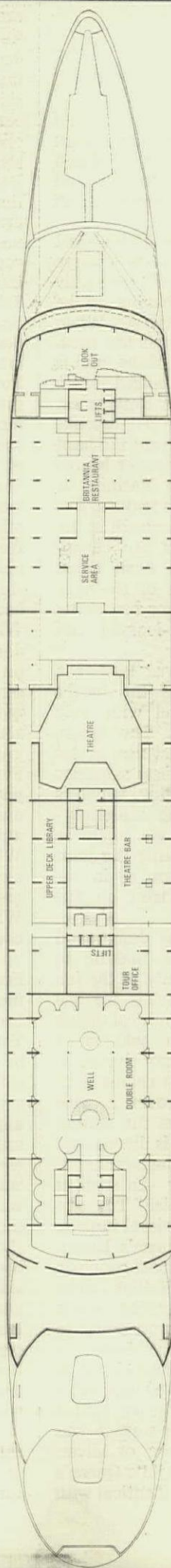
section



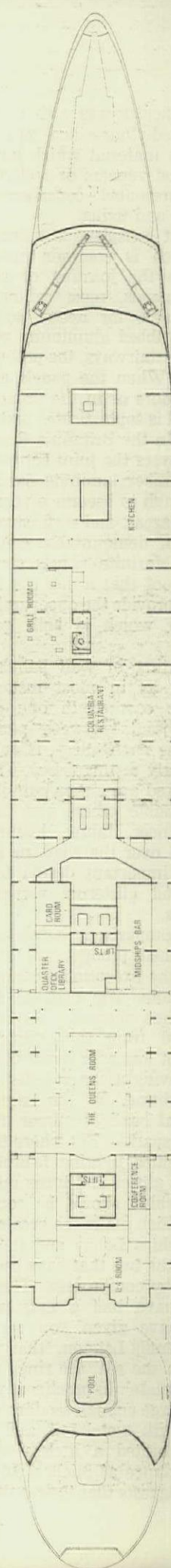
sports deck



boat deck



upper deck



quarters deck



# QE2 INTERIORS

main difficulty was with the use of Marinite (a pressed lime-silica and asbestos board panel), a material which had to be prefaced with wood veneers or melamine finishes and which presented considerable problems of adhesion and fixing.

The most conspicuous failure in design, and one which is common enough everywhere today, is the jointing of panels, especially ceiling panels, most ceilings having to be demountable for access to services. When snap-on ribbed aluminium sections are used, as on the stairways, the problem of the joint is avoided. When the panels are hinged, as in the corridors or in the Columbia Restaurant, the detail is sophisticated and the ceiling looks elegant. In the Britannia Restaurant the bead which covers the joint between timber boards (really timber laminate fixed to Marinite) is bold enough to become a positive feature. But in many areas, and surprisingly enough in the Q4 room, demountable ceilings are cheap-looking Marinite panels set in flush metal trim—proof that a job the size of the QE2 failed to provide the opportunity for developing a ceiling which is both good-looking and cheap.

The jointing of wall panels was less of a problem, as in most instances the height could be covered in one panel with only vertical joints between panels. The result, say in the Art Gallery, is at least neat if not particularly distinguished. The best solutions to be found are either butt-jointing, which is only possible where the facing material—wood veneer, fabric, leather, etc.—can be stretched over the edge, or making the joint into an important design feature as in the broad and glittering vertical trim on the stairways.

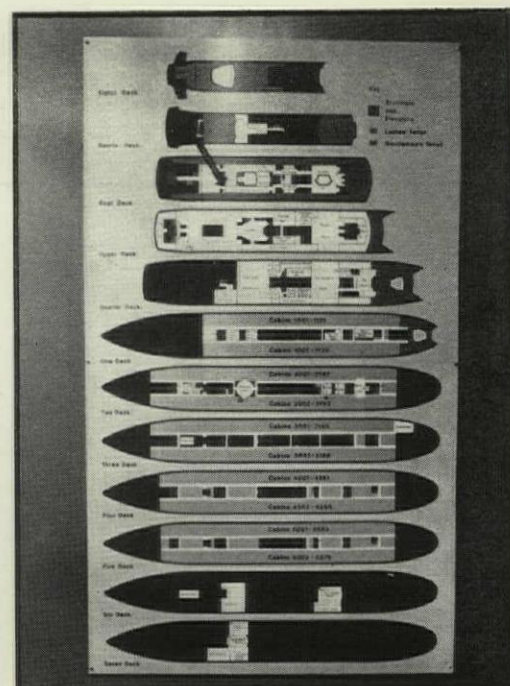
A few comparisons between the design and the finished product are worth making in view of the exceptional complexity of the job as a whole. The original sketches for the Coffee Shop showed bulky cylindrical lights suspended from the ceiling—a bold touch which got lost as a result of a late change of brief, leaving a characterless flat ceiling with flush lighting. In the same room a wide horizontal band of mirror above the seating provides sparkle. But where this is illuminated by concealed lighting behind the seating, it loses its glitter and turns milky—an error of design which should be corrected. The two rooms which make the greatest visual impact, the Midships Lobby and the Queen's Room, are also the two that have been most seriously affected by compromise. The Midships Lobby should have had a magical ceiling which would have given you the impression, to quote Dennis Lennon, 'that you've dropped a pebble in the sea, the rings getting bigger as they circulate'. In practice it proved impossible to face large enough sections of the corrugated ceiling with metal foil, and the surface was finally painted a lifeless texture of silver. A first glance at Michael Inchbald's Queen's Room suggests that the result is identical with

the model. The similarity is indeed uncanny except for an unfortunate alteration to the wood-block wall where a central niche has been formed to take a bust of the Sovereign. This could have been set on a pedestal anywhere in the room, avoiding the pompous nave-sanctuary relationship of the present arrangement.

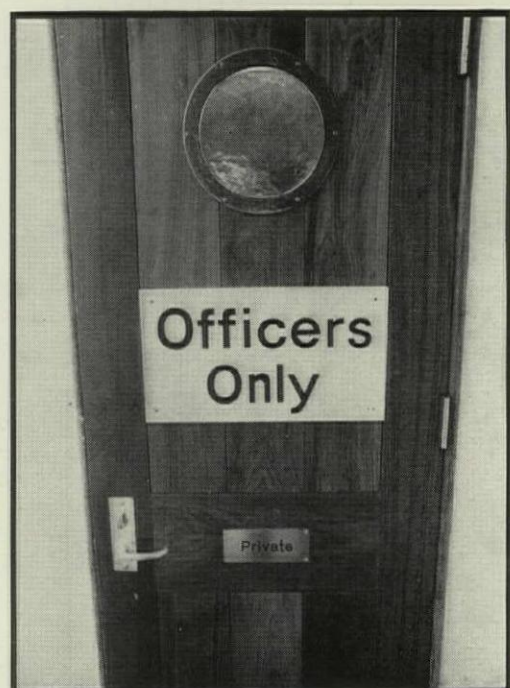
There are many reasons for failing to carry a design through in its entirety, and it would be invidious to apportion the blame now that the ship is satisfactorily completed. What seems certain is that the organisation between client and architect, at least in the early stages, was impressively efficient. When Dennis Lennon was appointed coordinator (he was initially invited to design a number of areas only), he asked for George Gibbon, a member of his staff, to be made assistant coordinator, and set up a design team which included Simon Monk, James Herbert, John Salmon, Jim Gordon and Nils and Margaretta Borch-Johnsen. Cunard on their side formed a design committee consisting of Sir Basil Smallpeice, Lord Mancroft and Mr. Senior. For two years Mr. Lennon's office served as the headquarters of design operations. All the models were kept there, and weekly meetings were held with the various service departments of Cunard. Of all the designers only Mr. Lennon had direct dealings with Cunard, and later on only he supervised the work, all the other designers having to go through him.

Any assessment which deals with the design only—and that is all that is possible until the ship has been in service for a year or two—is bound to be, in a literal sense, superficial. What will count ultimately is whether the design is capable of fostering the quality of life on board. It is reasonable to predict that the service will be first class, and that the environment, in a physical sense, will attain the highest standards of comfort. Administration will be greatly simplified, for instance, by the Ferranti Argus 400 computer, the most powerful ever installed on a merchant ship, and the first to combine technical, commercial and operational functions at sea.

What is less certain is whether Cunard, having embraced a sound design policy, are prepared to see this through in all its details. What is one to make, for instance, of the coarsely designed deck plans which have gone up side by side with the Crosby, Fletcher, Forbes signboards? Is one to believe that the incredible cabaret notices, which have recently been seen on the ship, are for permanent use? There is little evidence so far that the change of heart has influenced either the choice of saleable goods or their display. The first class shop demonstrates the standard commercial approach and lacks any kind of chic. In one important circulation area Dennis Lennon's elegant cantilevered glass cases have been 'supported' by a row of utilitarian-looking wall cupboards. The one exception is the Art Gallery. Run by Marlborough Fine Art (London), it has mounted a magnificent opening exhibition of contemporary British art (about which Robert Melville writes in another part of this issue), which will go a long way towards making up for its poor representation in the rest of the ship. Finally, if Cunard are anxious to attract a generation which is now in its thirties and forties, they will have to cater for tastes which encompass relatively esoteric cultural activities like chamber music concerts or experimental theatre, as well as the more usual cabaret turns and pop groups.



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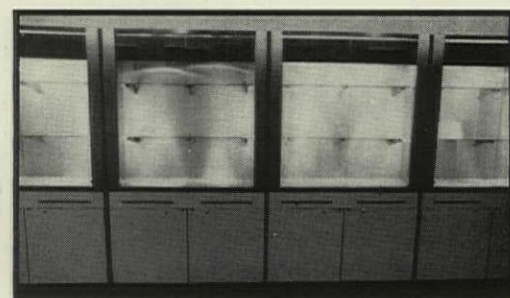
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28, the coarsely drawn deck plans (compare with Crosby, Fletcher, Forbes signboard, 2). 29, a crude version of the standard 'Unicers' lettering.



30

30, window display in the shopping arcade, demonstrating the standard commercial approach. 31, the elegant cantilevered glass cases 'supported' by utilitarian-looking wall cupboards.



31

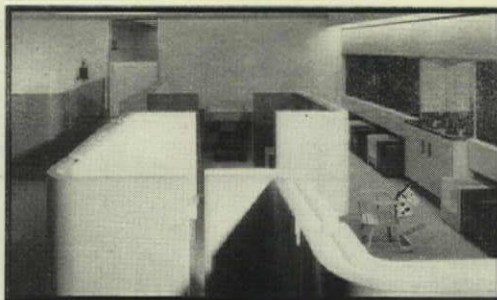


make that language richer and more idiomatic. There are three distinctive features which seem to run through most of the designs: the use of brilliant colour, the combination of soft, light-absorbent materials or hard matt surfaces with limited quantities of highly polished metal trim, and the tendency to round corners in both two and three dimensions. Colour compensates to some extent for the lack of variety in ceiling heights. It is used most tellingly in the stairways, the different colour schemes—yellow and brown, red and white, dark blue and white, etc.—helping the passenger to identify his position on the ship. It can be effective in a sequence of areas even when these have been designed by different people. For example, the upper level of Jon Bannenberg's red-hot Double Room leads into Buzas and Irvine's subdued blue shopping arcade which in turn leads into the hard and brittle red and white coffee shop by Elizabeth Beloe and Tony Heaton (page 456). Its absence can be a relief as in the sparkling Columbia Restaurant, or a disappointment as in the Theatre. Reflecting surfaces in the form of cover beads for wall panels, metal furniture frames or light fittings are used consistently throughout the public decks, and they are most effective when combined with dark colours and soft lighting as in the Midships Bar. When they are not used, as in the Theatre (surely the duller room on the ship), they are conspicuous by their absence.

Both metal trim and rounded corners have utilitarian origins. The first derives from dry panel construction, which is used throughout the ship for walls and ceilings; the second from the structure and from considerations of safety and maintenance. In the screens of the Children's Room, for example, this idiom is effective because the designers (Elizabeth Beloe and Tony Heaton) have transformed a functional detail into a continuous feature which actively engages the whole space. In windows or wall panels the idiom becomes part of a pattern which has structural meaning in the case of windows but is merely decorative surface pattern in the case of wall panels. But in a basically structural situation, like the openings in the ship's webs of the restaurants, the form of the bent right-angle repeated rhythmically down the length of a large room produces a limp effect, although accurately reflecting the structure underneath.

The problems facing the interior designer of a ship are discussed by Sir Hugh Casson in his article on page 399. One could add that close-carpeting (in the QE2 even the skirting is a strip of carpet) is today one of the most effective solutions to the problem of maintenance even if the unrelieved deep-pile surface produces a tactile monotony which tires the feet and numbs the mind. The teak of the open decks or even the ribbed Hypalon of the promenades come as a surprisingly welcome relief, and it may not be entirely inappropriate to recall that when Sir Colin Anderson prepared his architect's brief for the 'Orion' in 1933 he bracketed close-carpeting with fireplaces under the heading 'taboos'. Nor should one forget the Americans' exceptionally high standards of hygiene affecting mainly the kitchens and hospital of the QE2, and their unaccommodating fire regulations still fresh in many people's minds from the recent dispute over the 'Carmania.' Besides the restraint imposed by the inevitable presence of fire-division walls, the designers'

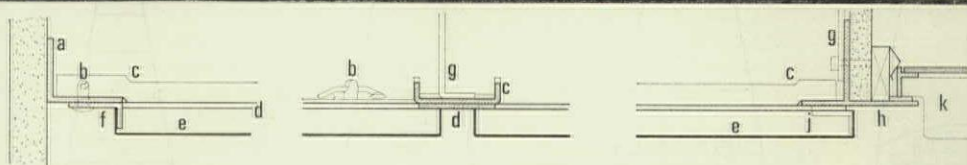
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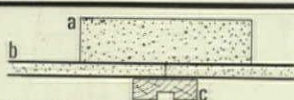
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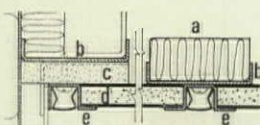
16, the curving screens in the Children's Room. 17, the openings between the ship's webs in the Britannia Restaurant.



18, section of ceiling in first class corridor. (a, continuous angle screwed to Marinite bulkhead. b, pair 'DZUS' fixings to locate metal pan to angle. c, cross channel cranked at ends to sit over angle and T. d, rubber anti-vibration strips to underside of channels. e, bent metal pans hinged for access. f, angle welded to inside edges of pans. g, metal hanger to support cross channels. h, continuous metal T to support hinged panels and louvre grids. j, continuous piano hinge welded to pan and screwed to metal T. k, louvre grids with perspex diffuser and lighting above.)



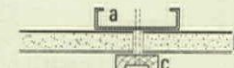
19, ceiling detail in Britannia Restaurant. (a, Marinite ground. b, cedar-veneered 1/2-in Marinite. c, 1 1/2-in by 1/2-in cedar battens.)



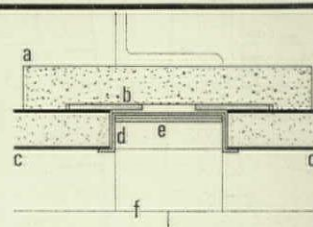
20, standard ceiling detail. (a, 1 1/2-in Rockwool insulation. b, 1/2-in by 2 1/2-in steel channel grounds. c, 1/2-in Marinite ground. d, 1/2-in Formica-faced Marinite. e, stove-enamelled steel top hat sections.)



21, the standard horizontal section showing two pieces of Marinite jointed with a 2-in steel tongue. The butt joint is concealed on the face by an aluminium bead.

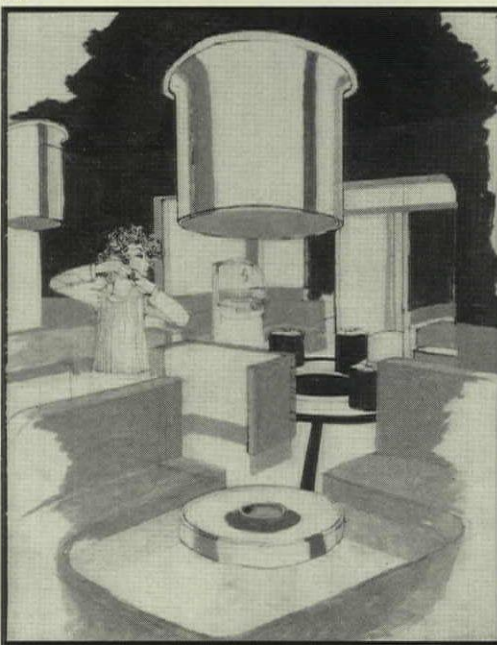


22, horizontal section through jointing of wall panels in Observation Lounge. (a, metal ground. b, 1/2-in Marinite veneered with cedar of Lebanon. c, 1-in by 1-in Cedar cover bead fixed to metal ground.)

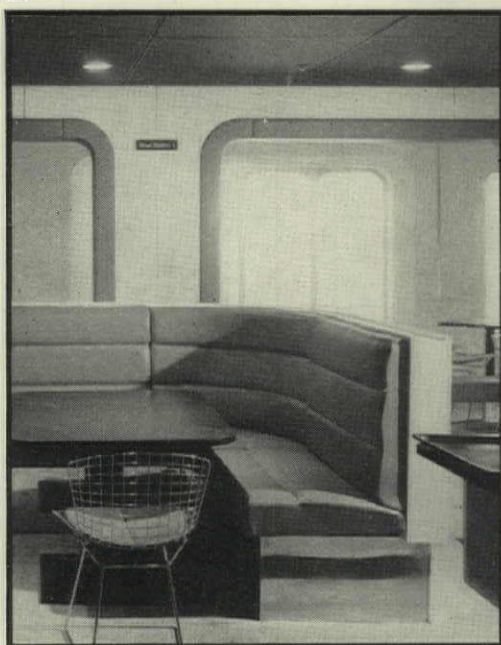


23, horizontal section through jointing of wall panels on stairways. (a, Marinite ground. b, metal retaining strip to secure wall panelling. c, 1/2-in Formica-veneered Marinite. d, aluminium top hat section screwed to Marinite grounds. e, stainless steel or Formica insert glued to top hat section. f, aluminium handrail and brackets.)

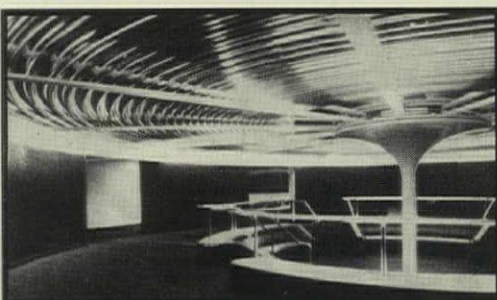
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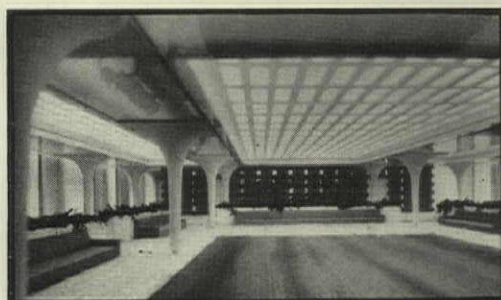
25



24, the original design for the Coffee Shop which lost some of its boldness as a result of a late change in brief. 25, the Coffee Shop as built. 26, the magical ceiling of the Midships Lobby in model form. Compare with illustration on page 431. 27, a model of the Queen's Room showing the end wall without the niche for the Queen's bust. Compare with illustration on page 422.



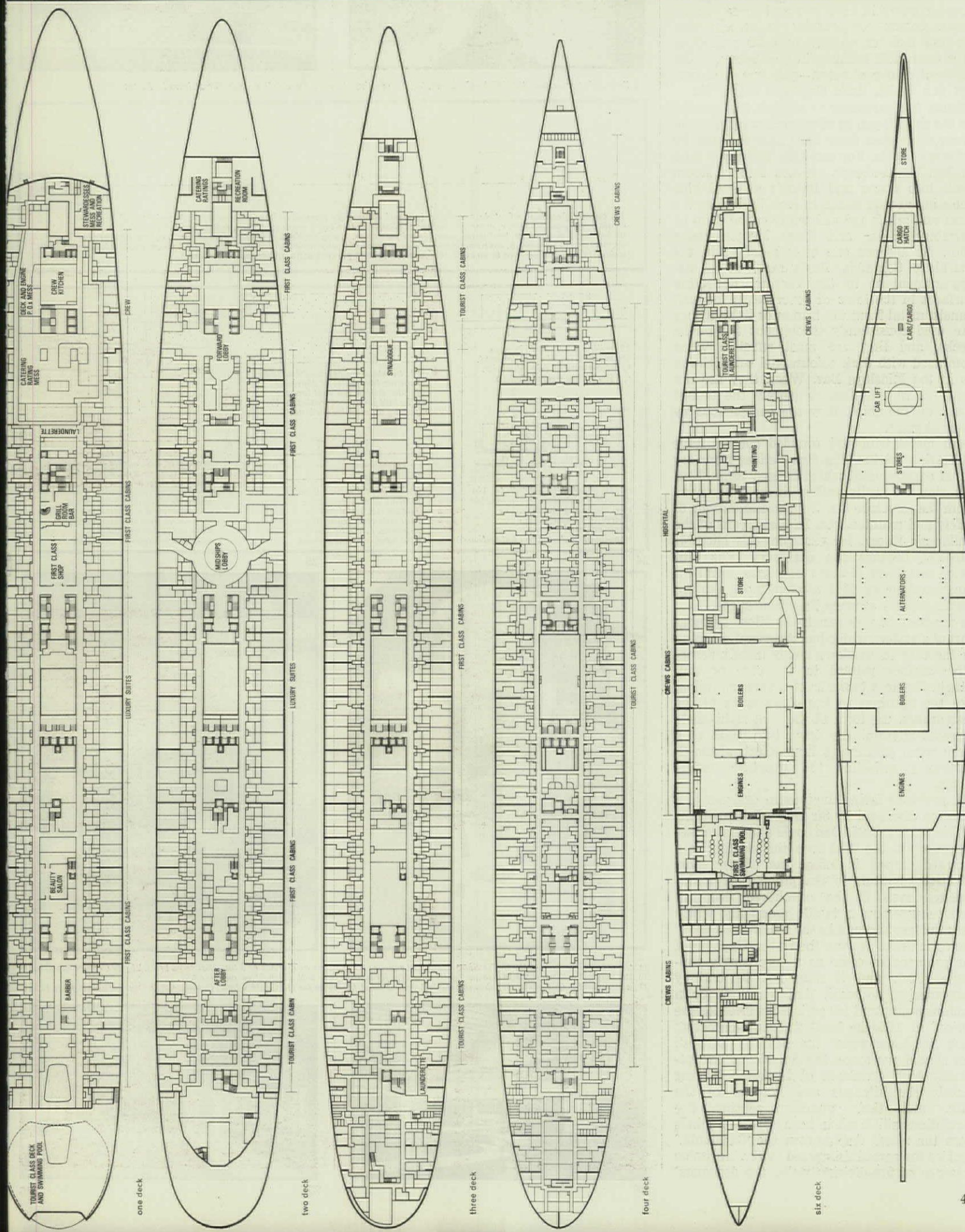
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27

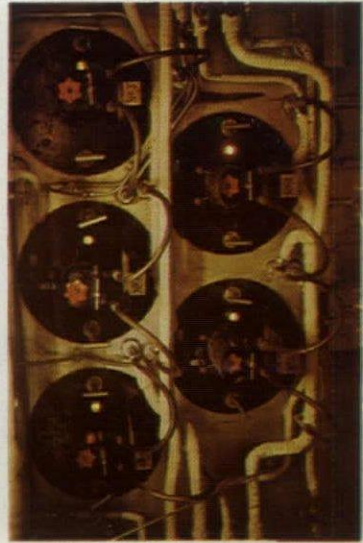
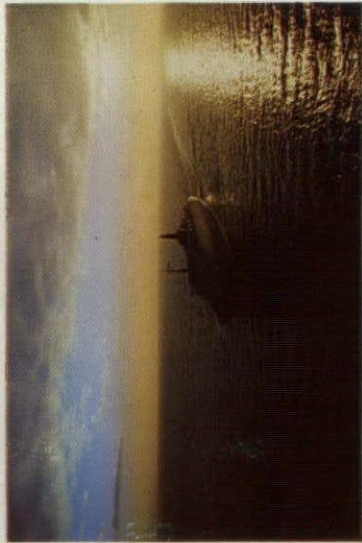
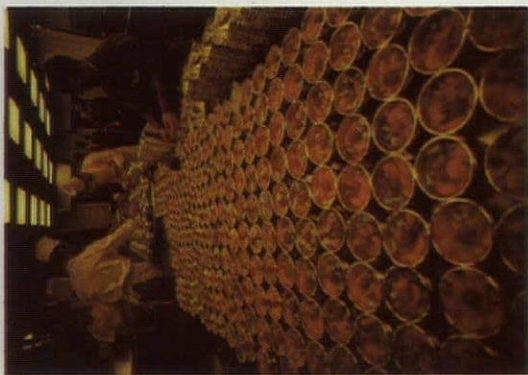
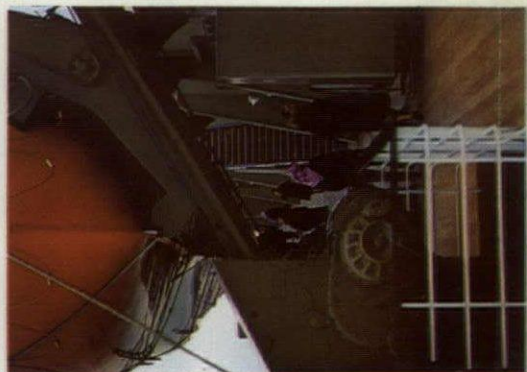
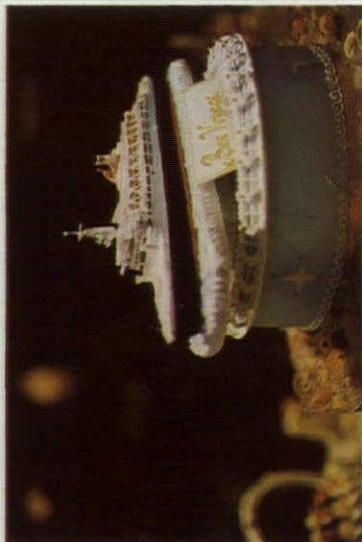
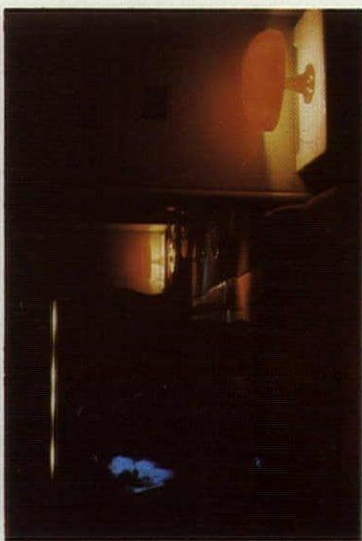
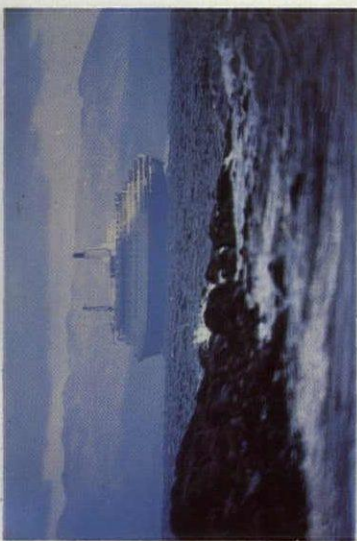
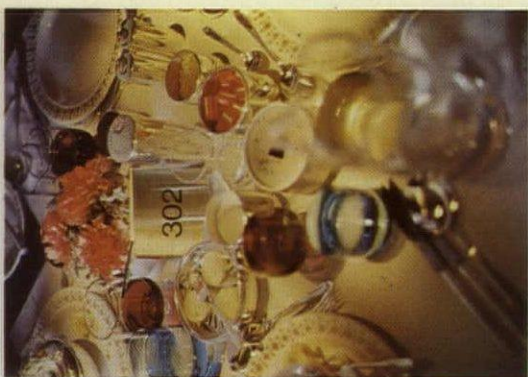
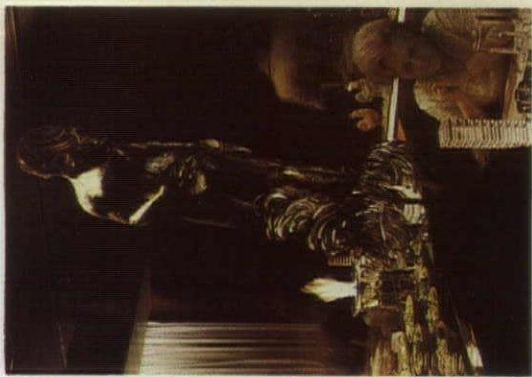
425



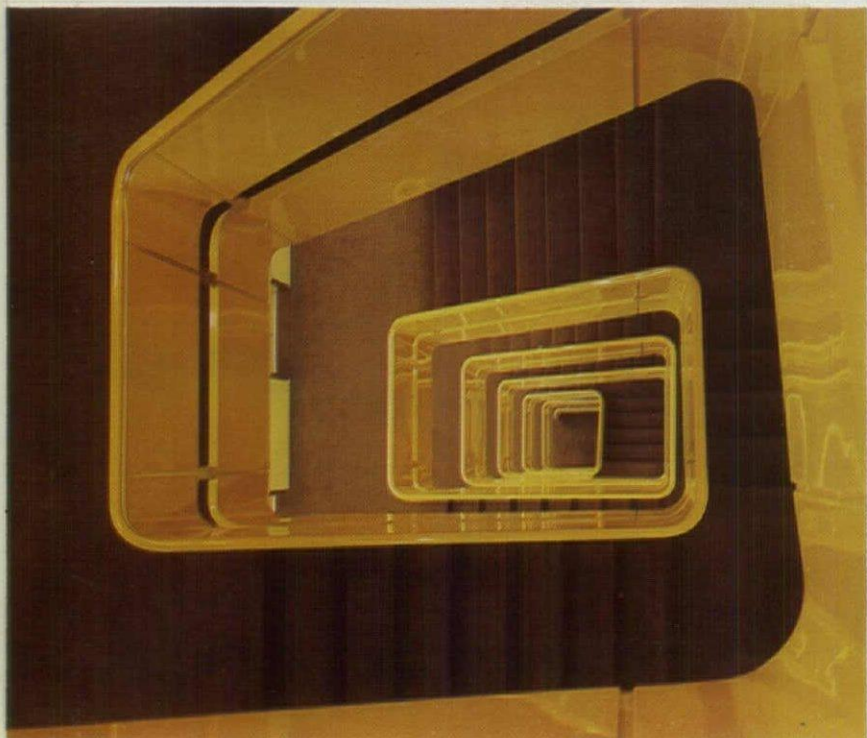
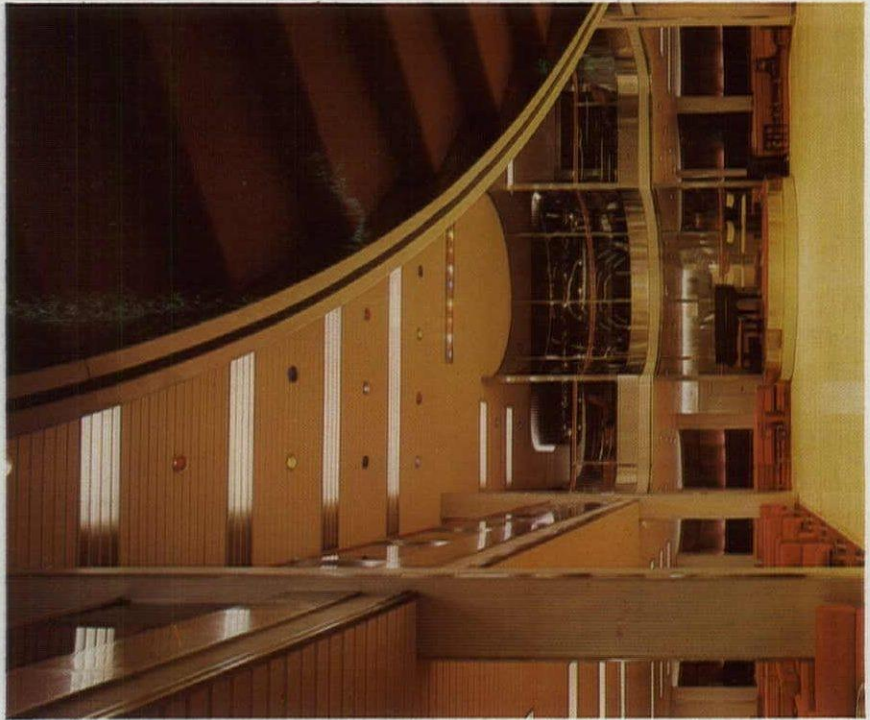


Opposite page:  
 Left-hand column:  
 Q62 in the Scott-  
 Lithgow dry dock  
 at Greenock; fruit  
 salad for dinner; at  
 sunset on technical  
 trials; one of the  
 aft boilers.  
 Middle column left:  
 relaxing in the sun  
 with HP sauce;  
 dawn at Clydebank;  
 culinary virtuosity;  
 one of the two water  
 jet-propelled sea  
 boats on boat deck.  
 Middle column  
 right: dancing in  
 the 736 club; early  
 technical trials off  
 the Isles of Arran;  
 Theatre Bar at  
 night; ship's stern  
 with name and port  
 of registration by  
 which all ships are  
 identified.  
 Right-hand column:  
 Grill Room; laid for  
 dinner; Midships  
 Bar.

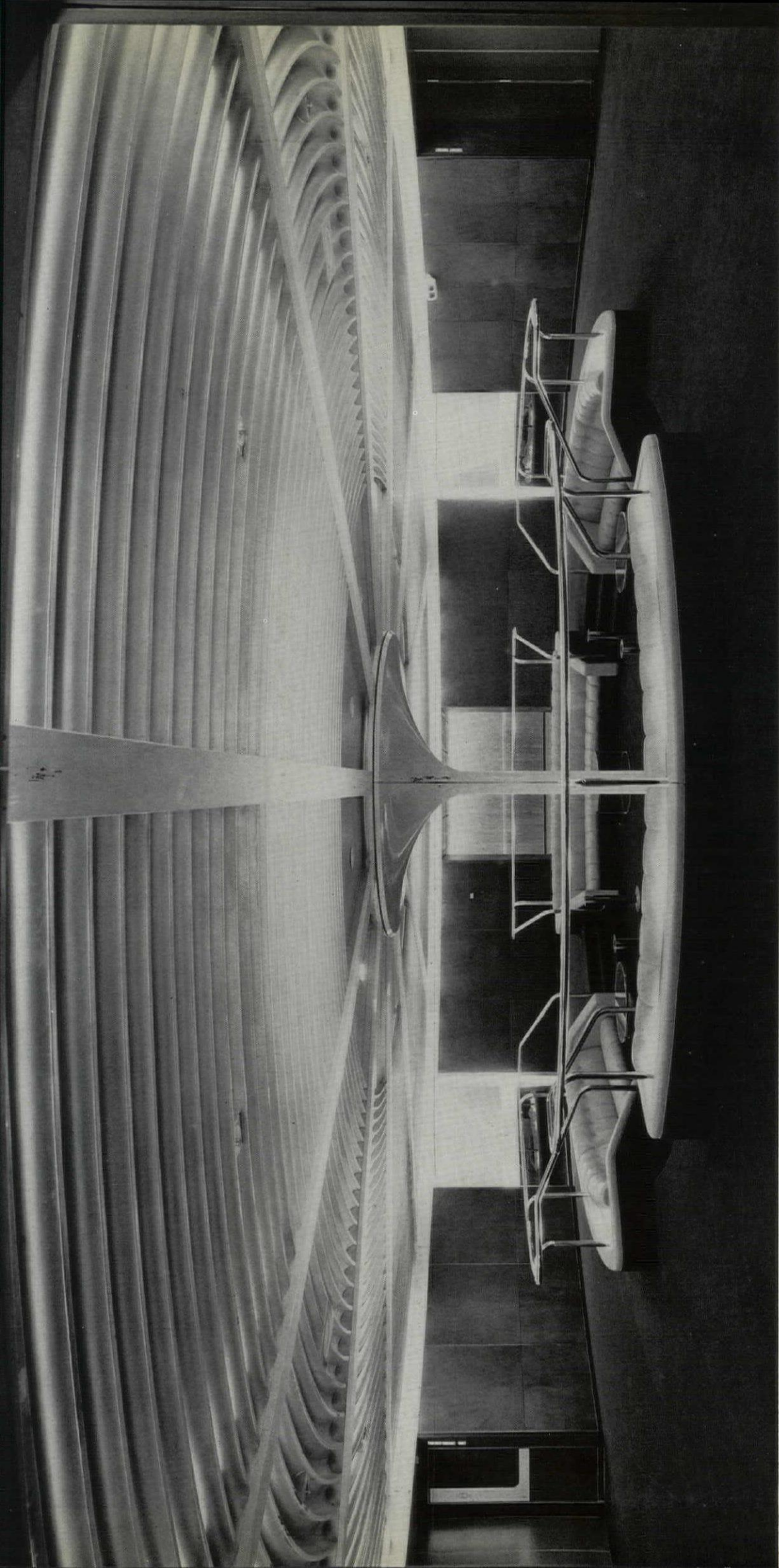












Opposite page, top: the yellow staircase (left and right) and the Midships Bar (centre—see also page 442); bottom: the Observation Lounge (left—see also page 448); the Double Room (centre—see also page 454) and the red staircase (right).

