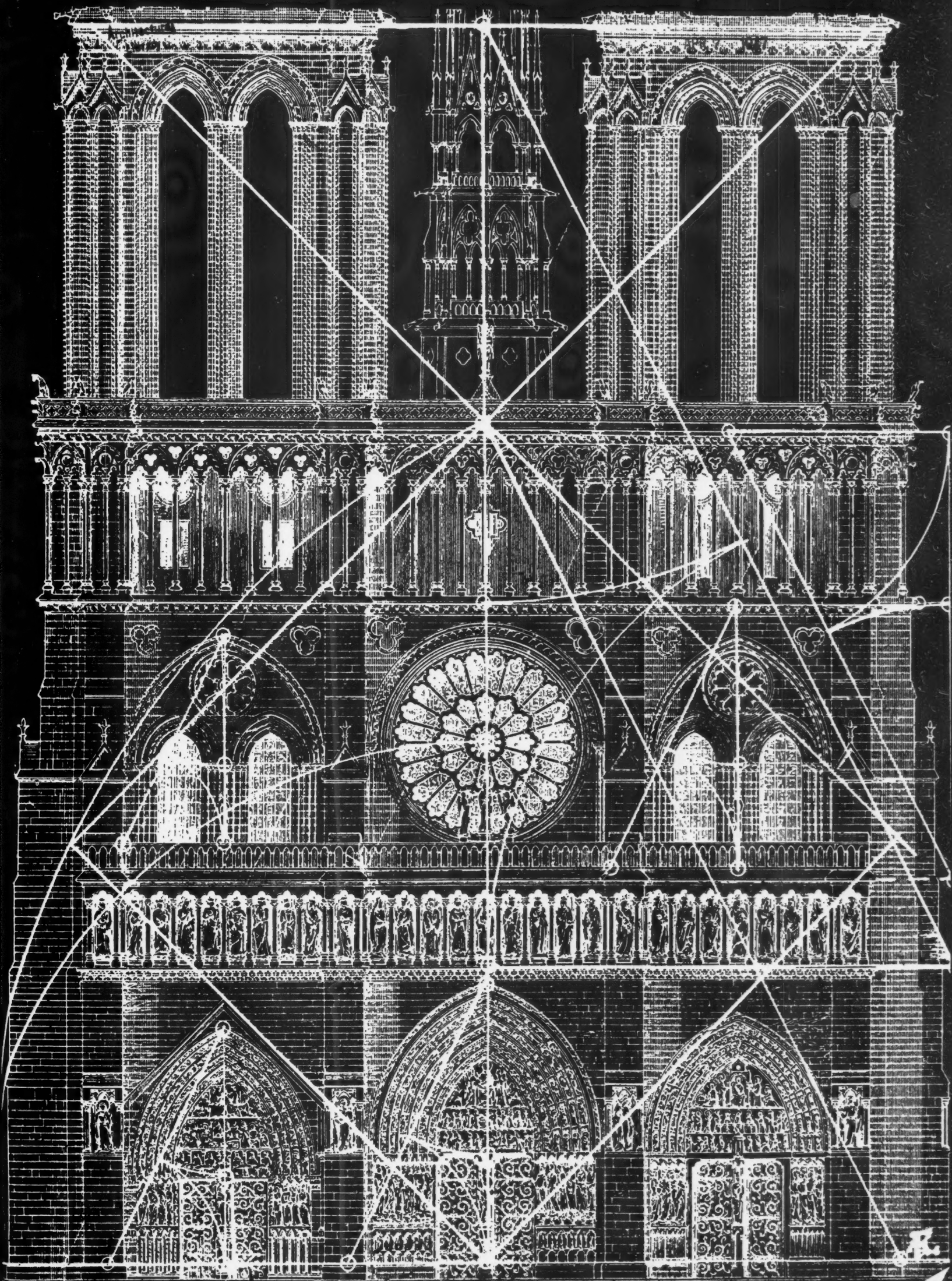




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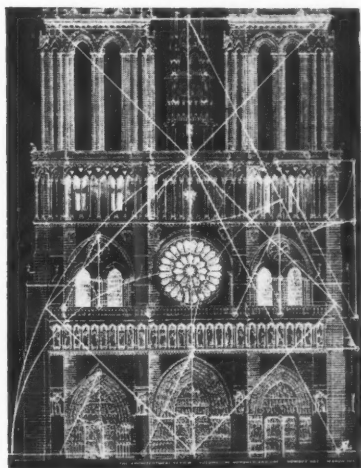
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VOLUME CI NUMBER 603

March 1947



The Cover. This month's cover is reproduced (in reverse) from Fredrik Macody Lund's *Ad Quadratum: a Study of the Geometrical Bases of Classic and Medieval Religious Architecture*, printed by order of the Norwegian Parliament (Batsford, 1921). It represents the west elevation of Notre Dame de Paris, with superimposed lines demonstrating the application of the golden section. In Lund's words, "both the main and the secondary divisions of the front, as well as the placing of the rose window, are determined by proportions of the *sectio aurea*." Whether or not geometry played as large a part in the design of medieval buildings as Lund and other scholars have held, it is certain that in more modern times a great many architects have consciously employed the science; on pages 101—104 in this issue Colin Rowe compares Palladio's Villa Malcontenta and Le Corbusier's Villa de Monzie at Garches, showing that both are based on the belief that right proportions may be expressed in mathematical terms.

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THREE SHILLINGS AND SIXPENCE

Palmyra has long been a happy hunting ground for unscrupulous dealers and collectors, so that while the museums of the world are full of Palmyrene sculpture it is impossible to study the full development of the art on the spot. New finds, however, are continually being made, and this semi-recumbent effigy came to light in one of the house-tombs that are among the chief features of the ruins of that Syrian outpost of Roman civilization. It dates from 149 A.D. The rich jewelry and brocaded pillows betray eastern influences, while the folds of the drapery contain a foretaste of Byzantine and early Romanesque art. On page 89 T. M. Clark tells the story of the discovery of Palmyra by European travellers and archaeologists.





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The Aesthetic of Lichens

by Geoffrey Grigson

SO much of what we see depends upon habit and association. Trees and plants are implicated with our traditions and emotions. They stand free of the ground; they have a vertical relation to the cliff faces of architecture, and we have always felt them and seen them. But how little we have seen and felt, for example, lichens: before our eyes, almost universally, upon stone, brick, mortar, slate, tiles—almost universally except in cities where they are killed by smoke—we hardly notice lichens as part of the texture of buildings. They have had, though, their period of visibility. Towards the end of the eighteenth century they came out of the invisible; they stayed visible until after the climax of Pre-Raphaelite vision; and have since sunk back to being slightly in, but more out of, our public sight. Ask yourself how many lichenous areas and of what admixture of tints, you can recall on and around your own house—without going out of doors to look.

The visibility of lichens followed their slow classification and recognition in science. They were long confused, and I suppose are still popularly confused, with mosses: they were called mosses. The first book in which lichens were segregated into a botanical group was Robert Morison's *Plantarum Historiæ Universalis Oxoniensis*, vol. iii, published in 1699. Between 1699 and 1790, few lichens were ever pictured in the textbooks of botany. Linnæus in the eighteenth century recognised their great importance in breaking down rock surfaces and preparing the way for other vegetation; and he described them in a phrase (I take this fact, and several more, from Annie Lorrain Smith's *Lichens*, 1921) which an American lichenologist well translated as the "poor trash of vegetation." As more lichen species were recognised and described, as eyes turned outward on to nature in the eighteenth century, as nature changed from what was uniform and common to everyone's sense, to the nature of self and of objects particular, detailed, individual; so, almost suddenly, those who were not professional scientists, but connoisseurs of landscape, artists and poets, realised and wrote of the crusted colours of lichens, or painted them.

An anthology of the visibility of lichens would begin when Coleridge and Wordsworth were young, in 1791, with that book of volume one of William Gilpin's *Forest Scenery*, in which he considered trees "as single objects"; and though 1791 is the date of publication, the book was written ten years earlier. Moss, it is true, writes Gilpin, "is one of nature's minutiae; and in painting, touches not the great parts, composition and effect." But, "in coloured landscape, it is surely a very beautiful object of imitation.—The variety of mosses—the green, which tinges the trunk of the beech; the brimstone-coloured, and black, which stain the oak; and the yellow, which is frequently found on the elm, and ash, are among the most beautiful of those tints, which embellish the bark of trees." Then Gilpin describes the mossy and lichenous trunk of an oak—brimstone, olive, green, white, blackish, ashy, dingy yellow: "We may observe also touches of red; and sometimes, but rarely a bright yellow, which is like a gleam of sun-shine; and in many trees you will see one species growing upon another; the knotted brimstone-coloured fringe clinging to a lighter species; or the black softening into red." Under mosses, he admits that he includes mosses, lichens and liverworts; and he remarks that "even the poet will sometimes deign to array his tree with these picturesque ornaments."

It was in 1791, in the same year that these observations were published, that Cowper gave additional evidence of the outward-going eye by writing *Yardley Oak*. From 1790 to 1814, James Sowerby was working on the plates of Smith and Sowerby's *English Botany*, including, with the aid of collectors up and down the country, the first coloured representations of many newly detected species of lichen. Look at Sowerby, look at the nearest limestone wall, look at many of Blake's drawings; and you will see in Blake's grained and mottled textures of rock (for instance in the *Newton*), what I believe to be his individual transcript and version of this new visibility of lichens. Somewhere between 1795 and 1798, the young Coleridge put down in a note-book, "The flat pink-colour'd stone painted over in jagged circles and strange parallelograms with greenish black-spotted lichens."

Lichens become something visible, not only because of the beauty of their colour, but because they grow in a gothic association with venerable trees and venerable stone work; grew on decayed oaks such as Cowper's or those which Samuel Palmer was to admire and draw, with their lichens and their moss, in Lullingstone Park. On the whole, lichens were seen, for transference into poems and pictures, not upon architecture, but upon trees and natural rock; which is not perhaps surprising. Crabbe, an able botanist with a delight in grasses and in cryptogamic plants, wrote one of the few notable pieces of

architectural lichenology that I can think of. It deserves quoting again—the subject, the base, is the tower of Aldeburgh Church, in Suffolk:—

"But ere you enter, yon bold Tower survey,
Tall and entire, and venerably grey,
For time has soften'd what was harsh when new,
And now the stains are all of sober hue;
The living stains which Nature's hand alone,
Profuse of life, pours forth upon the stone:
For ever growing; where the common eye
Can but the bare and rocky bed descry;
There Science loves to trace her tribes minute,
The juiceless foliage, and the tasteless fruit;
There she perceives them round the surface creep,
And while they meet their due distinction keep;
Mix'd but not blended; each its name retains,
And these are Nature's ever-during stains.

And wouldst thou, Artist! with thy tints and brush,
Form shades like these? Pretender, where thy blush?
In three short hours shall thy presuming hand
Th'effect of three slow centuries command?
Thou may'st thy various greens and greys contrive,
They are not Lichens, nor like aught alive;—
But yet proceed, and when thy tints are lost,
Fled in the shower, or crumbled by the frost;
When all thy work is done away as clean
As if thou never spread'st thy grey and green;
Then may'st thou see how Nature's work is done,
How slowly true she lays her colours on;
When her least speck upon the hardest flint
Has mark and form and is a living tint;
And so embodied with the rock, that few
Can the small germ upon the substance view.

Seeds, to our eye invisible, will find
On the rude rock the bed that fits their kind;
There, in the rugged soil, they safely dwell,
Till showers and snows the subtle atoms swell,
And spread th'enduring foliage;—then we trace
The freckled flower upon the flinty base;
These all increase, till in unnoticed years
The stony tower as grey with age appears;
With coats of vegetation thinly spread,
Coat above coat, the living on the dead:
These then dissolve to dust, and make a way
For bolder foliage, nursed by their decay.
The long-enduring Ferns in time will all
Die and depose their dust upon the wall;
Where the wing'd seed may rest, till many a flower
Show Flora's triumph o'er the falling tower."

—a conclusion which shows that Crabbe had read Linnæus on the poor trash of vegetation. Less familiar is Crabbe's own footnote, and the additional note added by his son. When Crabbe reproached the Artist, it was not the easel artist, but the "artist" who attempted to give to new buildings a lichen-patina. Here is the note:—

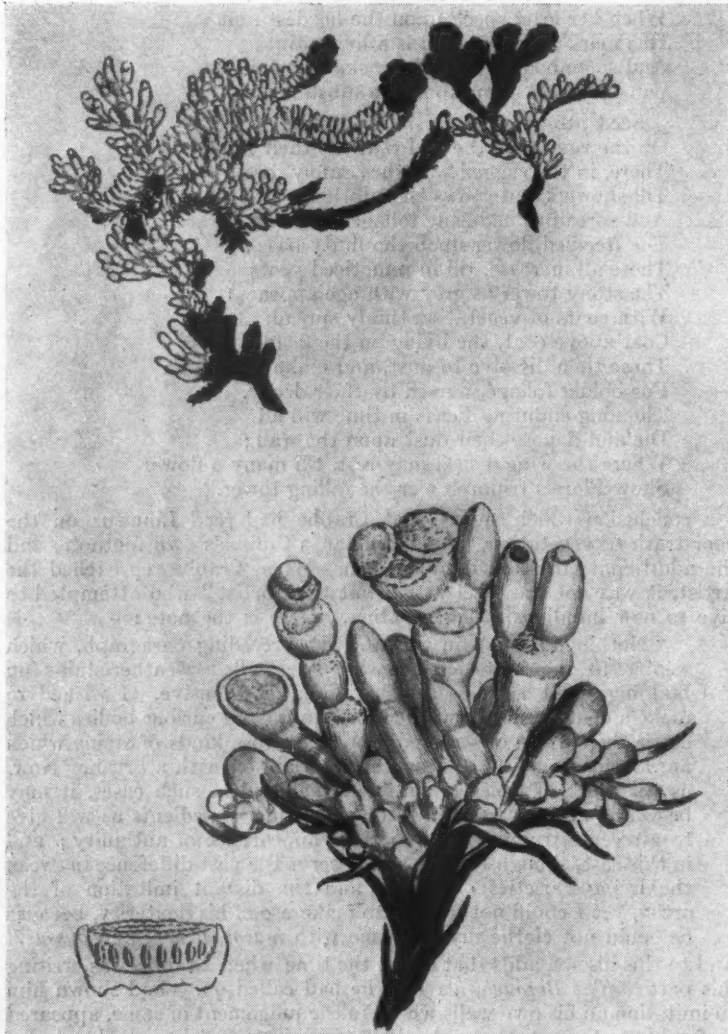
"Nothing, I trust, in this and the preceding paragraph, which relates to the imitation of what are called weather-stains on buildings, will seem to any invidious or offensive. I wished to make a comparison between those minute and curious bodies which cover the surface of some edifices, and those kinds of stains which are formed of boles* and ochres, and laid on with a brush. Now, as the work of time cannot be anticipated in such cases, it may be very judicious to have recourse to such expedients as will give to a recent structure the venerable appearance of antiquity; and in this case, though I might still observe the vast difference between the living varieties of nature and the distant imitation of the artist, yet I could not forbear to make use of his dexterity, because he could not clothe my freestone with *mucor*, *lichen*, and *byssus*."

And to this his son adds that about the time when Crabbe was writing this part of *The Borough*, a rector he had called on, "had shown him an imitation on his own walls which, in the judgement of some, appeared preferable to the actual *mucor*, etc." Visibility of lichens had gone far when country parsons affected to imitate them on their new walls. *The Borough* appeared in 1810. Sixty years before one would have

* "Boles" are red or yellowish earths.



Fallacious Leafy Lichen: "Specimens of this very fine and rare lichen were sent to Mr. Dickson . . . by Mr. Slater, who found them in the mountainous part of Devonshire . . ."



Eye-like Coralline Lichen: "Observed first by Mr. Dickson on rocks in Scotland . . . Acharius seems in doubt respecting this species, and yet it can scarcely have been unseen by him . . ."

* Engravings decorating this article are by J. and S. Sowerby, from Smith and Sowerby's *English Botany* (1790-1814), and the captions are quotations from the same work.

given visible antiquity to a church tower by means of something so much a part of commonsense nature as mantling ivy—as in Gray's *Elegy* :—

"Save that from yonder ivy-mantled tow'r
The moeping owl does to the moon complain." (1750)

or Warton's *Pleasures of Melancholy* :—

"Save the lone screech-owl's note, who builds his bow'r
Amid the mould'ring caverns dark and damp,
Or the calm breeze, that rustles in the leaves
Of flaunting ivy, that with mantle green
Invests some wasted tow'r. . . ." (1747)

—which Gray obviously had in his mind.

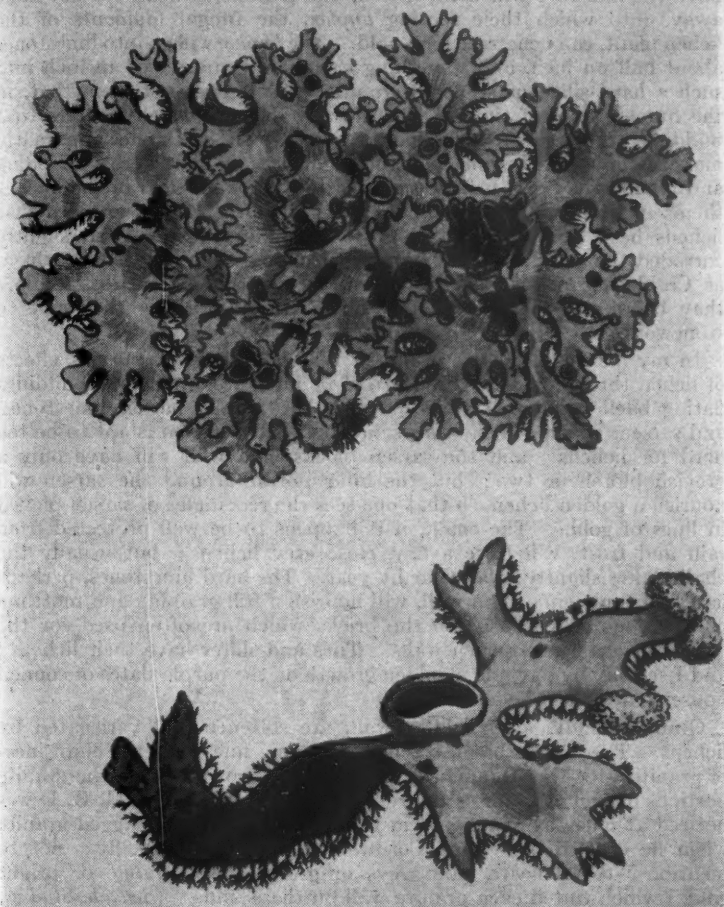
Going back to Gilpin, his *Forest Scenery* would assuredly have been read by Samuel Palmer, and weighed with him rather more than the architecture and lichens in Sir Uvedale Price's *Essay on the Picturesque* (1794). Price objects strongly to daubing, plastering and white-washing "some antient castle-like mansion or the mossy weather-stained tower of an old church." He has a good note on lichens and brickwork: "When brick becomes weather stained and mossy, it harmonises with the colours that usually accompany it, and has often a richness, mellowness, and variety of tint, infinitely pleasing to a painter's eye; for the cool colour of the greenish moss lowers all the fiery quality, while the subdued fire beneath, gives a glow to what without it would be cold and insipid." Observe, he asks earlier on, "observe the process by which time (the great author of such changes) converts a beautiful object into a picturesque one. First, by means of weather stains, partial incrustations, mosses, etc., it at the same time takes off from the uniformity of its surface, and of its colour; that is, gives it a degree of roughness and variety of tint. Next . . ."—and he describes how the stones loosen and fall, sedums and wall-flowers find nourishment in the decayed cement, and birds bring in the seeds of yew and elder and ivy. A few pages on Sir Uvedale Price writes of the extreme picturesqueness of water-mills, with the "intricacy of the wheels and the wood work," with lights and shadows "mosses and weather stains from the constant moisture," and plants "springing from the rough joints of the stones." The water-mill would have been more in Palmer's taste, when he was a boy; but, if he read it, he might have taken still more from J. T. Smith's *Remarks on Rural Scenery with Twenty Etchings of Cottages, from Nature* (1797)—to which the subscribers included Constable—two copies—and William Blake. Cottages, Rainy Day Smith remarks, have been neglected by artists, rather less so by poets. He points out Gainsborough's contribution, refers to Payne Knight on cottages in *The Landscape*: "the retired antiquated cot" with a roof of reeds and mosses, talks of 'neat' and 'neglected' cottage-scenery; and then :—

"We (i.e. artists) turn from this neatness and regularity, to what we must esteem a far more profitable subject—the neglected fast-ruinating cottage—the patched plaster, of various tints and discolourations . . . the weather-beaten thatch, bunchy and varied with moss—the mutilated chimney top—the fissures and crevices of the inclining wall—the roof of various angles and inclinations—the tiles of different hues—the fence of bungling workmanship—the wild, unrestrained vine. . . ."

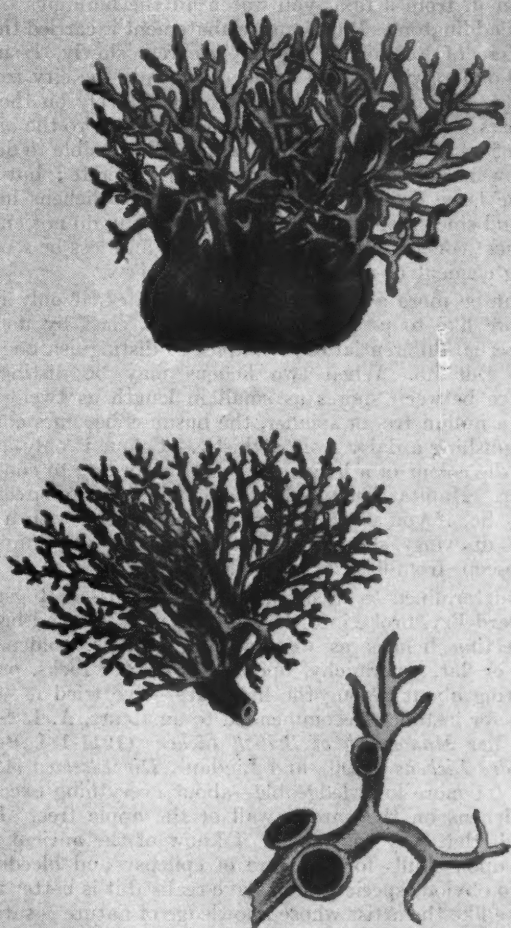
One of Smith's etchings, *At Cobham, in Surrey*—curling hops, thatch, walls of corn, children by the door—is Palmer, without Palmer. The difference between Palmer's "primitive cottage" and Rainy Day Smith's is that Palmer paints life and not decay; but still with the mosses, "weather stains" and the creeping plants. I do not know of a Palmer drawing which would correspond either to Sir Uvedale Price or Crabbe—with detailed lichen upon stone work; but he records and observes, not only the round mosses—actual mosses—upon thatch, and lichens upon tree trunks, but lichens upon the weather-boarding of farm buildings.

Plenty of lichen is poetically observed between Gilpin, Price and Coleridge in the seventeen-eighties and nineties, and Palmer in the late eighteen-twenties. Besides Crabbe in 1810, there was Wordsworth, who in the same year first published his *Guide to the Lakes*. Wordsworth wrote of the "bluish, or hoary grey" tint of the lichens mixed with the red tinge of the rocks as a main element in the colouring of the mountains; he observed how "the mosses and lichens are never so fresh and flourishing as in winter, if it be not a season of frost," and he noticed the lichens again on roadside walls, and on the walls and slate roofs of the cottages. Years later, Southey describes a walk to Walla Crag in Borrowdale :—

"After a steep ascent you reach one of those loose walls which are common in this country; it runs across the side of the hill, and is broken down in some places; the easier way, or rather the less difficult, is on the inner side, over loose and rugged stones, the wreckage of the crags above. They are finely coloured with a yellow or ochrey lichen, which predominates there to the exclusion of the lichen *geographicus*: its colour may best be compared to that of beaten or unburnished gold; it is richly blended with the



Even Grey Lichen: "This elegant and remarkable Lichen, of which we can meet with no description nor figure, was discovered on rocks in Anglesea and Caernarvonshire . . ."



Downy Shrubby Lichen: "First found in Britain by Mr. W. Borrer, on elms at Bracklesham in Selsey Island in April, 1804 . . ."

white or silvery kind, and interspersed with the stone-fern or mountain-parsley; the most beautiful of our wild plants, resembling the richest point-lace in its fine filaments and exquisite indentations." (Sir Thomas More; or, *Colloquies on the Progress and Prospects of Society*.)

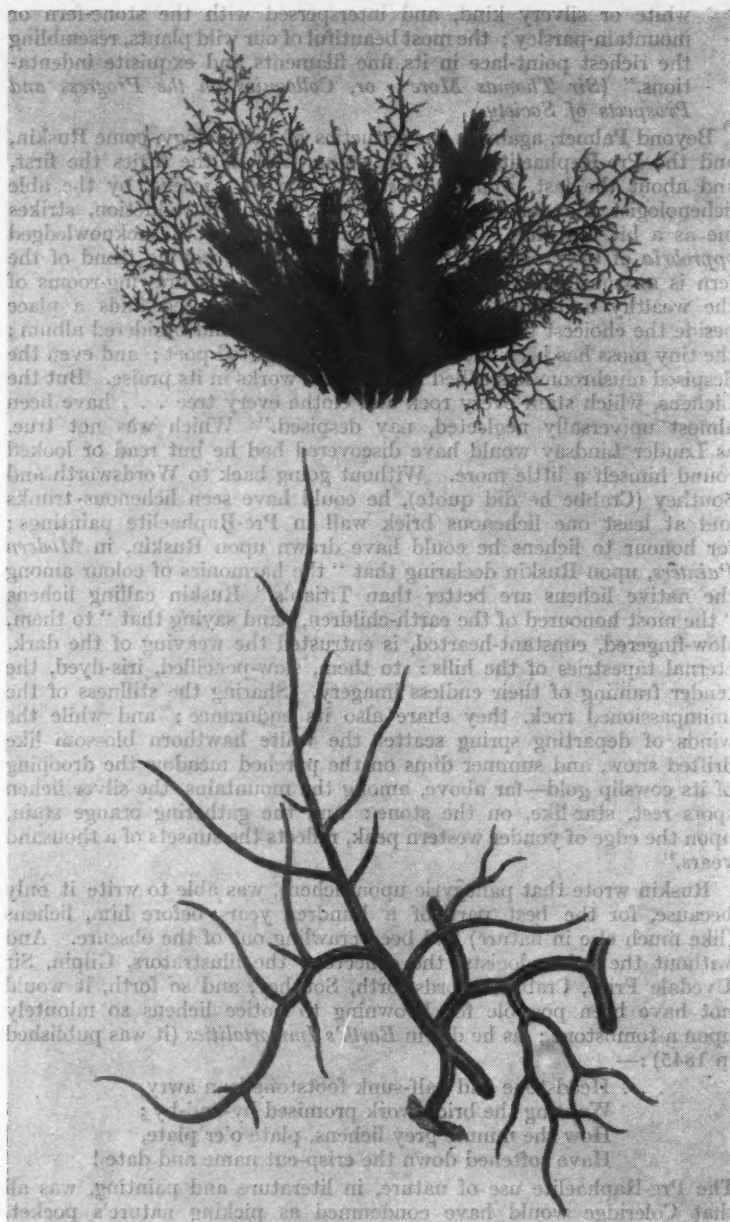
Beyond Palmer, again, in the aesthetics of lichenology, come Ruskin, and the Pre-Raphaelites, and Browning, and in the fifties the first, and about the last, *Popular History of British Lichens*, by the able lichenologist, Lauder Lindsay. Lindsay, in his introduction, strikes me as a bit too glum. Lichens "have ever been the acknowledged opprobria of Cryptogamic Botany. The delicate waving frond of the fern is anxiously tended by jewelled fingers in the drawing-rooms of the wealthy and noble; the rhodospereous seaweed finds a place beside the choicest productions of art in the gilt and brodered album; the tiny moss has been the theme of many a gifted poet; and even the despised mushroom has called forth classic works in its praise. But the Lichens, which stain every rock and clothe every tree . . . have been almost universally neglected, nay despised." Which was not true, as Lauder Lindsay would have discovered had he but read or looked round himself a little more. Without going back to Wordsworth and Southey (Crabbe he did quote), he could have seen lichenous trunks and at least one lichenous brick wall in Pre-Raphaelite paintings; for honour to lichens he could have drawn upon Ruskin, in *Modern Painters*, upon Ruskin declaring that "the harmonies of colour among the native lichens are better than Titian's," Ruskin calling lichens "the most honoured of the earth-children," and saying that "to them, slow-fingered, constant-hearted, is entrusted the weaving of the dark, eternal tapestries of the hills: to them, slow-pencilled, iris-dyed, the tender framing of their endless imagery. Sharing the stillness of the unimpassioned rock, they share also its endurance; and while the winds of departing spring scatter the white hawthorn blossom like drifted snow, and summer dims on the parched meadow the drooping of its cowslip gold—far above, among the mountains, the silver lichen spots rest, star-like, on the stone: and the gathering orange stain, upon the edge of yonder western peak, reflects the sunsets of a thousand years."

Ruskin wrote that panegyric upon lichens, was able to write it only because, for the best part of a hundred years before him, lichens (like much else in nature) had been crawling out of the obscure. And without the lichenologists, the collectors, the illustrators, Gilpin, Sir Uvedale Price, Crabbe, Wordsworth, Southey, and so forth, it would not have been possible for Browning to notice lichens so minutely upon a tombstone; as he did in *Earth's Immortalities* (it was published in 1845):—

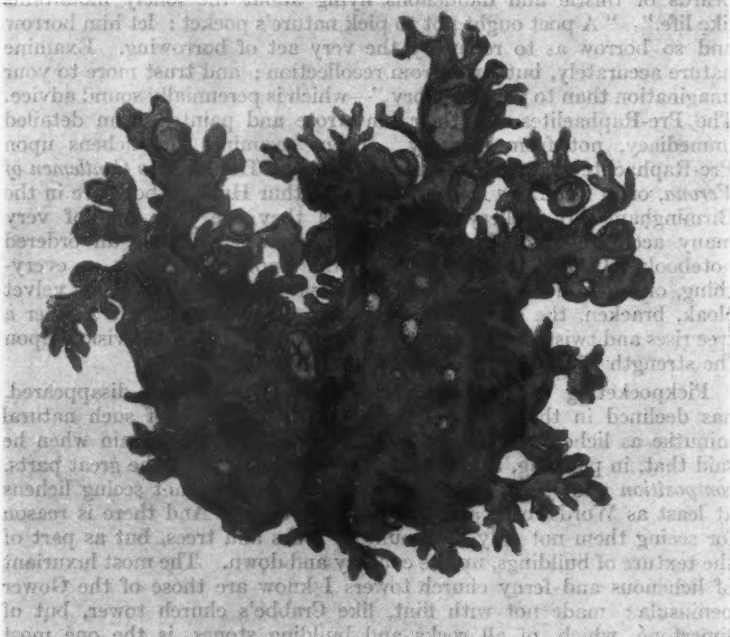
... Headstone and half-sunk footstone lean awry,
Wanting the brick-work promised by-and-by;
How the minute grey lichens, plate o'er plate,
Have softened down the crisp-cut name and date!