## ENTRANCE LOBBIES AND STAIRCASES Designers: Dennis Lennon & Partners

Passenger entrances are on two decks—the Midships Lobby (above) for first class, the After and Forward Lobby (overleaf) for tourist class. Here passengers will get their first impressions, and in the Midships Lobby the designers went out of their way to create a stunning effect. The drama lies both in the form—a concentric floor and ceiling plan pivoted round a single white fibreglass mushroom column—and in the vivid contrast between the apple green hide of the seating and the dark blue of the carpet and hide wall panels. Both the sinuous chrome handrail which protects the sunken seating area, and the concealed perimeter lighting emphasize the circular form. Troughs behind the seating contain lighting which is directed upwards onto the fluted ceiling whose silver-painted surface is a disappointment after the promise

of an early model (see page 425). The tortuous approach from the ship's sides (see deck plan on page 427) is the result of an unfortunate compromise between the ship's structure, which determined the position of the lobby on plan, and the embarkation points at Southampton and New York, which determined the openings in the ship's sides.

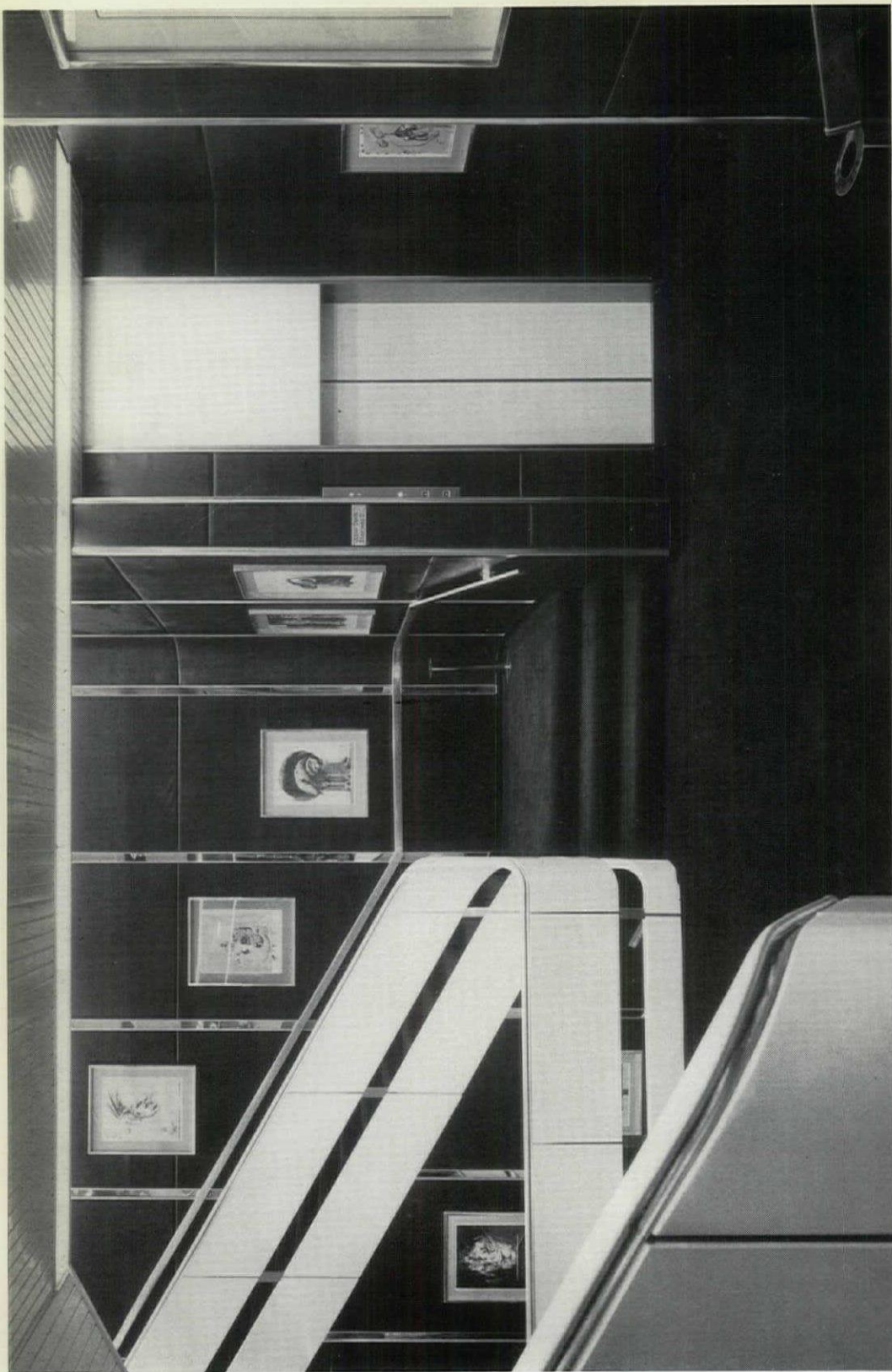
# QE2 INTERIORS



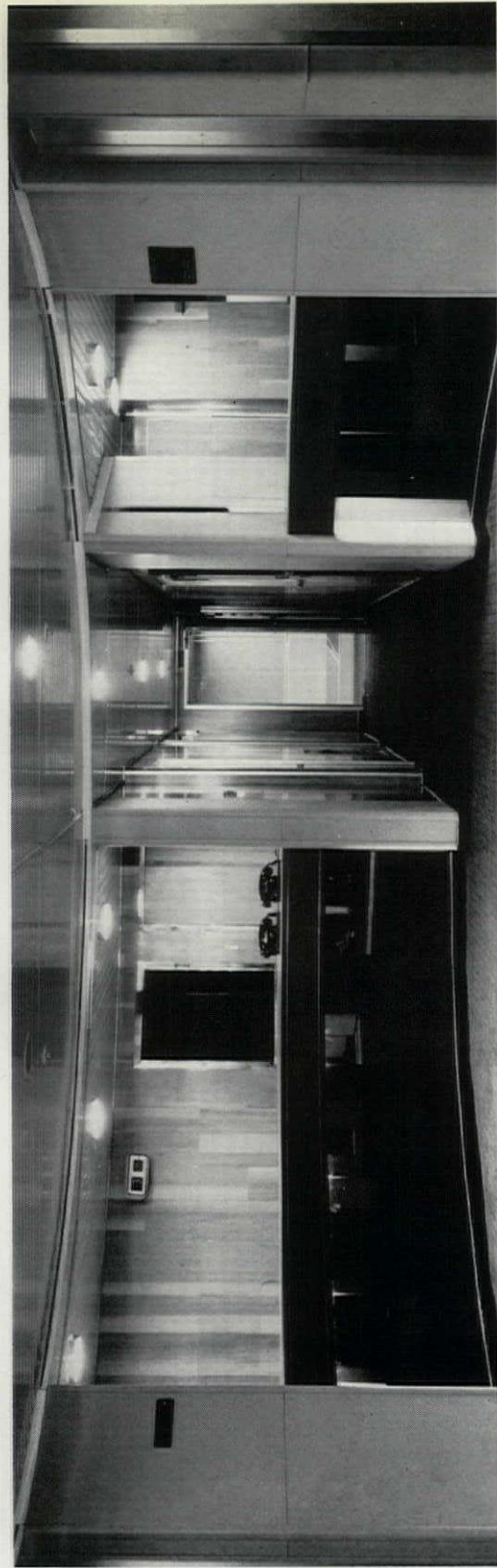
# QEZ INTERIORS

## ENTRANCE LOBBIES AND STAIRCASES continued

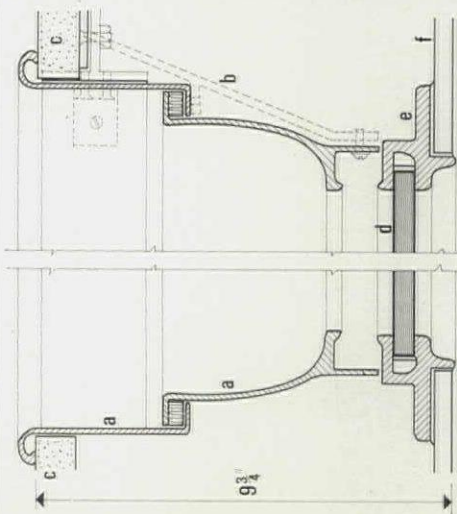
Each of the entrance lobbies is closely related to one of the main stairways. The first class stairway, right, continues the floor and wall treatment of the Midships Lobby, but with white for the balustrade and ceiling. The streamlined design of the stairways as a whole—rounded corners and flush fittings—and the finishes—stove-enamelled ribbed aluminium ceilings, Formica wall panels (except on the first class stairway), and moulded fibreglass balustrades—will prove durable and easy to maintain. To help passengers identify their position on the ship and to avoid any suggestion of the clinical each stairway has its own distinctive colour scheme (see page 430). The effect throughout is much enhanced by the glitter of the wide stainless steel strips which divide the wall panels and provide a firing for the aluminium handrail (see page 425).



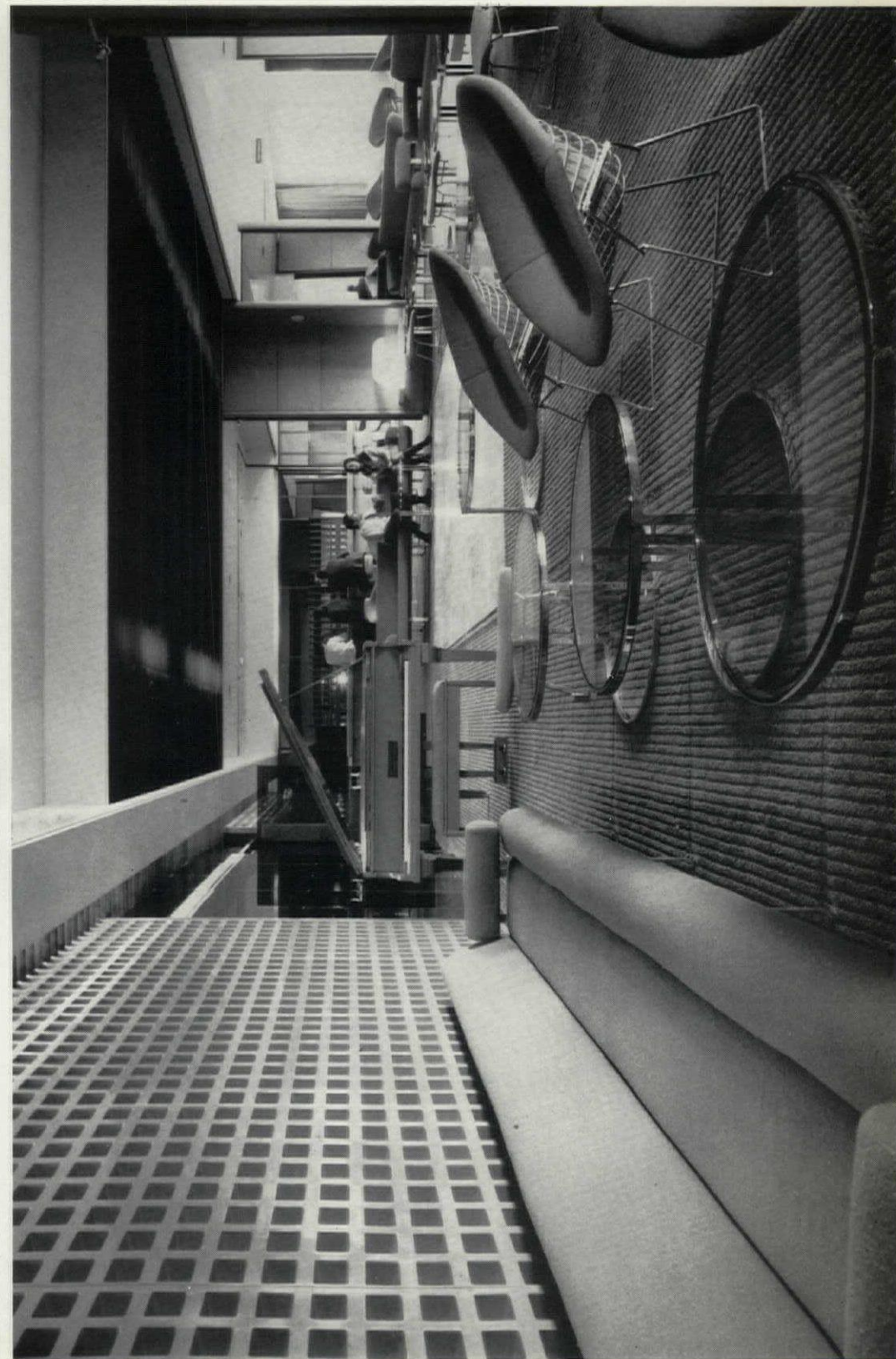
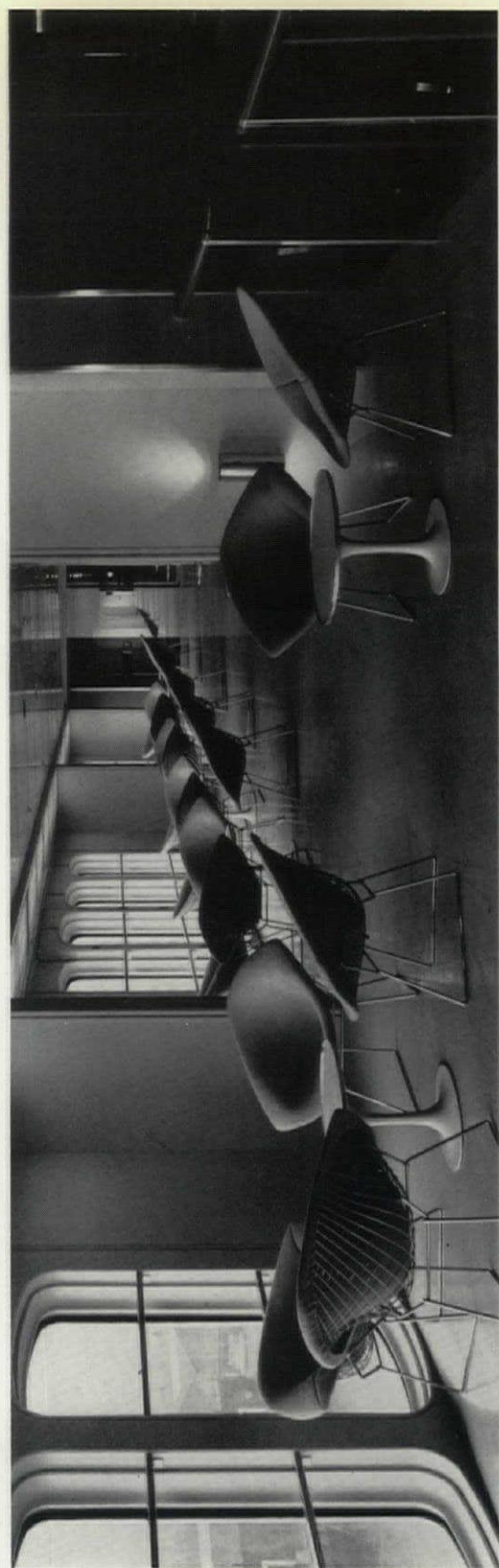
The Forward Lobby, right, is sober by comparison with the Midships Lobby, with a white ribbed aluminium ceiling, cream leather wall panels and a brown carpet. Counter tops are nutshell lino and fronts are faced with mirror.







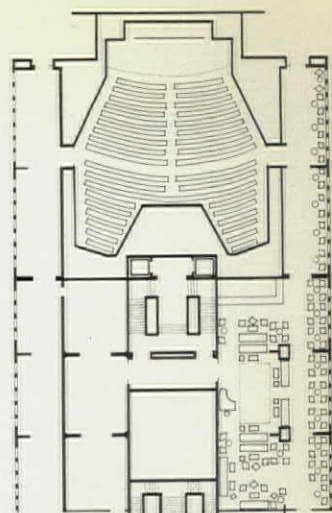
horizontal section of shipside linings on the quarter and upper decks  
key: a, fibreglass window linings, b, bent metal brackets, c, Formica-faced  
Marimite panels, d, plate glass, e, window fixing sections, f, ship's side.



## UPPER DECK PROMENADE AND THEATRE BAR

Designers: Dennis Lennon & Partners

This sequence of spaces—Promenade, Theatre Bar and Britannia Restaurant—shows the coherent manner in which the design problem as a whole was handled wherever possible. The Promenade, above, is on the large windows with their fibreglass window linings (see drawing) which the designers succeeded in standardizing despite opposition from their clients. Walls are lined in magnolia Formica (in a textured finish used throughout the ship) and the floor, as in all promenades, is ribbed Hypalon. The furniture—Arkana coffee tables and 'wire-basket' Bertou chairs made by Form International and upholstered in a red tweed by Margo—links the promenade visually to the Theatre Bar, left, where the same chairs together with Ortel sofas by William Plunkett are similarly covered. A spectacular red fibreglass egg-crate wall lines the inboard wall, and a red-lacquered piano stands next to a small dance floor lit by spotlights concealed above a bronze-aluminium louvred ceiling.



plan of Theatre Bar (theatre on right) (scale 1/4"=1ft)



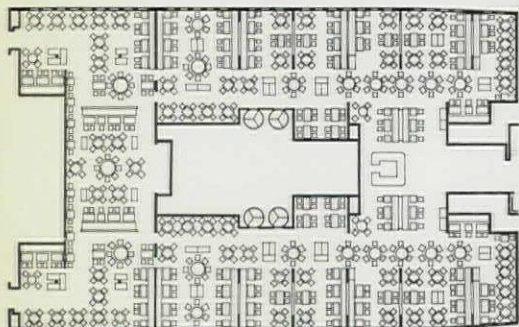
# QE2 INTERIORS

## THEATRE BAR continued

*Right: elegant Coulsdon coffee tables (also by Plunkett) stand on a ribbed mustard carpet, and white fibreglass tables with red and white plastic lamps by Artemide are cantilevered from the leather-padded ship's webs.*

## BRITANNIA RESTAURANT Designers: Dennis Lennon & Partners

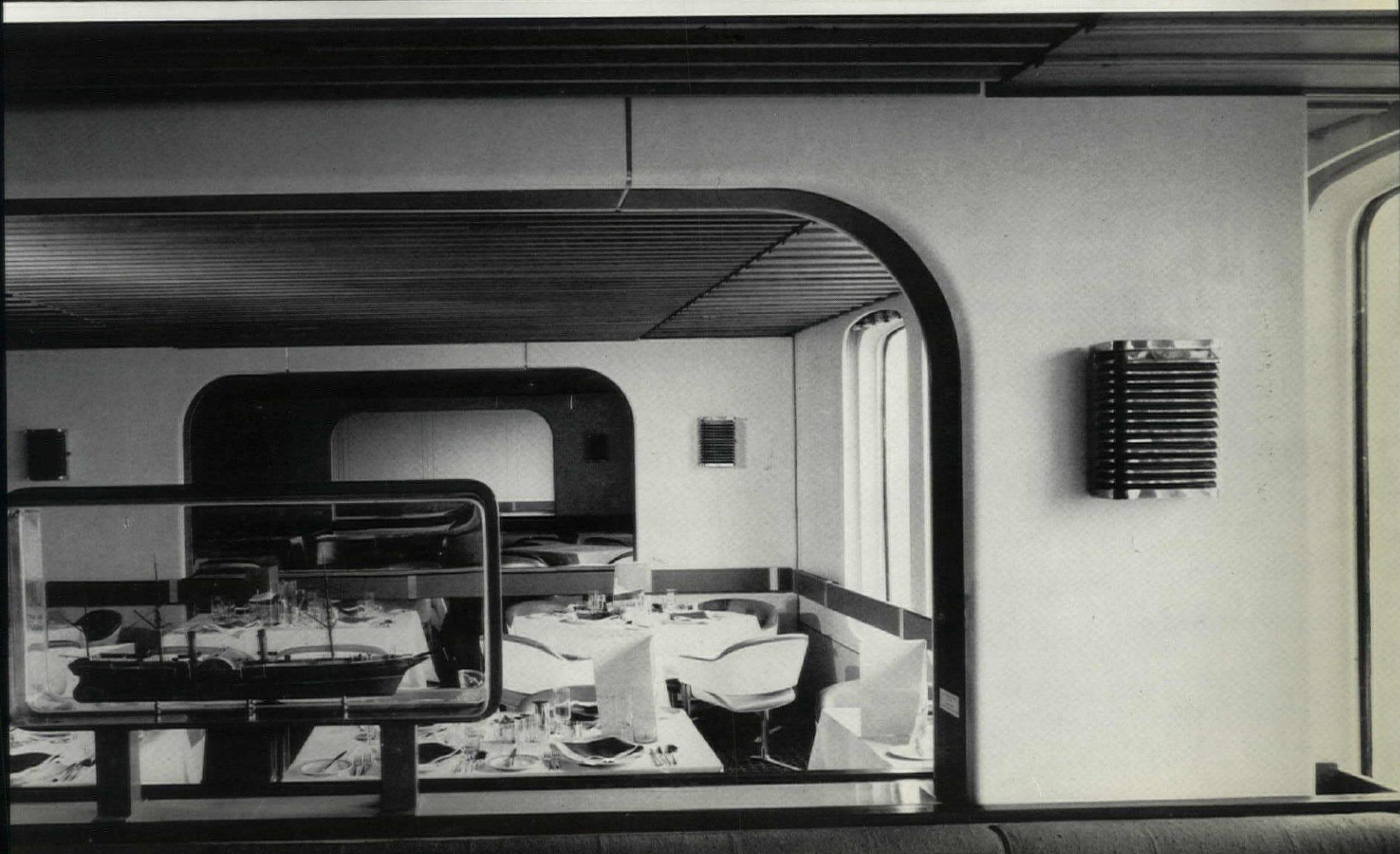
*This restaurant has the distinction of being the largest (it seats over 800) and the highest placed (forward on the upper deck) of any ship. It is served with the help of escalators by a central kitchen on the deck below, which also serves the Columbia Restaurant and the Grill Room. The main forward entrance is axial on Britannia herself (a figure-head sculpted by Charles Moore and given to Cunard by Lloyd's), opposite page, top, and on the bar with its subtly illuminated wine racks. The vast space, which stretches the full width of the ship, is cosily subdivided by ship's webs and screens, some of which are clad in white fibreglass imitating diagonal boarding. The colour scheme is a gay combination of red, white and blue against the neutral cedar veneer of the ceiling and the dark-stained timber screens imitating traditional duck-boarding and effectively lit from behind, right. The blinds, with their attractive stylised flower pattern in blue and white (by Hull Traders) leave the window shapes exposed even at night, reminding one that this is a ship. Lighting is mostly concealed in the ceiling either in strip form running fore and aft or as spotlights to individual tables. There are also wall fittings made of polished brass louvres, opposite page, bottom, and looking disconcertingly like vent grilles. Two ship models (the Britannia, the first Cunarder to cross the Atlantic, is shown opposite), are exhibited in the web openings. A description of the restaurant chair, used both in the Britannia and Columbia, is given on page 462.*



plan of Britannia Restaurant (scale 1/4" = 1ft.)









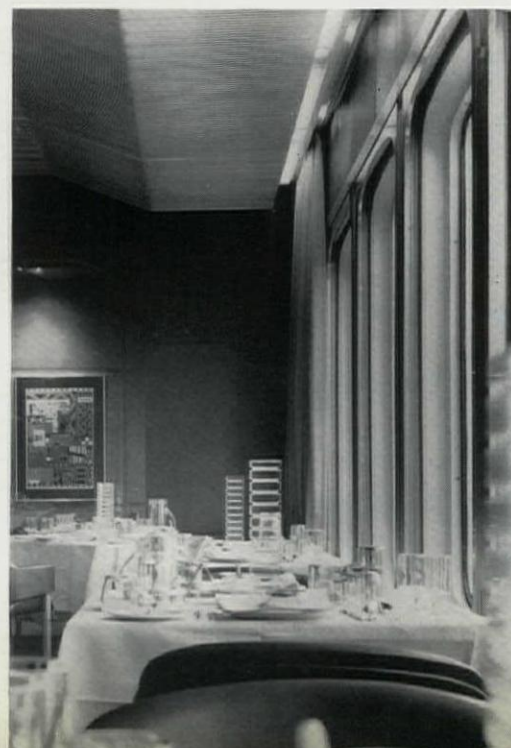


## QE2 INTERIORS

### COLUMBIA RESTAURANT

Designers: Dennis Lennon & Partners

The port and starboard promenades on quarter deck come together to form a central entrance into the Columbia or first class restaurant, and a nice feeling of arrival is achieved by means of a few steps down. Seating 500, this restaurant also extends the full width of the ship with generous views over the sea. But the colour scheme is a subtle mixture of donkey brown (carpet, leather wall panels and chairs), pale apricot curtains by Tamesa, and table linen which varies according to the time of day—lemon for breakfast and lunch, pink at night, always beige around the perimeter. Any dullness is offset by the many reflecting surfaces—the bronze glass in the web openings, the aluminium cladding to the columns, the solid perspex balustrade at the entrance, opposite, and the ribbed aluminium ceiling which folds down over the ducts, right. Here and throughout the ship aluminium surfaces have been anodised in a standard colour which looks silver, but is known euphemistically as Q4 Gold. The dumb waiters (above) are almost miniature kitchens containing, amongst other things, revolving grills, hot boxes and all the necessary cutlery. Each table has a cut perspex block lighted from a source concealed in the table column.





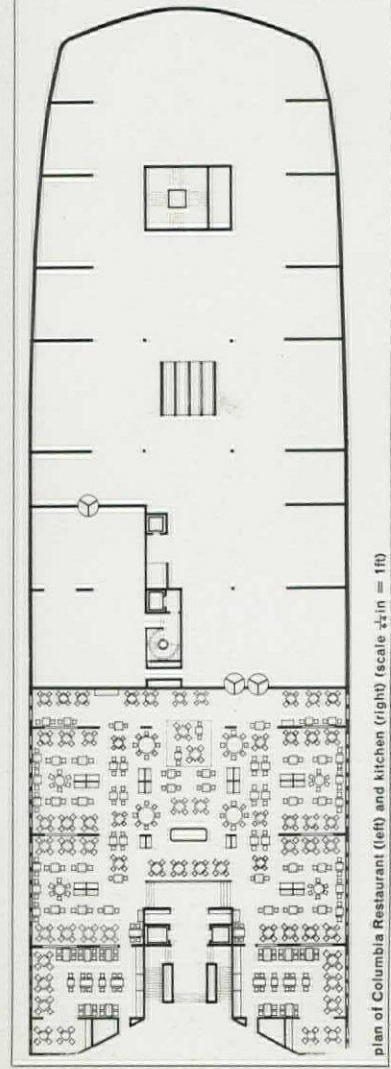






## KITCHEN

The kitchen (above) extends from the forward end of the Columbia Restaurant to the bridge front. Except for the enclosed trunk of a main stairway there are no obstructions, and the 'open' plan—the first on a Cunard ship—has a single central cooking area (with separate sections for each chef-de-partie), includes a combined bakers' and confectioners' kitchen and completely dispenses with the usual lock-up spaces. Services are divided port and starboard—hors d'oeuvres, fruit, coffee services and especially wash-up facilities—resulting in the duplication of staff but avoiding cross traffic by waiters, and providing a vital alternative in the event of a mechanical break-down. A central cold larder-cum-buffet has been provided on the Britannia Restaurant deck to reduce escalator journeys. Decks in the work areas are finished in non-slip blue and white tiles and the walkways



plan of Columbia Restaurant (left) and kitchen (right) (scale  $\frac{1}{4}$ " = 1ft)

The central seating area (opposite) with a ceiling, ethereal more in intention than in fact, of grey perspex fins over flat metal sheets and strip lighting.

**COLUMBIA RESTAURANT**  
continued

for waiters are laid with ribbed rubber. The design throughout the kitchen and in the storerooms eight decks below has had to comply with the very stringent requirements of the United States Department of Public Health, which demanded adequate clearances, flush surfaces, demountable stainless steel shelving, and a high level of lighting with ultra-violet bactericidal fittings in storerooms. For the same reasons refrigerators had to be of American design, nothing adequate being available on the British market.

# QE2 INTERIORS







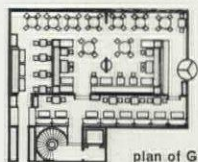




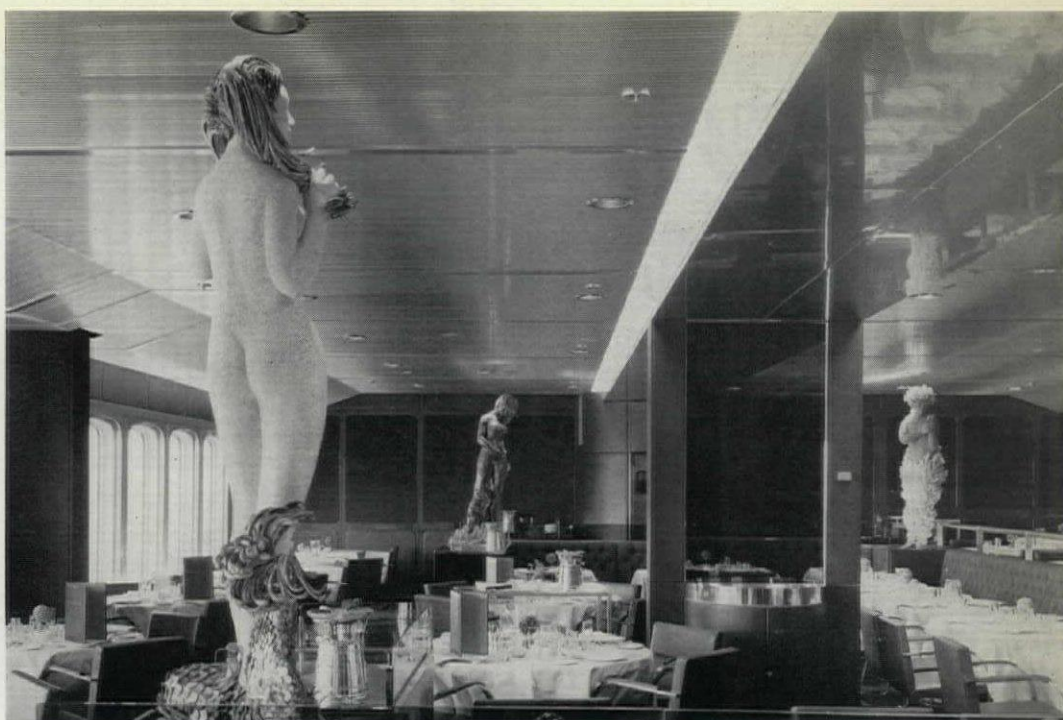
## GRILL ROOM & BAR

Designers: Dennis Lennon & Partners

*This small and exclusive restaurant looks better at night than by day because the predominant colour—claret—appears darker and richer by artificial light, and because the usual bright metal surfaces, especially needed here, sparkle more effectively at night. A sharper red, used with such splendid effect on the Coulsdon chairs in the bar, below, might have helped to liven up a somewhat conventional tone. The entrance is from one deck via the bar and via a fine functional looking spiral staircase which wraps around a large central column clad in aluminium. In the Grill Room, opposite and right, velvet wall panels with shiny metal trim are set in leather surrounds, the built-in seating has button upholstery in a Margo fabric, and the Mies Brno chairs are covered in leather. Lined and interlined ivory silk curtains by Warner and Sons make a resplendent backdrop. The four figures by Janine Janet, attractively lit from above and below, represent the four elements and are made entirely of things from the sea (shells, coral, mother of pearl etc.) Their quality is delightful and ephemeral, the equivalent of the eighteenth-century musical serenade—but Boccherini not Mozart.*



plan of Grill Room and Bar (scale 1/4" = 1ft)



QE2 INTERIORS



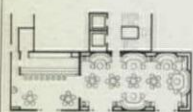


## MIDSHIPS BAR

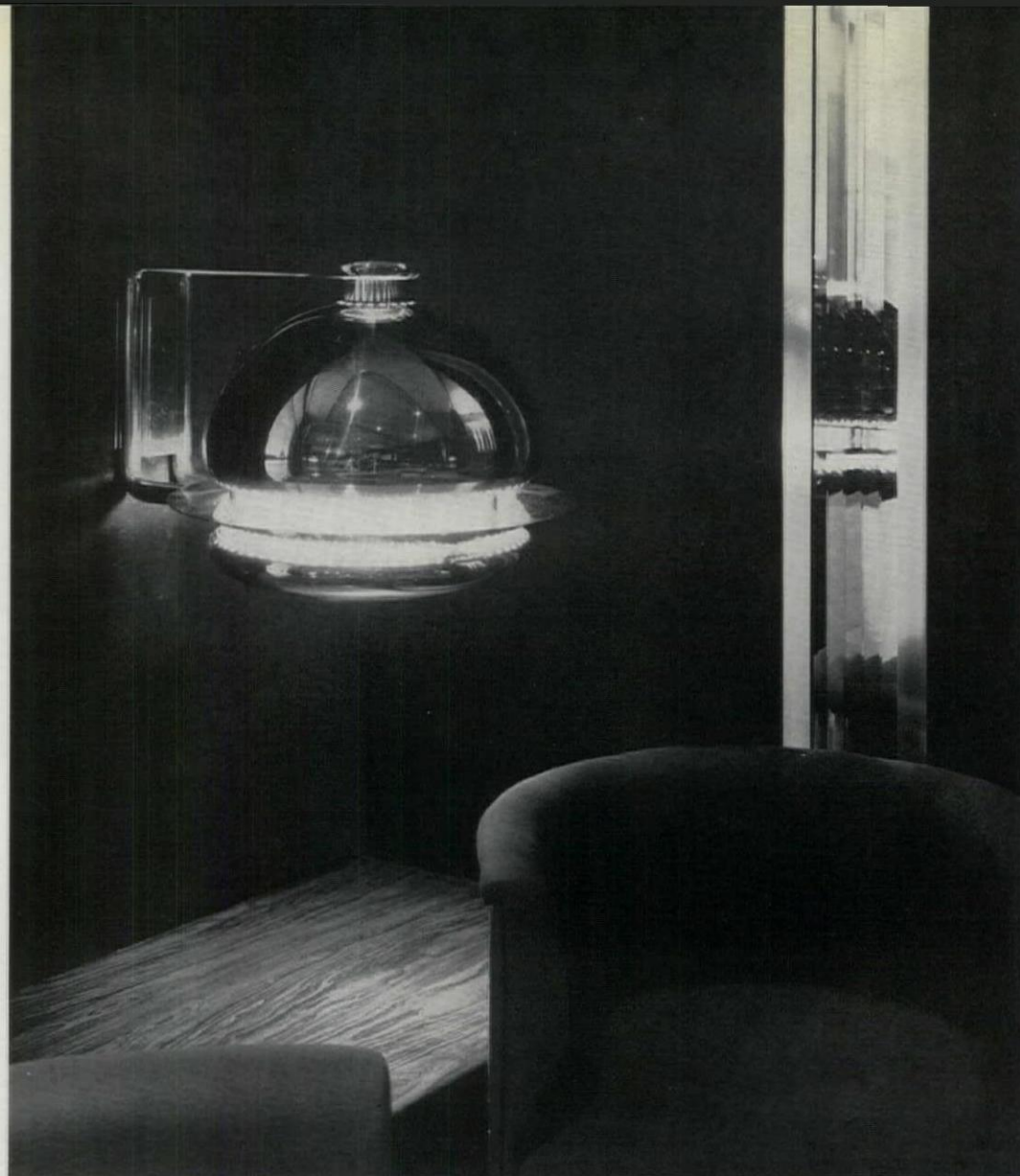
Designers: Dennis Lennon & Partners

*Situated on the quarter deck on the way to the Columbia Restaurant and serving first class passengers on the trans-Atlantic route, this is of all the rooms perhaps the most opulent in character. Planned in two halves, bar and lounge, it can be divided by a thick velvet curtain; the ceiling of the bar is gold leaf to distinguish it from the more restrained white plaster ceiling of the lounge. Otherwise the treatment of both halves is the same: carpet and cotton velvet walls in dark green. Plunkett Coulsdon tables (with bronze glass tops) and chairs upholstered in emerald green. The built-in seating around the walls of the lounge is covered in green mohair velvet, and each seat is flanked by rosewood side tables. Against all these light-absorbent surfaces the bright metal of the vertical wall strips, of the specially designed brass light brackets, or of the armillary sphere (showing the relationship of the planets to the earth) sparkle effectively in the subdued light (right). The bar area, which is more brightly lit, has a counter with a rosewood top and front upholstered in dark green leather. The wall behind the bar is a combination of thick perspex shelves, rosewood veneer, gold leaf and velvet.*

## QE2 INTERIORS



plan of Midships Bar (scale  $\frac{1}{4}$  in. = 1 ft.)