The Pre-Raphaelite use of nature, in literature and painting, was all that Coleridge would have condemned as picking nature's pocket. For Coleridge, landscape (for example) was not only itself, it was land imagery: "The land imagery of the north of Devon is most delightful." Seeds were seeds, and the seeds of life: "September 1 [1800]—The beards of thistle and dandelions flying about the lonely mountains like life." "A poet ought not to pick nature's pocket: let him borrow and so borrow as to repay by the very act of borrowing. Examine nature accurately, but write from recollection; and trust more to your imagination than to your memory"—which is perennially sound advice. The Pre-Raphaelites and their kin wrote and painted from detailed immediacy, not from memory. If one examines the lichens upon Pre-Raphaelite trees—for instance in Holman Hunt's *Two Gentlemen of Verona*, or in *The Long Engagement* by Arthur Hughes (both are in the Birmingham Art Gallery), one realises they are only one of very many accurately noted elements, in a picture which is an ordered notebook. In *The Long Engagement* the emphasis is sharp on everything, on moss, lichen, ivy, dog rose, leaves, squirrels, eye-balls, velvet cloak, bracken, the sleekness of the dog. In a drawing by Palmer a tree rises and twists from the ground, as the principal of the vision, upon the strength of which the coloured lichen is visible.

Pickpocketing of one kind and another, if it has not disappeared, has declined in the arts, and with it the visibility of such natural minutiae as lichens. We would be at one with Gilpin again when he said that, in painting, lichens, or 'moss,' "touches not the great parts, composition and effect"; but that is no reason for not seeing lichens at least as Wordsworth and Southey saw them. And there is reason for seeing them not only on mountain rocks and trees, but as part of the texture of buildings, up the country and down. The most luxuriant of lichenous and ferny church towers I know are those of the Gower peninsula; made not with flint, like Crabbe's church tower, but of limestone, which, of all rocks and building stones, is the one most favourable to lichens. Especially I recommend the tower, only a few feet from and above the sea, of Oxwich Church; there the lichens



The Black and Grey Shubby Lichen: "The fronds grow in loose upright tufts among moss, and are capillary, rigid, much branched, spreading, round and smooth . . ."



The Mealy-cracked Leafy Lichen: "For the fine specimens of this Lichen . . . we are obliged to Charles Lyell, Esq., who gathered them on an old oak in Testwood Park, New Forest, Hants. They precisely accord with every part of Dillenius' description . . ."

have the moisture which they need, and a stone, which does not flake away, into which their rooting *hyphae*, the fungal filaments of the lichen plant, can penetrate for a hold. The *hyphae* will go into limestones about half an inch, and something less than a quarter of an inch into such a hard siliceous stone as granite; but it does not seem that, in the human scale of time, lichens do any damage which matters to a building. The species which like, or live only on, limestones apparently make some use of the lime, but the slight damage they do by corroding and pitting the rock surface is caused by the oxalic acid in the lichens themselves and the carbon dioxide they liberate. It is on record that lichens have grown across from stone to stained glass, and slightly corroded the glass; but any superficial damage done by plants which, as Crabbe correctly said, grow with such extreme slowness, is more than balanced by the character and mixture of colours they give to stonework.

In my part of England, in North Wiltshire, one sees curious effects of lichen through the intermixture of building stones. Some buildings dating back beyond 1880 are built of hard chalk, harder limestones, and sarsen, which is a siliceous sandstone. The sarsen is apt to be too hard for lichens; and the sarsen blocks in a wall will have only a greyish blotch or two; but the lime mortar around the sarsen will nourish a golden lichen, so that one sees the rectangles of sarsen picked in lines of gold. The chalk, if it happens to be well protected from rain and frost, will have a few, close grey lichens; but usually the chalk flakes slightly away year by year. The hard limestones, perhaps laid as a course in such a wall, will nourish a full graining and mottling of lichenous colour; so too the bricks which are often used for the quoins of chalk and sarsen walls. Tiles and slates have their lichens; and I see day by day a fine golden growth on the purple slates of council houses built after the last war.

Granite buildings, as in Cornwall, are softened and variegated by lichens. The lichens break the harshness and fine down the clumsiness of granite with their branched, greenish-blue growth, as on the granite portions of such a tower as that of Pelynt. George Eliot's G. H. Lewes noticed at once, as one would in the fifties, the lichen-shagged granite when he crossed over from Cornwall to the Isles of Scilly; not to mention "the delicate pale greys or greens, deep orange or bright gold" which tinted each granite wall on the islands. (*Seaside Studies*, 1858.)

Lichens, as I have said, will not survive in a smoky atmosphere; so the buildings of big cities are without their modification. You will see not a lichen if, from a taxi, you watch all the buildings between Piccadilly and Paddington. But if smoke abatement is carried through, if the atmosphere of London is one day cleared, slowly, I suppose, the colours of London will change, as lichens invade the city from the country around. The spores of lichens coming in freely on the wind, just as fern spores have come in and given a new green to the air-raid-opened houses of central London, will at last find it possible to develop. Lichens can grow on neglected and weather-worn concrete; but I have yet to see some large concrete building surfaced by lichens into the picturesque; and since modern techniques of building do not end with concrete, one must conclude that lichens will less and less be a modifying, beautifying element of new architectural scenery.

Lichens might be more a part of our consciousness if only it were simpler (since we like to possess the species of a class by its name, by some easy verbal differentiation)—simpler to distinguish one lichen from another. But no. When two lichens may be distinguished by the difference between spores as small in length as twenty-three thousandths of a millimetre, or smaller, the business becomes complex. It is not distinguishing a daisy from a thistle. Colour is only a rough criterion, since the colour of a lichen may vary according to conditions of light, and air. Habitat helps only a little, since many species are not particular. So, if you want names, you must cope with a lichen flora, in which drawings show the distinguishing details multiplied under the microscope from fifty to five hundred times.

You must be determined to break into such a world—as Roger Fry's father, Sir Edward Fry, broke into the world of mosses. And breaking in means neglecting lichens as we see them, yellow, golden, grey, brown, crusted or flat, or branchy, upon the walls, or rocks, or trees. A pity. Pottering about among the literature—I've tried it—among the four books, for instance, recommended to amateurs, A. L. Smith's *Lichens* (1921), her *Monograph of British Lichens* (1911-18), Boistel's *Nouvelle Flore des Lichens* (1896), and Lindau's *Die Flechten* (1913)—it makes one a bit more knowledgeable—about everything except the names of the lichens on the garden wall or the apple tree. I have tantalised myself that way too much; I know of the ancient use of lichen growing upon skulls for the cure of epilepsy and bleeding; I know one or two obvious species, but I have realised it is better to give up; better to be like the artist whose knowledge of nature is satisfying knowledge of the visible, of its shape and its colour and its texture at the moment of vision; and not Adam's scientific knowledge of nomenclature.

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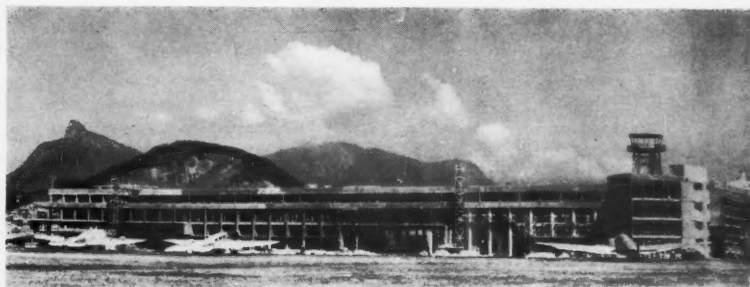
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1, the entrance front which faces west. Above the ground floor this facade is protected by a brise-soleil; behind is a timber frame, still under construction, into which the sash windows and wall panels will be fitted. 2, the eastern facade onto the airfield. The control tower can be seen over the operations wing, at the near end.

RIO DE JANEIRO AIRPORT

MARCELO AND MILTON ROBERTO: ARCHITECTS



When in 1937-38 the Department of Civil Aeronautics worked out the scheme for the Rio de Janeiro Airport with its various buildings and installations, it included in the project a large-scale passenger terminal to deal with the traffic of land-based planes. It was not possible to find a convenient location for a building to do simultaneous duty for both land and seaplanes because the mooring and docking of seaplanes demanded a protected area in the northern sector of the airport, whilst the future and far greater volume of land plane traffic demanded a locality better served and more easily accessible by land routes; and this was only feasible in the southern sector. At that time seaplanes were most commonly used and it was their imperative needs which required that some kind of a building be put into construction without delay. So the seaplane station of the Santos Dumont airport was built by the architect Attilio Corrêa Lima, after he had won first place in an open competition. In order to carry out the plan for the land-based plane terminal a previous journey of investigation was made to Europe, to the principal buildings of the kind which already existed either in fact or in project. The engineer Alberto de Mello Flôres was charged with this mission, and the data he collected was translated into the project for an air terminal, and into the programme of a competition for a first-draft project for this terminal.

This scheme comprises a three storey basement building which covers an area 640 feet long by 115 feet wide, as well as a separate wing 80 feet long which houses the various meteorological and communication services of the airport, on top of which is the traffic control tower. The ground floor provides space for the despatch of departing passengers, and for examination by the authorities and the clearing of passengers on arrival; for mails, for police, customs and health officials; for shops, sanitary installations and, in the tower wing, for meteorological data, clearance of planes, and for a rest room for the air crews. The space set aside for the various airlines can easily take care of twelve to fifteen different companies which each have an equal amount of office space in the mezzanine. The sections reserved for the arrival and the departure of passengers have been kept separate so as to obtain, as far as possible, well-defined and independent circulation both for passengers and baggage, both to and from the runway apron. At the extreme south of the departure hall is situated the access to the restaurant and bar, which are in the mezzanine, in a position which was chosen so as to give them the best view over the airfield and over Guanabara Bay. Beyond the departure hall, in the extreme southern section of the ground floor, is the airmail section, belonging to the Posts and Telegraphs, to which all Rio air mail correspondence is routed and



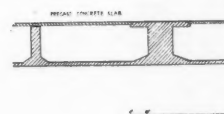
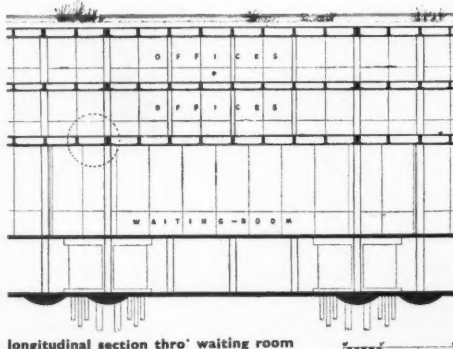
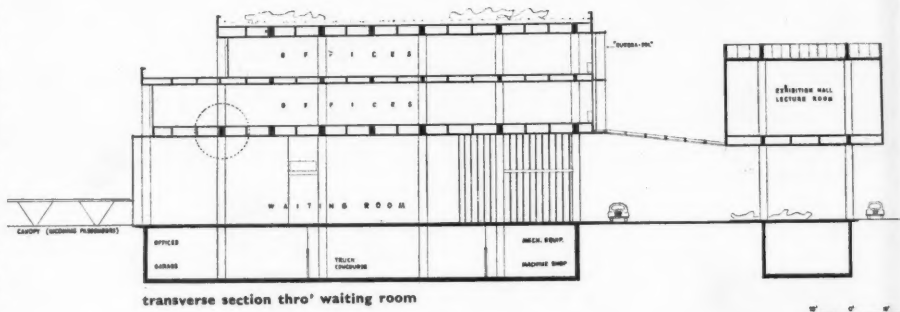
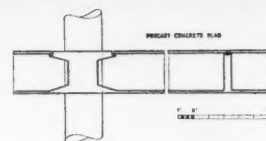
where bags are packed for despatch whilst incoming bags are opened and distribution effected. Localising this entire section in the airport itself had as its aim the reduction of delivery time for air mail, thus avoiding unnecessary transport of the bags to another building in another part of the city. (The airport is five minutes from the centre of Rio.) The section reserved for passengers' arrival is divided so as to deal separately with those who come from abroad and those arriving from other parts of the country, since in the first instance examination by the police, immigration and health officials is necessary. The customs occupy a space which has been designed so as to handle passengers and baggage proceeding from international traffic, and on the other side of a partition they occupy an area of 11,500 square feet for the examination and warehousing of freight and valuables transported by air. An area in the mezzanine, with independent entry, is designed to house customs offices and the personnel. The mezzanine as a whole includes the restaurant and bar with a seating capacity of 1,000; a pantry, kitchen and dependent offices; the space reserved for the different airlines; and that set aside for the customs authorities, already described. The two upper floors are planned as offices for the Department of Civil Aeronautics, for the Department of Airways, and for the Commercial radio services of the various airway companies. In the wing of the building, on the upper floors, are the Air Ministry communications centre, a meteorological centre where information from all over the country is received for the preparation of weather charts and maps, and the flight control centre, which commands all air traffic on routes included in a wide area surrounding the city of Rio de Janeiro. The control tower is situated above the roof terrace of the wing. It houses the radio operators who control airport traffic.

The façade overlooking the field faces east and thus gets the morning sun. The southern façade, in which is situated the greater portion of the restaurant, gets very little sun and is well ventilated by the prevailing south-eastern winds. The northern façade, overlooking one of the aprons of Hangar No. 1, is contiguous to the customs and to the shelter for rescue craft on the ground level. It gets the full force of the sun, especially in the winter, and for this reason it has been protected by a brise-soleil on the upper floors. The western façade, facing the city, gets strong sunlight from the setting sun; this direction is, in this latitude, the least favourable, especially on summer afternoons. So the entire building above the first floor has been protected by a brise-soleil, whilst the part of the wing facing in this direction is entirely walled in.

The structure of the building is of reinforced concrete, supported on "Franki" piles cast in situ. The structure is regular in form, with the space between the columns being uniformly 16 feet 5 inches longitudinally and 20 and 27 feet transversally. The floor structure is composed of main and secondary beams of reinforced concrete on which rest double floor slabs which allow of the greatest freedom in planning, and provide sufficient space for cables for fluorescent lighting as well as for other electrical and hydraulic installations. The lower floor slab only supports its own weight and is cast together with the beams. The upper floor slab is formed by the compression section of the beams, the interstices being completed by precast slabs. On the top floor this double floor slab is utilised as thermal insulation, being covered by a three-ply waterproof layer made of felt and asphalt, and this in turn is overlaid with concrete slabs. The thermal insulation is completed by a layer of vegetable earth 13 inches deep, in which Roberto Burle Marx has landscaped a roof garden.

In the main hall, so as to obtain better circulation, the inter-column space of 16 feet 5 inches has been substituted by one of 65 feet 6 inches. To roof these spaces and at the same time to avoid a very heavy structure, a special system was employed, using two contiguous spaces together with the columns and beams of the two upper floors, the whole forming a Vierendeel frame. The columns of these upper floors are carried by the main beams of this frame and establish a link between the corresponding beams on the upper floors, arranging them to work as a unit as in the case of a Vierendeel beam. With the exception of certain interior partitions where complete separation is demanded either on account of safety or of privacy, the building is enclosed by continuous framing which does not interfere with the structure, being set in place either outside or inside the outer line of columns. This framing, which

3, a panorama which shows, at the left, hangar number three in process of construction; centre, hangar number one completed, and at the right, the administration building, the ground plan and elevations of which are given on the facing page, and the sections below.

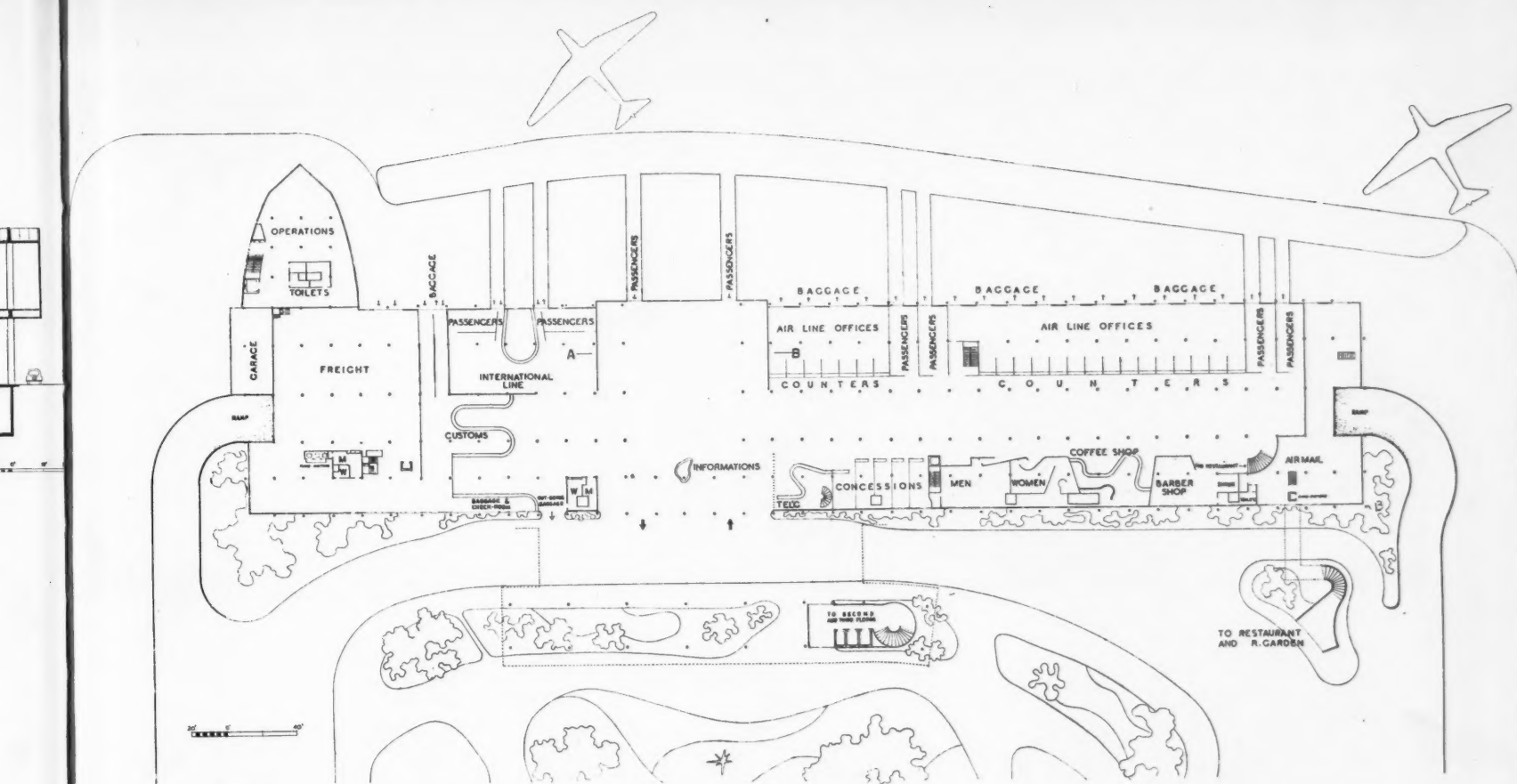


at the ground floor is of steel and above is of wood, serves as a frame both for the sash windows and for the panel in-filling, the latter being of fibro-cement outside and wood inside separated by an air space.

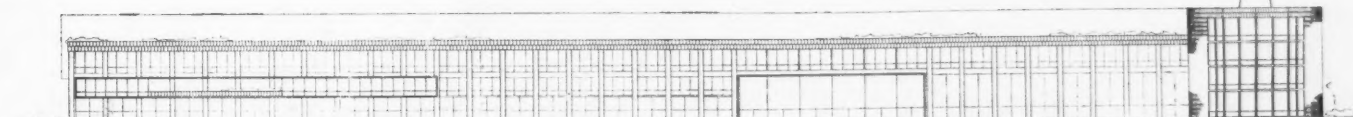
The ground floor is finished with white Brazilian marble in the main sections and with marmorite slabs in the others. The upper floors are finished with wood blocks. All the ground floor columns are faced with white Brazilian marble, whilst on the other floors the finish is of plaster. The wall finishes inside the building are of ceramic mosaic tiles in blue, grey and beige. The exterior of the building is faced with pale cream ceramic mosaic tiles; the wing has a facing of pale grey granite, whilst the fixed panels of the brise-soleils, on both the north and the west façades, are of white rough-cast cement and sand. The mobile panels, which only occur on the west façade, are of fibrocement and are painted. The garden at ground level has also been designed by the landscape gardener, Roberto Burle Marx.



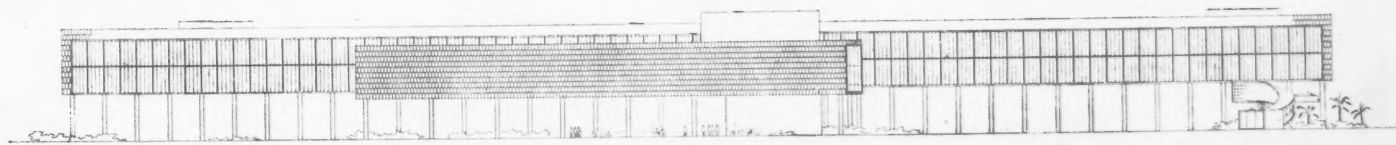
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ground plan



east elevation



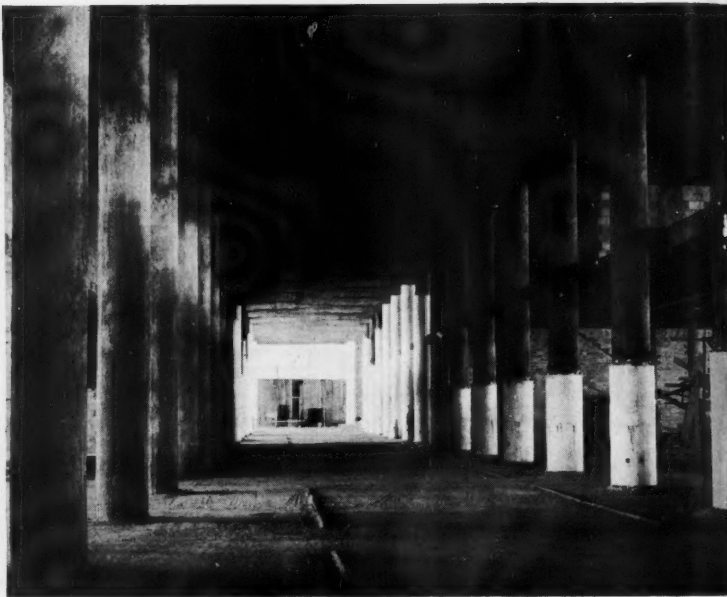
west elevation



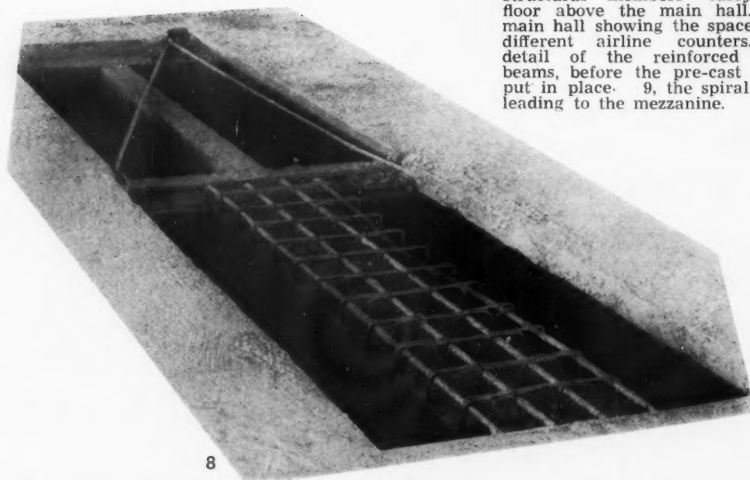
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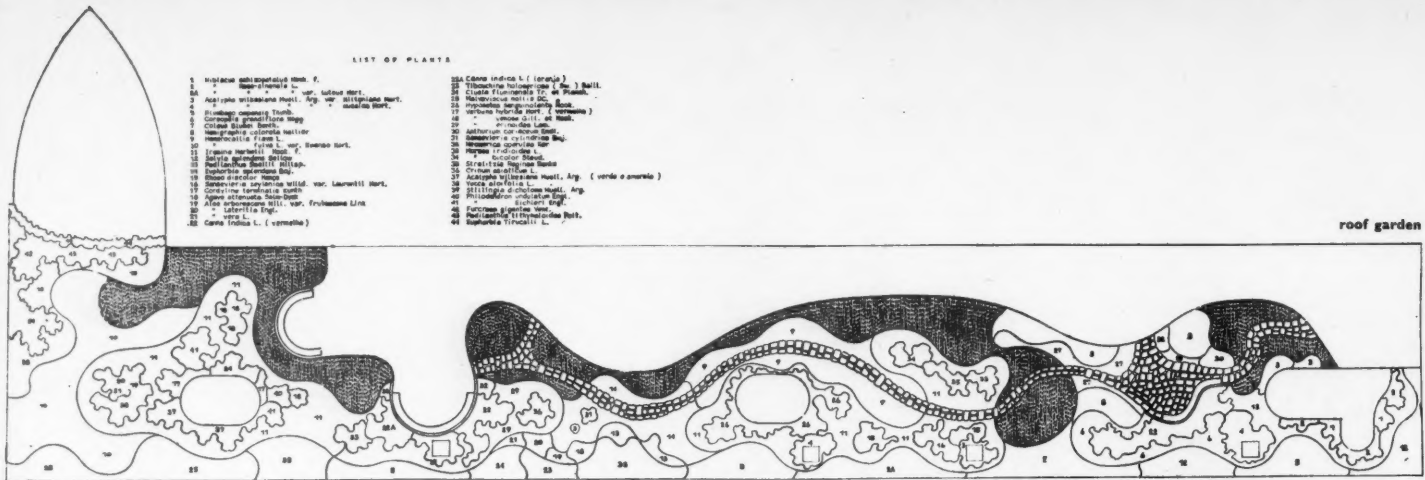


4, the *brise-soleil* on the western facade from the inside. 5, the staircase leading to the roof. 6, a view of the third floor, showing the structural members carrying the floor above the main hall. 7, the main hall showing the space for the different airline counters. 8, a detail of the reinforced concrete beams, before the pre-cast slabs are put in place. 9, the spiral staircase leading to the mezzanine.

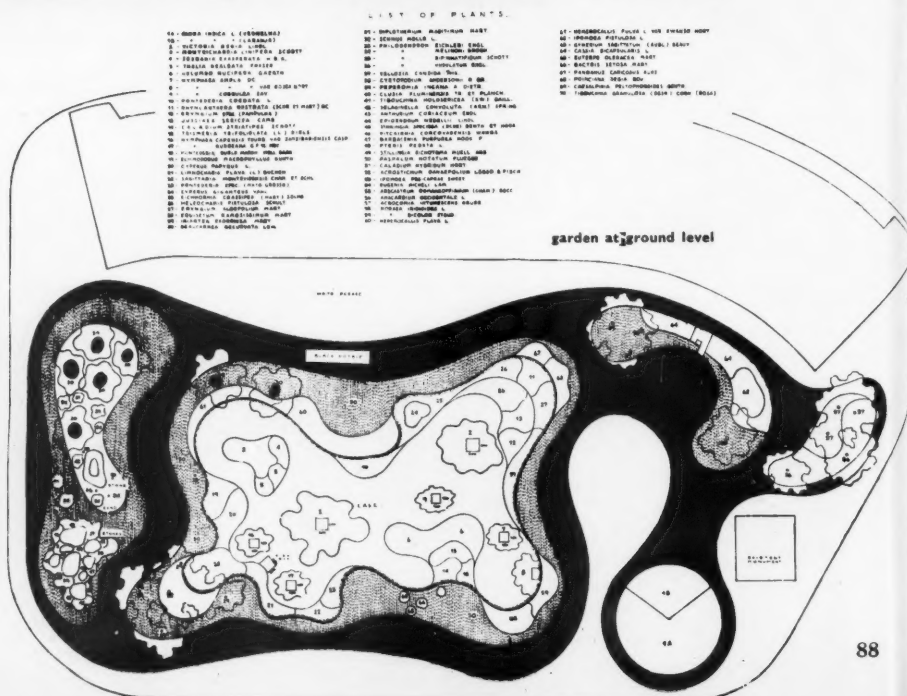
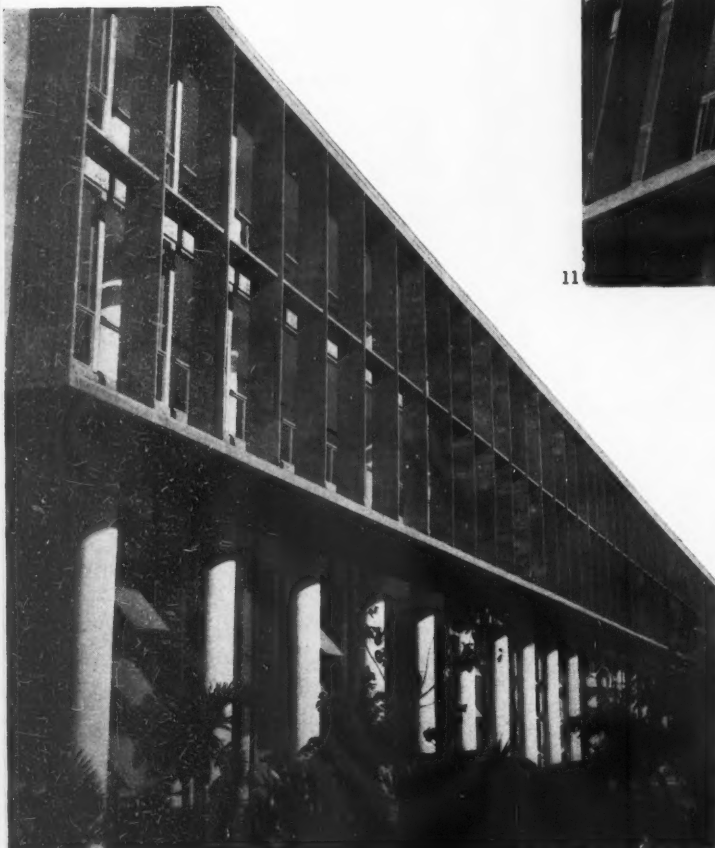
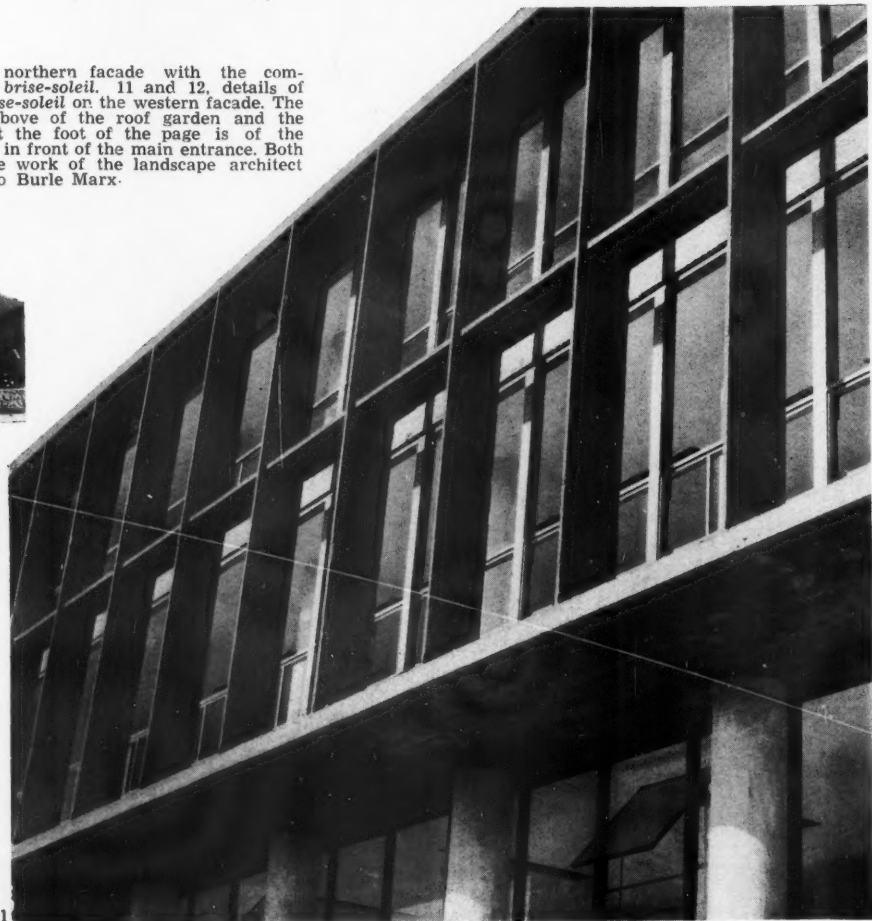
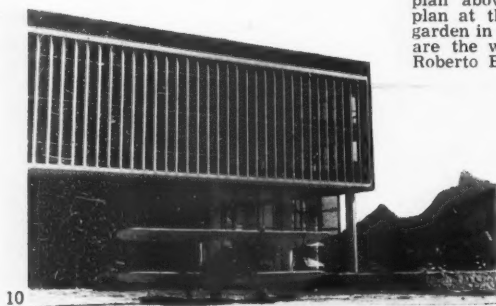


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10, the northern facade with the completed brise-soleil, 11 and 12, details of the brise-soleil on the western facade. The plan above of the roof garden and the plan at the foot of the page is of the garden in front of the main entrance. Both are the work of the landscape architect Roberto Burle Marx.