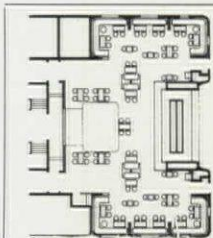




## Q4 ROOM

**Designer: David Hicks**  
in association with Garnett,  
Cloughley, Blakemore Associates

The two rooms which follow, like a number of others, are totally different in character and by different designers. They illustrate the diversity of styles on the ship and Dennis Lennon's undogmatic approach to design coordination ('... we tried to create a climate in which designers could work'). The Q4 room, situated aft on the quarter deck, serves the dual role of bar to the first class outdoor pool by day and night club at night. The walls are covered in small projecting panels of dark grey worsted framed in aluminium trim, with the spaces between panels in gold leaf. Against this restless background a carpet of a bold black, grey, white and red check design (also by Hicks) stretches from wall to wall. Coulsdon chairs

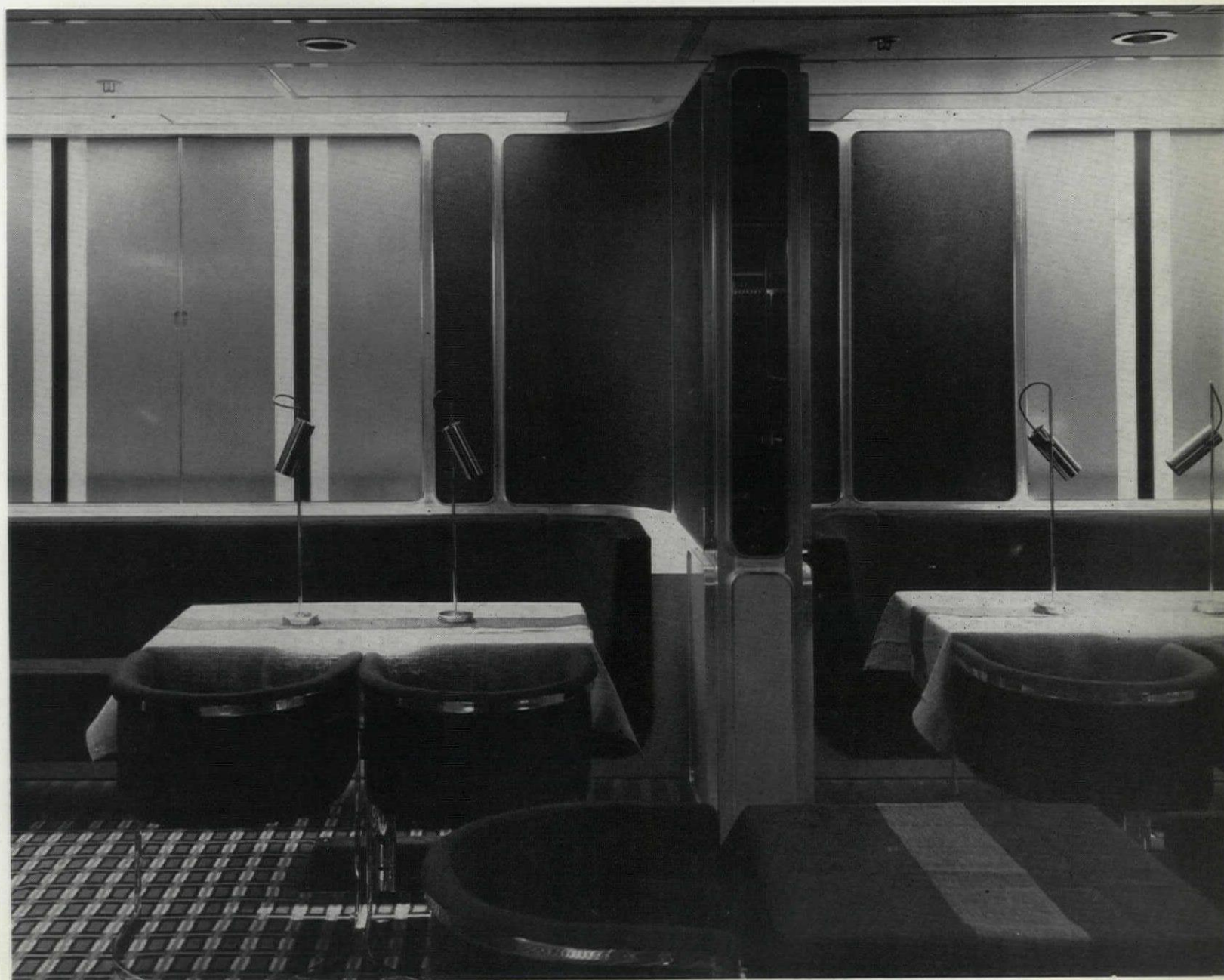


plan of Q4 Room (scale 1/4" = 1ft)



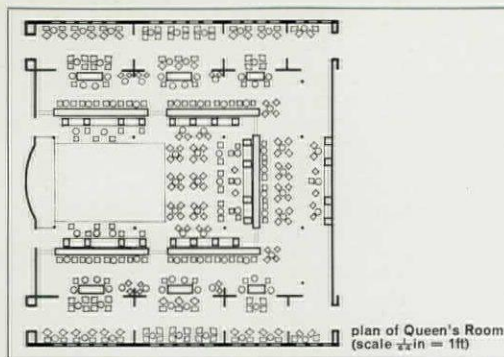
and built-in seating round the walls are upholstered in black, but this gloom is relieved by shocking pink and grey tablecloths during the day, and by window shutters in broad stripes of black, white and pillar box red by night (when tablecloths will

be black and grey). Rory McEwen's ingenious screens of perspex rods sandwiched between sheets of polarised glass (made by ICI) are unfortunately too small to play a positive part in the design as a whole.





# QE2 INTERIORS



## QUEEN'S ROOM Designer: Michael Inchbald

*With exhilarating decoration and a form of illusion in which one shape dissolves into another, space extends indefinitely and indoors and outdoors merge, the Queen's Room (left), is in many ways the most exciting, and probably the most admired room on the ship—see also pages 396 and 422. To get a fore-and-aft feeling (the room is nearly square if one includes the promenades), Inchbald has divided the space into a nave and two aisles, with a line of white trumpet-shaped fibreglass columns under each duct-casing. Other devices to give the room directional emphasis are the striations of the beige carpet, the large-scale 'open screen' effect on the end walls (actually fibreglass blocks veneered in walnut with mirror between), and above all the perforations of the white fibreglass ceiling brilliantly silhouetted as though against sunlight. And to take the illusion even further, the sunken central area with the dance floor is surrounded by a white fibreglass trough full of plants. Sliding glass doors separate the aisles from the promenades, and the latter can be completely cut out at night by drawing the superb Tamesa curtains of fine wool in large uneven stripes of beige, orange, white and lemon. The brighter of these colours are picked up in the cushions and in the orange tweed by Donald Bros. which covers the sofas. The white Lurashell chairs, upholstered in beige leather and designed by Michael Inchbald in two sizes, make use of the single pedestal originally developed by Saarinen. They replace the fussy effect of conventional multi-legged furniture with a more restful look.*

## SWIMMING POOL Designer: James Gardner

*The tourist class open-air swimming pool (opposite) is part of the 54,000 sq. ft. of open deck space on the QE2. More than on any other passenger ship and nearly twice as much as on the Queen Mary, it reflects today's passion for sunbathing and contrasts with the endless shaded promenades of older ships. The deck is sheltered from the wind by glazed screens, the pool and its borders are lined with ceramic tiles in various shades of blue (the relatively dark tone inside the pool makes the water look muddy) and there are low parapets alongside for bathers to sit on. The decks are traditional teak boarding, but reduced from 2in. to 1 1/2in. in thickness with the help of a special sealing material. The white tables and chairs are metal nylon-coated by Burgess and incorporate rust-proof screws.*













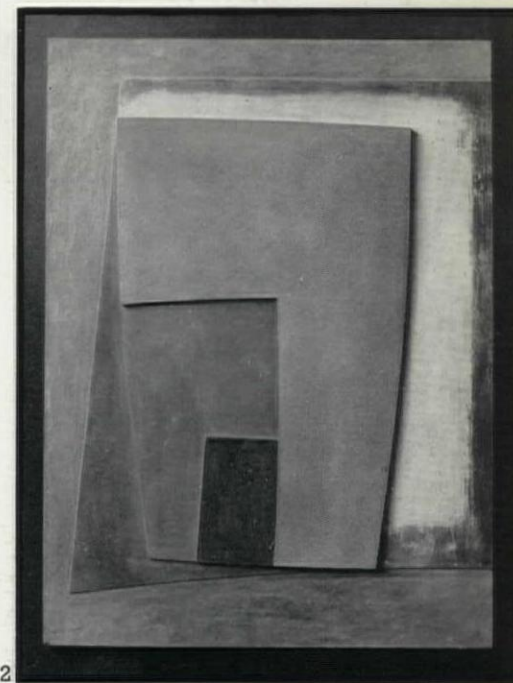
exhibition included new or recent works by Moore, Sutherland, Hepworth, Bacon, Nicholson, Kokoschka, Pasmore, Nolan, Piper, Richards and Tilson. Kokoschka's 'Istanbul', painted in 1968, is the latest of those spacious city-scapes which almost invariably find their way into public collections. The exquisite tonal relationships in Nicholson's carved pavatax relief called 'Locmeriaquer 4', 2, declare a typical example of his recent abstracts. Piper's mastery of watercolour and the brilliantly effective hand-writing with which he summarizes elaborate decorative detail, 3, are exemplified in a group of architectural studies which are likely to have a special attraction for passengers returning to the States from a European tour. Some of the paintings are being exhibited for the first time, and an outstanding example is the large diptych just completed by R. B. Kitaj, 4. One panel is inscribed 'Synchronomy with FB', the inscription on the other is 'General of

## CUNARD/MARLBOROUGH Reviewed by Robert Melville

The QE2 is the first of the floating palaces to have a built-in art gallery. The fact that it is being administered by Marlborough Fine Art suggests that works by practically all the acknowledged masters of twentieth-century painting and sculpture will at one time or another be exhibited there.

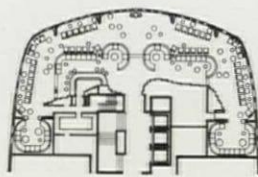
A British exhibition—illustrated here—was obviously the appropriate thing for the maiden London-New York trip, but Marlborough's interests are as international as the new Cunarder's passenger list, and no firm in the world is in a better position to give the QE2 the status of a capital city of the arts. The

exhibitions are to be arranged by Tony Reichardt of Marlborough New London. The gallery (which is described on page 450) has enough storage space to enable the staff to mount an alternative exhibition during the voyage, and this should be particularly useful when the ship enters on its programme of cruises. The first exhibition augured well for the future. It was admirable both in quality and variety, and the price range, with Kokoschka's 'Istanbul', 1, well into the five figure bracket and some of the lithographs and silk screen prints available for only a few pounds, allowed for everyone on board to be a potential buyer. It also demonstrated the flexibility of the space divisions with what amounted to a series of one-man shows. Designed as a tribute to contemporary British painters, sculptors and print makers, the inaugural



hot desire', and a portrait of Francis Bacon is the dominant image in both panels. The erotic treatment of the female nude in the 'synchronomy' panel suggests at first sight that the inscriptions have been somewhat perversely reversed, but the juxtaposition of nude and portrait is no less arbitrary than the imposition of Francis Bacon's portrait on the landscape with a bridge. In neither case is there any overt interaction between the images, but the deliberately confusing content creates a remarkable atmosphere of muffled violence. The brilliant colour is reminiscent of Bacon's fiercely expressionistic paraphrases of Van Gogh's 'Road to Tarascon', and the bridge is possibly a sly reference to *Die Brücke*. In the view of the gallery, opposite, Sutherland's 'Room on a Terrace' (a complex of green elements on a red ground) can be glimpsed, and in the foreground is one of Joe Tilson's pleasantly extrovert constructions.





plan of the Look-Out (scale 1/4" = 1ft)

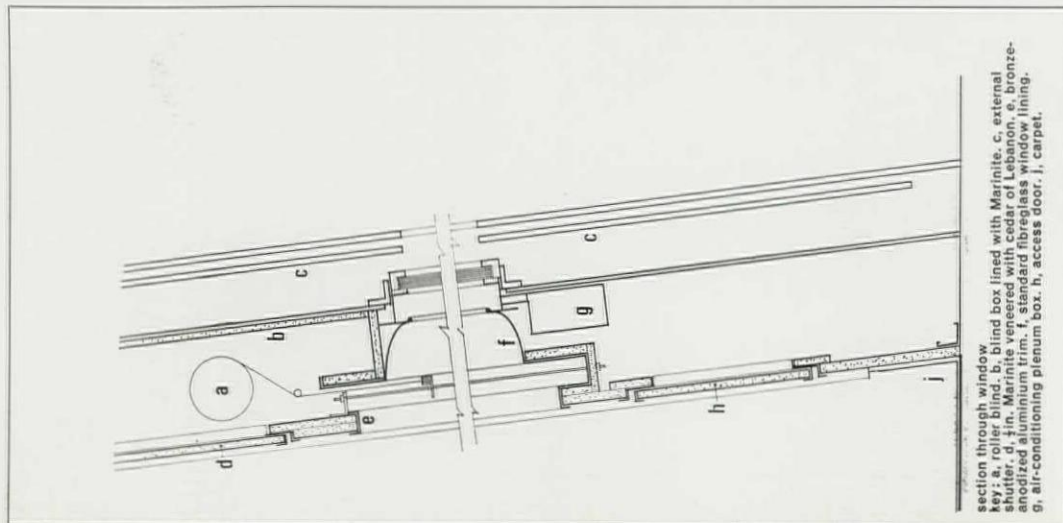


## THE LOOK-OUT

Designers: Crosby, Fletcher, Forbes

The Observation Lounge (or 'Look-out') on the upper deck (opposite page), one of ten lounges on the ship, is the most forward of all the public rooms and the only one which provides a view over the bows. Here one is unquestionably on a ship, and on a ship in the 1970s. The windows form the most important part of the design and there are no curtains to mask their rhythm. But within their structure is incorporated an elaborate system of blinds and shutters to provide the blacking-out necessary for navigation at night (see section below). The Lurashell seating, designed by Crosby, Fletcher, Forbes, is made of fibreglass covered in black Cirrus, and is light enough to be moved around to face the windows by day and into the room at night. Tables are by Arkana with charcoal grey bases, white

Formica tops and bronze-anodized spill rings. The carpet is a dark olive-green Wilton and the walls are cedar of Lebanon veneer. On the back wall Gillian Wise's reflective screen of stainless steel and bronze-anodized vertical strips (left and below) incorporating a stainless steel bar at one end, though not as exciting as it would have been if made in panels of mirror as originally intended, helps to increase the apparent width of the room and to channel the flow of space into the two end alcoves. The concealed perimeter lighting successfully emphasizes the sweeping curve of the front wall, but detracts from the complexity and mystery of the screen. A touch of colour is provided by a red chart reader at the bow windows, a conversation piece which will show charts of the area to which the ship is travelling.



section through window  
key: a, roller blind; b, blind box lined with Marinite; c, external shutter; d, fin; Marinite veneered with cedar of Lebanon; e, bronze-anodized aluminium trim; f, standard fibreglass window lining; g, air-conditioning plenum box; h, access door; i, carpet.





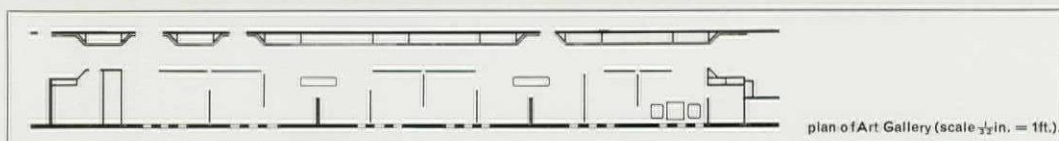
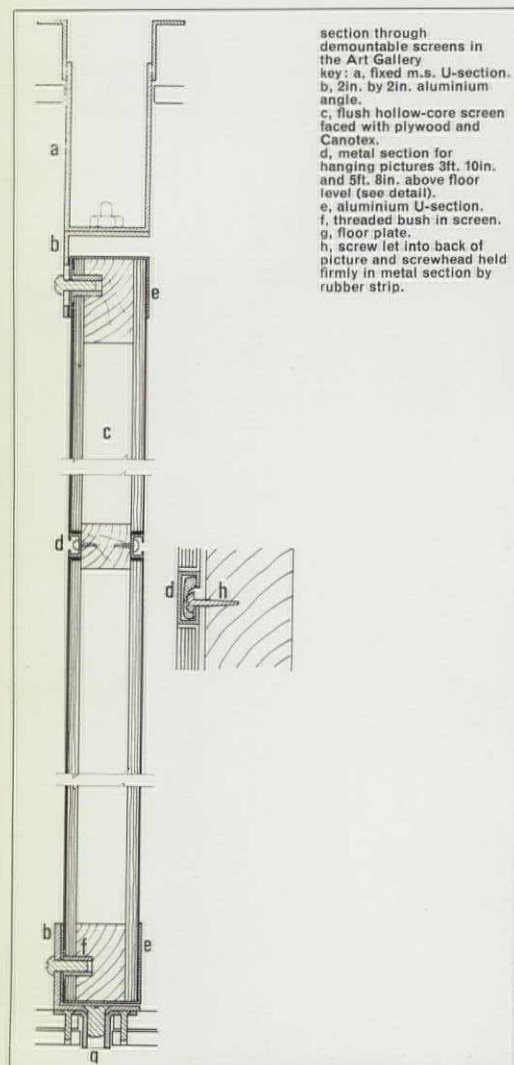




## ART GALLERY

Designers: Buzas and Irvine

The London Gallery, right, as it is called (Robert Melville reviews the inaugural exhibition on page 447), provides a good background for pictures with its white ribbed aluminium ceiling, indigo blue carpet and beige Formica walls. The demountable screens, faced with beige Canotex, are flexible within a grid which runs down the length of the gallery and at right angles on the outboard side, forming a number of intimate rectangular spaces. The inboard wall—one side of the passage formed by the screens—is lined with showcases for the display of small objects. Each screen has two fixing points top and bottom, and two



horizontal channels set flush and filled with a rubber strip for picture hanging (see detail). Round-headed screws are accurately placed in the back of each picture, and the screw heads, which remain protruding, are then pressed into the channels where they are held tight by the action of gravity and of the rubber strip—a novel and ingenious method in circumstances where rigidity is essential.

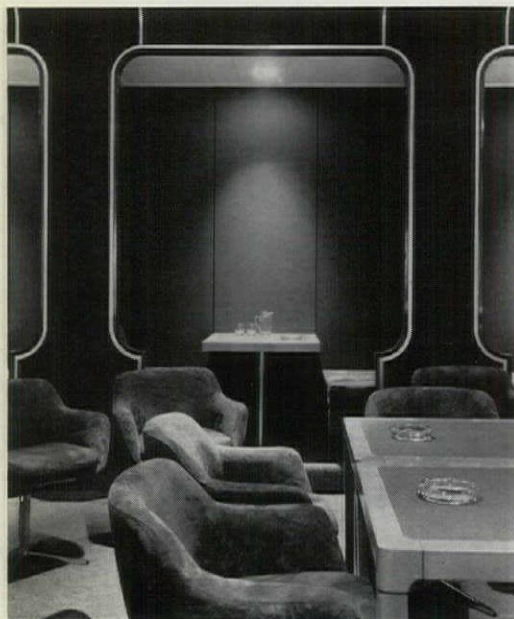
## CARD ROOM

Designer: Jon Bannenberg

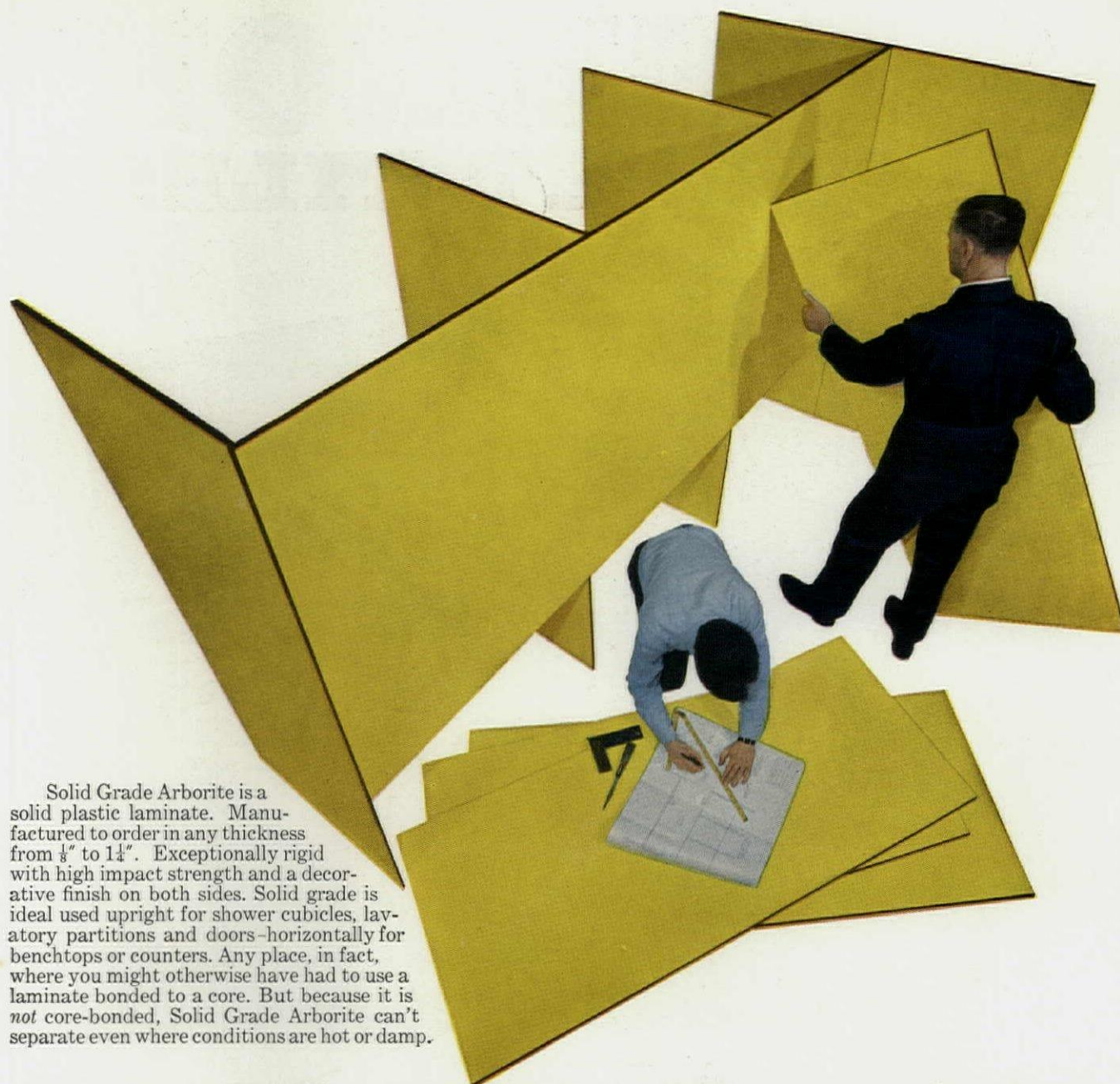
The Card Room is Bannenberg's most successful design on the ship. The illustrations, below left and right, show it in its other role of conference room when the six tables are put together to form a single unit. For cards there are in addition three booths with

built-in seats and tables behind a screen which looks like a less robust version of the Coffee Shop arcade (page 458). The room is suitably dark at night with special lens spotlights recessed in the white ceiling to light up the players' hands. All other finishes, with the exception of the red leather blotters, are green—dark green for the suede and baize wall panels and suede upholstery of the Hille Nimbus chairs, pale green for the stained rosewood tables and window blinds, and green with a beige speckle for the Crossley carpet.

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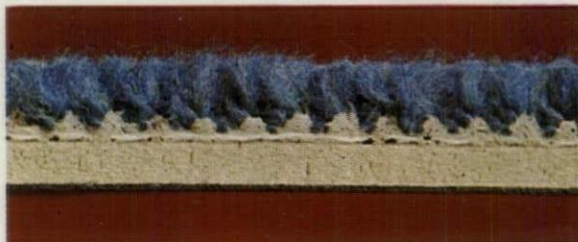
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## QE2 INTERIORS

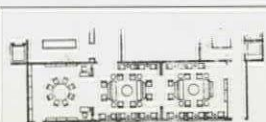
### UPPER DECK LIBRARY

**Designers: Dennis Lennon & Partners**

*An unfashionable view, but a sensible one, holds that a woman should wear one positive colour and not two. With the possible exception of the Britannia Restaurant, Dennis Lennon seems to have followed this maxim with considerable success in his designs for the QE2, and most obviously so in the rich blue tones of his tourist class library. The space is divided into three equal bays by the ship's webs which have the same wide openings as in the restaurants, the curved corners faithfully following the line of the structure underneath. One of the end bays has two librarians' desks facing each other with the wall behind faced in bronze mirror. In the centre is a large circular reading table in rosewood and leather, and Discus chairs by R. S. Stevens upholstered in blue leather. Surprisingly for a library, this is the only bay whose walls are furnished with bookcases (there is one other small bookcase at the opposite end), and their design is a busy grid of mullions, transoms and wires*

*(to stop pilfering when the library is open but unattended) and somewhat reminiscent of Tudor leaded windows. The other two bays are furnished with fixed sofas covered in tan hide and large loose armchairs upholstered in a blue and green fabric, which are comfortable rather than elegant. The carpet is the same ribbed mustard carpet as in the*

*Theatre Bar (page 433) which fills the equivalent space on the starboard side of the upper deck. Circular or rectangular rosewood tables and plenty of low lighting from the sturdy table lamps and wall brackets (their columns are blue perspex), supplementing the usual ceiling lighting of strips and spots, complete an impressive scheme.*



plan of Upper Deck Library  
(scale 1/4 in = 1 ft)





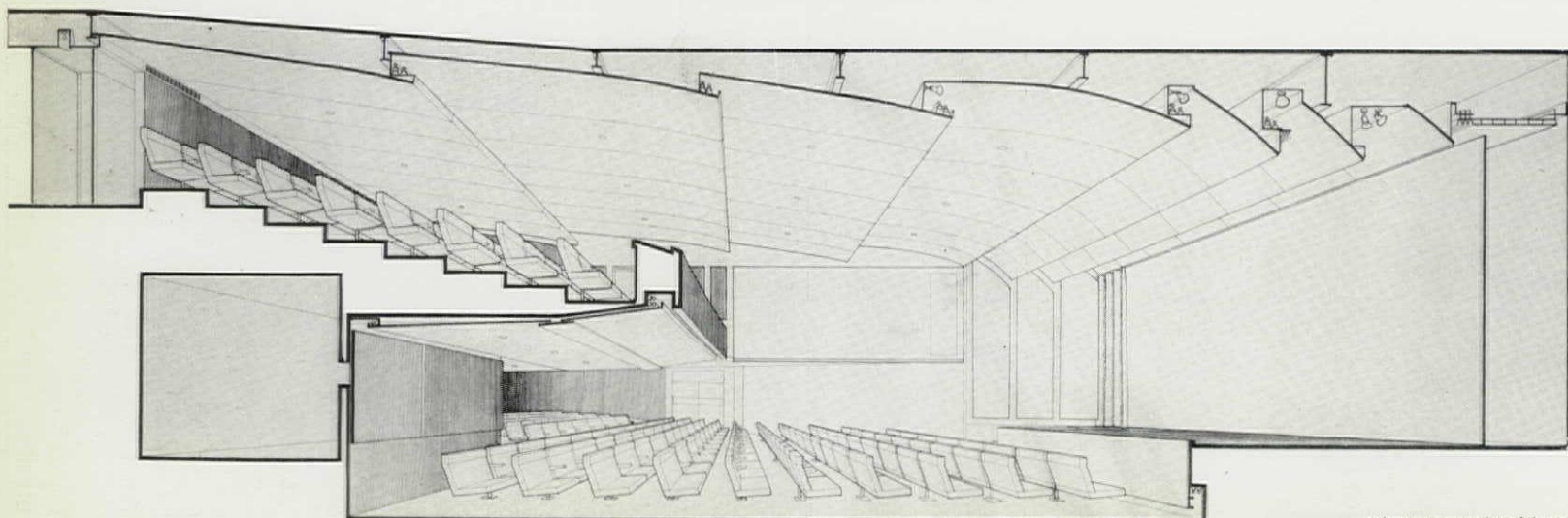
## QE2 INTERIORS

### THE THEATRE

Designers: Gaby Schreiber  
and Associates

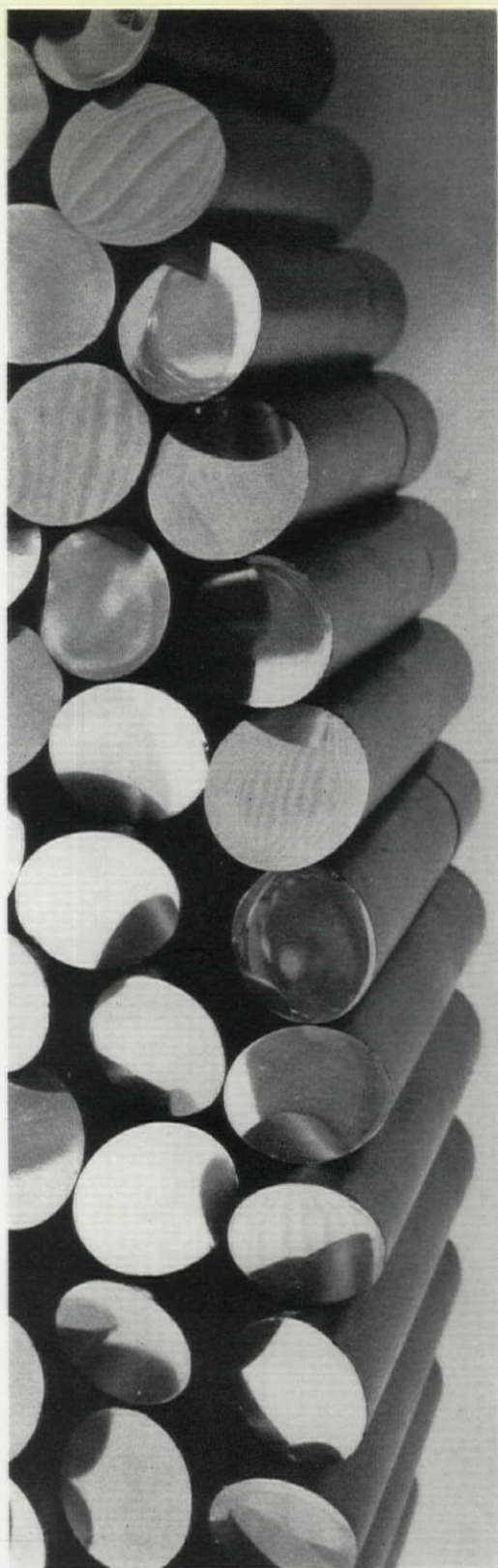
Although there is a small synagogue on three deck designed by Misha Black, there is no place on the ship reserved exclusively for Christian worship. The Theatre, which will also serve as a cinema and conference room, is intended for such use on Sundays—an impossible brief which may explain the barren quality of the design. Seating 530 and situated on the upper deck with a balcony accessible from the boat deck, it is the only space on the ship where the structure was specially adapted so that the rows of intermediate columns, which exist in other large rooms, could be eliminated. A serious functional failure is the inadequate balcony rake which makes it difficult for any but the tallest to see the front of the stage. There is no proscenium and the 12ft. deep stage has a grey Sekers silk curtain which can be drawn back out of sight, and a cinema screen at the back. For plays and concerts, the last section of the inclined walls flanking the stage fans out on

a pivot to give access to the dressing rooms. Charcoal grey carpets cover the floors (even the stage) and walls are faced with light grey panels of slatted acoustic fibreglass, those at the back of the auditorium sliding away to reveal four glass-fronted interpreter's booths. The same preformed fibreglass is used for the wavy acoustic ceiling, and the lighting, concealed both in the ceiling and in the bulkhead linings, is adaptable to the room's several uses. The seats, also designed by Gaby Schreiber, are furnished with a removable wool cover by Bernat Klein striped in two tones of mauve. They have black leather arms and are equipped with removable trays for conferences and pockets to hold shortwave receivers for simultaneous interpretation.



cut-away perspective of theatre





## QE2 INTERIORS

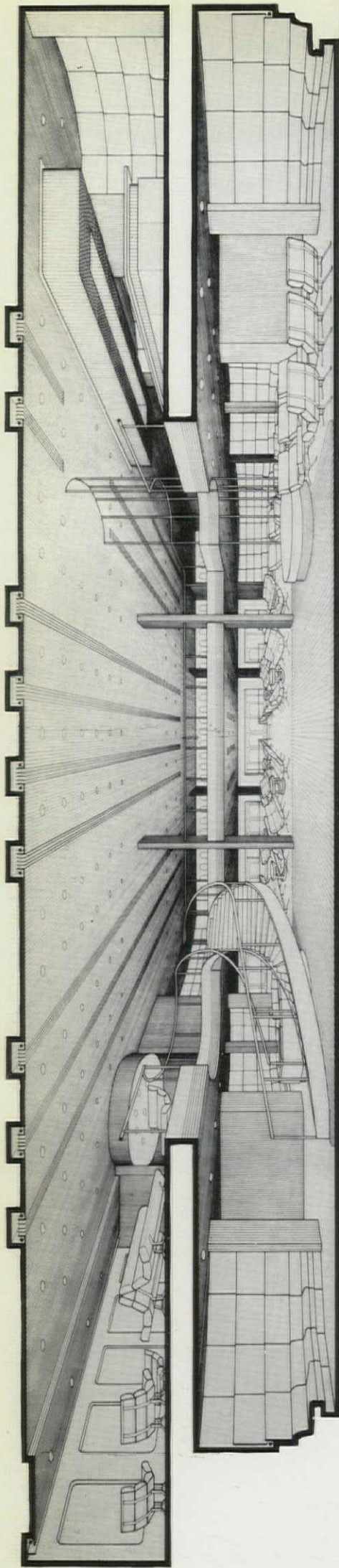
### DOUBLE ROOM

Designer: Jon Bannenberg

*Of double-storey height and planned on two levels (upper and boat deck), this lounge, so it is claimed, is the largest room in any passenger ship. Like its first class counterpart by Michael Inchbald (page 444) it serves a variety of functions from quiet conversation in the dark, plum-coloured alcoves or drinks at the bar under the strange clusters of black and silver tubes, above, to dances and other formal entertainments.*