From an engraving published by Robert Sayers

The Discovery of PALMYRA By T. M. Clarke

FROM their study of Roman history Renaissance scholars were aware of the name of Palmyra and the fortunes of Zenobia, but the town itself was something of a myth, a minor Atlantis. Medieval Arab geographers knew of the village in the desert crowded in the temple enclosure and wrote of "wonderful buildings erected on pillars." They believed that Tadmor, as they called and still call Palmyra, had been built by jinns at the orders of Solomon. Yakut (about 1225) records the discovery of an underground tomb in which was a bier, "upon which lay the body of a woman lying on her back, and over her were laid seventy cloaks, and behold she had tresses of long hair with rings attached thereto." The narrator reports that he measured her foot, and it was an ell long exactly. And on one of her tresses was a plate of gold, on which was written: "In the name of Allahumma, I am Tadmur, daughter of Hassan. May God lead to abasement him who enters this my cell!"

Tales of jinns and buried treasure and clusters of columns in the desert must soon have reached the ears of the Frankish merchants in Aleppo, where by the end of the sixteenth century the Venetians, the French and the English had established lucrative trading posts. Immensely busy in buying grograms, galls, Syrian cotton and silks from Persia, the consuls and factors of the English Levant or Turkey company (formed in 1581) yet found time to improve on their excellent classical education by making collections of marbles and coins from the neighbourhood of their fortunately-sited stations at Smyrna, Constantinople and on the Levant coast. Not only classical antiquities but oriental as well interested the enterprising Englishmen of the time. Thus Paul Pindar, Consul at Aleppo and then Ambassador at Constantinople (1606-20), formed a collection of oriental manuscripts, Sir Thomas Roe bought marbles a decade later, while in the last quarter of the seventeenth century, the Consul at Smyrna, William Ray, collected coins and medals which he presented to the Bodleian.²

The year 1678 was doubly important for the

cause of classical archaeology. First, it saw the publication of Jacob Spon's account of his travels with Sir George Wheeler in Greece, a work which stimulated interest in classical sites and to a lesser extent in Greek architecture, and which remained a standard work on the subject until the middle of the eighteenth century. And, secondly, the first abortive expedition set out from Aleppo to determine the site of Palmyra, doubtless inspired by the traditional stories related by some caravan leader. Thanks to the racy diary of Henry Teonge, naval chaplain, and to travel books written by yet other chaplains, this time chaplains to the Aleppo factory, we know much about this strange company of voluntary exiles who formed the small English community at Aleppo at the end of the seventeenth century. They were convivial to a degree, even a naval chaplain being amazed at their capacity for drink; but in the true English manner they took plenty of exercise, riding out to the Green Plat to play cricket and handball. Henry Teonge enjoyed it all. On the 8th of May, 1676, he dined with twenty-three others at Mr. Lanoy's house; on the 9th he went to a feast at the Consul's, Mr. Gamaliel Nightingale, where he was served with dishes of turkeys and tarts, a bisque of eggs, pyramids of marchpane and all manner of pasties. On the 11th he was "at a treat at Mr. Goodyear's."

These, then, were the Englishmen to whose credit goes the discovery of Palmyra. It was no easy feat. The first expedition nearly ended in disaster. At 5 a.m. on the 18th of July, 1678, a party rode off from the caravanserai in the Aleppo Souks, sixteen Englishmen, all belonging to the Levant Company's factory, their servants and muleteers, forty in all, "armed with good Fuzils and Musketoons." We know the names only of Dr. Huntingdon, chaplain (later Bishop of Raphoe, a collector of MSS.), of Mr. Timothy Lanoy, of Mr. Aaron Goodyear and George (or Thomas) Metcalf, all of whom had helped entertain Teonge two years earlier. They travelled south-east across the desert via the early Christian town of El Anderin, arriving at Palmyra, some hundred and thirty miles from Aleppo, on the 23rd of July, when they were immediately seized by "Milheym, the Arab Prince, to satisfy whom they were constrained to part with their very clothes; which

great loss and ye effright so palld their curiosity yt they staied not to take a more exact survey of ye ancient ruines." The net result to classical studies was one inscription copied and the observation that an underground aqueduct was covered with "an Arch of Bastard Marble."³

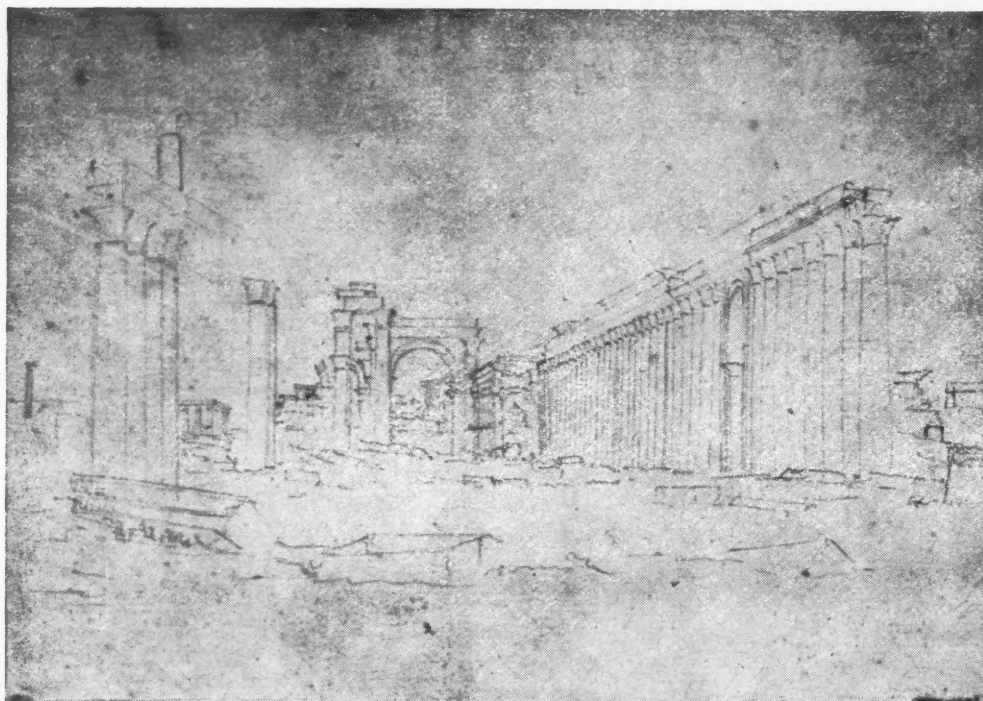
As a result of this adventure the Arab Prince was lured to Aleppo and beheaded, but still the desert was dangerous. Cornelius le Bruyn, noted Dutch traveller, was in Aleppo in 1682 and thought of making the journey himself, but the memory of the sartorial indignity inflicted on the 1678 party was still common gossip among the "nations" of Aleppo, the English, the Dutch and the French, so that le Bruyn "durst not." However, Dr. William Halifax of CCC, Oxford, as he described himself, yet another chaplain to the Aleppo factory, was a man of different mettle. Leaving Aleppo with a party of thirty all told, Franks and servants, on the 29th of September, 1691, he arrived without incident at Palmyra on the 4th of October, remaining until the 8th. He was enthralled—"You have ye prospect of such magnificent ruine, yt if it be lawful to frame a conjecture of ye original beauty of ye place by what is remaining I question whether any citty in ye world could have chalenged precedence of this in its glory." Halifax's enthusiasm was that of an epigraphist, not that of an architect or archaeologist. He busied himself copying inscriptions, eighteen of them, in Greek and in the peculiar Palmyrene script which neither he nor any scholar of the period could decipher, though many volumes were published in England and France in an attempt to unravel the mystery. Halifax did notice, however, that two of the tower-tombs were in a better state of preservation than the rest: they have remained so to this day. "Having tired ourselves with roving from Ruine to Ruine, and romaging among old Stones, from which little knowledge could be obtained," the party returned to Aleppo by a northerly route.

By the publication of the account of his journey in the *Philosophical Transactions* for 1695—a period-

²Accounts of the Aleppo merchants' journeys to Palmyra in 1678 and 1691 were printed in the *Royal Society's Philosophical Transactions* of 1695 (Vol. XIX, pp. 83-110 and 129-60). Another version of Halifax's account was published in the *Palestine Exploration Fund's Quarterly* for 1890, pp. 273-306.

¹Guy le Strange, *Palestine under the Moslems*, London, 1899, page 641.

²A. C. Wood, *A History of the Levant Company*, Oxford, 1933, page 242.



A pencil drawing of the main colonnaded street of Palmyra, from the sketch-book of G. B. Borra, otherwise known as Torquilino, the Italian draughtsman who accompanied Robert Wood to Palmyra in 1751.

ical which enjoyed an international circulation in a small way—Halifax had succeeded in putting Palmyra on the map, although he was not without his critics who accused him of fantastic invention; from the crude engraving of the ruins which appeared in a later number, a confused jungle of columns drawn with little skill, his detractors might well have been in the right.⁴ Henceforth a description of Palmyra, borrowed sometimes *in toto* from Halifax's account, appeared regularly in all the many dull, fat travel books on the Ottoman Empire. But there is no record of any European revisiting Palmyra until 1710, when one Cornelius Loos, a Swede, and a member of Charles XII of Sweden's staff who shared his master's captivity in the small town of Bender on the Dniester after Peter the Great's defeat of the Swedish army at Poltava, was sent by his master on a tour of Egypt, Palestine and Syria, with a commission to draw the more important monuments of antiquity. Loos spent some days at Palmyra, and his drawings are preserved at Upsala University.⁵

* * *

The first half of the eighteenth century produced no newer works on Palmyra, although travel in the Levant became increasingly popular and young men on the Grand Tour occasionally ventured outside the traditional itinerary of the Italian towns. Lord Charlemont, for instance, with Richard Dalton as his private draughtsman, had included Greece in his travels in 1749; and Mr. Ponsonby, an early member of the Society of Dilettanti, had also been to Greece. Interest in the east had been aroused by Lady Mary Wortley Montagu's letters, while routine travel books (such as Pococke's *Description of the East*, 1737) found

⁴This engraving is the earliest recorded print of Palmyra, and was reproduced with slight variations according to the fancy of the engraver in most of the large travel books on the Near East. Cornelius le Bruyn, in the English edition of his *Voyage to the Levant* (1702), acknowledges his source in a generous manner, adding "I have a little mended it the engraving by a small addition which I have made of a piece of a Pillar of Porphyry that lies on the ground, and six other pillars that are in the middle of the Print." He bases these additions on a painting which is probably identical with one that hangs, or used to hang, in the University of Amsterdam. This is a canvas of immense size, thirteen feet long by two and a half high, signed "G. Hofstede fcs 1693 1 Aug." It was believed by F. von Duhn, who investigated the matter at length, that this painting was executed by a Dutch resident of Aleppo from a sketch brought back by the 1691 expedition. See *Jahrbuch des K. Deutschen Archäologischen Instituts*, Arch. Anz., Vol. IX, 1894, pp. 112-115.

⁵One of these drawings is reproduced by M. Rostovtzeff in his *Caravan Cities*, Oxford, 1932. Their reproduction with an account of their romantic origin would be interesting.

a ready sale. Architects were less venturesome, still drawing their inspiration from Rome and Vicenza, with, perhaps, a fashionable detour to Herculaneum and Pompeii. But soon the architects followed the men of taste, and the decade from 1750 to 1760 was marked by a notable enlarging of architectural knowledge, a shift of emphasis from Rome to Greece, a revaluation of the classical heritage. Winckelmann was in Rome, re-interpreting the spirit of antiquity, Robert Adam sailed to Spalato to draw Diocletian's Hellenistic palace, "Athenian" Stuart and Nicholas Revett were measuring the ruins of Attica. On the one hand this energy led to the Classical Revival, on the other a beginning was made with the science of classical archaeology, both aspects in a sense of the Romantic movement, in each of which England led Europe in the next half century. The first-fruit of these endeavours was the appearance in 1753 of Robert Wood's huge folio volume *The Ruins of Palmyra*, otherwise *Tadmor in the Desert*.

That Palmyra should have been chosen as the first subject of the new interest in classical antiquity is curious. There was, of course, the associational element and the picturesque: Palmyra "where Zenobia was queen and Longinus was first minister," and which "afforded a most romantic variety of prospect." There was, too, its very remoteness in the Syrian desert that appealed and the fact that, thanks to Halifax's account of 1695, public appetite had been whetted. Then again, Stuart and Revett already had in hand an ambitious work on the more obvious choice of Athens.⁶ Justification came with the immediate success of *The Ruins of Palmyra*, so that a companion volume, *The Ruins of Balbec*, was brought out in 1757, thus covering the major classical remains of Syria.

The fortunate preservation of the original notebooks of Robert Wood and his companions affords an insight into the genesis of such a typical mid-eighteenth century work as this.⁷ Robert Wood, according to Horace Walpole, was "originally a travelling tutor and an excellent classic scholar,"

⁶The first volume of Stuart and Revett's *Antiquities of Athens* was not published until 1762. This large folio formed, with *The Ruins of Palmyra* (1753) and Chandler's *Ionian Antiquities* (1769), an expensive and handsome trilogy, eloquent of English precedence in classical archaeology.

⁷Now in the possession of the Society for the Promotion of Hellenic Studies, by whose courtesy the original drawings by Borra are here reproduced. A summary of the contents of the diaries and note-books was published by C. A. Hutton under the title of *The Travels of "Palmyra" Wood in 1750-51 in The Journal of Hellenic Studies*, Vol. XLVII, 1927, pp. 102-28.