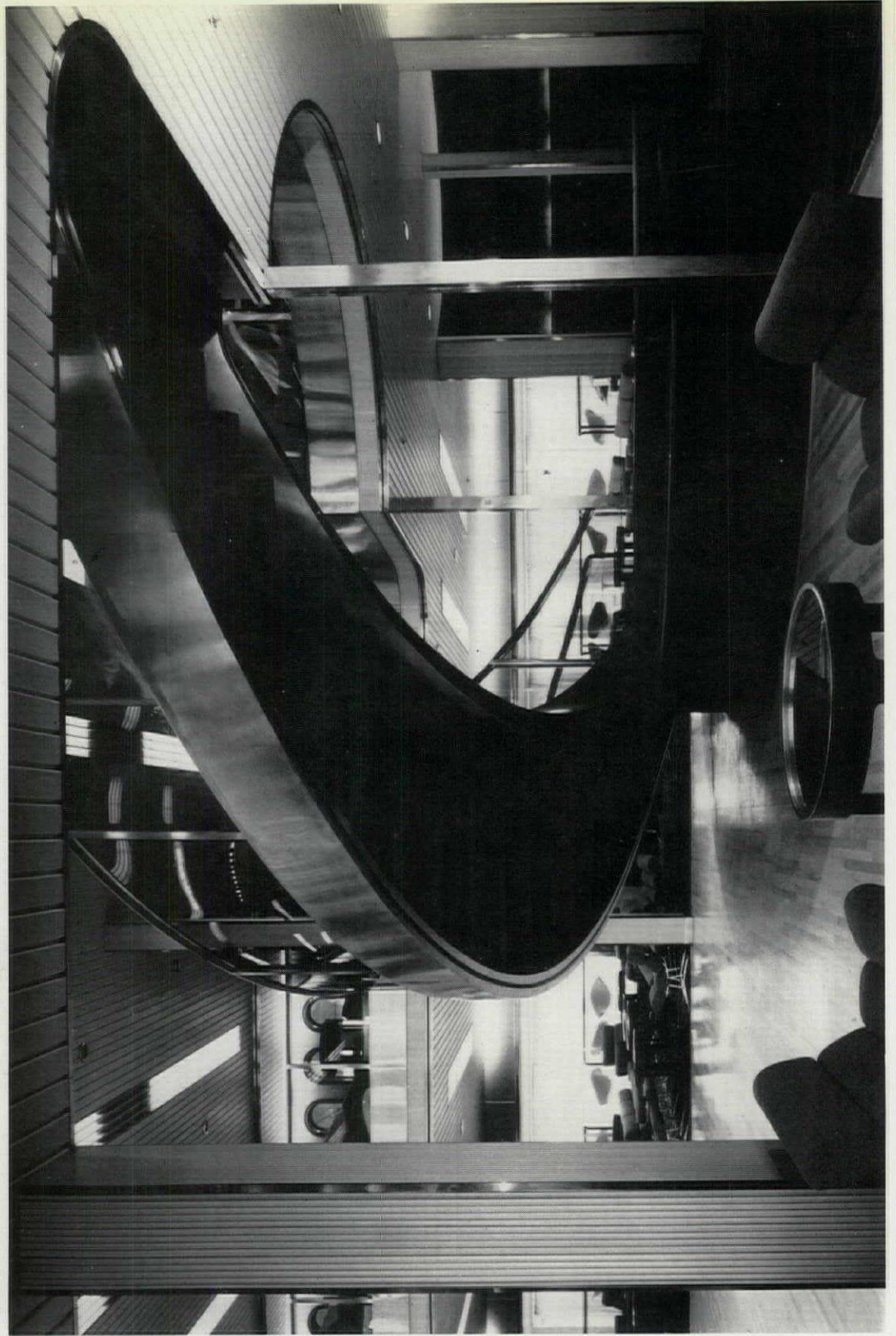


cut-away perspective of Double Room (drawing by Richard Powell)

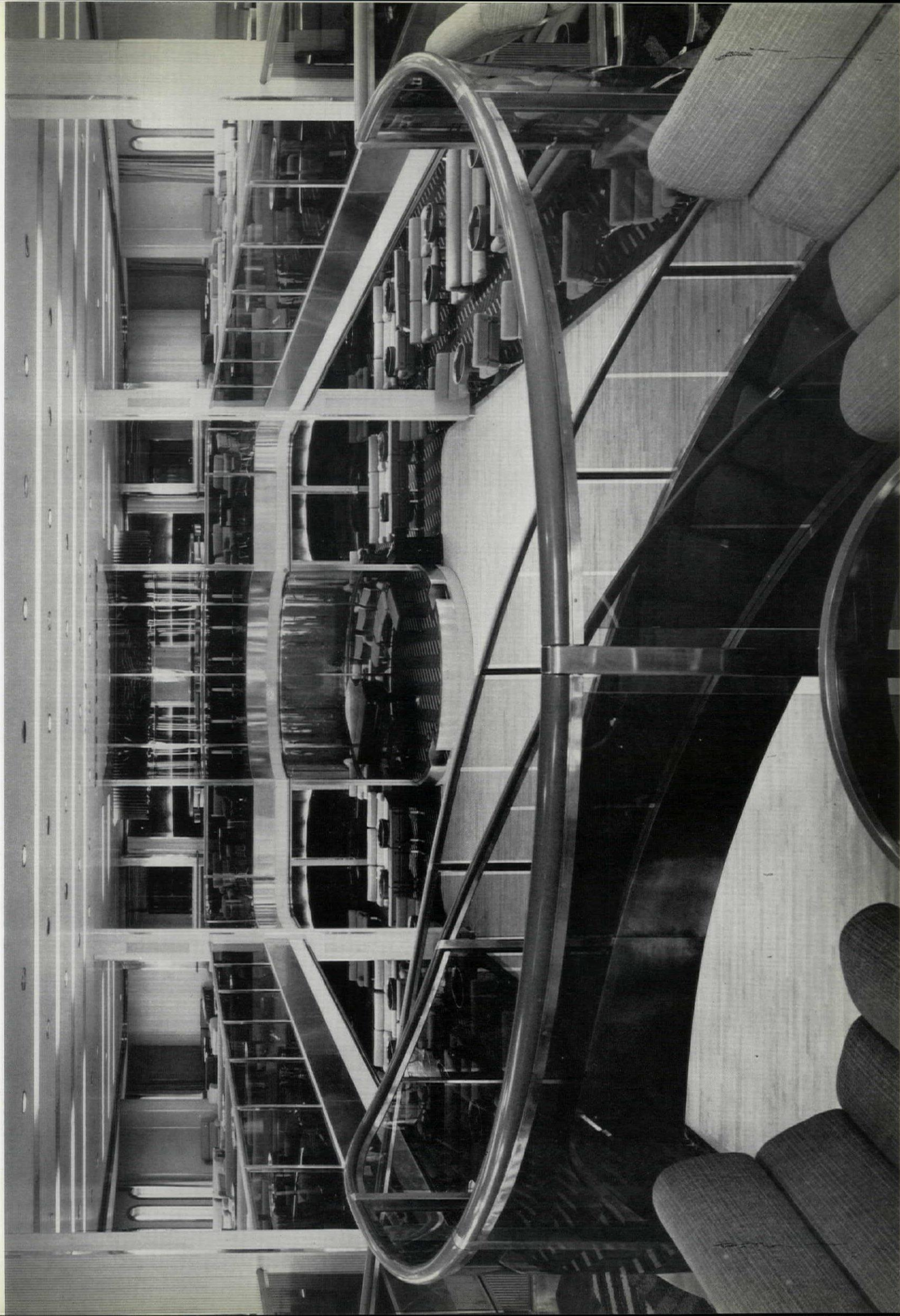
## QE2 INTERIORS

### DOUBLE ROOM continued

But Bannenberg does almost everything the opposite way to Inchbald. A bold curving staircase, the last faint echo of 'Berengaria Baroque', forms the dominant feature of the room, right. The furniture, to seat 800, is an adapted version of Plunkett's Kingston chairs and sofas (compare their angular supporting structure of overlapping metal sections to Inchbald's curving single pedestal), and a cheap and most regrettable version of the Coulsdon coffee table for which its designer bears no responsibility. Instead of an illusion of height, so successfully achieved by Inchbald with his perforated ceiling, we have (opposite page) a very literal expression of horizontal planes—the functional ribbed aluminium ceiling equipped with an elaborate and flexible lighting system, the balustrade of bronze glass topped by a scarlet nylon handrail and a Kosset carpet, designed by Bannenberg, with a large-scale herring-bone pattern which incorporates the whole gamut of reds from purple to orange. Although the lower level is the same square shape as the Queen's Room (also incorporating the promenades), Bannenberg goes against tradition and emphasizes the width by running the ceiling ribs, the furniture layout and even the boarding of the dance floor in the port-starboard direction. Sir Hugh Casson points out on page 406 that the interiors of a cruising ship must look equally inviting in every sort of climate. Although the suffocating rears of the Double Room are relieved by considerable areas of white and silver, its popularity may turn out to be inversely proportional to the temperatures on deck.









# QE2 INTERIORS

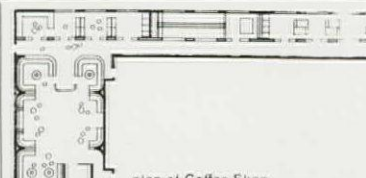
## 736 CLUB & SHOPPING ARCADES

Designers: Buzas & Irvine

Buzas and Irvine's work on the ship is distinguished by their splayed-corner theme which they use consistently both in the horizontal and vertical dimension, and which runs against the general trend of rounding corners. This is particularly true of the 736 Club (named after the ship's job number in John Brown's yard) on the boat deck, top right, a room of such sober mood that many will consider it more suited to a smoking room than to a night club. Panelled in Indian laurel veneer and upholstered in tan leather, it is planned around a sunken central dance area. The carpeted perimeter contains a bar and alcoves with built-in seating, tables and upholstered Bertioia chairs. The shopping arcades, centre right, run both port and starboard on the boat deck. Attention is focused by the lighting on the broad and shallow shops, each with a counter flanked by two showcases. The ceiling is the same white ribbed aluminium and the carpet the same dark blue as in the adjoining London Gallery. Walls are pale blue and grey Formica.



plan of 736 Club (scale 1/8" = 1 ft)

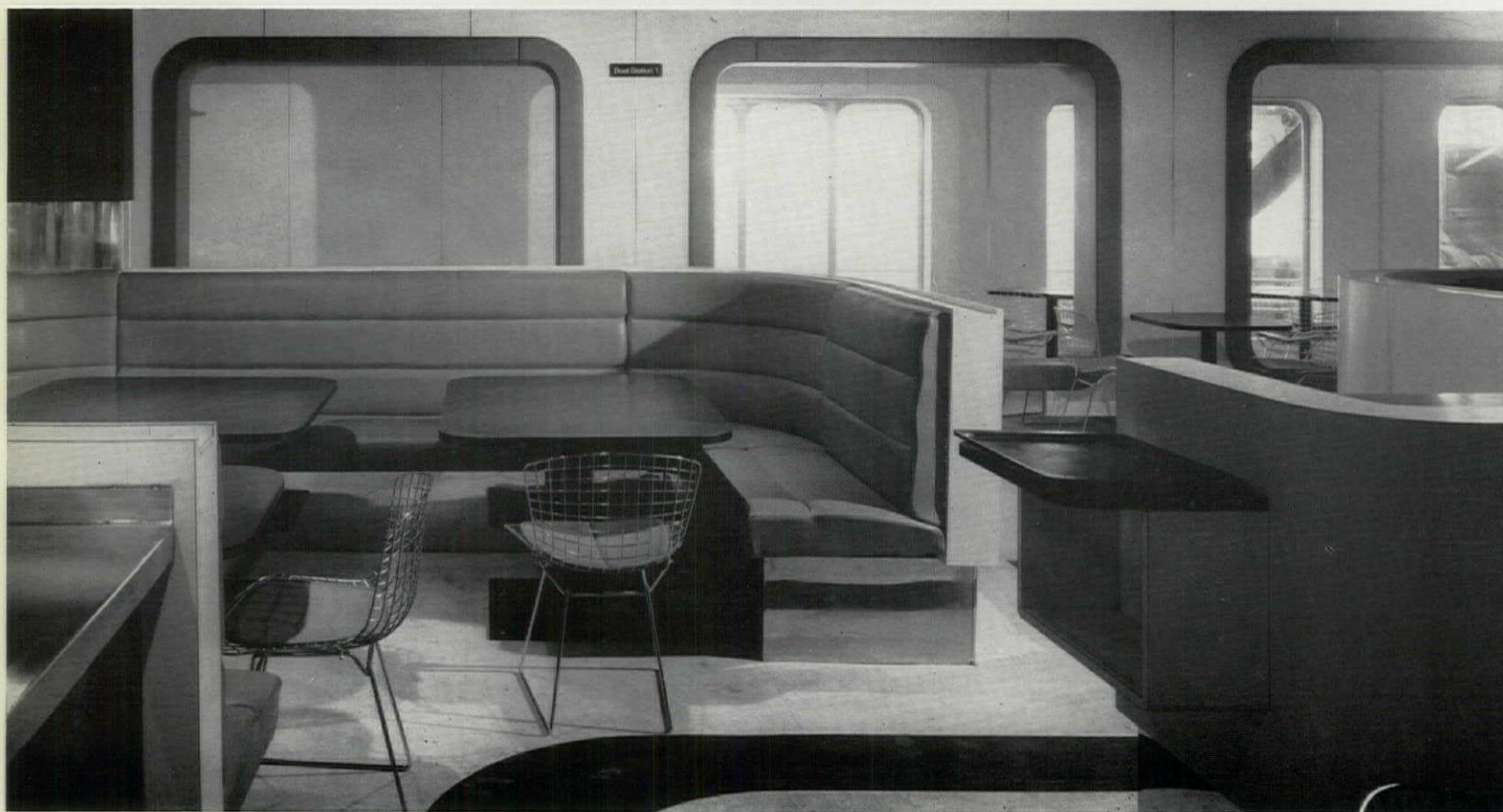


plan of Coffee Shop

## COFFEE SHOP

Designers: Elizabeth Beloe and Tony Heaton

While still students at the Royal College of Art, the designers were entrusted with the Coffee Shop and the Children's Room under the direction of their departmental head, Lady Casson. The Coffee Shop consists of a gallery, far right, with a Formica mural by Tim Sarson (another RCA student), and of an inner area, below, with built-in seating of red upholstery. Ceilings and tables are brown; walls are Formica striped in white, yellow, orange and blue.





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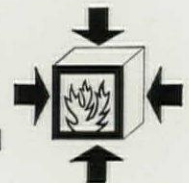






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# QE2 INTERIORS

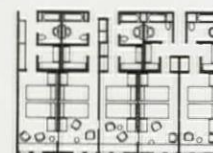
## PASSENGER CABINS

The space allotted to cabins is considerably more generous than in the old Queen Elizabeth, though the conventional placing of beds, especially in the first class cabins, fails to take advantage of this gain. Planned by Cunard's naval architects on one, two, three, four and five deck and fitted out by four different designers, they are laid out in depth between the outboard side of two parallel corridors and the ship's sides, so that as many as possible (in fact about three-quarters) can have portholes (see deck plans on pages 427-428). Bathrooms (with showers in tourist class), dressing rooms, etc. are on the corridor side and act as a baffle against noise from the corridor, but there is no comparable sound insulation between the cabins, which are mostly divided by a single panel of  $\frac{1}{2}$  in. Marinite, a fire-proof material used extensively throughout the ship. Different combinations are possible, from two to five suite rooms enfilade, or family cabins where two adjoining rooms share a bathroom. Other points in common are generous storage space, lighting—downlighters recessed in the ceiling with additional lighting for the dressing table and the bed—and the standard console (with various finishes) built into the bed-side furniture and incorporating controls for television, radio, lighting and service bells.

## FIRST CLASS CABINS

Designer: Jon Bannenberg

Situated on one, two and three deck, these cabins, top and centre, have four colour schemes with three different veneers for the built-in furniture and floor-to-ceiling wall panels. One colour scheme has a gold carpet, white bedspreads and curtain striated in neutral colours by Tamesa, Hille Nimbus chairs and Arkana stools upholstered in bright green.

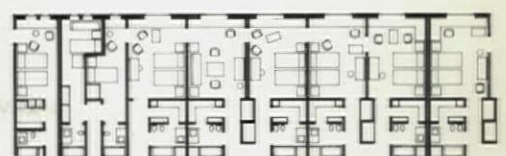


plan of first class cabins (scale  $\frac{1}{4}$  in = 1 ft)

## LUXURY SUITES

Designer: Dennis Lennon & Partners

The suites are on one and two deck and each one consists of an entrance hall, a dressing room, a bathroom and a closet with storage for luggage. A suite can be arranged either as a bedroom or as a day room, though not apparently during a voyage, when a passenger will have to take two adjoining rooms if he wishes to benefit from this flexibility. Dennis Lennon's design, bottom, has a sumptuous air with ceilings, walls and built-in furniture in pearwood veneer, inset wall panels of beige velvet and gold leaf behind the bed and on the ceiling cove. The carpet is gold and the curtains, bedspreads and upholstery are beige tweed by Tamesa. In another colour scheme the soft furnishings are in a variety of blues.



plan of luxury suites by Dennis Lennon & Partners (scale  $\frac{1}{8}$  in = 1 ft)

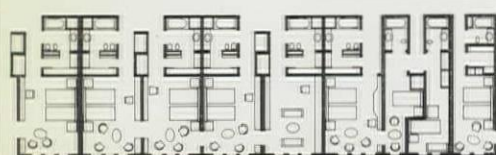




# QE2 INTERIORS

## LUXURY SUITES

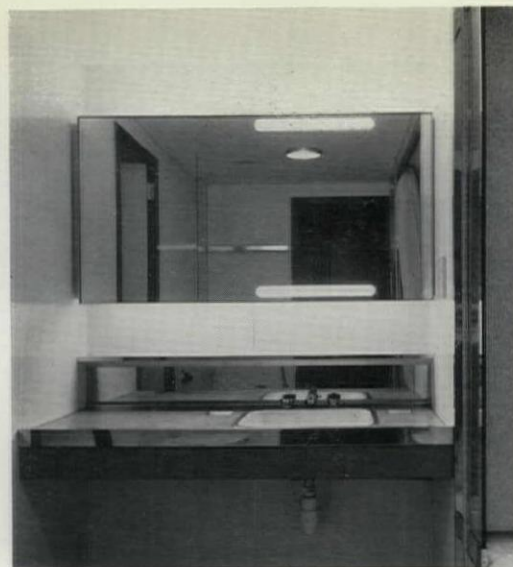
Designers: Buzas & Irvine



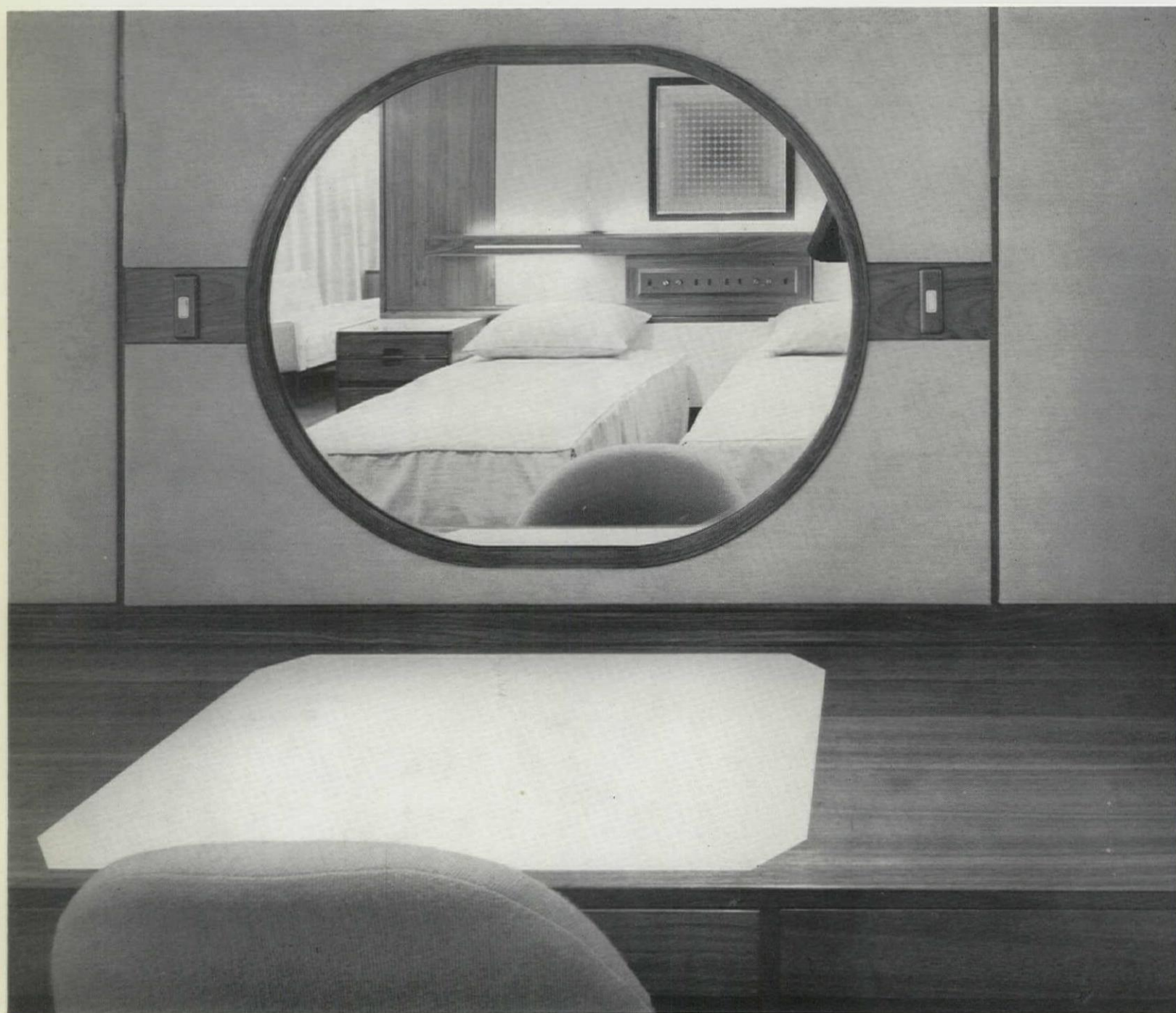
plan of luxury suites by Buzas & Irvine (scale 1/4" = 1ft)



Buzas and Irvine's design is subdued and dignified, with built-in furniture in walnut veneer, wall panels in an acid-green cotton-linen fabric and a plain white ceiling and cornice. The carpet is dark olive-green and the curtains, bedspreads and upholstery (except for two small chairs in orange) are in oatmeal. There are two other colour schemes using brown and blue carpets and light



yellow wall panels. The furniture consists of white Saarinen coffee tables and interchangeable chair and sofa units from Form International. The bathroom design, above right, is the neatest and simplest on the ship, with a grey-green Formica for the basin top, an oatmeal 'mosaic' p.v.c. for the floor and bath recess, and white surfaces everywhere else.







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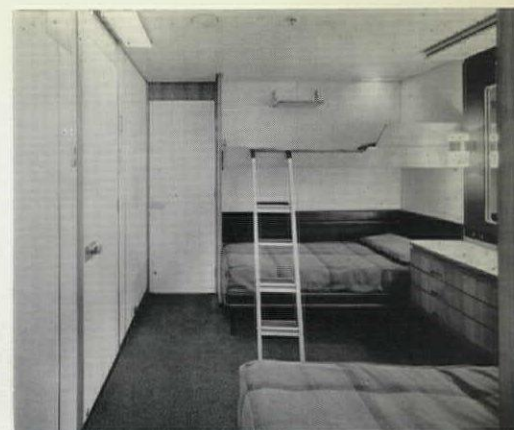
AFS 8



# QE2 INTERIORS

## TOURIST CLASS CABINS

Designers: Dennis Lennon & Partners



There is a great variety of shape and lay-out in the tourist class cabins on four and five deck, and two of the cabins illustrated here, top centre and bottom, show one of the best arrangements with sofa beds pleasantly grouped round the walls in an L-shape. Another arrangement, top right, consists of three berths, with one of the berths a top bunk. The standard finishes, to make future changes in the furnishings easier, are a white stove-enamelled ribbed aluminium ceiling and wall panels in magnolia Formica. There are four colour schemes, one of which consists of a red carpet, black chair and sofa upholstery

by Donald Bros. and red-curtains and cushions by Seckers. At night the bedcovers are a fine black-and-white check fabric by Margo.



plan of tourist class cabins (scale 1/4 in=1ft)







## QE2 INTERIORS

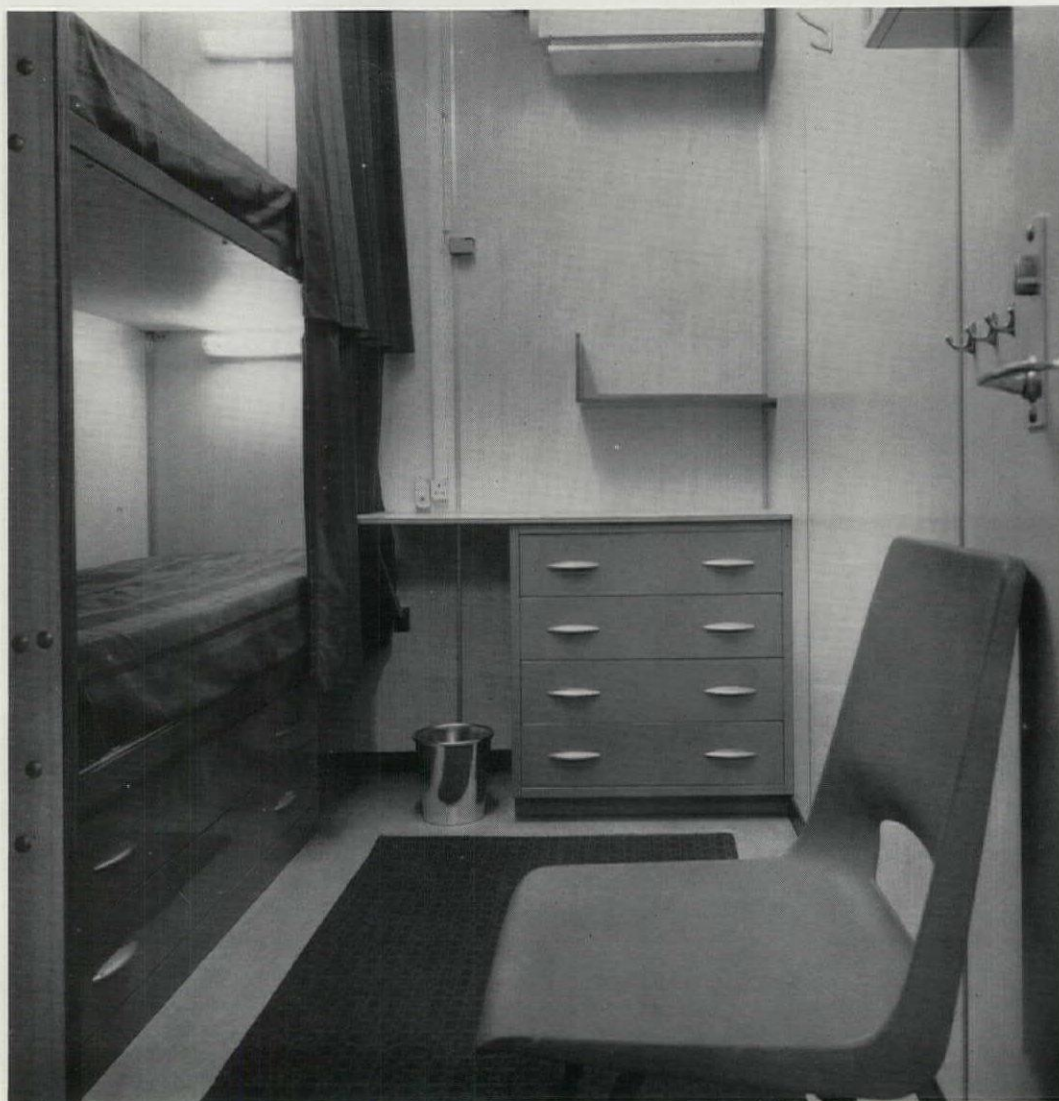
### CREW'S QUARTERS: MESSES, RECREATION ROOMS AND OFFICERS' CABINS

Designer: Jo Patrick

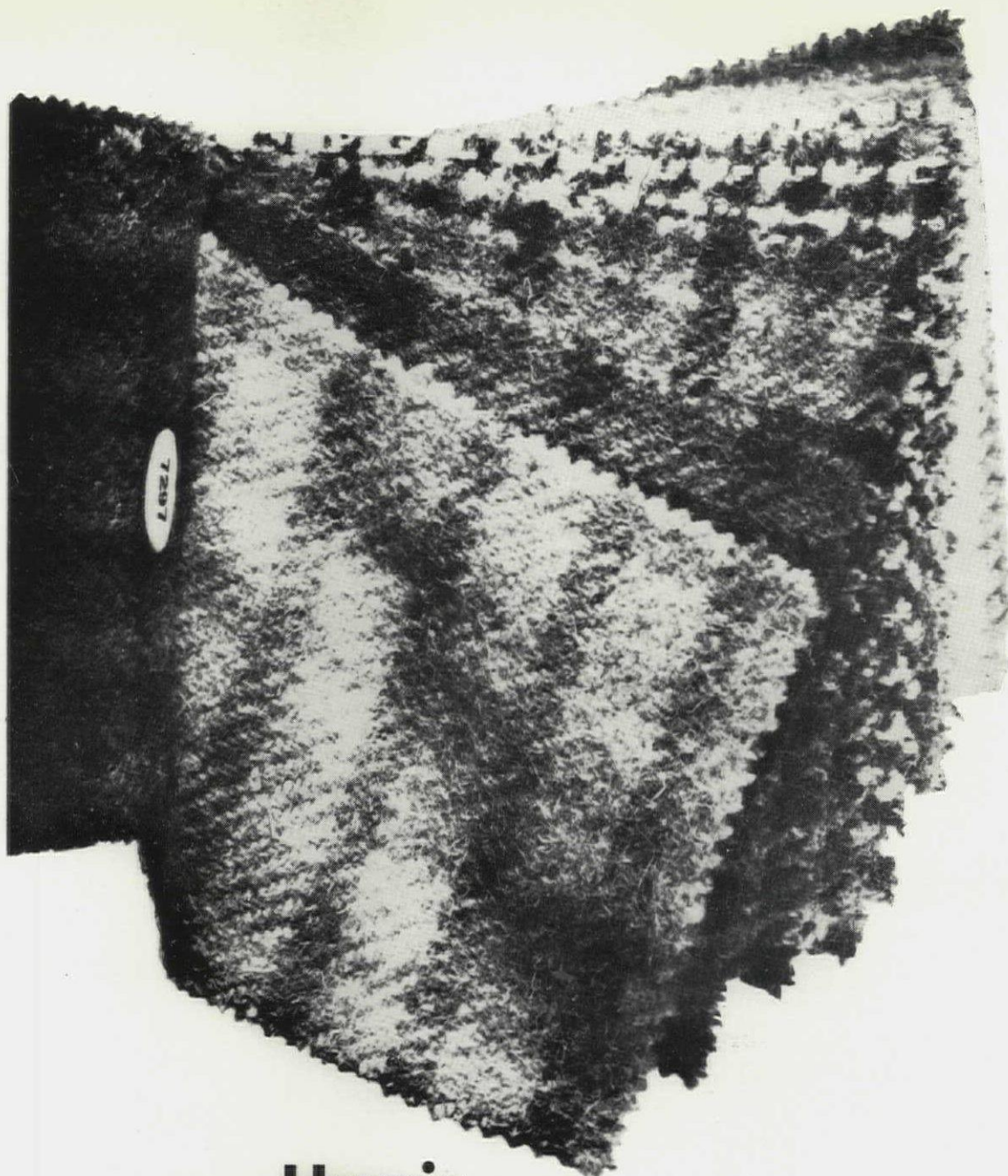
### CREW CABINS

Designers: Dennis Lennon & Partners

*It was a bold decision for Cunard to accept an outside designer in areas which have traditionally been the preserve of their naval architects, and not entirely surprising that second thoughts made them ask Mrs. Patrick not to do any drawings, a request which she understandably ignored. Her judicious selection of finishes and furniture make the crew's quarters some of the most luxurious of any ship, and a far cry from the older Queens in which the crew were usually given discarded items from passenger areas. For their part Cunard did not always follow the designer's layouts, as for example in the Officers' Dining Room on boat deck, above, where the traditional arrangement of long tables was preferred to a free grouping of smaller units more in sympathy with the irregular shape of the room. Situated, like the Observation Lounge below, at the most forward point on the deck, the Dining Room and adjoining Lounge have a continuous row of windows along the sides and bow front. The full-length curtains, in a cream cotton with pale brown horizontal lines, are also continuous and are emphasized at night by concealed perimeter lighting. Ash veneer for inboard walls, dumb waiters and*