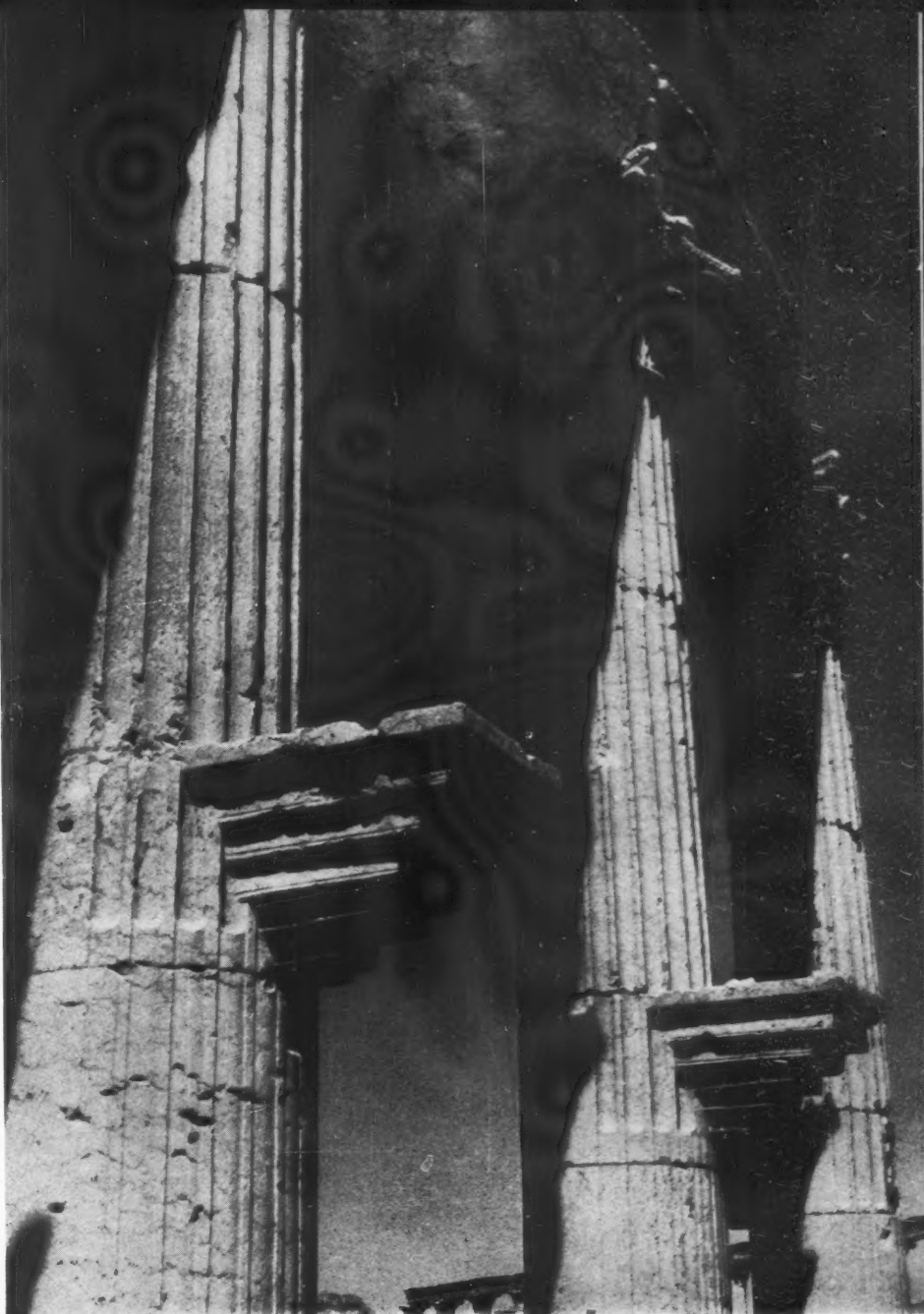
who had made a journey to the eastern Mediterranean in 1742-3. Because of these qualifications he was asked by two wealthy Oxford graduates with whom he had travelled in Italy, John Bouverie and James Dawkins, to accompany them on a tour of classical sites in Asia Minor, Syria and Greece. "Jamaica" Dawkins owed his riches to West Indian connections and earned Johnson's approval: "the only instance that I have ever known of the enjoyment of wealth was that of Jamaica Dawkins, who, going to visit Palmyra, and hearing that the way was infested by robbers, hired a troop of Turkish horse to guard him." Bouverie, the third Englishman of the party, was an amateur archaeologist, but died in Asia Minor before Palmyra was reached. The fourth member of the party, and the one who made the publication of *The Ruins* possible, was an Italian draughtsman named Torquilino, or sometimes G. B. Borra. Little seems to be known about him, but his sketch-books with their finicky views and architectural details and measurements have survived. It is clear that he returned to England with Wood and Dawkins, enlarging from his sketches the finished drawings from which the folio plates were engraved. Perhaps he stayed on in England practising as an architect, for a Signor Borra is known to have made alterations at Stowe in the 1750's. He may also be identical with a Giovanni Battista Borra, active in Turin in the 1760's and 1770's.

On the 5th of May, N.S., 1750, Wood, Dawkins, Bouverie and Borra set sail from Naples in the *Matilda*, a ship of 160 tons, captained by Richard Puddle. They reached Smyrna on the 18th, where apart from visiting ruins they caroused with factors of the Levant Company. Bouverie's equipment on one occasion included the following items: 6 pairs of riding stockings, 4 Indian dimity waistcoats (16 buttons), 4 striped Spitalfield's linen do., Nankin coats, shoes, pumps, boots, thread stockings, bob-wig and two bagg'd breeches, cyder, beer, vin de Bordeaux, French brandy, and a cask of potatoes. But all this paraphernalia availed nothing, for Bouverie contracted a fever and died quickly, on the 19th of September. Despite this setback, the others—Dawkins, Wood and Borra—pushed on with their plans, reaching Egypt on the 4th of November, leaving again for Palestine in December. March, 1751, found them in Damascus, making preparations for their desert journey. On the 6th they set out for Palmyra, travelling north via Hasiye on the Homs road, and then going east into the desert, passing Hawarin and Kariatein. With escort the caravan was about two hundred strong, but no beduin dangers were encountered.

Unfortunately the notebooks of the journey to Palmyra and the stay there have disappeared: Borra's drawings happily remain. These and the text of *The Ruins* show that no time was wasted. At mid-day on the 14th of March the party arrived at the Valley of the Tombs, which forms the only approach from the west. "In this vale, to our right and left, were several square towers of a considerable height, which upon a nearer approach we found were the sepulchres of the antient Palmyrenes. We had scarce passed these venerable monuments, when the hills opening discovered to us, all at once, the greatest quantity of ruins we had ever seen, all of white marble, and beyond them towards the Euphrates a flat waste, as far as the eye could reach, without any object which shewed either life or motion. It is scarce possible to imagine any thing more striking than this view: so great a number of Corinthian pillars, mixed with so little wall or solid building, afforded a most romantic variety of prospect." But there was work to be done, so "Jamaica" Dawkins and Robert Wood, with the hired draughtsman Borra in tow, hurried off to rough lodgings in the Arab village which was still established in the court of the Temple of Bel. How long they stayed in Palmyra is not clear; five days only according to the diaries which pick up the story on the 22nd March en route to Baalbek, fifteen days according to the published account in *The Ruins*. Probably only five days, during which Borra filled his sketch-book with "views" and details and rough ground plans, measured but drawn free-hand without instru-



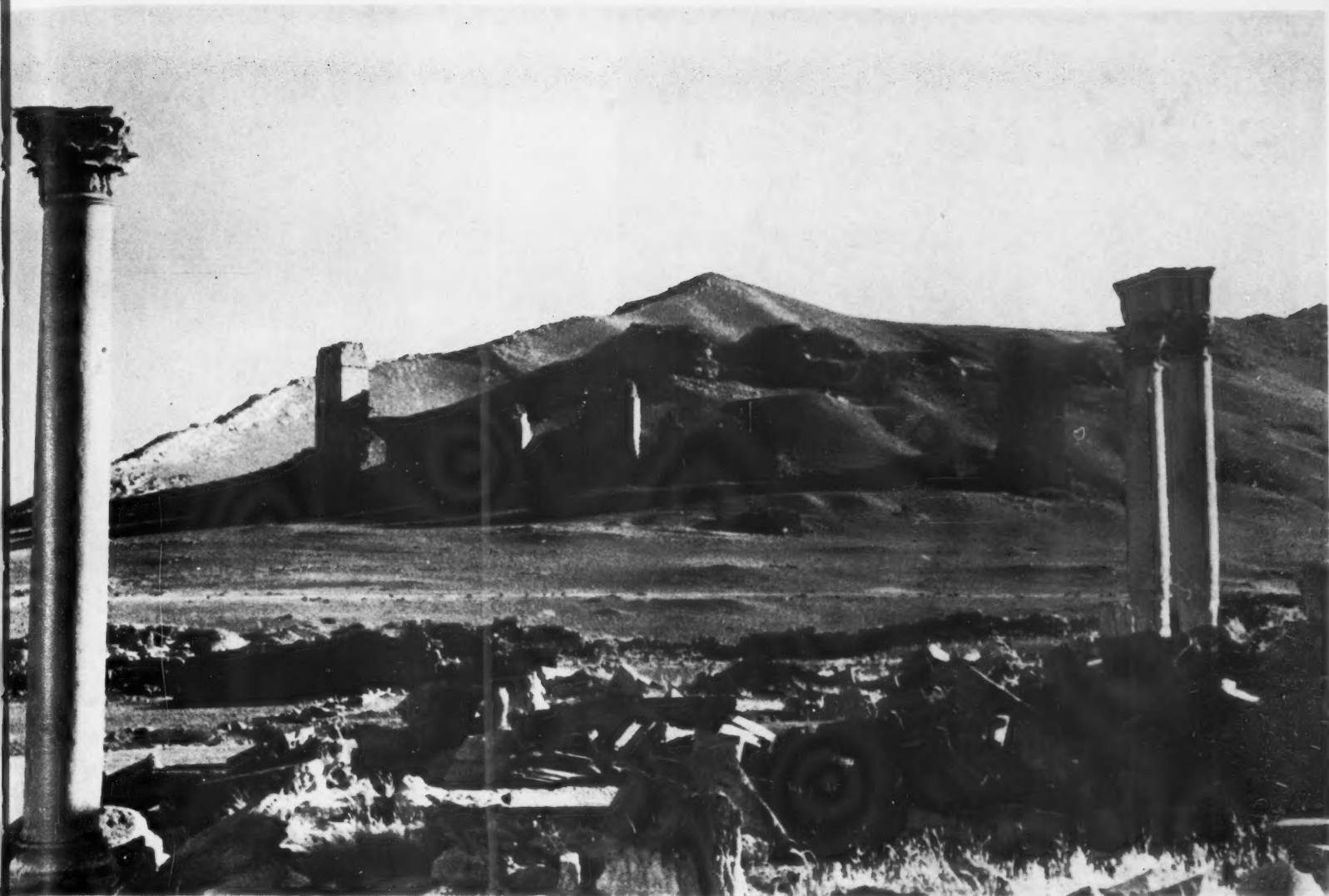
The hallmark of Palmyra is the Corinthian capital, and a school of carvers developed certain peculiarities that owed little to Roman precept, as in the example above. On the right is a close-up of statuary brackets, another characteristic feature; the repetition of the shaft flutings beneath the brackets and the deep undercutting of the capitals give a sense of the baroque that is typical of much Hellenistic architecture in Syria. Below are two views of the main colonnaded street, built about 200 A.D., which, 1,240 yards long, formed the main axis of the ancient city; three rose-coloured granite monolithic columns on the left in the left-hand photograph were part of a portico to the Diocletian baths, and were brought probably from Egypt, since granite is not found in Syria.



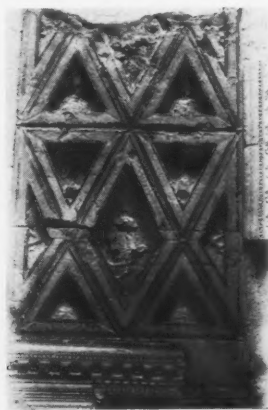


The temple of Baalshamin, left, was erected in 130-1 A.D. by a clerk called Mâle. (The habit of cutting bilingual inscriptions in Palmyrene and Greek, recording dedications and gifts, has considerably facilitated the dating of Palmyra's monuments). The temple of Bel, below, which is the grandest of surviving Hellenistic temples in Syria, has been subjected to methodical research only since 1930, when the Arab village was cleared from its precincts. The slender Corinthian columns originally had capitals of gilded bronze; above the deep entablature a parapet of merlons or crowsteps (a feature of Assyrian derivation) has recently been reconstructed.





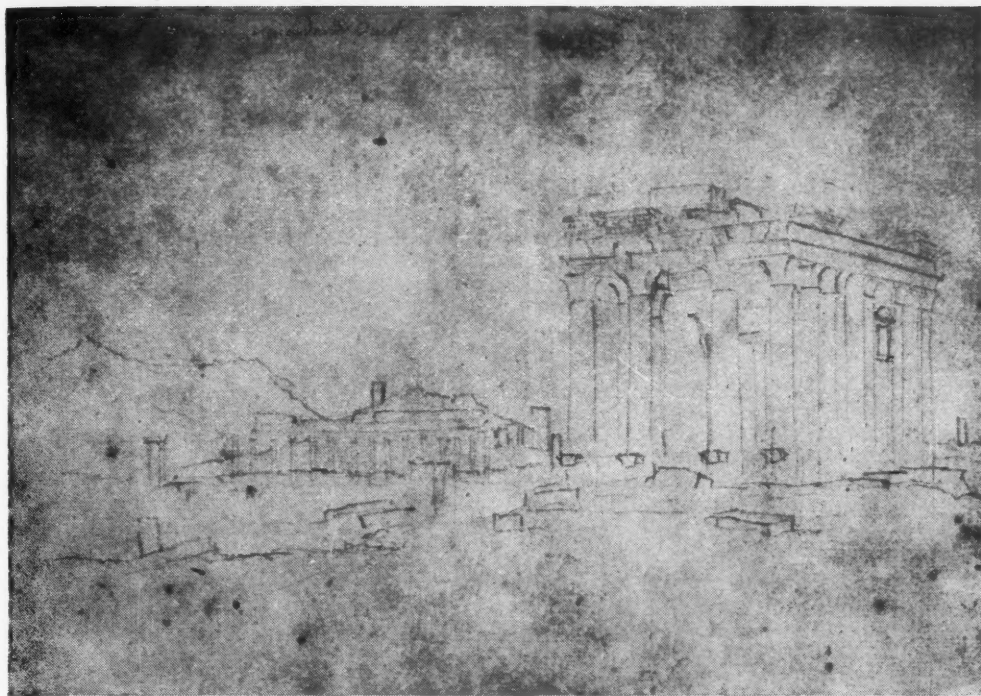
Above, a group of tower-tombs, with the so-called Camp of Diocletian in the foreground. Below, a detail of the stone ceiling of one of these tower-tombs (that of Elahbel, 103 A.D.). Left, the six-columned porch and single anta which are all that remain of the third century funerary temple at the end of the main colonnaded street.





The Turkish castle, above and left, is with its roughly shaped blocks of stone bonded with thick mortar, a rudely impressive element in the Palmyrene landscape. Its date is a mystery; it may well be a pre-Ottoman conquest (1519) Arab fort. Below is a panoramic view of the valley of the tombs, through which the road from Damascus and Homs still passes.





The Corinthian temple of Baalshamin: another sketch from the book of drawings filled by G. B. Borra during the short period (probably only five days) during which Wood's party stayed at Palmyra.

ments. Wood doubtless copied inscriptions, Dawkins, perhaps, took soundings with a view to excavation, for they had provided themselves "with tools for digging," but it is doubtful whether they were used, nor do we know whether they carried off any Palmyrene sculpture. The mutton and goat diet palled, so perhaps the two Englishmen were glad to be on their way to Baalbek (where once again Borra was kept hard at it) and over the Lebanon to the sea and the *Matilda*. Then on to Cyprus and Athens, where they found Stuart and Revett fulfilling their task of measuring the antiquities of Attica. In the autumn of 1751 they were back in England.

Dawkins seems to have been the inspirer—as he was certainly the financial backer—of *The Ruins of Palmyra*. The editorial work devolved on Wood who paid many a pretty compliment to his friend and patron in his preface: "that my being the publisher of these sheets is owing to Mr. Dawkins his friendship for me." It was Wood, too, who compiled a history of the town and added comments on the Greek and Palmyrene inscriptions. Borra worked up his drawings ready for the engravers. Altogether Dawkins is said to have spent £50,000 on the publication of the *Palmyra* and *Baalbek* volumes. Fortunately, when *The Ruins of Palmyra* was eventually published in 1753, its success was immediate, as it well deserved to be, and not only in England; a French edition was brought out in the same year.⁸

The work consists of fifty-seven large plates (the sheets measure twenty-two inches by fourteen), six of them general views or "prospects," the rest ground plans and reconstructions in the form of measured drawings. Of course, there is much to criticise in the restorations which were based on a hasty survey, without confirmation by excavation, and by amateurs, but within the limitations imposed by lack of experience and knowledge *The Ruins* is a most remarkable production. Here for the first time tolerably accurate measured drawings of a classical site were made available to architects and scholars. Little attempt was made to relate the buildings of Palmyra to classical architecture as a whole. "There is a greater sameness in the architecture of Palmyra, than we observed at Rome, Athens, and other great cities . . . the whole is corinthian, richly ornamented with some striking beauties, and some as visible faults," but these latter are not specified.