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# QE2 INTERIORS

## CREW'S QUARTERS continued



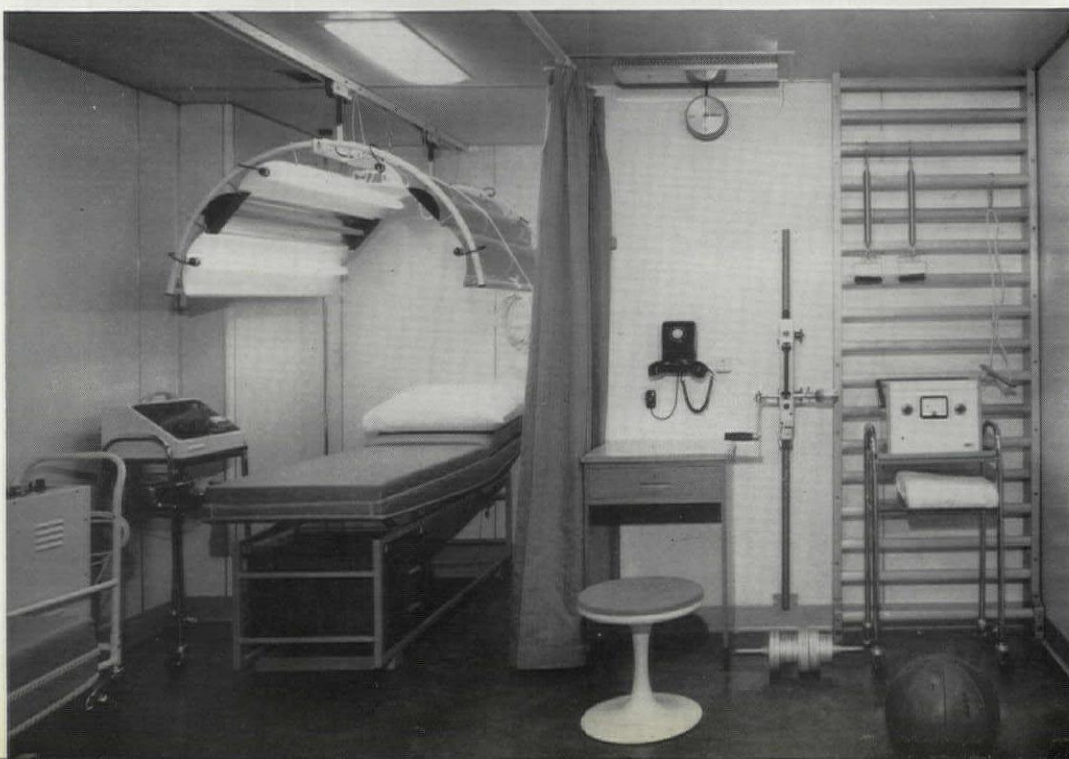
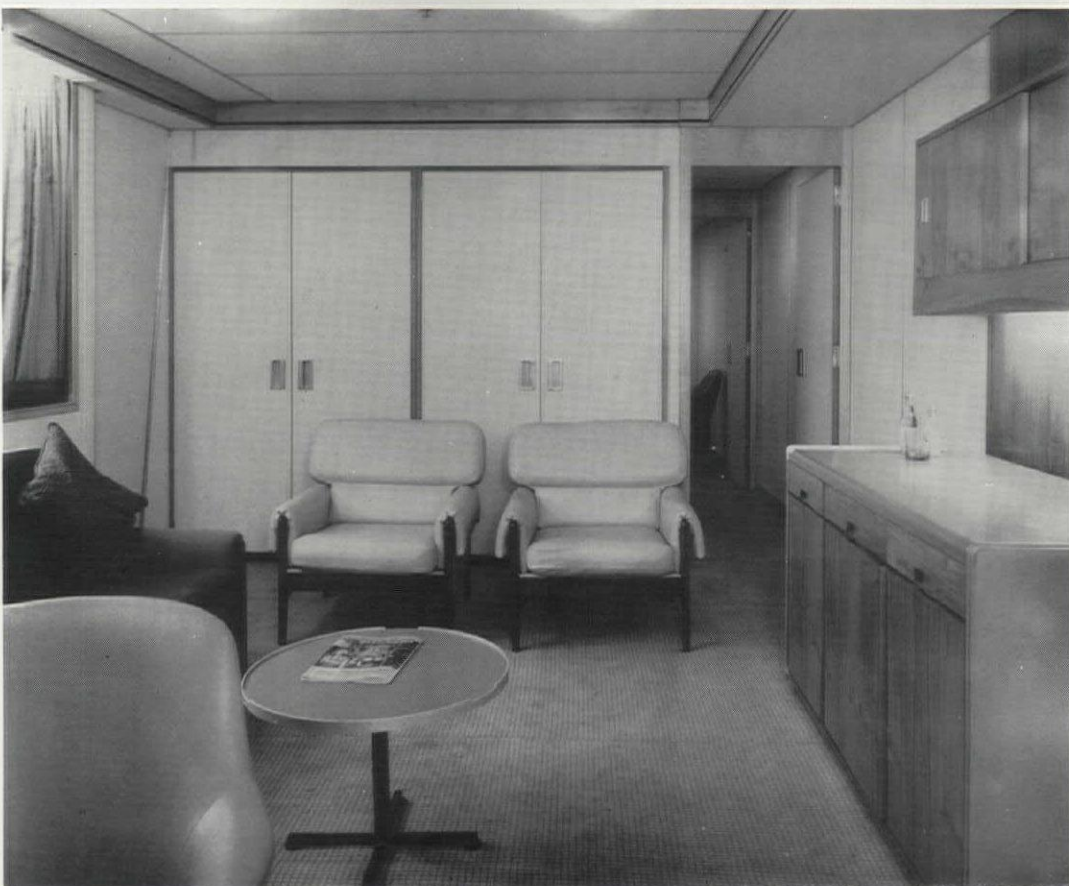
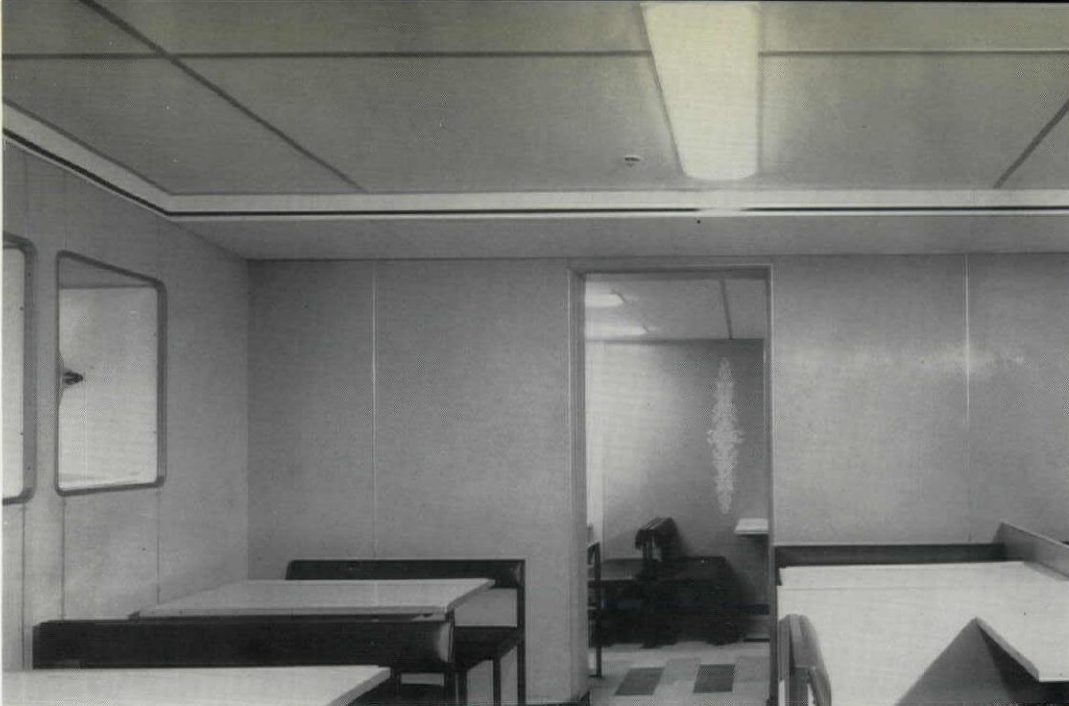
columns, yellow and pale blue linen tablecloths, Dancer and Hearn chairs designed by Ronald Carter in saffron p.v.c. upholstery and a specially woven yellow carpet contrive, together with the mixed lighting (there are also wall brackets and recessed downlighters) to give this mess the relaxed and cheerful atmosphere of a club. One of the most common of a variety of crew cabins designed by Dennis Lennon and Partners is the two-berth kind (page 460) which is found on four, five and six deck. It is distinguished for its plentiful and well-planned storage space, for its use of the elegant one-piece moulding polypropylene Pel chair and for its bright hard finishes—Formica walls, painted steel furniture and Melomarl floors—which will be durable and easy to maintain.

The two messes illustrated (there are four messes and five recreation rooms) are the Deck and Engine Petty Officer's Mess, top left, and the Stewardesses' Mess, above, both situated forward on one deck. All the mess rooms have low ceilings and most of them are internal rooms with portholes. To provide some pattern the bulkheads are panelled in three tones of grey Formica, with a white design of strong vertical emphasis on the darker grey. Both the PO's and the Stewardess' Mess have a floor pattern in a shadow design made up of rectangular p.v.c. tiles. The lighting throughout is by recessed fluorescent ceiling boxes.

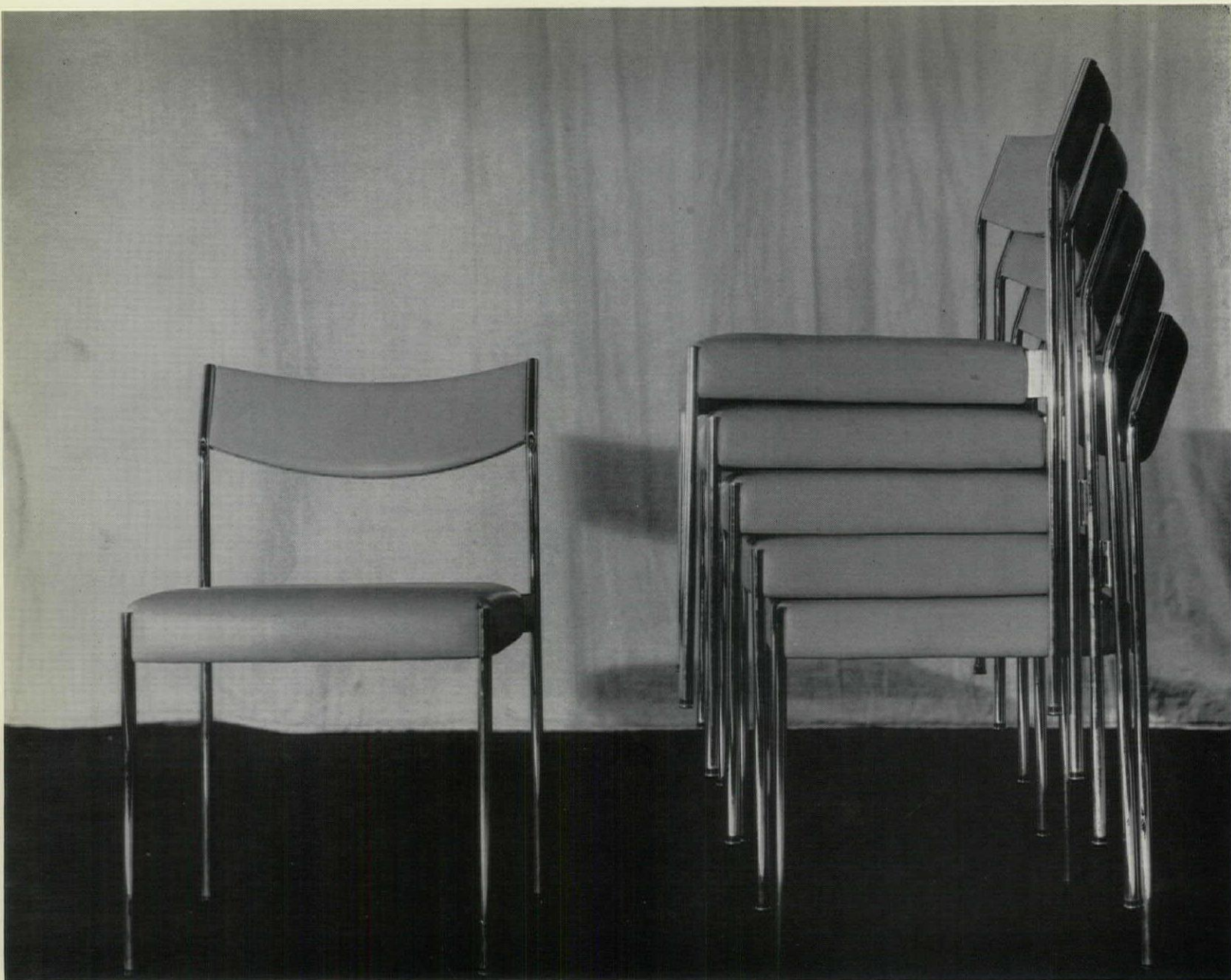
For the officers' cabins and dayrooms Mrs. Patrick prepared five basic schemes, one of which was used for the Chief Engineer's suite on sports deck, centre. The illustration shows the dayroom looking towards the narrow passage which leads past the bathroom to the bedroom. The built-in furniture is ash veneer, ceilings are off-white and walls a grey textured Formica—standard finishes for all five schemes. The carpet has a hounds-tooth check pattern in tan and grey, curtains are ice blue, chairs are covered in grey p.v.c. and the sofa is upholstered in a tan wool with lemon yellow, pale blue and purple cushions.

## HOSPITAL Designer: Jo Patrick

Cunard are reputed never to refuse a passenger, however ill he may be. The hospital on six deck reproduces in miniature most of the facilities of an ordinary hospital, with five wards (for passengers and crew), one intensive care room, a fully equipped operating theatre, X-ray room, dental surgery and dispensary, a physiotherapy room, left, and various ancillaries, which include a small mortuary, linked by wide corridors. Generally the colour scheme consists of white, pale blue and various tones of grey, with small areas of bright blue and orange where appropriate.







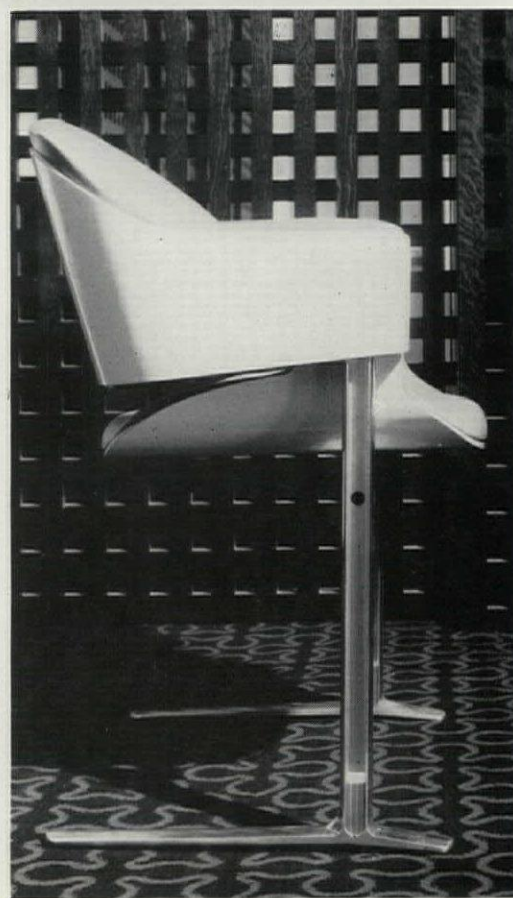
## QE2 INTERIORS

### FURNITURE



When in the 1930s the Orient Line were building the *Orion*, Brian O'Rourke, the architect for her interiors, had to design every piece of furniture and every light-fitting, because none of the standard articles available at that time was good enough. Today both the design potential and the number of good standard items is so considerable that Cunard appointed Geoffrey Dunn (of H. G. Dunn's, Bromley) consultant for all the furniture on the QE2. One of the best standard items is the Beresford and Hicks stacking chair in beige p.v.c. upholstery, above, which is used as an all-purpose chair throughout the public areas. Designed specially for the Queen's Room by Michael Inchbald and made by Lurashell are two chairs, the smaller of which is shown left, with disc bases and shells of white glass-fibre, and upholstery of beige hide by Connolly.

The restaurant chair, right, of which 1,300 were required for the *Britannia* and *Columbia* Restaurants, was designed by Robert Heritage and made by Race Furniture specially for the ship, and is now being developed for the domestic and contract market. A pre-formed plywood seat and back, with a moulded polyurethane foam lining to the seat, is suspended from a two-legged aluminium frame. Exterior surfaces are covered in Formica (Britannia) or vinyl (Columbia). Design and manufacture involved seven British companies in research and led to a number of technical innovations such as the jointing of the legs to the cast-iron feet with Araldite, or the use of PTFE (polytetrafluoroethylene) pads to reduce friction and enable the chair to glide freely over the carpet.





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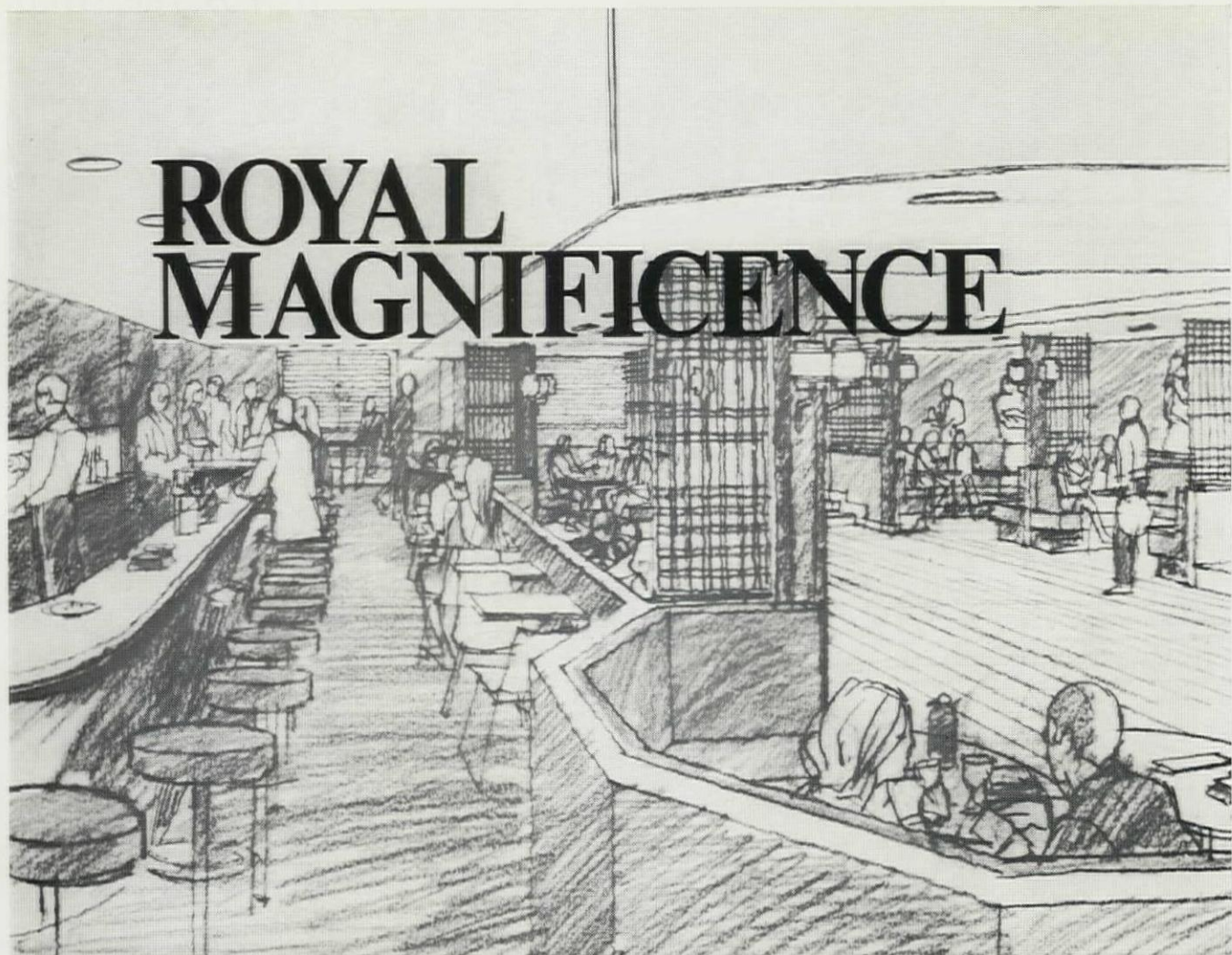
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including the luxurious '736' Night Club, was executed by Vosper Thornycroft's Interior Design and Furnishing Department to the instructions of the owners and the designs of Dennis Lennon M.C., A.R.I.B.A., F.S.I.A., and Stefan Buzas R.D.I., A.R.I.B.A., A.A.Dipl., F.S.I.A. respectively.

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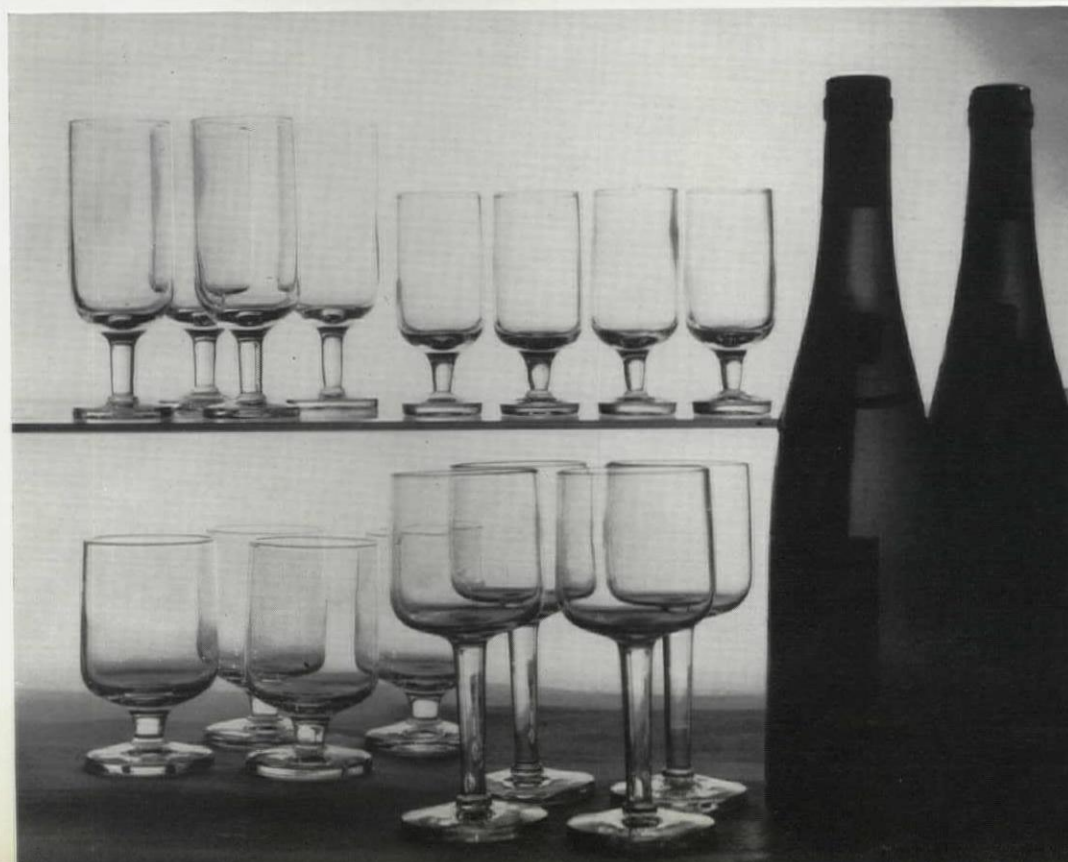




# QE2 INTERIORS

## TABLEWARE

All the tableware was specially designed for the ship and most of it is made of Steelite, a new and almost unbreakable ceramic developed by Ridgway Potteries of the Allied English Potteries group. The exceptions are the brown glaze Wedgwood pottery for the Coffee Shop, top, and the cups and saucers which are bone china for tactile reasons. The Steelite range was designed by Lord Queensberry and rationalized to 24 stackable items (there are no less than 90 on the old Cunard liners). The plate and side plate can be seen centre, and the whole range has an on-glaze pattern by Julia Chandler in gold, the one colour which could not be applied by the much more durable under-glaze method, but the one colour on which Cunard insisted. Other items seen centre are silver-plated cutlery by David Mellor, a salt-cellar and pepper pot by Eric Clements (part of a complete set of catering silver) and a selection from the handsome range of glasses, more of which can be seen below, made by Waterford Glass.





# WORLD

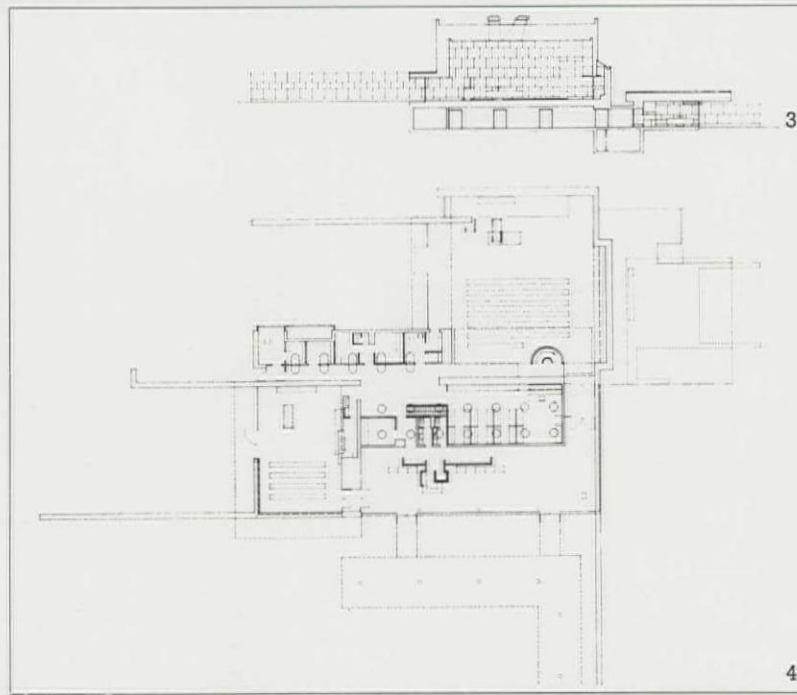
## CLASSIC FINNISH

Although romantic outbursts are not infrequent in Finnish architecture today (Dipoli and the recent churches at Hyvinkää and Tampere), the major output remains firmly rooted in the rationalist spirit of the Modern Movement or, if a wider view of history is preferred, in the classical spirit which has permeated that country's architecture for the last 200 years. Such is the case with Pekka Pitkänen's impressive Chapel of the Holy Cross and crematorium at Turku (won in competition in 1963), 1, and it consequently invites comparison with Asplund's Crematorium South near Stockholm rather than with Bryggman's pre-war Resurrection Chapel which stands at the other end of the same, though now much enlarged, cemetery. As with Asplund the problem of the motor car is sensitively handled, with a service entrance only and all parking relegated to the perimeter of the site, 2. The landscaped approach is on foot, up a flight of steps and along winding paths paved in setts—a dignified journey but without anything as patently emotive as Asplund's giant granite cross. The interior is planned on two levels, 3: a lower ground floor with the service entrance, a small reception chapel, mortuary and crematorium; and a ground floor with the main entrance and two larger chapels, 4. Different kinds of circulation—service traffic and people entering or leaving the chapels—are kept rigidly apart, two hydraulic lifts carry coffins from the mortuary straight to the altar space in the chapels and an internal television system keeps staff numbers to a minimum. The construction is *in situ* concrete faced inside and out with precast slabs. The ascetic character of the design is carried through to every detail, to the altar and pulpit (single precast units), 5, to the candle holders and to the clock, 6, in the entrance hall, 7. The building is fully integrated with the landscape

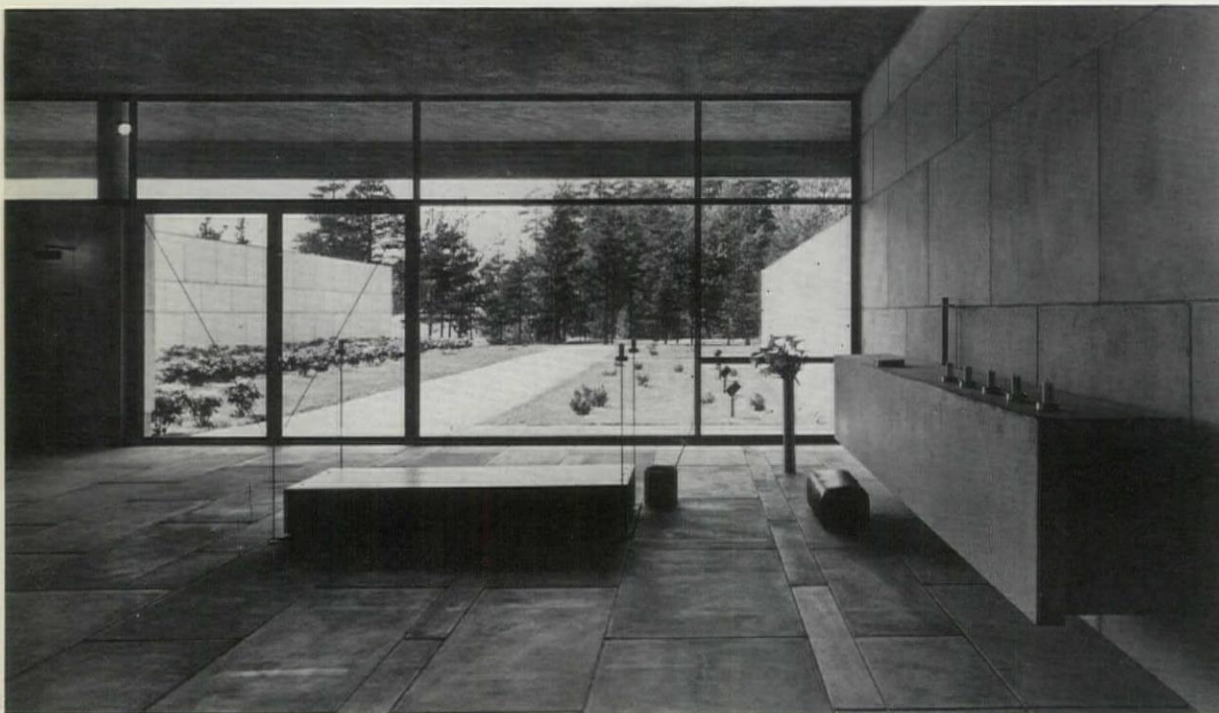
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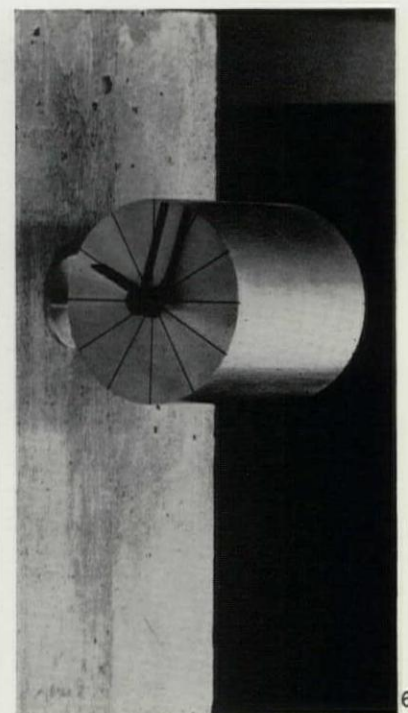
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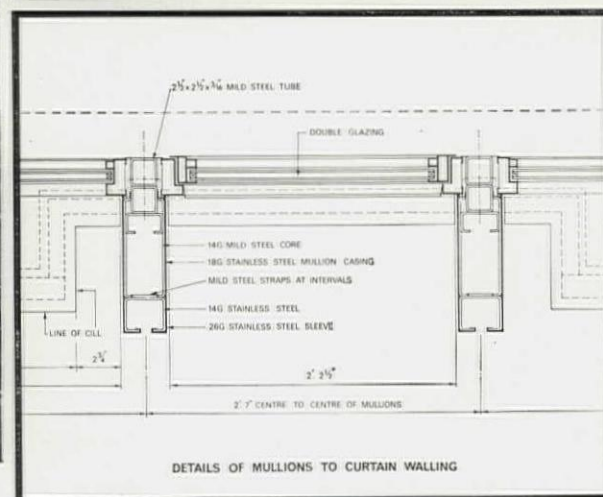


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6





Architects: T. P. Bennett & Son in association with Kenneth Kiersey ARIBA Group architects for the Bank of Ireland. Contractors: McLaughlin & Harvey Limited. Stainless steel fabricators: Culford Art Metal Company Limited.

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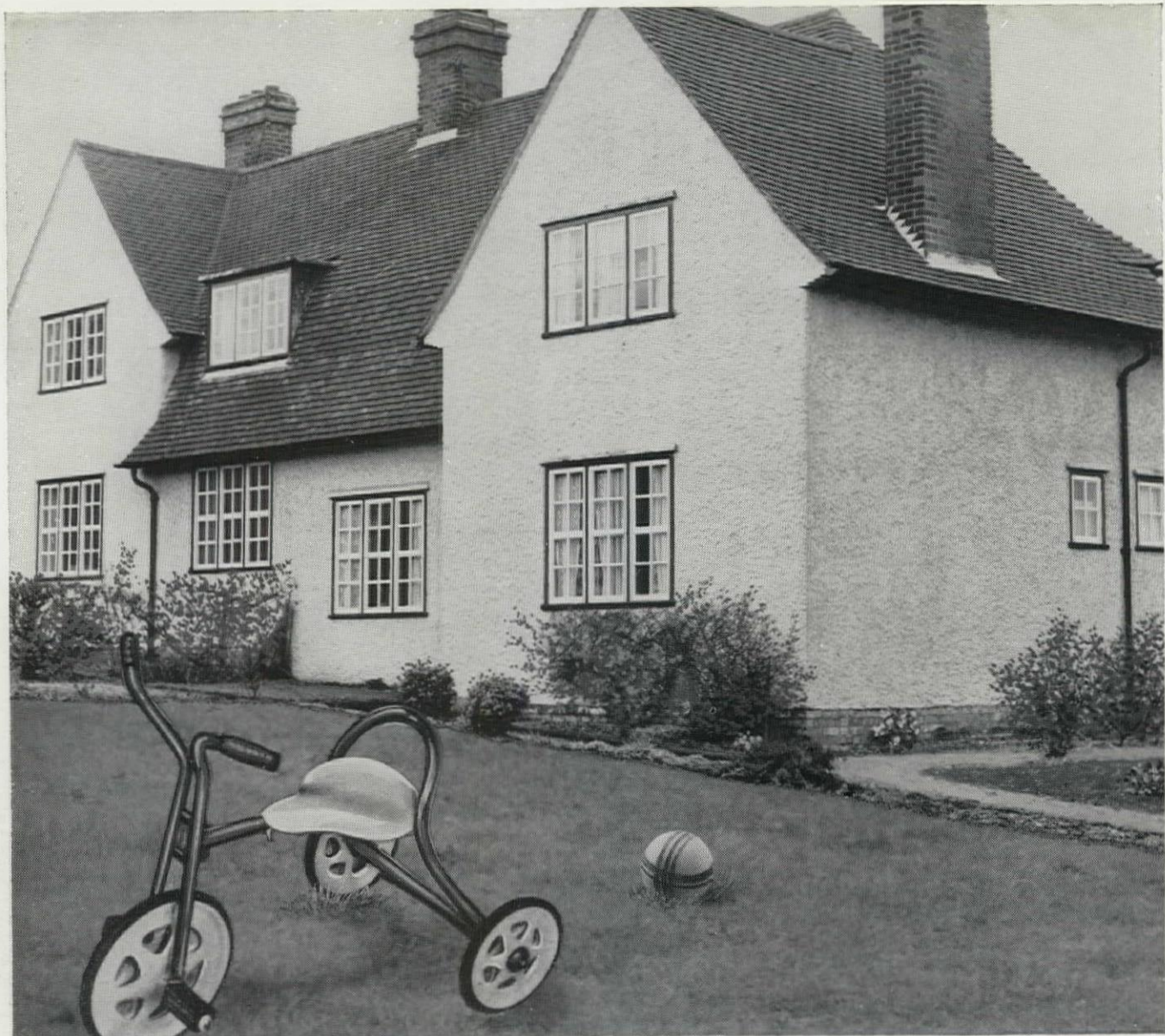
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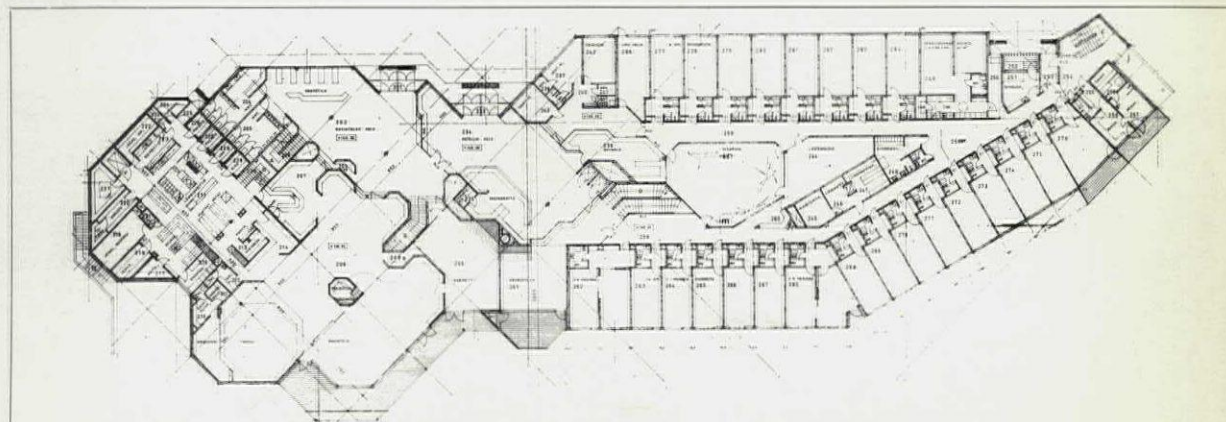
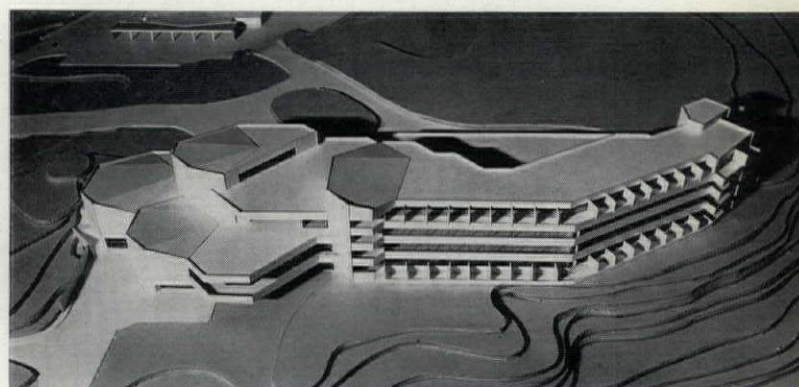
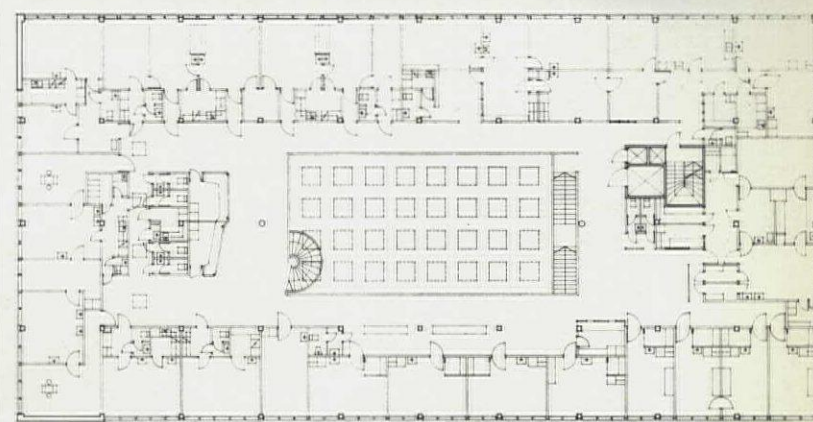
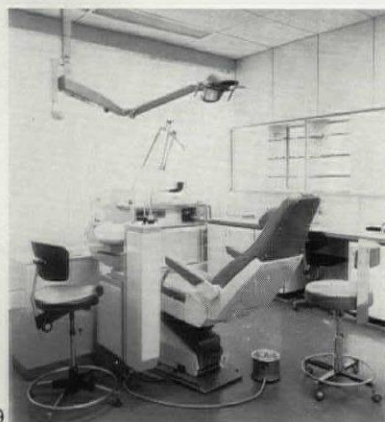
## CLASSIC FINISH

by means of projecting walls and canopies, the long horizontal forms contrasting with the chimney and the separate belfry on the hill above.