⁸A second edition appeared in 1819, in one volume with *The Ruins of Balbec*, of which the first edition was published in 1757. French editions of *The Ruins of Palmyra* were published in 1819 and 1829, as well as in 1753.

It is doubtful whether *The Ruins* had any direct influence on architectural practice in England or elsewhere; certainly it did not produce as strong an effect as *The Antiquities of Athens* of 1762. Perhaps because the exotic nature of Palmyrene building would not transplant easily, colonnaded avenues and statue-brackets being rather unwieldy elements: Palmyra was to be admired, not imitated. The great merit of *The Ruins* is that it was the earliest objective study of a classical site and that it placed English scholars at the head of the new classical archaeology. Wood henceforth was "Palmyra" Wood, and he was further rewarded by election to the Society of Dilettanti (1759), where despite growing absorption in politics his advice was constantly sought.⁹

In a footnote of the first volume of *The Decline and Fall* (1776), Gibbon refers to "the curiosity of our travellers" who discovered Palmyra and how that curiosity had been gratified in a "splendid manner by Messieurs Wood and Dawkins!" A century passed before Palmyra again attracted the attention of serious research, and by then English initiative in classical archaeology had been lost to the French and the Germans. One exception to this long neglect must be mentioned, some excellent engravings of the interiors of the tower-tombs by Louis François Cassas, who accompanied the French Ambassador to the Porte in the 1780's as his private architectural draughtsman; these engravings were published in Cassas's *Voyage pittoresque de la Syrie, de la Palestine et de la basse Egypte* (Paris, 1799, et seq.).

Despite the absence of learned works, there were plenty of ordinary travellers who made the still difficult journey across the desert to Palmyra as part of a prolonged tour of the eastern Mediterranean. Outstanding was the visit made in 1813 by the celebrated niece of Pitt, the eccentric Lady Hester Stanhope. Escorted by her lover, Michael Bruce, and her faithful physician, Dr. Meryon, her journey took the form of a romantic pilgrimage; she was seeking "the remains of Zenobia's greatness, not the remains of Palmyra." Dr. Meryon's account is delightful:—

"On entering the Valley of the Tombs, Lady Hester's attention was absorbed in viewing the wonders around her. . . . But another sight, prepared by the Palmyrenes, here awaited her. In order to increase the effect which ruins cause on those who enter them for the first time, the

guides led us up through the long colonnade, which extends four thousand feet in length from north-west to south-east, in a line with the gate of the temple. This colonnade is terminated by a triumphal arch. The shaft of each pillar, to the right and left, at about the height of six feet from the ground, has a projecting pedestal, called in architecture a console, under several of which is a Greek or Palmyrene inscription; and upon each there once stood a statue, of which at present no vestige remains excepting the marks of the cramp-iron for the feet. What was our surprise to see, as we rode up the avenue, and just as the triumphal arch came in sight, that several beautiful girls (selected, as we afterwards learned, from the age of twelve to sixteen) had been placed on these very pedestals, in the most graceful postures, and with garlands in their hands; their elegant shapes being but slightly concealed by a single loose robe, girded at the waist with a zone, and a white crape veil covering their heads. On each side of the arch other girls, no less lovely, stood by threes, whilst a row of six was ranged across the gate of the arch, with thyrsi in their hands. While Lady Hester advanced, these living statues remained immovable on their pedestals; but when she had passed they leaped on the ground, and joined in a dance by her side. On reaching the triumphal arch, the whole in groups, together with men and girls intermixed, danced around her. Here some bearded elders chanted verses in her praise, and all the spectators joined in chorus. The sight was truly interesting, and I have seldom seen one that moved my feelings more. Lady Hester herself seemed to partake of the emotions to which her presence in this remote spot had given rise."

As a result of this reception, Lady Hester afterwards claimed that she had been crowned "Queen of the East" at Palmyra, a charming piece of self-deception which she nursed and propagated in her hilltop home at Joun in the Lebanon.

Discovered by English merchants from Aleppo, magnificently illustrated by Wood, romanticised by Hester Stanhope, it was no wonder that the legend of Palmyra appealed to the English tourist of the nineteenth century in quest of the picturesque. Verbose, uninspired descriptions appear monotonously in the travel books of the period. Scientific research, however, could not be delayed much longer. The first of the moderns was the epigraphist William Henry Waddington (a Frenchman, in spite of his name) who, after a short visit in 1861, published some inscriptions in the classic work on Syrian architecture *La Syrie Centrale* (1865-77), the work of the Marquis Melchior de Vogüé. Next came Russian expeditions, and then German. Sobernheim's photos of the cave-tomb of the Three Brothers, in 1899, served as a text for an early work of Strzygowski, *Orient oder Rom*, in which the preponderant role of Syria in the development of early Christian art was first claimed. Further German expeditions visited Palmyra in 1902 and 1917. Finally, with the establishment of the French Mandate for Syria, conditions were at last suitable for systematic research. Gabriel, Cantineau, Seyrig, Schlumberger, have all worked on the site, and much has been done, but so vast is the area that many more years' work is necessary before the problems of Palmyrene art are settled. It is, then, very unfortunate that the withdrawal of French personnel from Syria has interrupted, one hopes only temporarily, the restoration and examination of Palmyra's riches.¹⁰

The precise place in the history of architecture and ornament of Palmyra's ruins is still very much a disputed topic and can only be settled decisively when a great deal more excavation in Palmyra itself and at other sites in Syria, Iraq and Persia has been scientifically carried out and re-

⁹Wood was called on to draw up the instructions for the Society of Dilettanti's expedition to the Aegean coast of Asia Minor in 1764; Chandler, Revett and Pars were the members of the party.

¹⁰No general work covering Palmyrene architecture as a whole and embodying modern research has yet been published. The nearest approach is Theodor Wiegand's *Palmyra: Ergebnisse der Expeditionen von 1902 und 1917* (Berlin, 1932), but this is out of date and deals comprehensively only with certain subjects. There are many excellent detailed studies scattered in the French archaeological journal *Syria*. By far the most useful introduction is a guide-book published in Beirut in 1941, with an English translation, by the Rev. Jean Starcky; this is a model of what guide-books should be.

corded. It is now generally accepted that Palmyra is a Hellenistic city, stylistically, although there are still those who claim a direct Roman inspiration for the colonnaded streets, for the decorative use of round arches, and for the ground plan in general. But it is more reasonable to group Palmyra with the Hellenistic cities of Asia Minor, Egypt and her neighbours in Syria—Antioch, Apamea, Baalbek and Jerash. It is impossible, too, to deny the oriental influences to which she was naturally subjected by her geographical position midway between Roman Syria and Parthian Mesopotamia, and by her nature as a caravan city in the desert.

The architectural remains of Palmyra are considerable, differing little from those which Wood described and Borra drew in 1751; earthquakes have shaken down some columns, but new discoveries have more than compensated for this. There are three categories of building which have survived reasonably intact: the temples, the colonnaded streets, and the tombs. One of the many services rendered by the French archæologists of the Department of Antiquities in Syria was the removal of the Arab village from the precincts of the Temple of Bel to a new site east of the ancient city, so that since 1930 it has been possible to explore and restore the temple and its enclosure. Orientated north and south, the Temple of Bel stands on the site of an ancient sanctuary roughly in the centre of a raised enclosure, or peribolos, two hundred yards square. Its rather slim Corinthian fluted columns, fifteen a side and eight at each end, have lost their capitals of gilded bronze. Erected probably early in the first century A.D., with later additions, it has several unusual features that are oriental in conception or at least a native Syrian development of Hellenistic architecture; for instance, the piercing of the cella walls with two pairs of windows, the merlons above the entablature (perhaps an Assyrian motif, used at Petra and, later, popular in Cairene mosques), a monumental entrance interrupting the peristyle on the western flank. Quite oriental, too, is the carving on two surviving limestone beams that once supported the coffered ceiling of the peristyle; a group of veiled women that might be Chirico's models watch a religious procession.

A double portico, backed by a wall treated with pilasters and blank windows with heavy triangular pediments, surrounds the temple. Each column has a moulded bracket a third of the way up the shaft on which stood statues of Palmyrene worthies, a feature that is prominent, too, at Jerash, but not quite so overwhelming; all this public statuary, the caravan leaders and captains of the archers and clan chieftains, must have been a little reminiscent of Leo von Klenze's bracketed heroes inside the Walhalla near Regensburg. On three sides (built from about 80 to 120 A.D.) the portico is lower than on the fourth, western side, which contained the propyleum in a line with the western entrance to the temple and had beneath it a ramp for processional purposes.

The Temple of Bel (raised high above the date palms on the one hand and the built-up area of the town on the other) was the centre of religious life. Other temples there were, but these are now buried and destroyed, except for the diminutive temple of Baalshamin (131 A.D.), perhaps the best preserved of Palmyra's buildings. It is squat, sturdy, with a prostyle porch of four columns with a column on the return, and, an unusual feature in temple architecture, has statue-brackets.

The most distinctive feature of Palmyra, however, is not the temple architecture, but the great colonnaded street that runs for twelve hundred yards, from the Temple of Bel at the south-east to the city walls beneath the Turkish castle at the north-west. This was the main artery of caravan traffic, the spine of the town off which branched at right angles a series of lesser streets, some of them, too, with colonnades. Other Hellenistic cities of Syria had their colonnaded streets, Antioch probably first of all, Jerash and Apamea, but nowhere was there the magnificence of

Palmyra. A double row of Corinthian columns, all with brackets destined for statues, flanked the 34-feet wide open roadway. There is little left of the first part which stretched from the propyleum of the Temple of Bel to the monumental arch which acted as a hinge where the street changed direction. This arch is an elaborate affair (considerably restored by the French), V-shaped in plan, ornately carved with panels of stylised flower and leaf motifs and coffered voussoirs. Here Lady Hester Stanhope was received by the village elders in 1813. From this arch to the tetrapylon, or four-sided gateway, an almost continuous line of columns still stands; cross-streets intersect the main avenue under round arches. The final section is the longest, ending just short of the temple-tomb that is by far the most graceful of Palmyra's monuments. Nearby a series of side-streets divide what was apparently the residential part of the town into a number of narrow blocks, where there are a few examples of small peristyles that were the main feature of Palmyrene domestic architecture.

There remains the third category, the tombs, in which Palmyra is particularly rich. These are of many distinct types. Most prominent are those "sepulchres of the ancient Palmyrenes," which Halifax noted in 1691 and Wood in 1751, and which are the first objects to be seen by the modern traveller approaching from the west, the four and five-storied tower-tombs. Only two are in a good state, those of Jamblichos (83 A.D.) and Elahbel (103 A.D.). From stepped bases the towers rise perpendicularly to a simple cornice. The plainness of the exterior belies the elaborate yet refined interior. Fluted Corinthian pilasters separate recesses in which the half-mummified bodies were laid on stone shelves, one above the other, the ends being closed with a stone block on which was carved in high relief a more or less imaginary portrait of the deceased. The ceilings were of long stone slabs, coffered and sometimes carved with miniature heads, the background coloured. The upper stories were less intricate, but had the same arrangement of tiered coffins. The tower-tomb is thought to have been derived from similar structures in Persia, while the internal arrangement is more likely to have come from Alexandria, but the fusion of ideas makes it something peculiarly Palmyrene.

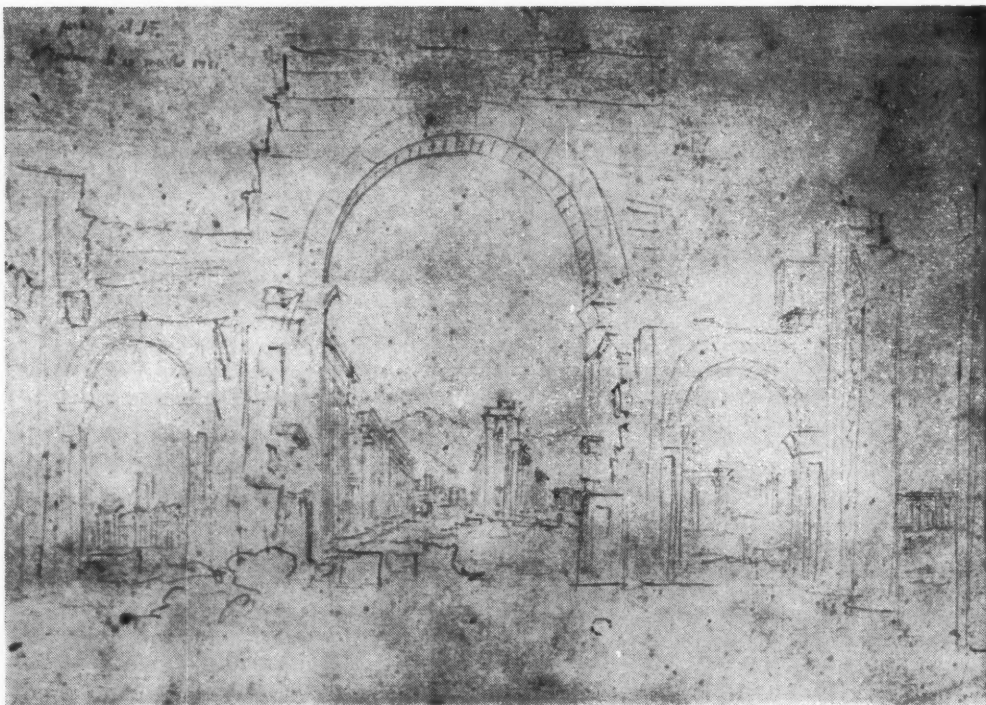
The subterranean tomb excavated from solid rock is another but less frequent type, and because of its relative inaccessibility, sometimes still found

in unspoilt condition. Such a one is the tomb of Iarhai, excavated in 1934-5, and now reconstructed in the Damascus museum. Here again the pilasters and mouldings of the walls are of real beauty, while the entrance doorway carved from two pieces of hard limestone, calls to mind similar stone doors from the early Christian ruins of North Syria. Portrait busts and sarcophagi abound, for it is from tombs such as this that have come those countless, familiar examples of Palmyrene sculpture which are scattered in the museums and private collections of Europe and America.

In the south-western necropolis, beyond the Damascus gate—for all these funeral monuments are outside the city walls—there is another kind of wall decoration to the subterranean tombs; here ceiling and walls are covered with frescoes. The tomb of the Three Brothers (140 A.D.) has a T-shaped plan, with barrel-vaulted ceiling covered with a lozenge design, while the tympanum has a mythological subject. The pilasters between the recesses are decorated with Winged Victories supporting frescoed portrait medallions. These frescoes and others at Dura-Europos on the Euphrates are of particular significance, for they are forerunners of early Christian and Byzantine art, and manifest their oriental origin and the importance of the Syrian contribution to the medieval arts of the west.

Two more forms of funeral monument deserve mention, the temple-tomb and the house-tomb. The former as its name implies is a temple without, while within there is the usual tiered arrangement. The best example stands at one end of the colonnaded street; the six-columned porch and one anta are still standing, a most elegant house of the dead. House-tombs are uncommon, as they were easy to rifle; that of Aailami and Zebida still has some of its statuary, in particular a figure of a lady leaning on brocaded pillows and heavily hung with jewelry.

"Being asked by a young man this question, 'Pray, Sir, where and what is Palmyra?'—Johnson replied, 'Sir, it is a hill in Ireland, which has palm-trees growing on the top, and a bog at the bottom, and therefore is called Palm-mira'; but observing that the young man believed him in earnest, and thanked him for the intelligence, he undeceived him, and not only gave him a geographical description of it, but related its history."



The arch at the end of the main street from Borra's sketch-book, which contains general views of the kind reproduced here, and measured architectural details (drawn free-hand) in a proportion of about one to two.