# JYVÄS- KYLÄ

A kind of building which does not exist in England, but demonstrates advanced medical thinking, is the new medical centre at Jyväskylä in central Finland, 8. Based on American and Canadian models, it was largely financed by the co-operative effort of local doctors and designed by the city architects Niilo Hartikainen and Erkki Kantonen. This supermarket for health houses some fifty specialists, between them covering just about every kind of illness, and provides comprehensive facilities for treatment which include an X-ray department, two operating theatres and a laboratory for allergic tests. Centralization of this kind means that the best equipment can be provided (9 shows a dentist's consulting room) and that the doctors, relieved of all administrative work, can spend more time with their patients. A small club for the doctors is a luxury which has also been incorporated. The rational nature of the programme is reflected in the plan, 10, with its double-height central waiting hall, 12, and in the straight-forward elevations (white tiles and copper trim), 11, which confirm once again the sure touch with which Finnish architects seem so often to be endowed.

Jyväskylä, in addition to being an important administrative, business and communications centre (Europe 4 motorway passes through it), is a holiday and winter sports resort. The same architects have designed a hotel on sloping ground just outside the city, 13. Here, unrestricted by a gridiron street pattern and inspired by the contours, they have developed a freer plan, 14, more in the manner of Aalto, whose influence in Jyväskylä (he opened his first office there and later designed the Teachers' Training College) is particularly pervasive. The public rooms are planned on a diagonal grid and concentrated at one end, with the main entrance from the higher ground. At the other end a wing of bedrooms mostly facing down the hill spreads into the landscape, leaving an open end for a future extension.

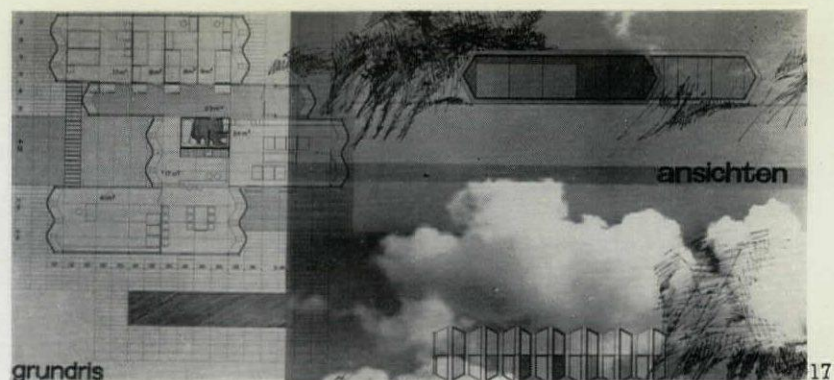




# INGENIOUS LESNIAK

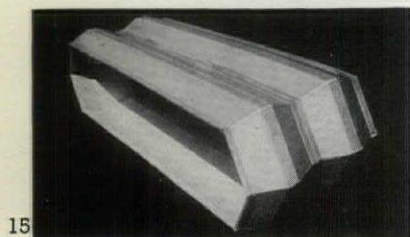
Exceptionally versatile and technically sophisticated designs for industrialized dwelling units come from Poland and Austria. Leszek Leśniak's entry for a competition sponsored by the European Coal and Steel Community con-

sists of two variants both of which can be used for single houses or multi-storey flats. In one the unit is a prefabricated section 2m. wide by 10m. long, 15, and is made up of two identical top and bottom sections requiring no intermediate support, 16, but with the bottom section stiffened by a separate floorplate. 16 also shows the sections stacked like trays on the back of a lorry. The application of the system can be seen in 17 (a house for a family of five), with its bathroom-kitchen core unit and its staggered arrangement of structural units providing angles and recesses for terraces. In the other the

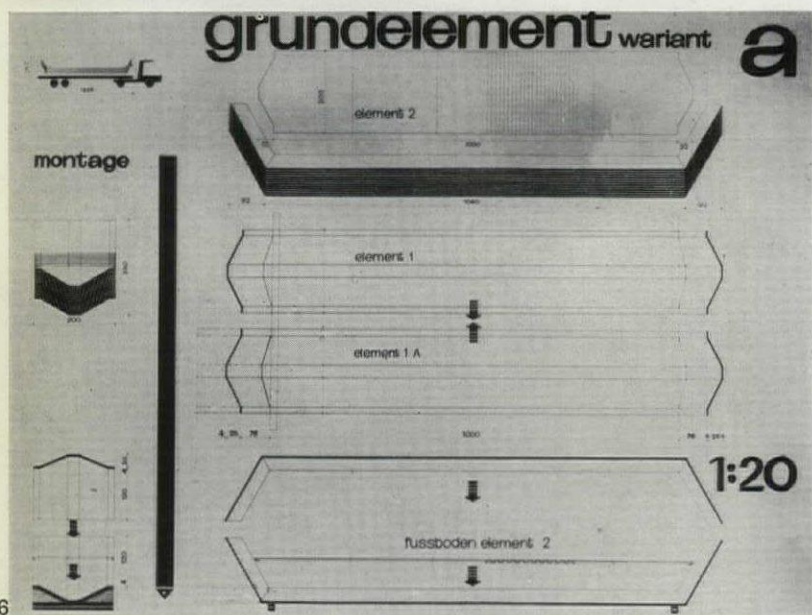


unit is the complete house, 18, consisting of six 2m. by 3.12m. by 10m. sections which fold up by means of hinges into a compact transportable

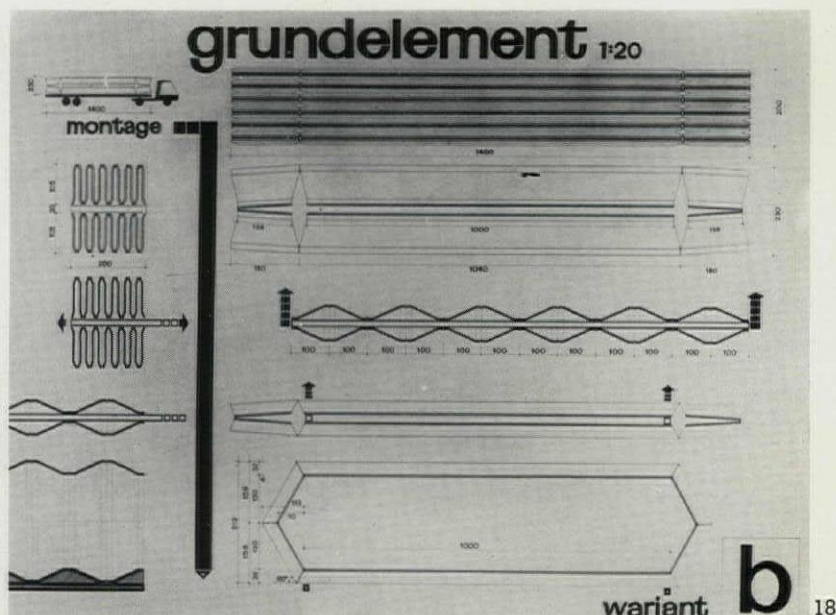
shape 2m. by 2.30m. by 14m., weighing 11 tons. In both variants there are no walls, floors and ceilings in the conventional sense, with the exception of



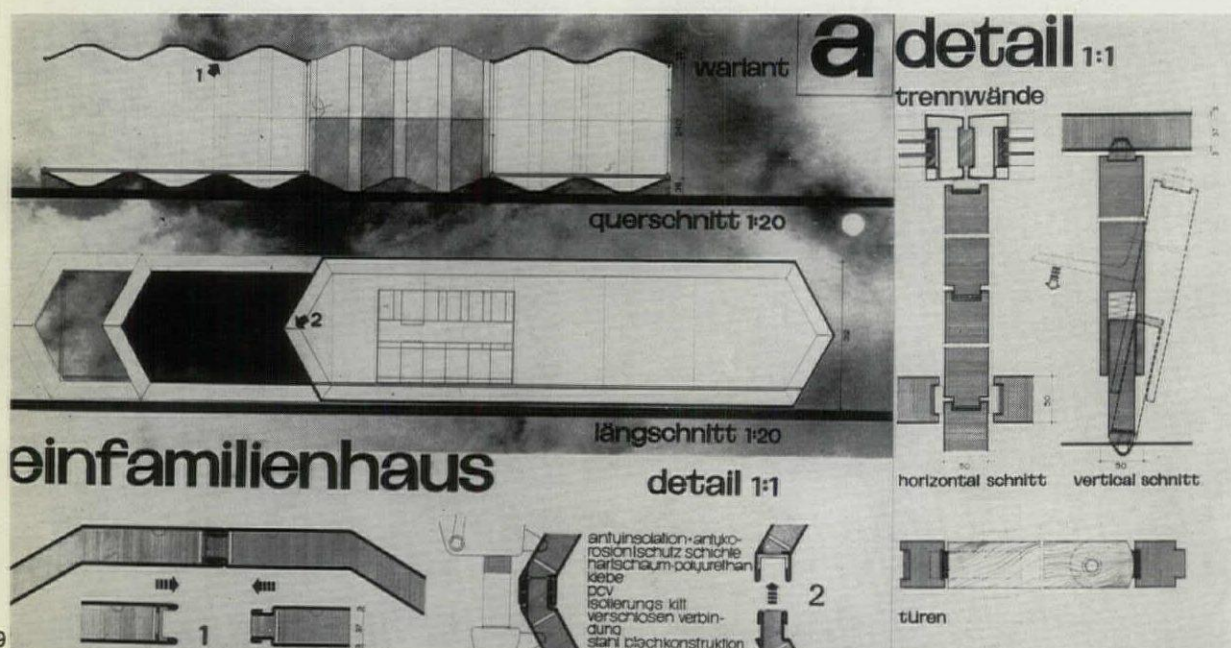
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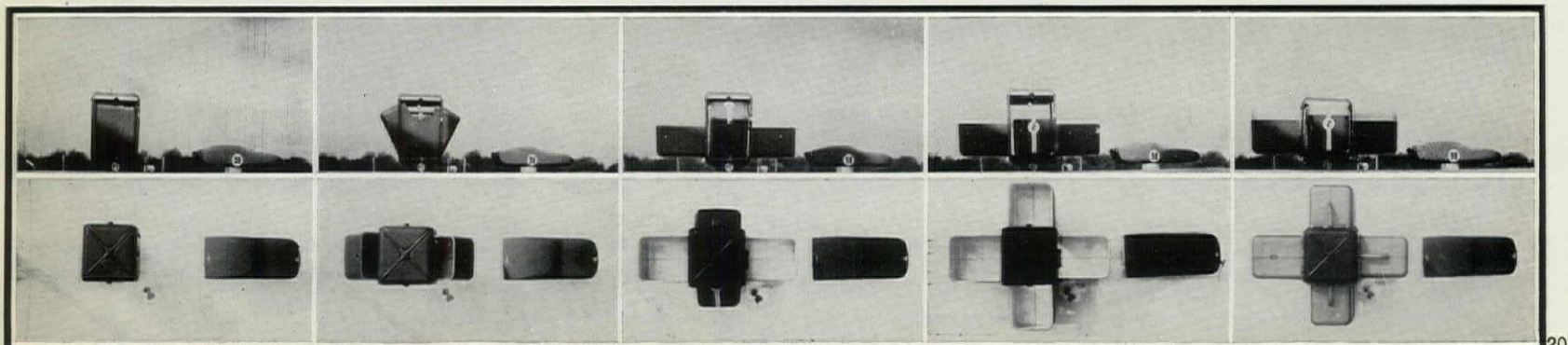


19

the open ends which are filled with ordinary glass or solid panels. The structure is a folded slab consisting of two sheets with insulation sandwiched between. As in any industrialized system, it will stand or fall by its jointing, here both incisive and elegant, 19.

## MOBILE NALBACH

Leśniak's system has to be transported and erected. Gernot Nalbach's is fully prefabricated and mobile, 20, like a superior caravan, and applicable mainly to tourist resorts or areas of research (Cape Kennedy, Arctic, etc.) at ground level, though Nalbach suggests that it could also be used in urban tower structures on the plug-in principle. 20 shows from left to right, in plan and elevation, the sequence of unfolding from a



20



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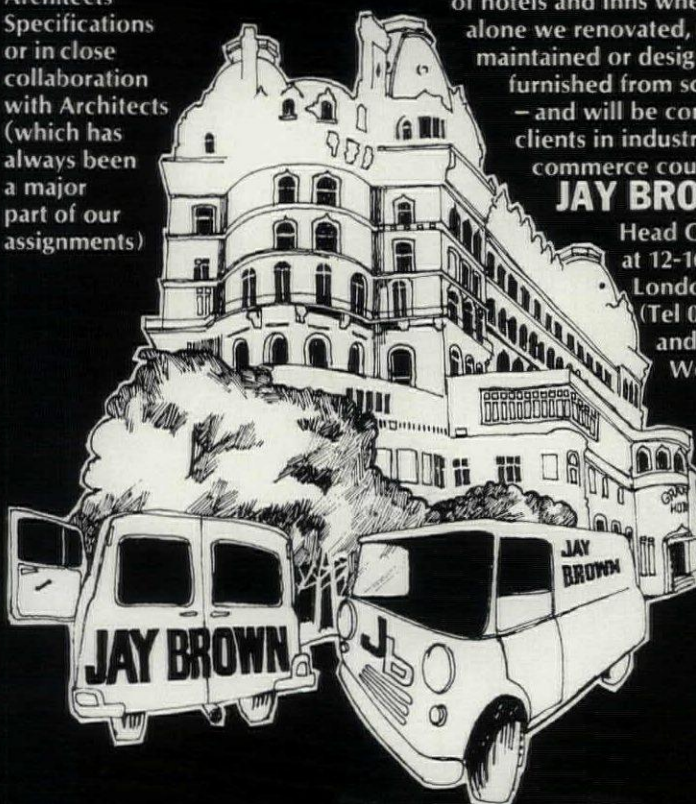
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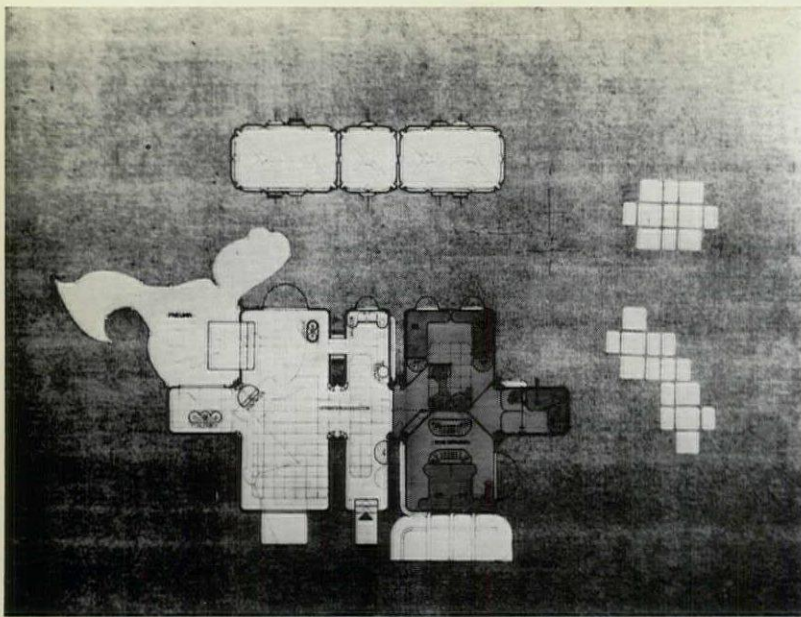
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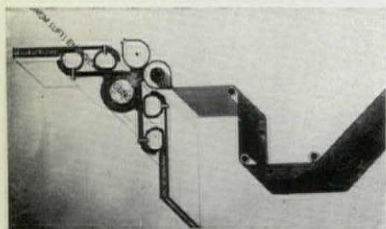




21

## MOBILE NALBACH

40 sq. ft. mobile unit on wheels to a 200 sq. ft. bungalow, the final stage showing the roof rising automatically into position either in pneumatic form or as a stable element. The structure, shown both closed and open in 23, consists of two polyester plates filled with a glass fibre sandwich and hinged on an aluminium frame. Ducting for pipes and cables is incorporated in the floor and in an elaborate corner joint, 22. A larger rectangular version, 60 sq. ft. in area, can be combined with the smaller version to build up housing units of considerable variety 21, and further curvilinear extensions can even be added in pneumatic material.

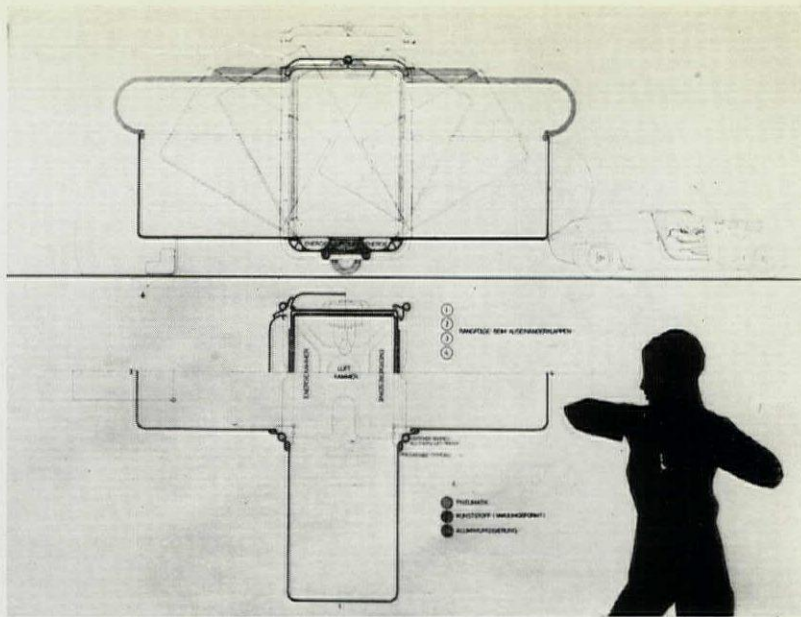


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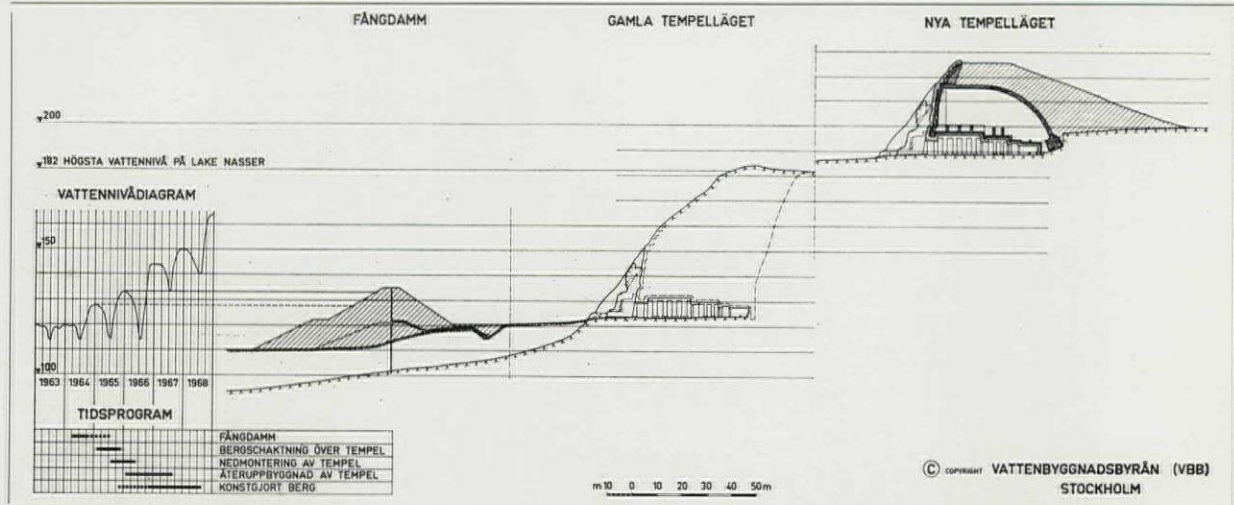
## MOVING SIMBEL

Of all the extraordinary engineering feats nowadays none is more extraordinary than the moving of the Abu Simbel rock temples on the upper Nile. The Swedish architectural magazine *Byggmästaren* has recently published a series of diagrams and pictures showing the various stages of dismantling and reconstruction. 24 shows a progress chart and the yearly rise in the water level; the temporary dam to protect the temples; and the temples in their old and new positions. The complete temples were literally sawn up, 25, into transportable chunks, 26 and 29. The sense of carrying out a Herculean task must have been mingled with moments of bathos, as in 27, when only the feet of the colossi remained to be moved. 28, 30 and 31 show different stages of reassembly, and the construction of the vast concrete structure which will protect the temples and support the artificial mound on top.

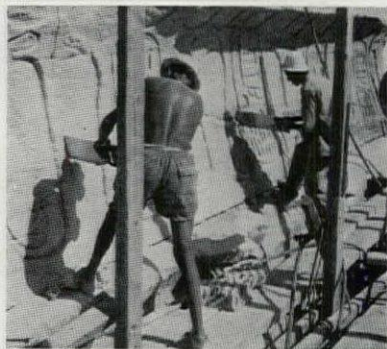
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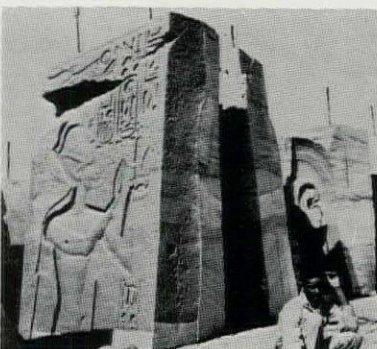
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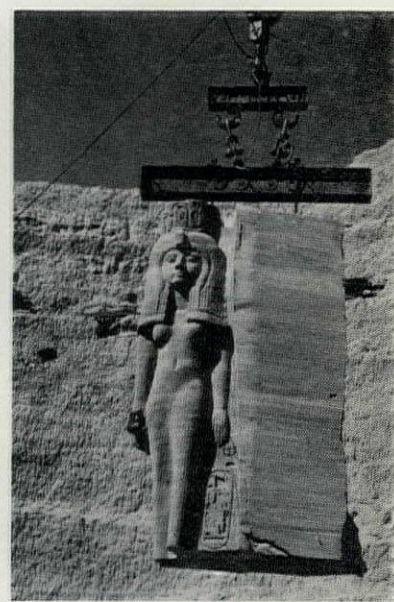
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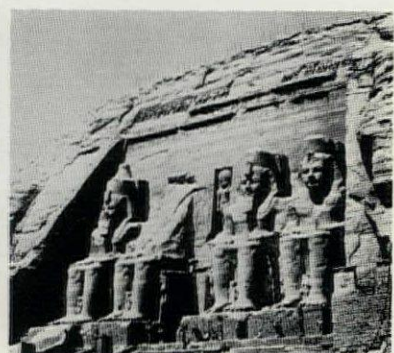
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28



29



31





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# VIEWS AND REVIEWS

## marginalia

### THE MAKING OF A QUEEN

A greatly amplified version of this special issue on the QE2 will be published shortly in book form by the Architectural Press. This will be a lavishly produced account of the design, building and manning of the ship, with many additional illustrations beyond those on the foregoing pages. There will be 48 pages of colour, including 16 pages of highly colourful technical drawings of the engines, and some 300 black and white photographs. The book tells the story of the research that went into the design of the QE2, of the thousands of men that made her, and of the hundreds of men that will sail her. Sir Hugh Casson describes the excitement as well as the trials and tribulations of being a designer involved in such a complex task. Stephen Potter describes the men that man her and the interior is described by Sherban Cantacuzino, with 50 pages of photographs and drawings. The price will be announced shortly.

### JULY: MALTA

Next month's AR will again be a special issue—this time on the subject of Malta, a beautiful island packed with architectural interest that is attracting increasing numbers of visitors. It faces however the usual problem of how to cater for quantities of visitors without spoiling the very things they come to enjoy.

The July AR will examine this problem in its Maltese context as well as a number of related problems such as preservation of the coastline, the menace of the motor-car, destruction of vernacular architecture, landscape planning and the conservation of historic buildings, all of which are regular AR topics which the present situation in Malta illustrates topically. The July issue will also attempt to give a picture of Malta's architectural riches which are at present the subject of a detailed inventory by the Council of Europe, whose next big exhibition—to be held in Malta in 1970—will be on the arts of the Knights of St. John.

## correspondence

### THE KING'S COLLEGE RUBENS

To the Editors

SIRS: May I say something regarding the redevelopment of King's College chapel? No one in their right mind could dispute your opinion of what has happened. Quite simply it is a decision of disastrous spiritual and aesthetic ineptitude, but what in fact can be

done, short of putting the 1890ish woodwork (where has it gone? is it burnt?) back in position and replacing the various chancel fittings?

Nothing can, of course, recreate the rather inefficient and fusty arrangement that was there before, with all its unselfconscious humility, but short of giving the Westminster Rubens to Trinity College chapel, where it really belongs, and which could well do with it, the present tonal scheme to the chancel could be altered with advantage.

In effect what has happened is that the chapel (as opposed to the ante-chapel) has been divided into two spaces. In the upper space, above the string-course, the old aesthetic of stained glass and luminosity still holds good, but it looks pretty heavy and dull compared to the new cleaned-up museum below. It is almost as though a gauze ceiling at this point would be an improvement.

Apart from redesigning the new benches and darkening them down to the same tone as the choir stalls (or are the choir stalls going to be whitened?) there should be something on the walls; a series of the best possible quality Brussels tapestries for instance. If these were hung between the modern sconces (which are unfortunately totally inappropriate in the chapel) and the walls behind the tapestries made very considerably darker (the same tone as, if not darker than, the murals in Eton College chapel, which were designed in heavy grisaille for the same purpose, namely to force the eye to look upwards at the ranges of windows) the situation would then be enormously improved.

Tapestries, apart from relieving the yawning blank walls of their self-consciousness, would contribute a very valuable milieu of what can be called low-pressure art. Apart from being anachronistically framed in a style 200 years before its time, the Rubens craves the companionship of a series of other works of art of lesser importance, and I can think of no better milieu than that created by late sixteenth-century tapestries.

In parenthesis and conclusion, it is curious that the twentieth century has not even the brash courage of its convictions in following the seventeenth century and inserting a Baroque altarpiece, cutting out some of the stained glass at the east end, as for instance in St. Maximin-en-Provence. That would at least have been worth looking at, scandalous though it might have been. What has happened is an irreversible reminder of how wrong the twentieth century can be in some of its values.

Yours etc.,

PATRICK REYNTEIENS

Loudwater, Bucks.

### CHRIST CHURCH GALLERY

To the Editors

SIRS: Anyone who has visited the splendid new art gallery at Christ Church, Oxford, will read the review of it in your April issue with great interest. Many visitors will share the view that the high point of the display is the small enclosed gallery which houses a selection from the superb collection of old master drawings. In the caption to the illustration of this small room, which so admirably aids the intimate scrutiny which drawings demand, you inform us that 'wide handrails are afroomsia' but the fact is not men-

tioned that their unusual width is deliberate and eminently functional. It enables one to rest the elbows on the rail and cup one's head in one's hands—an easy and comfortable position from which to stare at a drawing at a slight inclination from the vertical. Indeed the physical sensation of this position for the purpose is so agreeable that it is hoped that other art galleries may borrow the idea, which was put forward by Mr. J. Byam Shaw, the adviser to the collection and the author of the recently published catalogue of the paintings in it.

Yours etc.,

PHILIP JAMES

London SW1

## book reviews

### ARCHITECTUROLOGY

#### THE UTRAQUISTIC SUBTERFUGE

ARCHITECTUROLOGY. AN INTERIM REPORT. By I. M. Goodovitch. George Allen and Unwin. 45s.

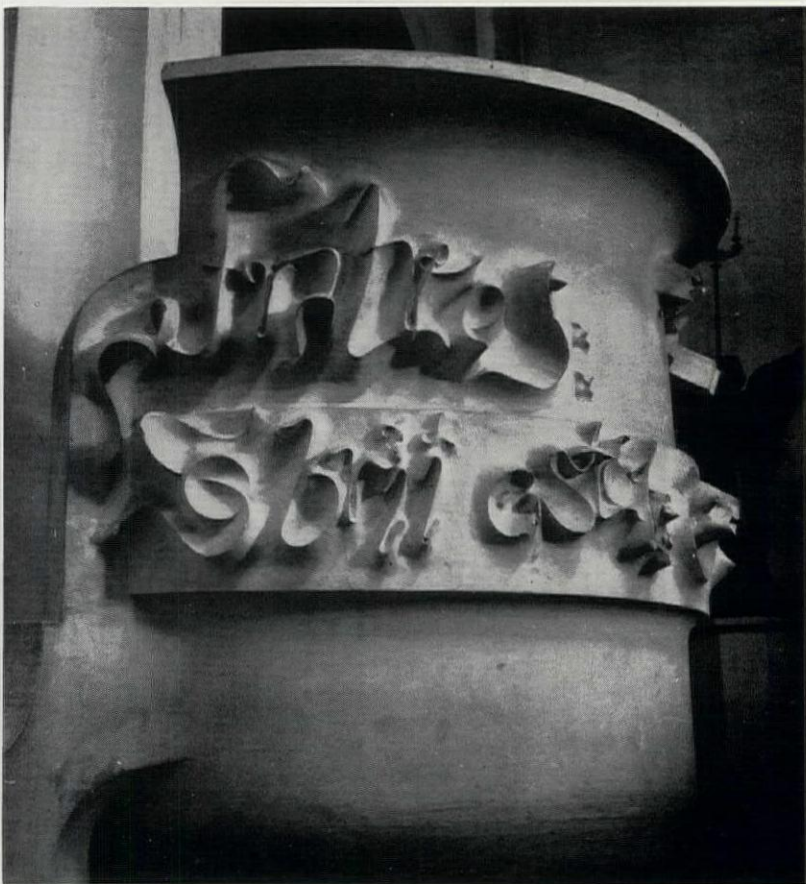
The fact that three of the above four words can appear in the title of anything (even a book review) is a testimony to the brilliant perspicacity of our most enlightened age. The sages I. A. Richards and C. K. Ogden are responsible for the last two words which mean basically the trick or subterfuge played by words when they have two ambiguous meanings, both at once. I. M. Goodovitch, an Israeli architect, is responsible for the first word (and book) which plays this wily hocus-pocus, and I am solely responsible for the second word which is, alas, without merit or sophistication.

That an architect could title a book on his own, personal development

*Architecturology* and not mean it as a humorous confidence-trick is another testimony to our credulous and serious times. Obviously the 'ology' is meant to carry the scientific weight of such responsible pursuits as biology or geology without getting caught in such dubious traps as astrology, sexology, or worst of all scientology. As the uncontrolled multiplication of such 'ologies' indicates, everyone is trying to get hold of the white man's magic, science, which can only have the completely beneficial effect of devaluing it. Perhaps if this keeps up at the present rate ('Ekistics—the science of human settlements' etc.) we can all look forward with great relish to the palmy days when every field is certified mumbo-jumbo. It is a well known fact that there are now enough architectural logicians at work throughout the world that the day is in sight when they will have reduced architecture to such utterly trivial axioms that no sane person would ever take the time and effort to doubt them. This is the marvellous condition which has to be aimed at by every respectable field.

Someone might object however, that 'architecturology' is like 'futurology'—a complete pseudo-science which is by necessity unknowable, so that we will never get our subjective, miasmal feet planted on the ground of certainty. Even if we did, we might find that science had itself long since given up any such notion. In any case, this brings me to the Utraquistic subterfuge and the divided loyalty of the author. On the one hand, *Architecturology* is like a time capsule replete with interesting facts of the moment. For example a future age would learn what the average, well-intentioned architect of the Western world was taught and

*This splendidly crazy piece of lettering, 1, is on the pulpit of the church of St. Juan Despi at Barcelona. It is by Josep M. Jujol and dates from 1943—a surprisingly late date. Barcelona had a more powerful Art Nouveau than any other place in Europe, and Oriol Bohigas in his new book *Arquitectura Modernista* (Barcelona 1968) shows that Gaudí was only one—though of course the most brilliant—of many. Jujol with a piece like this pulpit bridges the gap between Art Nouveau and the Art Nouveau revival. He was born in 1879 and died in 1949. The photographs in Oriol Bohigas's book are by Leopoldo Pomés. The book—this is worth pondering over—was written in Catalan and had to be translated into Spanish.*







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was thinking in the 1950s, whether in Israel, London or Tokyo. Here are the universal, educational placeboes from Laugier's Primitive Hut to the Bauhaus Primer Course in therapeutic pattern-making. Here are designs coming from logical analysis and blob-diagrams and, as we might expect, there is little difference between the initial blob and the final result. We also encounter the insights of various Masters of Modern Architecture. For instance, apparently Oscar Niemeyer believed that 'only a "totalitarian" architecture, an immediate implementation (today) could truly express the contemporary design' (sic, p. 98). We are grateful for this piece of information.

But, on the other hand, the book has nothing to do with documentation or science; it is, rather, part of that strange genre of architectural 'literature' midway between confessional poetry and a manifesto. On the confessional side, there is nothing much to declare as, apparently, the author hasn't sinned enough. We receive in the form of a diary a continuous stream of such startling insights as: 'I recognized the importance (in Japan) of the unity in contradiction; Yan and Yin, yes and no, plus and minus, light and darkness, good and bad, straight and curved'. Just as we're about to ask 'But what happened to up and down?', the author supplies us with another blob-diagram which explains that the major difference between Japan and the Occident is that they have a flat, steady life with abrupt climaxes, whereas we have a more continuous life with a slow rise and fall of climaxes (p. 59). On the level of a manifesto, there are three rather good projects, one of which for an auditorium betrays a quality almost of genius. If only the author were less intent on dividing his time (and book) between scientism and impressionism, he might develop this genius into something substantial.

CHARLES JENCKS

## STATELY PLEASURE DOMES

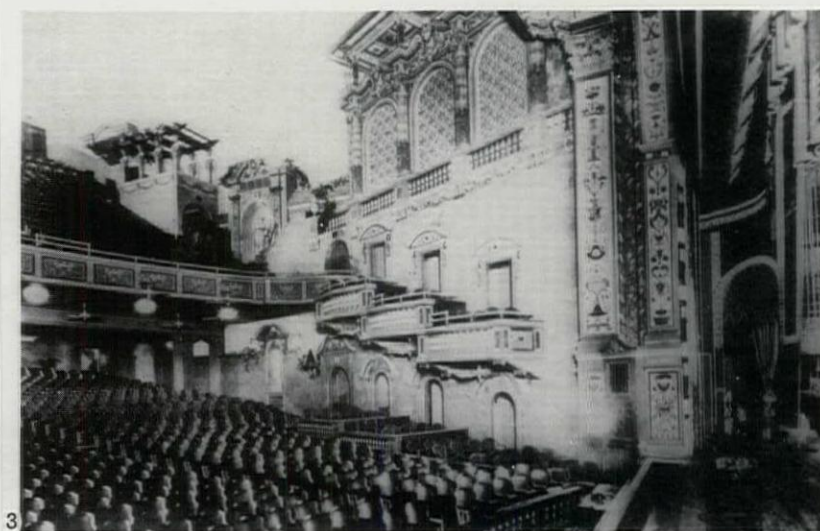
THE PICTURE PALACE AND OTHER BUILDINGS FOR THE MOVIES. By Dennis Sharp. Hugh Evelyn, 75s.

Dennis Sharp's *The Picture Palace* interestingly surveys a neglected field. It begins with the pre-cinema, taking in the eighteenth-century Phantasmagoria and the nineteenth-century Diorama. The cinema proper appeared with the nickelodeons (converted arcades or shops), and itinerant or fairground shows (Dutch, it seems, champions of beautifully ornate facades). By 1910 specially built cinemas accommodated four-figure audiences, while the term Super Cinema implied not just mere size but opulence—the grand life for small purses.

Some are almost Mannerist in their atmospheres (the extant interior of the Astoria Finsbury Park incorporates the exterior of a Moorish walled city, complete with open sky above and twinkling star). The more logical and functional Germans pioneered 'night architecture' (exemplified here by the neon-tube facade of Studio One). British motifs favoured the classical and, for some reason, the Pharaonic. One would expect cinema motifs to be pagan and imperial, but in staking their claims for prestige designers didn't balk at putting neo-Gothic interiors in modernistic brick exteriors (the Woolwich Granada). Currently, of



2, 'The Imperial Bio,' one of the Dutch itinerant cinema shows of around 1910. 3, John Eberson's Houston Majestic of 1922. Both from Dennis Sharp's *The Picture Palace*.



course, cinemas aspire not to cathedral grandeur but to boutique cosiness.

The book's emphasis on British buildings is usefully counterpointed by references to American showmanship and to more neatly functional Continental solutions, as well as to Le Corbusier's 1958 Brussels Exhibition pavilion (which the author described as 'not a building, but an electric poem'), 360 degree Circoloramas, and the possibilities of geodesic domes.

The emphasis is historical and architectural, featuring, as well as 200 photographs, ground-plans, and notes on construction systems, site problems, and the requirements of the cinema's technical and social evolution. If its prose lacks that roistering relish of show-business brashness which imbues Ben Hall's *The Best Remaining Seats*, it is intellectually aware of, and non-puritanical about, the cinema's spiritual kinship with follies, fairgrounds and fun-palaces, discotheques and automobiles—fantasticism is much of their function. One may, indeed, wish that the fine fairground flamboyance of the Dutch Bioscop, straight from the street-organ tradition, had endured alongside the Super Cinema's bourgeois daydream romanticism. Nonetheless, selected halls like the Odeon (now Classic) Chingford, with its mayonnaise-coloured faience paneling, and Komisarjevsky's Granadas, have the spirit (it's perhaps relevant that Komisarjevsky was a stage designer).

Not the least of the book's merits is that it provokes some theoretical-aesthetic reflections. One may query

its acceptance of trade wisdom to the effect that the best seats are the rear-most; many intellectual filmfans make a point of sitting about one-third of the way back and my discotheque-conditioned students tend to favour the front row of the stalls, particularly for '2001' in Cinerama. What one loses in correct proportions one gains in involvement; it's nice to be dominated by one's dreams. Other reflections occur; for example that there'd be more chance of bridging the gap between good and popular taste if more creative people enjoyed vulgarity (How many architects, designing fairground structures, would positively enjoy enhancing, rather than, almost unconsciously, subverting, the razzamatazz excessiveness appropriate to one's candyfloss delirium?).

To this problem, cinema architecture adds another. A cinema interior is, in essence, an invisible box, but it must be atmospheric when it reappears in the intermission. In other words: now you see it, now you don't. It's a conjuring trick. Outside, the cinema is torn between blending harmoniously with the workaday street, and, as a dreamworld cathedral luring you in, asserting itself against its environment, like an oasis. How far should it overwhelm, or disappear behind, publicity for the film? Around the auditorium various transitional and lingering areas (foyers, bars, etc.) abound. Ideally, indeed, cinemas should change form, ectoplasmically, via inflations and foam, as fashions in daydreams change. Or just for fun...

RAYMOND DURGNAT

## MORAVIAN MIXTURE

MÄHREN. By Lillian Schacherl. Prestel, 1968. DM 18.50.

The Prestel-Verlag in Munich, much admired for impeccable production, has a special line in travel books of handy format and at a moderate price—in fact, at the equivalent of 30–35s., very cheap for what they are. Lillian Schacherl's *Moravia* book is typical, and follows-up of her book on Bohemia. The text consists of eight chapters, one on Brno, one on Olomouc, one on Kroměž, and others arranged as routes. Landscape is sensitively described, history is skilfully worked in and architecture is analysed knowledgeably. Places are named in German, but geographical indices are both in German-Czech and in Czech-German. For those who can read German it makes an excellent companion to Mr. Brian Knox's English volume on Bohemia and Moravia. Miss Schacherl's account of Kroměž makes one's mouth water: the garden with the colonnade 750 ft. long and the handsome rotunda, the palace with one of the most moving of all late Titians and with original scores of Orlando di Lasso and Mozart. Palace and garden were an archbishop's of the Liechtenstein family. Another member of the same family, a hundred years later, built the fabulous Gothic Revival palace of Lednice. People who have not visited Moravia and are not familiar with its geography tend to puzzle why such palaces as this, or that of Vranov (with Fischer von Erlach's first major building) should have been built so far away. What they forget is that Vienna is only some 25 miles from Bratislava and some 60 from Brno, and that in the Austro-Hungarian empire such boundaries as those between Austria and Moravia meant little. So Vienna could be the headquarters of a tour of Moravia.

The book has alas only about forty illustrations; on the other hand much trouble has been taken to collect travellers' descriptions and tales, old and new.

N.P.

## ESSEX ACCENT

A SHELL GUIDE TO ESSEX. By Norman Scarfe. Faber & Faber, 30s.

Norman Scarfe is a good Shell Guide writer. He uses his eyes to supplement his knowledge and vice versa, he is not over impressed by antiquarian values and he understands the topographical and architectural importance of geology. His Essex volume keeps up the high standard of his Suffolk one. The photographs (the majority by John Piper, Edwin Smith and John Tarlton) are outstanding.

A few years ago Essex would have been a very difficult task for a guide-book writer because of the areas into which London had spread; but now Essex has lost these to the GLC, and Mr. Scarfe has been spared the problem of what to say about Ilford, Romford and Dagenham. His Essex, apart from Basildon and Southend, is rural, sprinkled with country towns, and his guide shows how much richer it is in good architecture, townscape and scenery that it is usually given credit for.

The usual gazetteer of villages is preceded by an illuminating introduction aptly called 'The Essex Accent', covering history, geology and topography.

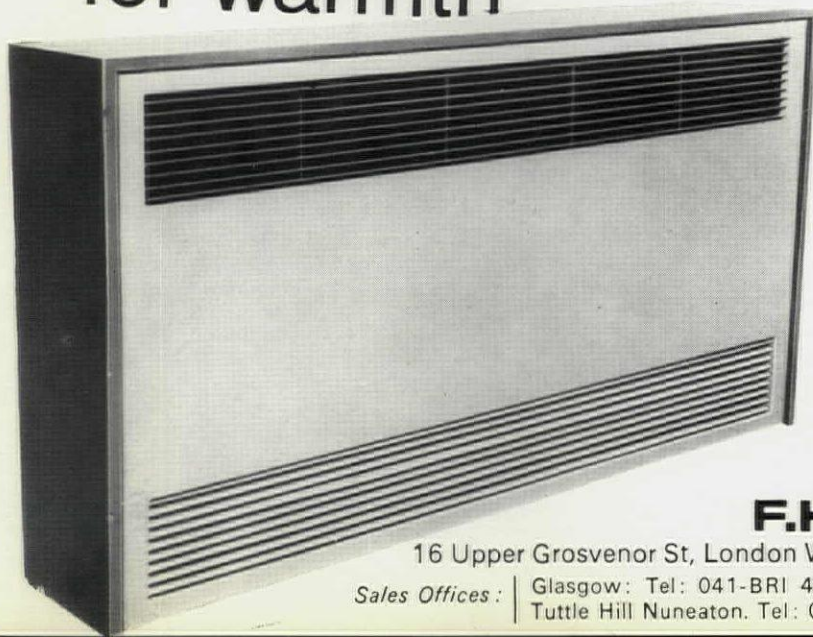
J.M.R.





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*Photographed at Antonio's Spanish Restaurant, Long Acre, London.*



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# The Industry

## Coloured weatherboarding

The Tentest Company are now marketing Canadian Colorlok weatherboarding, 1. This is made in 16 ft. lengths of exterior grade compressed hard-board in widths of 9 and 12 in., and is finished in polyurethane paint guaranteed for ten years against surface cracking or peeling. There is a choice of four colour finishes, white, sand, green and a medium yellow, all of which are claimed to be fade-resistant. The boards are nailed to vertical battens, each board having a full length plastic strip at the back, set into it at an angle: this rests on the top of the board below, giving accurate alignment. A metal starter strip is used at ground level and there are weather sealing mouldings for use at doors and windows and also mouldings for inside and outside corners and for making butt joints between board ends.

CIP Tentest Ltd, Fibboard House, Oakleigh Gardens, London N20.

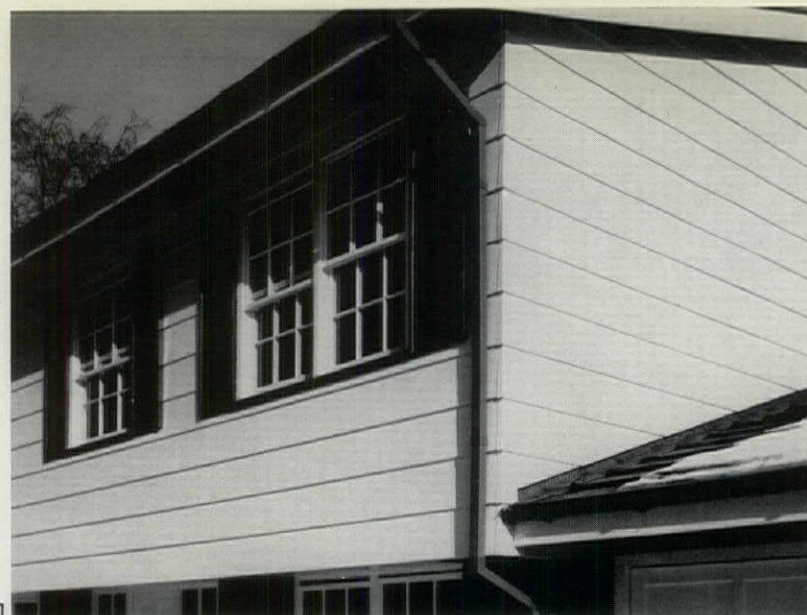
## Concrete paving blocks

Mono Concrete, who already produce a pierced paving block through which grass will grow but which will also take the weight of wheeled traffic, have now started the production of SF interlocking concrete paving blocks, which are already being made by more than 60 factories in almost all developed countries, more than 25 million square metres having already been laid in various parts of the world. The blocks are made in an angular and abbreviated S shape which can be seen in 2. This is the basic block, for which are made edge and end stones and also sets of curve stones to provide a 2 deg. change of direction. The blocks are laid on a normal subgrade, which will depend on the traffic to be carried, without any jointing or bonding material, the horizontal thrust produced by moving traffic being taken up in the paving, since each block interlocks with its neighbour and cannot turn. The blocks are made in three thicknesses, 50mm. for paths or playgrounds, 80mm. for normal roads or car parks, and 100mm. for heavy duty applications. There is also a range of pigmented blocks which can be used for patterns or for marking out parking bays. A further advantage is that areas can easily be taken up for access to underground services and reinstated in a minimum of time. Price, supplied and laid, starts at about 30s. a sq. yd.

Mono Concrete Ltd, Horton Road, West Drayton, Middlesex.

## Gas water heaters

Ascots are now making two new balanced-flue gas water heaters, one a multi-point and the other a small circulator for heating direct or indirect hot water cylinders up to 60 gallons



capacity. The multi-point (model 818) is a breakaway from the normal Ascot shape and has a rectangular casing, vertically ribbed to reduce the apparent width. The new models have been developed primarily to simplify installation and maintenance. They can be installed on any outside wall, the casing forming part of the room-sealing of the appliance, with all seals applied at the factory. The circulator, model 304, is small enough to be mounted under the draining board in a sink unit and has an output of 13 gallons of water per hour raised through 80 deg. F. Both appliances have piezo-electric pilot light ignition operated by an external lever and the circulator can be shut down when necessary without extinguishing the pilot. External flue grilles are in stainless steel and can be fixed from inside the building, a useful feature for flat block installations. The heaters are all arranged for quick conversion to natural gas.

Ascot Gas Water Heater Ltd, Radiation House, North Circular Road, London NW10.

## Up-and-over garage doors

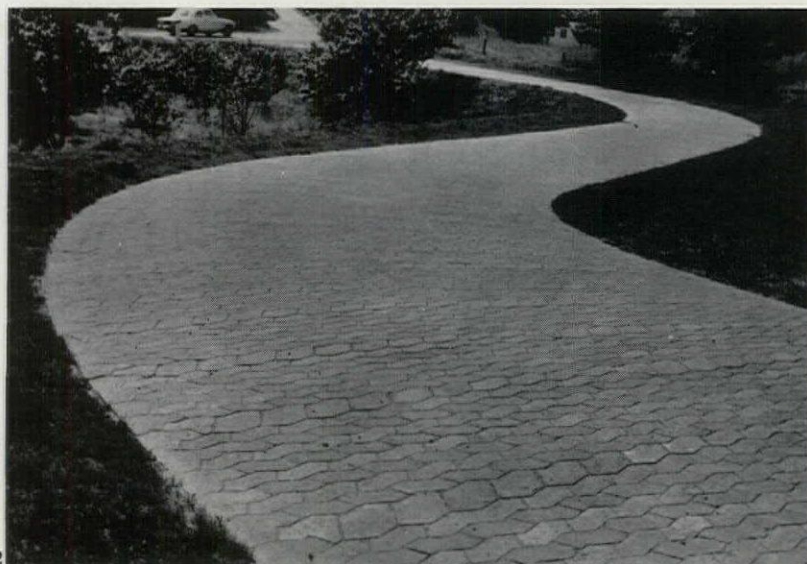
Westland Engineers have made some changes in their range of overhead garage doors and have introduced a new Garador Mark 3R, made in galvanised steel and supplied with a priming coat of paint: the door retracts completely inside the building when the door is open. Counterbalancing springs are

enclosed in telescopic tubes set vertically on each side of the door opening, while horizontal tracks carry the rollers on the top of the door. There is also a new F2 model in which the counterbalance springs are inside galvanised steel jambs, the whole frame unit being fitted within the brick opening or behind it, without the need for any timber frame. Doors are made to fit openings 6 ft. 6 in. high and 7 ft. or 7 ft. 5 in. wide.

Westland Engineers Ltd, Yeovil, Somerset.

## Quartzite flooring

Quartzite for flooring, stair treads and wall cladding is being imported by Altazite Ltd, from both Norway and South Africa. The Norwegian type, from the Alta fjord in the extreme north, has a grey-green appearance with a certain amount of variation in the texture of the cleft surface. The South African, from Namaqualand, has much greater colour variations, from white to grey-blue to beige-ochre. Quartzite is nonslip when wet and exceptionally hard wearing—a slab removed from the Temple Underground station, after an estimated six million passengers in seven years, showing hardly any apparent wear. It is also acid resistant and has a strength comparable with granite. Standard pavings are made in a range of sizes up to nearly 2ft. square and from  $\frac{1}{8}$  to  $\frac{5}{8}$  in. thick, with an average thickness of  $\frac{3}{4}$  in. The material is also



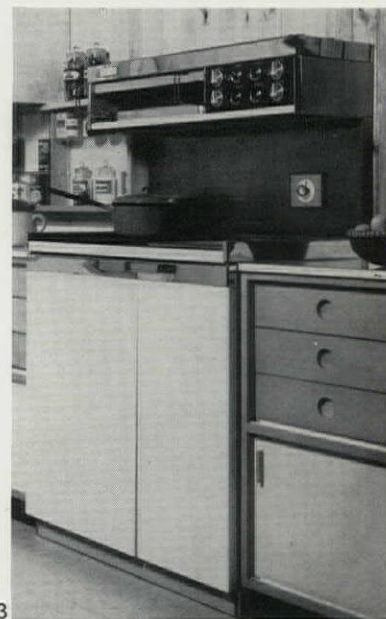
produced in lengths up to 5 ft. for stair treads and skirtings: wall claddings are fixed in the same way as granite. The quartzite is suitable for use with floor heating systems.

Altazite Ltd, Willow Bank Wharf, Ranelagh Gardens, Fulham, London SW6.

## New gas cooker

The Chatelaine Cordon Bleu gas cooker, 3, is a new luxury model with two ovens, a high level grill and a hob with four duplex burners which are very easy to control. Over the smaller oven is a non-stick type griddle which can be used for dry frying almost anything usually cooked in a frying pan, the fat produced collecting in a well at the back. The griddle has a stainless steel cover which can be used to give extra working space when the hob is being used, or it can be used as a warming plate with the griddle turned low. Both the ovens have the usual thermostatic control and the top linings can be easily slid out for cleaning: the larger oven also has an automatic internal light. Retail price is about £120.

Chatelaine Ltd, Falkirk, Scotland.



## Aluminium clad with stainless steel

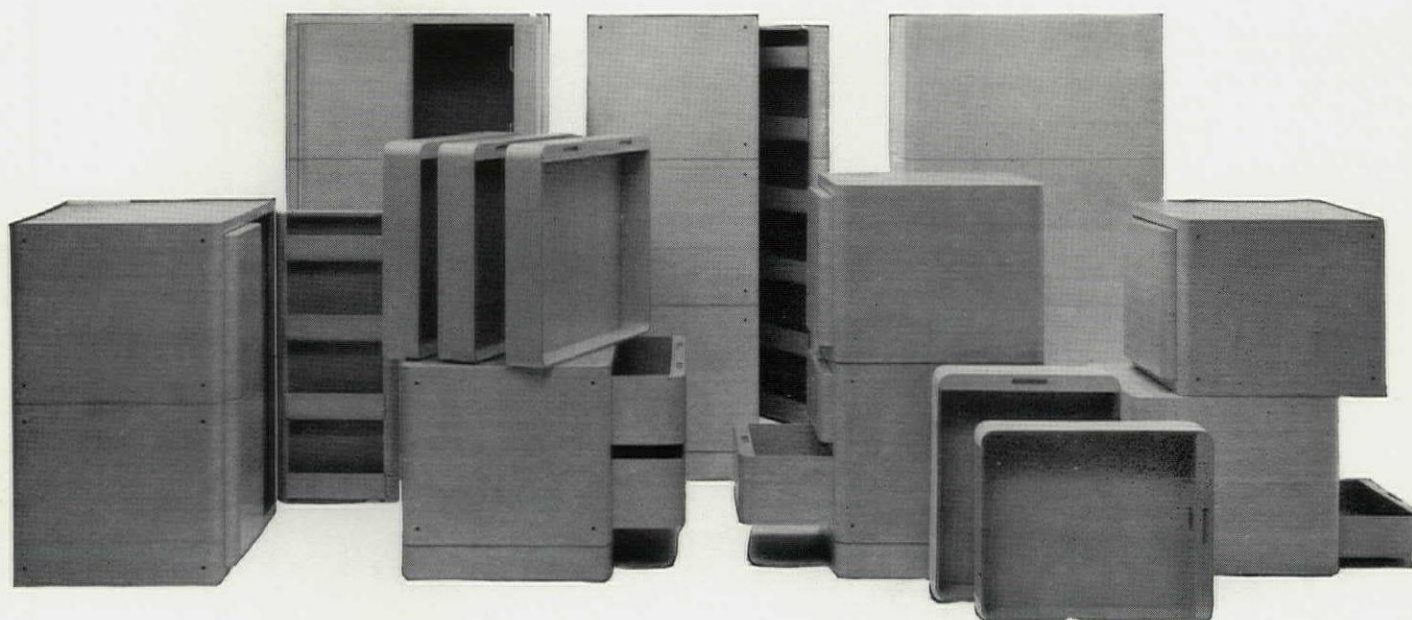
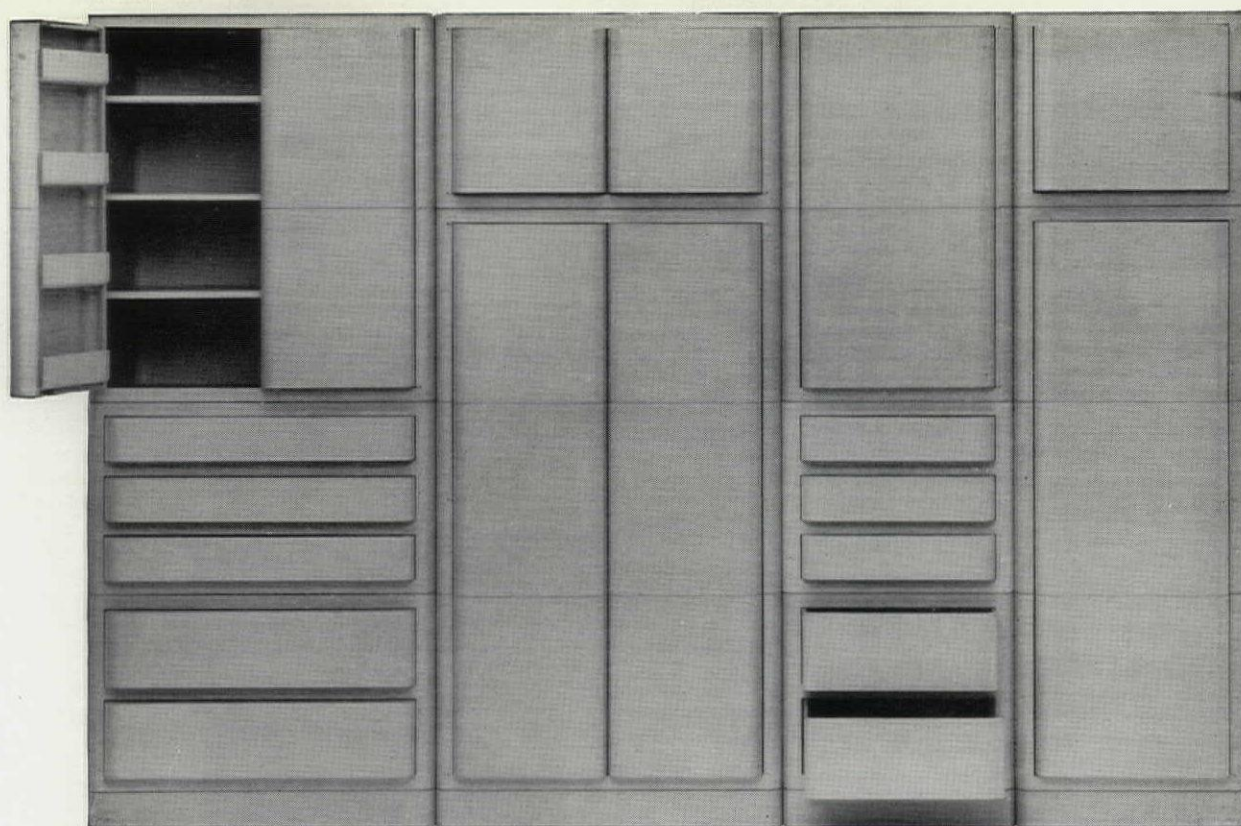
Midland Extrusions are now producing sections for windows, door frames and similar constructions made with an aluminium core and a cladding of stainless steel. A highly corrosion resistant grade of stainless steel is used and is applied to the aluminium by a series of forming, bonding and drawing operations. A wide range of channel, angle and similar sections is already available and specials can be produced at not too great cost, while the different thermal expansion rates of the two metals are allowed for in the bonding process. The saving in cost is considerable, the makers quoting a figure of about £45 for a 7 ft. by 3 ft. door, complete with glass and fittings, while a similar door in stainless only sections would be about £85.

Midland Extrusions Ltd, Factory Centre, Kings Norton, Birmingham 30.

## Luxaclair ceilings

The ceiling used in the offices of Messrs. Cogent Elliott at Solihull, illustrated in ID in AR, March 1969, is called Luxaclair and is made in this country by Hunter Douglas. It is slatted aluminium, stove-enamelled silver.





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Room, Bar, stairs: James Templeton & Co. Carpeting, tourist cabins, officers' and crew quarters: Woodward, Grosvenor & Co. Carpet, suite rooms: The Wilton Royal Carpet Factory Ltd. MISCELLANEOUS: Climbing frames: Paul & Marjorie Abbott Ltd. Fabric blinds (motorised): Accord Blind Co. Anodising aluminium sections and castings: Acorn Anodizing Co. Door fittings: G. & S. Allgood Ltd. Delft blue and white linoleum, suite rooms, toilets, bathrooms: Armstrong Cork Co. Mirrors, Balustrade screen, door glass: Aygee (Glass) Ltd. Cutlery; silver plated holloware for restaurant and cabin service: British Silverware Ltd. Pictures: Colour Print Gallery. Flooring (lockers, stores, bars, laundry, changing rooms): Dunlop Semtex Ltd. Pictures: Editions Alecto. Wendy house, climbing frame (children's playroom): James Galt & Co. Making up furnishing materials: Charles Howson & Co. Umbrellas: James Ince & Sons. Baths, decorative screens, sheets, blankets, chairs: ICI Ltd. Table trays cabin service; veneers for panelling: Wm. Mallinson & Sons (Manufacturing) Ltd. Sauna baths, furniture and soft furnishings: Rantasalmi Saunas Ltd. Rubber flooring (Quarter Deck, staircase, laundry): Runnymede Rubber Co. Vitreous china hotel ware: Ridgeway Pottery Ltd. Curtain Rails: Swish Curtain Rails. Luxalon ceilings: Hunter Douglas Ltd. Kawneer movable partitioning: Mackamax.

## Acknowledgments

COVER: Wolf Spoerl. CONTENTS, page 395: Philip Jones Griffiths. FRONTISPIECE, page 396: Richard Einzig. A SHIP IS AN ISLAND, page 401 and page 402 (left), John Bulmer; page 402 (right), Upper Clyde Shipbuilders; page 403, John Jochimsen; page 404 and page 409, Philip Jones Griffiths. FROM CONCEPTION TO CUNARD, pages 410-421: 1, 13, 16, 18, 29, John Jochimsen; 3, 4, 32, 33, National Physical Laboratory; 6, Henk Snoek; 7, David Rock; 5, 8-12, 14, 15, 17, 20, 21, 26, 28, 30, 31, 34, Upper Clyde Shipbuilders; 19, Stewart Bale; 24, Baistow Arphot. qe2 INTERIORS, pages 422-426: 1, Richard Einzig; 2, 3, 9, 16, 17, 25, Henk Snoek; 7, Stewart Bale; 8, Richard Einzig; 24, Toomey Arphot; 28-31, Baistow Arphot; page 429: left hand column, top to bottom, John Bulmer, Baistow Arphot, John Bulmer, M. Rosen; centre left column, Michael Tilley, Baistow Arphot, M. Rosen, Rock Arphot; centre right column, M. Rosen, John Bulmer, M. Rosen, Baistow Arphot; right column, M. Rosen. Page 430: top row and bottom right, Richard Einzig; bottom left, centre, Henk Snoek. Pages 431, 432 (top), 436, 437, 439, 440, 441, 442, 443, 444, 446, 450, 451 (top), 453 (left), 455, 456 (top), 457 (top right and bottom), 458 (top right and bottom), 460, 463: Richard Einzig. Pages 432 (bottom), 433, 434, 435, 438, 448, 449, 451 (bottom), 452, 453 (right), 454, 456 (centre and bottom), 457 (top left), 458 (top left), 461, 462 (top and bottom right): Henk Snoek. Page 445: Michael Tilley. WORLD, pages 464-468: 1, 5, 7, Simo Rista; 6, Ola Laiho; 8, 9, 12, Martti I. Jaatinen; 24-31, Byggmästaren. VIEWS AND REVIEWS, pages 470-472: 1, Leopoldo Pomés. STOP PRESS, pages 477-478: 1-3, Peter Burton; 8-11, Nairn Arphot.





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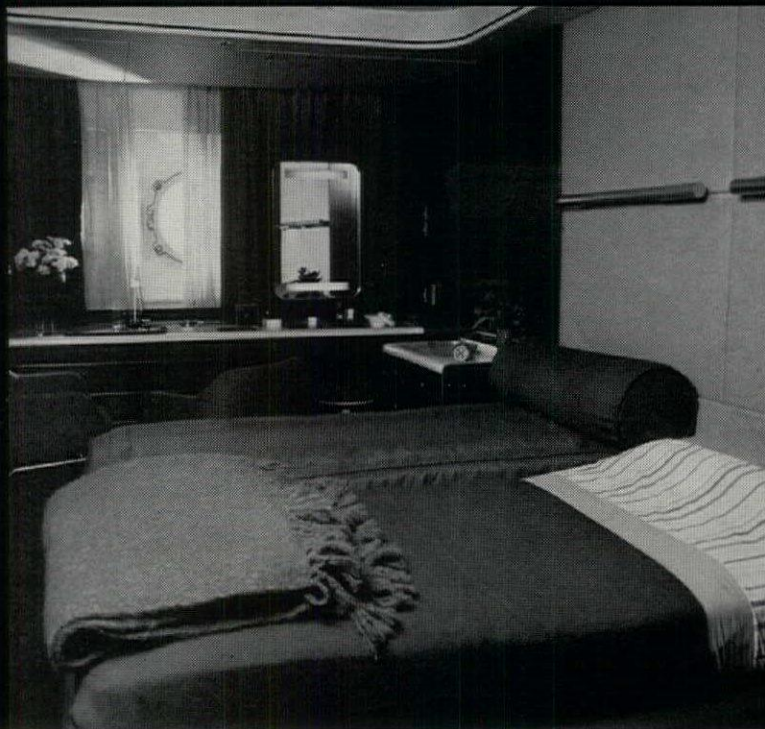
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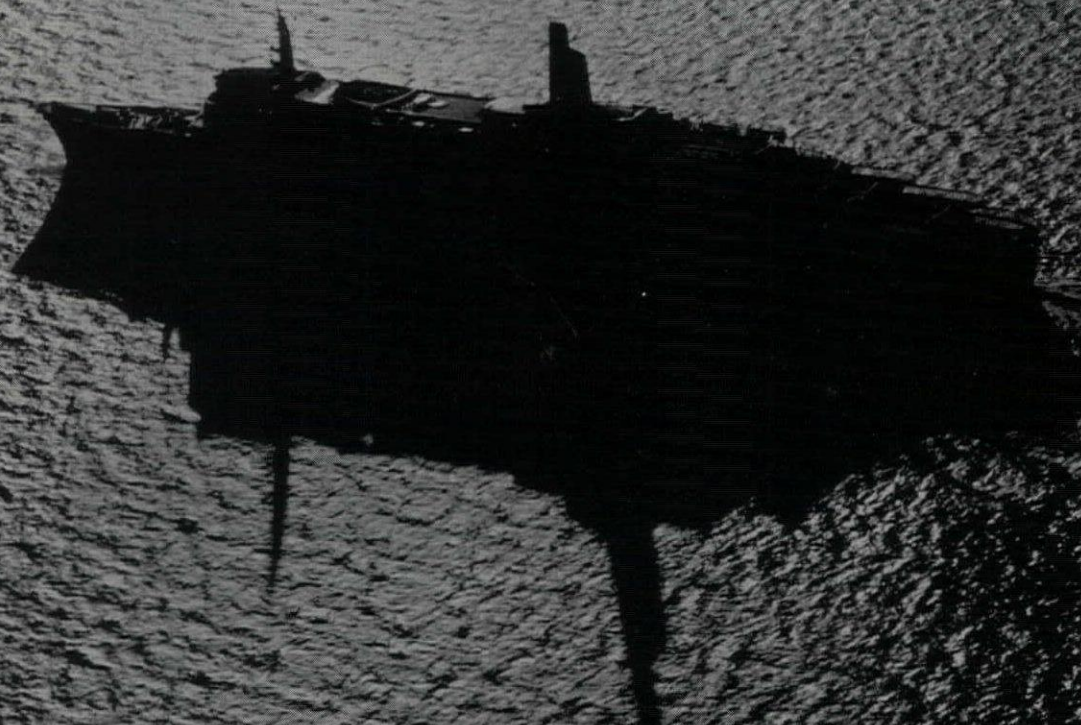
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Ian Nairn

# STOP PRESS

Townscape problems, outrages and opportunities compiled by Ian Nairn, with drawings by G. J. Nason.

## OUTRAGE

WHITBY, YORKS N.E.  
A terrible before-and-after, photographed by Peter Burton, of Church Street ten years



1

ago, 1, and today, 2. It hardly seems the same place—yet all has been done with the best of intentions—even to the bogus Dutch gable above the mean metal windows. 3 is a detail of Whitby's latest step backwards into a neo-Georgian past.



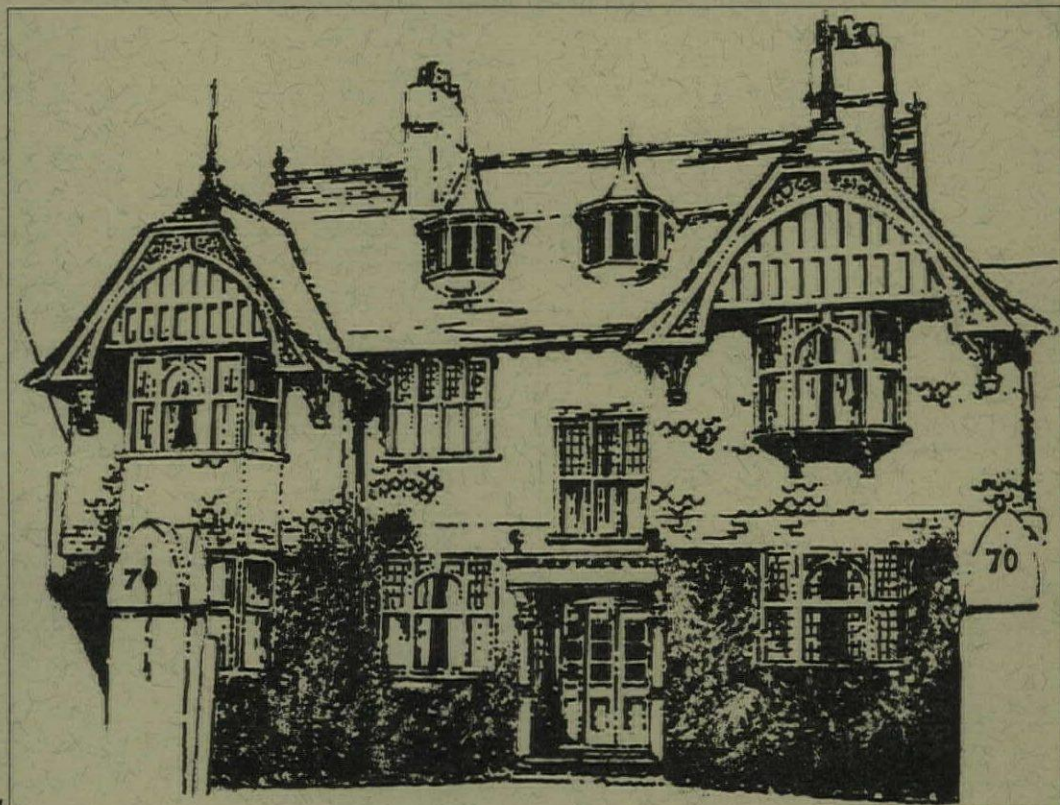
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## S.O.S.

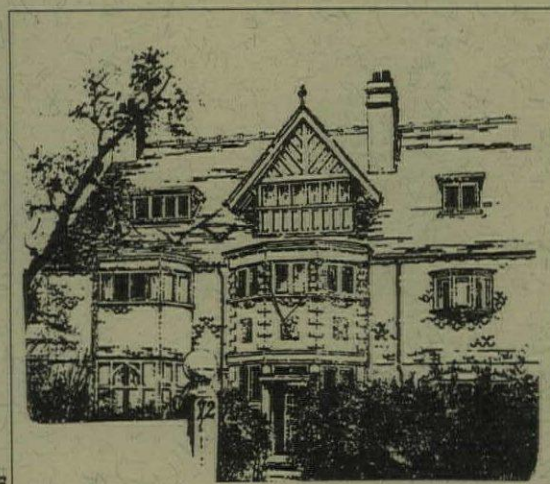
BECKENHAM, KENT  
A group of very jolly houses, Norman Shaw style, in Wickham Road Beckenham. Until a few years ago there were five; three remain, 4-6, and in spite of appeals by the Beckenham Planning Group neither the Borough nor the Ministry are prepared to list them—'our Investigator has studied the photographs carefully, and has come to the conclusion



2



4



5



6



that the building do not reach the required standard'—why didn't he go and see? The AR will pay his return rail fare from Whitehall. The way the designer combined tilehanging, bargeboards and plaster swags is in fact very diverting, and deserves better treatment than this.

#### BILLINGHURST, SUSSEX

Here, of all places, in the middle of genuine preservation without oldefying: a derelict tilehung cottage, 7, in front of the church, fronting onto the main Bognor road—a very important part of the village scene.

## CAUTION



#### EMMEN, HOLLAND

A warning that faceless architecture can happen in other countries too, 8. If a building like this is inevitable it should at least be used as an outside frame for paintings or slogans or advertising.

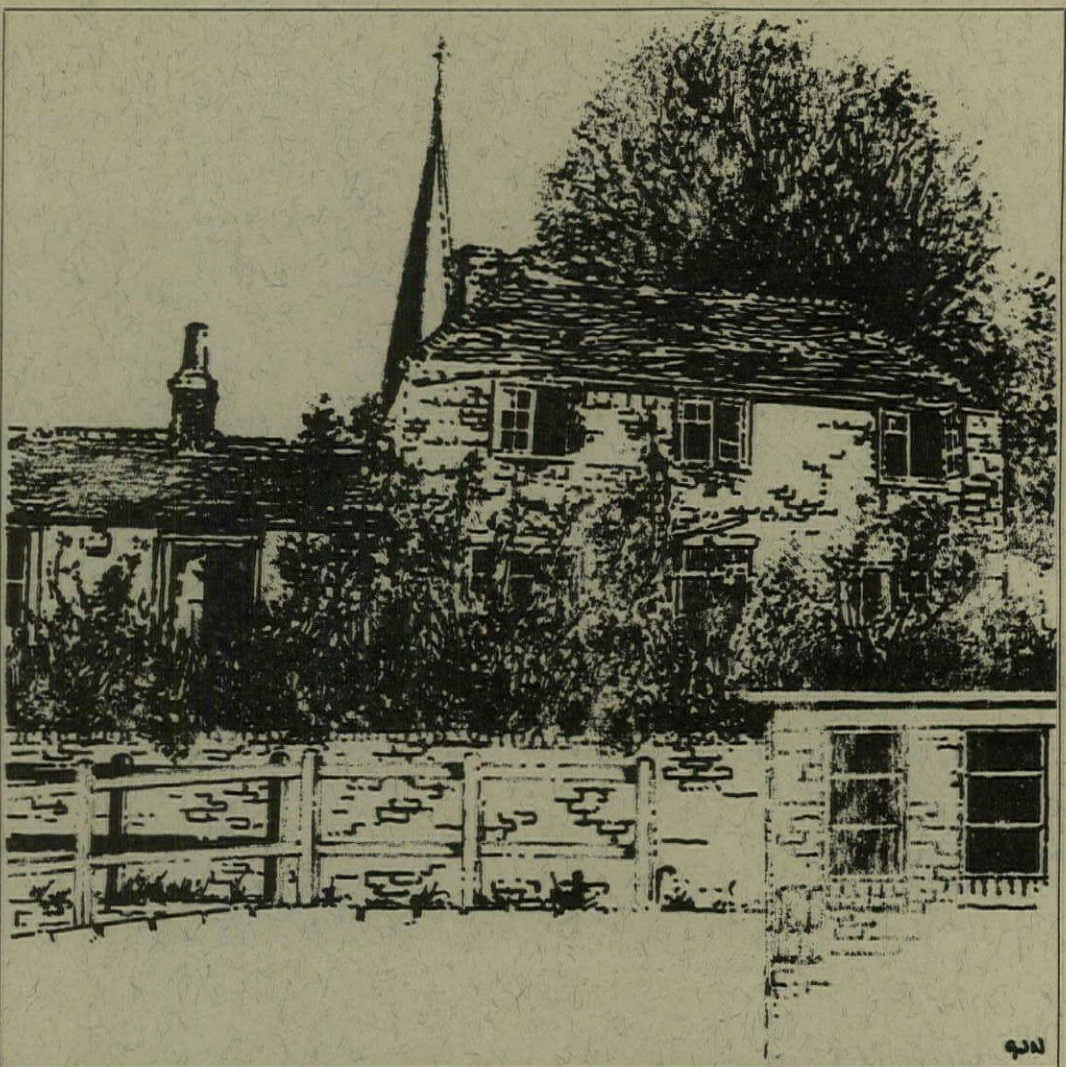


9



478

10



## CREDIT

#### BECKENHAM, KENT

Two cheerfulnesses near Beckenham Junction: a new pub which has incorporated a railway signal in its forecourt, 9—much more effective than it seems in the photograph, especially as the real railway is so near. And across the road an ordinary building made special by robust painting, 10, nothing over-chic, just the RAC blue-and-white.

## R.I.P.

#### DUNSLAND, DEVON

The site of a famous medieval and late seventeenth-century house, 11, which burnt down whilst it was being reconditioned for the National Trust. Did all the walls have to go? Couldn't some of it have been kept as a ruin? There seems to be no middle course today between total preservation and total demolition; the eighteenth century knew better.



11



# a reminder for 1969

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Be wise after the event and order your 1969 issue early. Remember Specification is the fingertip source of reference for the Construction Industry and all allied professions with a comprehensive editorial content revised annually by 50 contributors.

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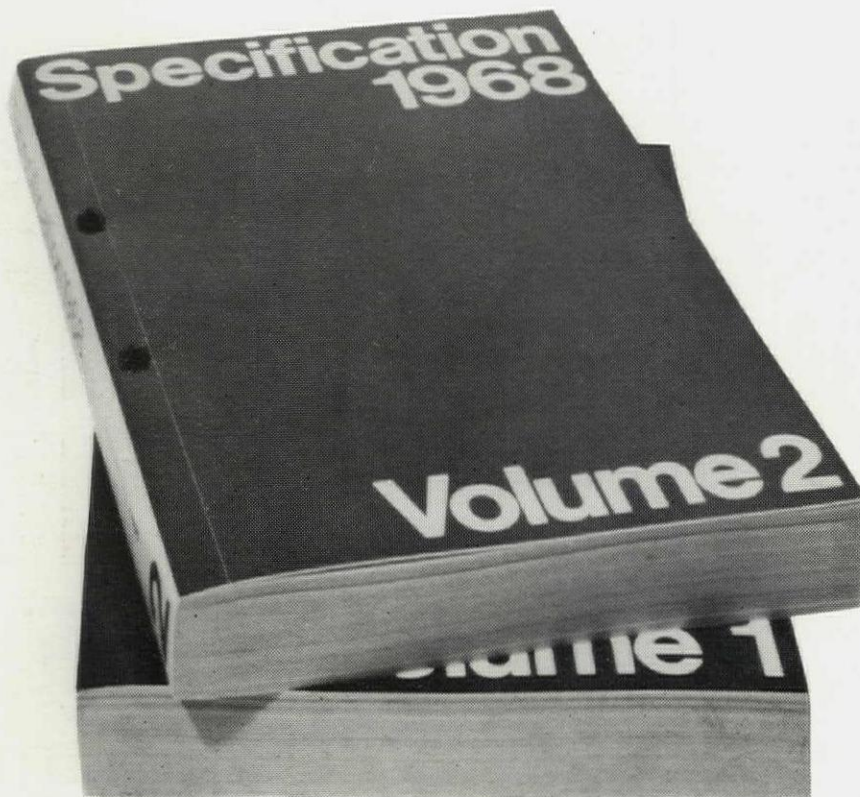
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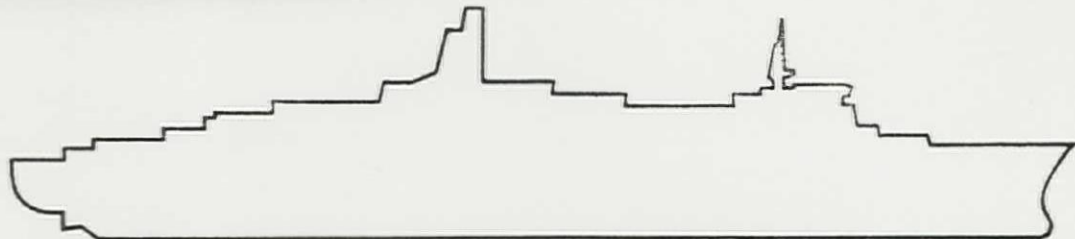




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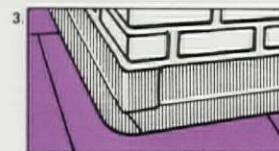


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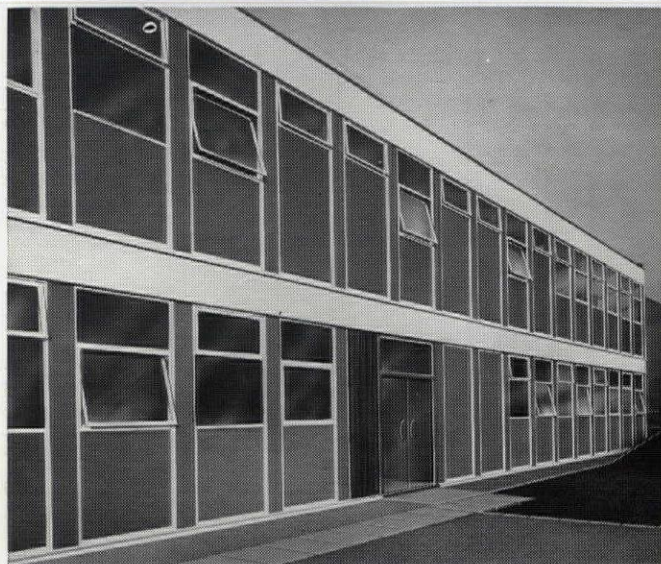
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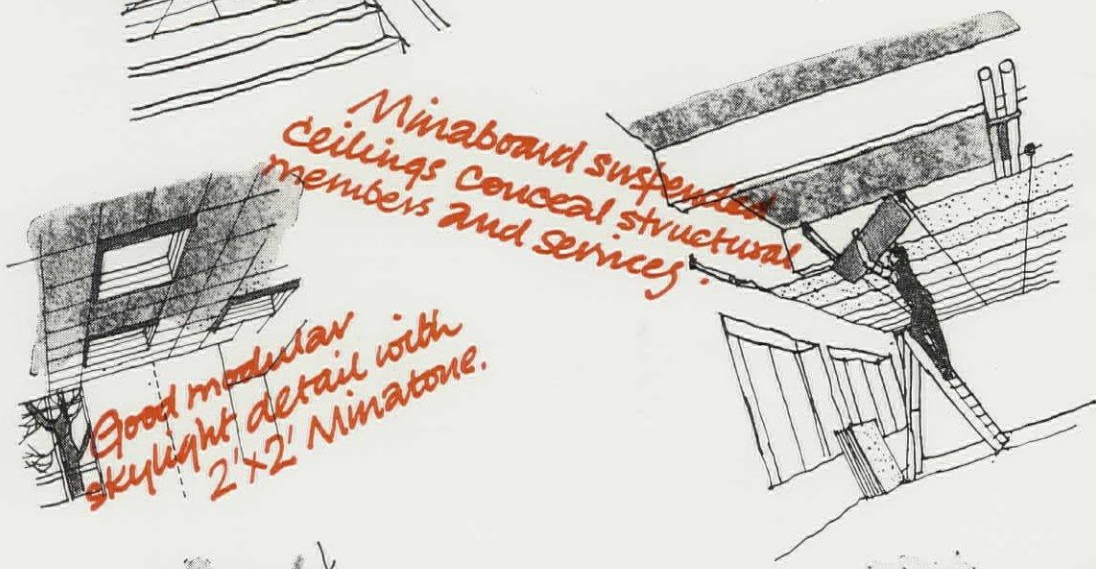




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of changes in  
level with  
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*Fissured tile  
complements  
sculptured wall  
treatment: good  
handling of  
relationships of  
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ceilings conceal structural  
members and services.*



*Good modular  
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*Increase ceiling area  
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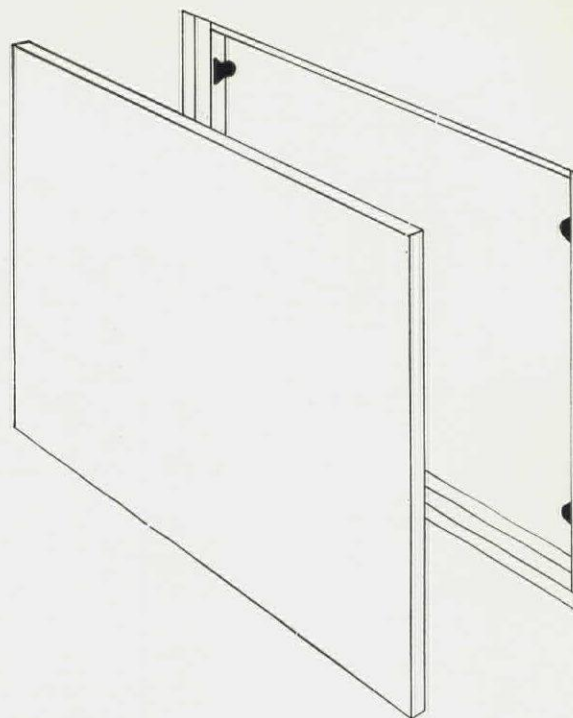
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the length of  
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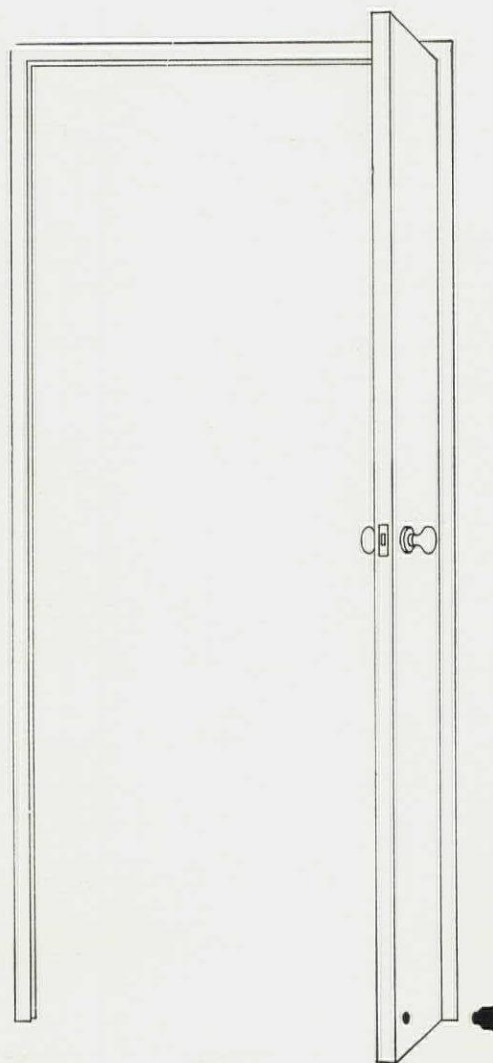
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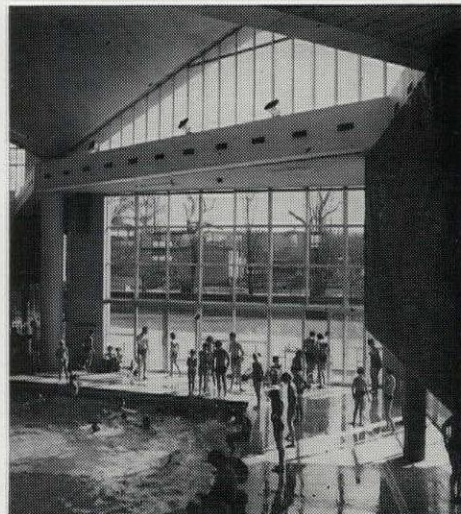
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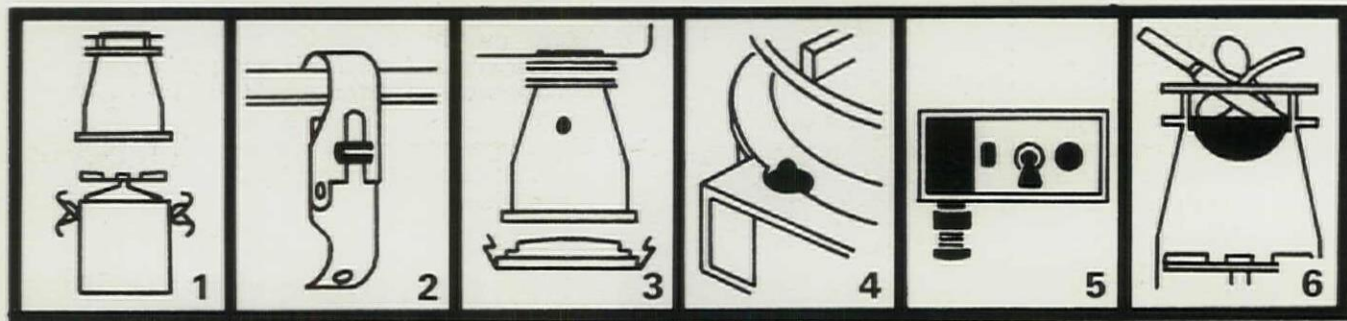
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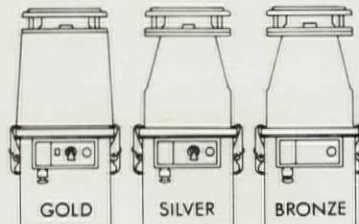
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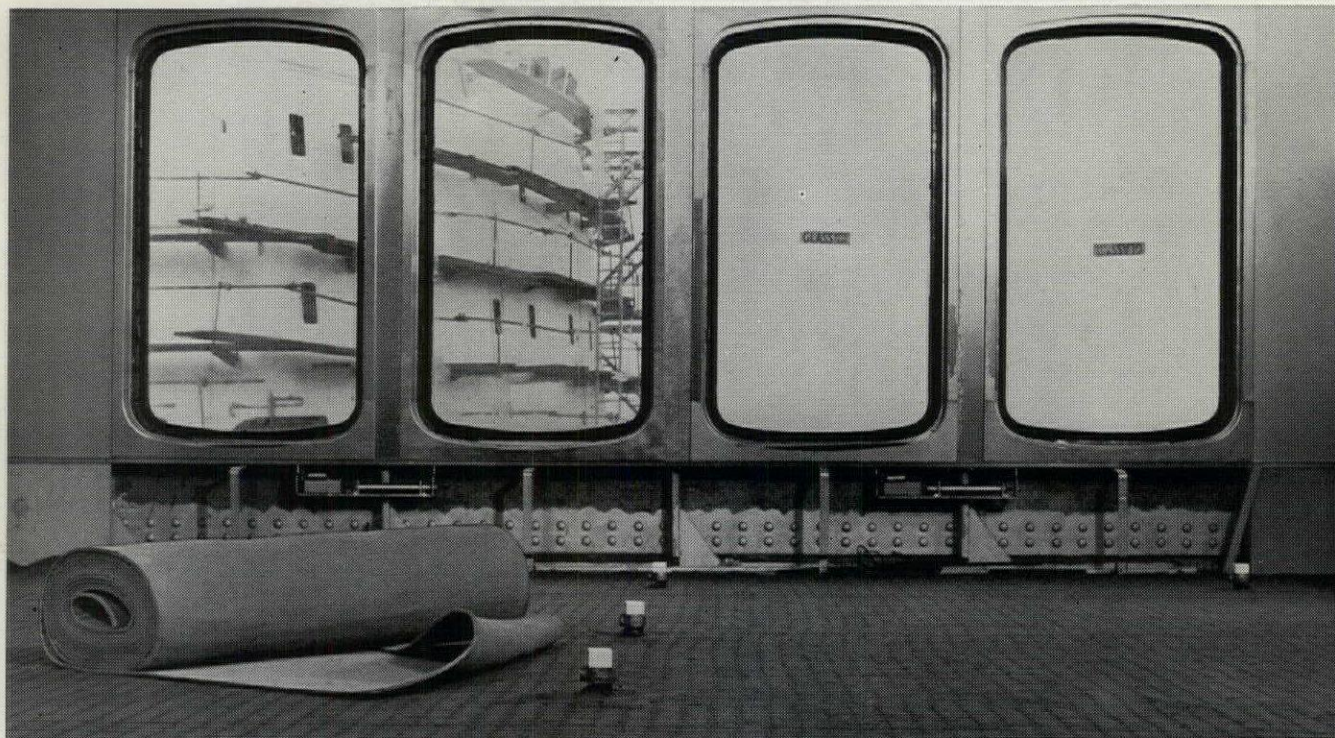


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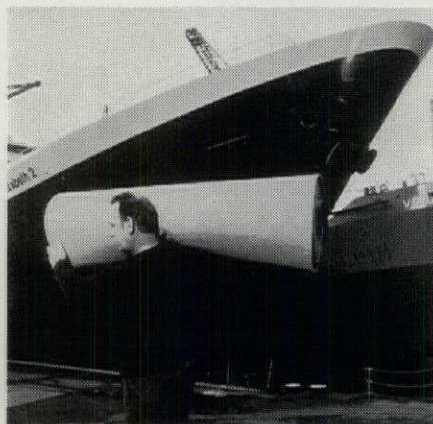
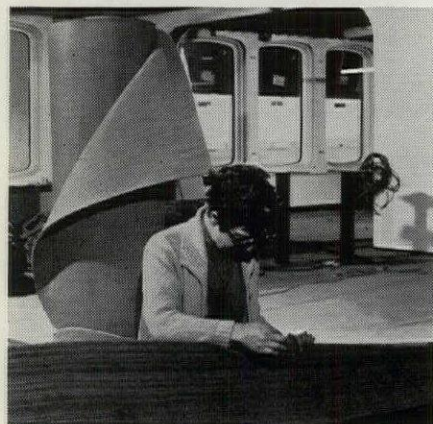
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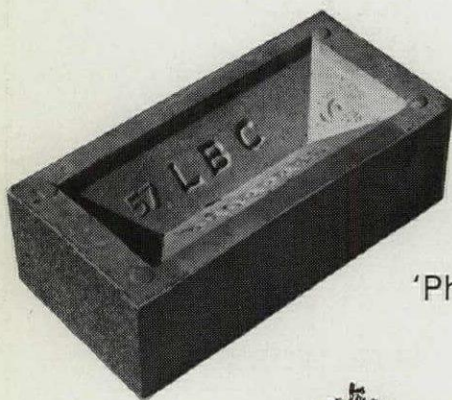
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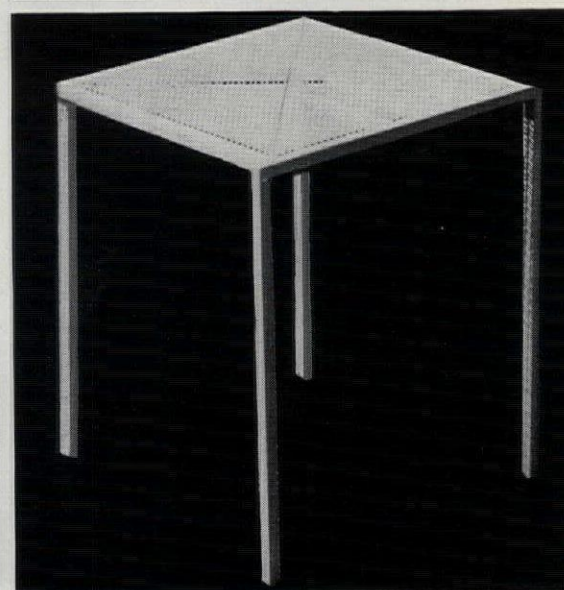


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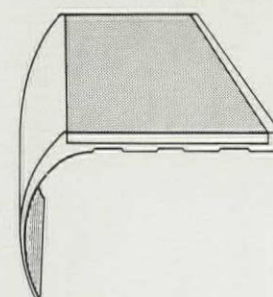
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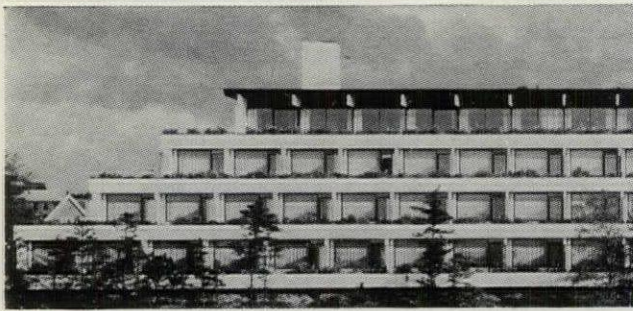
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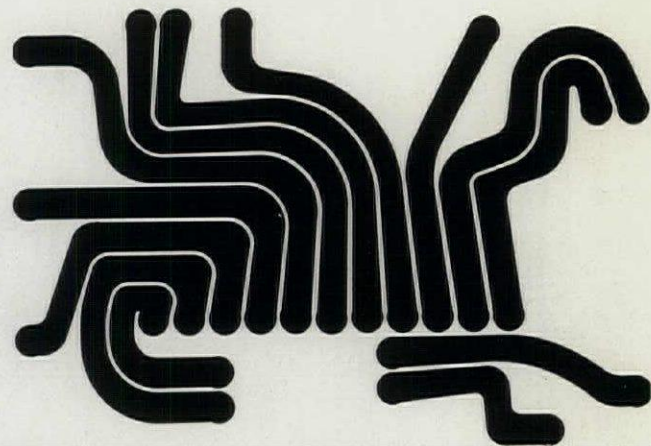
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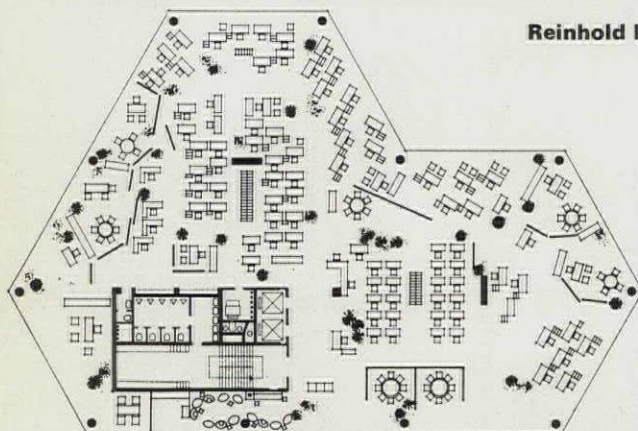
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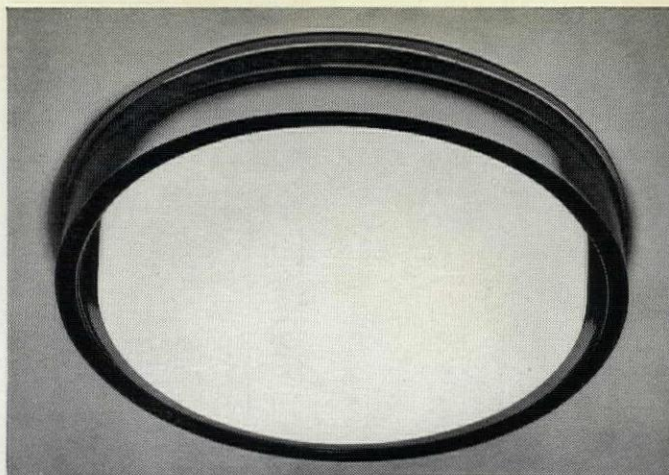
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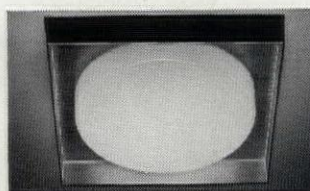
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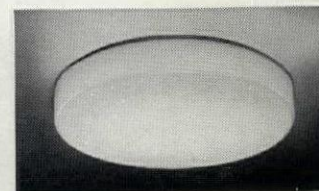
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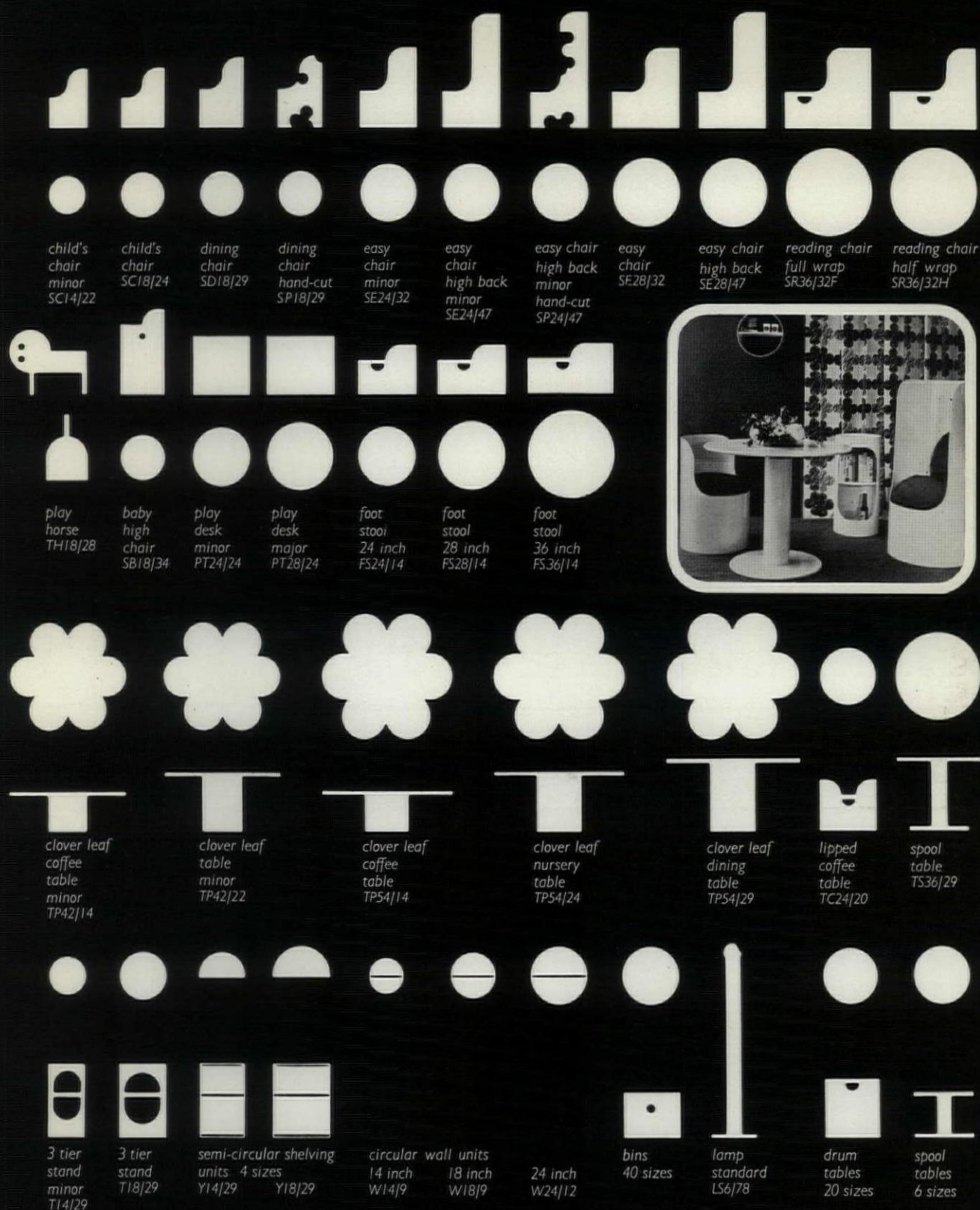
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### New Finnish Architecture

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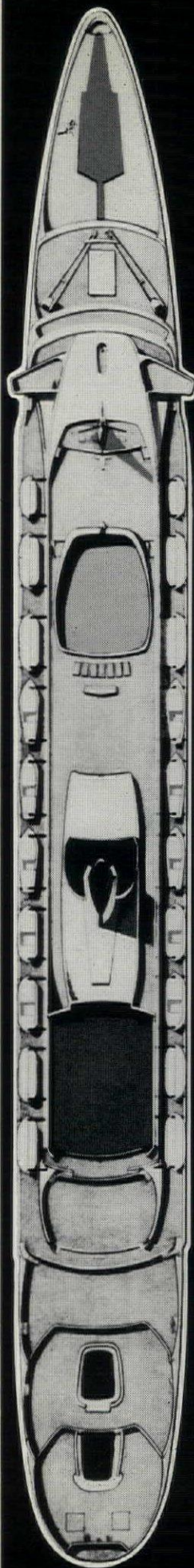
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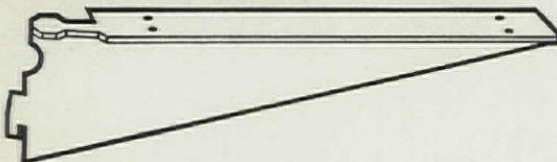
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