HOUSE AT KANDY CEYLON

ANDREW BOYD: ARCHITECT

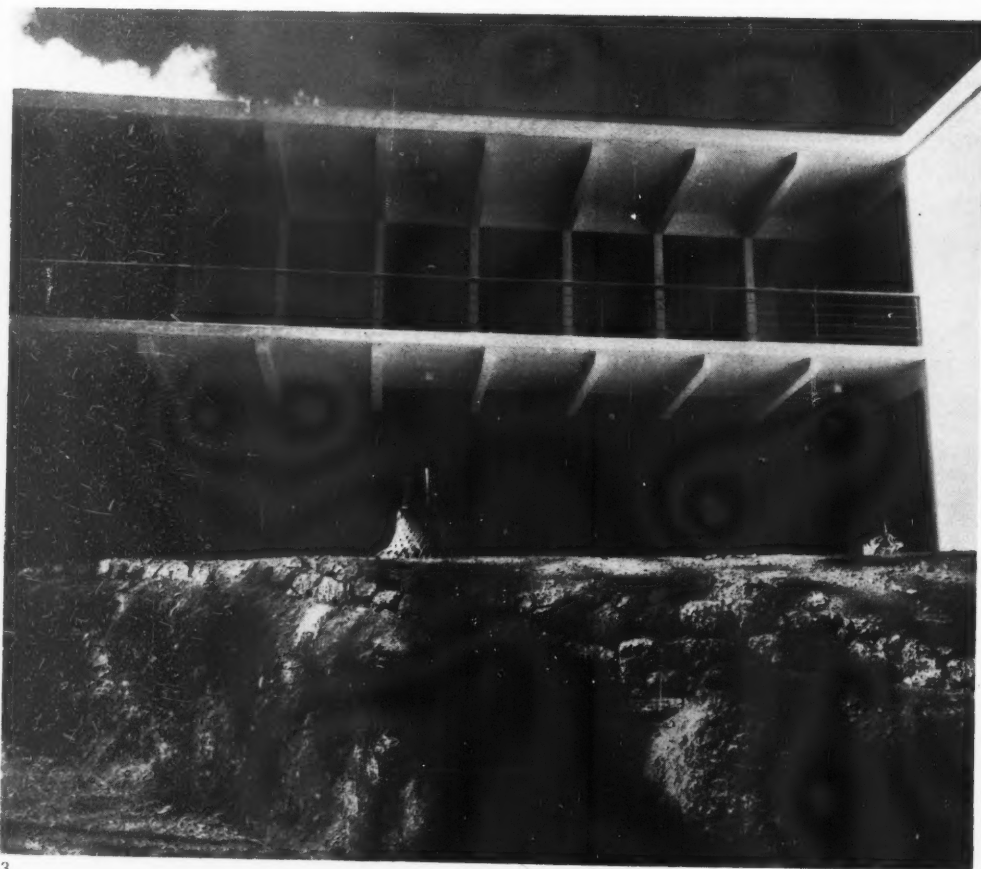
1. the terraces outside the studio on the lower floor and the living room on the upper floor.

The climate of Kandy, 1,800 feet above sea level, is distinctly cooler than the coast, but the main planning requirements for comfort in humid tropical heat, shade and air-movement, hold good there. The site is very steep, accessible only by a private road from below; it falls in the direction of two distant views, over Kandy and beyond with a third nearer view over jungle. The accommodation required was living quarters for a small family and, separately from this, a studio and bedroom. The object was to gain the greatest advantage from the three views, and the house is planned so that they shall be constantly seen from all main parts of it. The orientation towards the north is correct for the climate but was a secondary consideration.

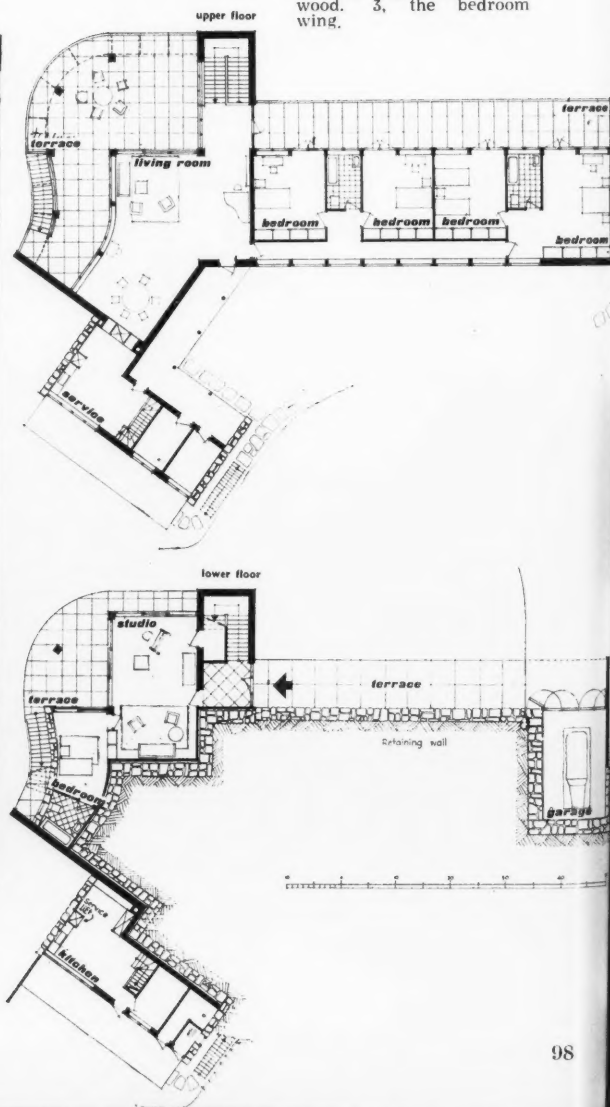
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2, the bedroom wing balcony. The floor surface is of coloured cement; the windows and louvers are of wood. 3, the bedroom wing.



3



4, the living terraces from the north. Structural walls are of brick and, with stanchions and external beams, are lime-cement rendered, lime washed. 5 and 6, two views of the upper terrace.



4

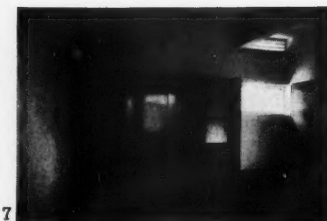
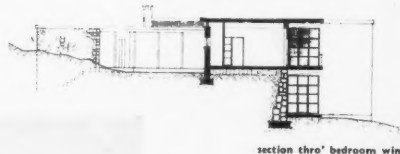
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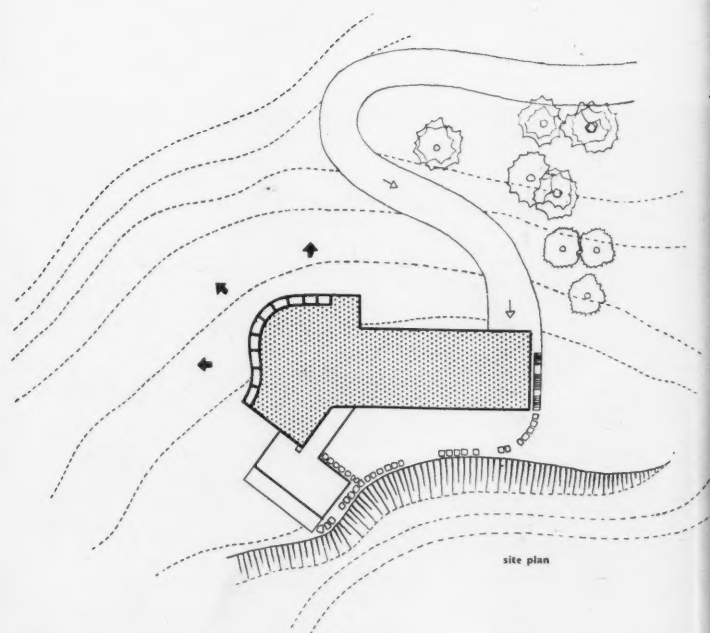


The plan has four clearly-defined parts, studio, bedrooms, living space and service. A retaining wall of local granite backs the lower floor and forms one side of the covered way from the garage to the front door. The side walls of the kitchen block and the curved wall of the studio bedroom are also of granite. Elsewhere structural walls are of brick with lime-cement rendering, lime-washed. Floors are of reinforced concrete, in the bedroom block supported on reinforced concrete cantilever beams. The roof treatment over the concrete slab is of cement screed covered with one coat of asphalt laid hot finished with special interlocking clay paving tiles with air-space under and hot bitumen run into joints. There is a continuous suspended ceiling over the living room and terrace area. Floor finishes generally are of polished coloured cement. There are louvres above and below the bedroom windows; french doors and trellis screens are of teak, painted. There are horizontally sliding plate glass windows to the studio, the bedrooms and the living room. The balustrades are of steel tubing with natural teak handrails. External rendering is white, paint-work is light grey, except for the entrance door and trellis screens which are a red orange.

HOUSE AT KANDY, CEYLON



9



7, the kitchen. 8, the living room from the terrace. 9, another view of the living room. 10, the house from the other side of Kandy Lake.



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The Mathematics of the Ideal Villa

Palladio and Le Corbusier compared

"There are two causes of beauty—natural and customary. Natural is from geometry consisting in uniformity, that is equality, and proportion. Customary beauty is begotten by the use, as familiarity breeds a love to things not in themselves lovely. Here lies the great occasion of errors, but always the true test is natural or geometrical beauty. Geometrical figures are naturally more beautiful than irregular ones: the square, the circle are the most beautiful, next the parallelogram and the oval. There are only two beautiful positions of straight lines, perpendicular and horizontal; this is from Nature and consequently necessity, no other than upright being firm." SIR CHRISTOPHER WREN

By Colin Rowe

Palladio's Villa Capra, called the Rotunda, has, perhaps more than any other house, imposed itself on the imagination of subsequent generations, and as the ideal type of central building, it has become part of the general European experience. Mathematical, abstract, four square, without apparent function, its dry aristocratic derivatives have enjoyed universal diffusion; when he writes of it Palladio is lyrical.

"The site is as pleasant and delightful as can be found, because it is upon a small hill of very easy access, and is watered on one side by the Bacchiglione, a navigable river; and on the other it is encompassed about with most pleasant risings, which look like a very great theatre and are all cultivated about with most excellent fruits and most exquisite vines; and, therefore, as it enjoys from every part most beautiful views, some of which are limited, some more extended, and others which terminate with the horizon; there are loggias made in all four fronts."

When the mind is prepared for the one by the other, a passage from Le Corbusier's *Précisions* is unavoidably reminiscent of this. No less lyrical, but rather more explosive, he is describing the site of his Maison Savoye at Poissy.

"Le site, une vaste pelouse bombée en dome aplati. . . La maison est une boîte en l'aire au milieu des prairies dominant le verger. Il est à sa juste place dans l'agreste paysage de Poissy. Les habitants venus ici parce que cette campagne agreste était belle avec sa vie de campagne, ils la contempleront maintenue intacte du haut de leur jardin suspendu ou des quatre faces de leurs fenêtres en longueur. Leur vie domestique sera insérée dans un rêve virgilien."

The Savoye House has been given a fair number of interpretations: it may be a machine for living in, an arrangement of interpenetrating volume and external space, another emanation of space, time and architecture. It is probably all these things; but the suggestive reference to the dreams of Virgil, and a certain similarity of site, solution and feeling put one in mind of the passage in which Palladio describes the Rotunda. The landscape there is more agrarian and bucolic, there is less of the untamed pastoral, the scale is larger, but the effect is somehow the same.

Palladio, writing elsewhere, amplifies the ideal life of the villa. Its owner, from within the fragment of created order, will watch the maturing of his possessions, and savour the piquancy of contrast between his fields and his gardens; reflecting on mutability, he will contemplate through the years the antique virtues of a simpler race, the harmonious ordering of his life and estate will be an analogy of paradise.

"The ancient sages commonly used to retire to such places, where being oftentimes visited by their virtuous friends and relations, having houses, gardens, fountains and such like pleasant places,

and above all their virtue, they could easily attain to as much happiness as can be attained here below."

Perhaps these were the dreams of Virgil. Freely interpreted, they have gathered round themselves, in the course of time, all those ideals of Roman virtue, excellence, Imperial splendour and decay, which make up the imaginative reconstruction of the ancient world. It would have been, perhaps, the landscape of Poussin that Palladio would have longed to penetrate, to roam among the portentous apparitions of the antique: it is possibly the fundamentals of this landscape, the poignancy of contrast between the disengaged cube and its setting in the *paysage agreste*, between geometrical volume and landscape which has the look of unimpaired nature, which lie behind Corbusier's Roman allusion. If architecture at the Rotunda forms the setting for the good life, at Poissy it is certainly the background for the lyrically efficient one; and if the contemporary pastoral is not yet sanctified by conventional usage, apparently the Virgilian nostalgia is still present. From the hygienically equipped boudoirs, pausing while ascending the ramps, the memory of the Georgics no doubt interposes itself, and, perhaps, the historical reference adds relish as the car pulls out for Paris.

A more specific comparison that presents itself is that between Palladio's Villa Foscari, the Malcontenta, and the house which in 1927 Corbusier built for M. de Monzie at Garches. A

diagrammatic comparison will reveal the fundamental relationships.

In general idea, as can be seen, the system of the two houses is closely similar. They are both conceived as single blocks, with one projecting element and parallel principle and subsidiary façades. Allowing for variations in roof treatment they are blocks of corresponding volume, eight units in length, by five and a half in breadth, by five in height. In both cases six "transverse" lines of support, rhythmically alternating double and single bays, are established; but the rhythm of the parallel lines of support, as a result of Corbusier's use of the cantilever, differs slightly. At the villa at Garches it is $\frac{1}{2} : 1\frac{1}{2} : 1\frac{1}{2} : 1\frac{1}{2} : 1\frac{1}{2} : \frac{1}{2}$, and at the Malcontenta $1\frac{1}{2} : 2 : 2 : 1\frac{1}{2}$. In plan, Corbusier thus obtains a sort of compression for his central bay, and interest seems transferred to his outer bays, which are augmented by the extra half unit of the cantilever; while Palladio secures a dominance for his central division, and a progression towards his portico, which focuses interest there. In both cases the projecting element, terrace or portico, occupies $1\frac{1}{2}$ units in depth.

Structures, of course, are entirely different, and both architects look to structure to some extent as a justification for their dispositions: Palladio employs a solid bearing wall, and of this system he writes . . .

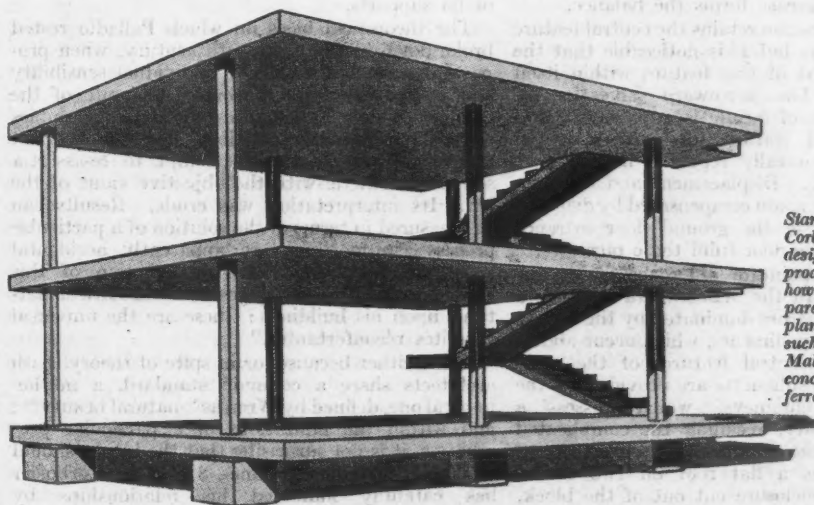
"it is to be observed, that those (rooms) on the right correspond with those on the left, that so the fabric may be the same in one place as in the other, and that the walls may equally bear the burden of the roof; because if the walls are made large in one part and small in the other, the latter will be the more fit to resist the weight, by reason of the nearness of the walls, and the former more weak, which will produce in time very great inconveniences and ruin the whole work."

Palladio is concerned with the logical disposition of motifs dogmatically accepted; but he attempts to discover a structural reason for his planning symmetries. Corbusier, who is proving a case for structure as a basis of the formal elements of design, contrasts the new system with the old. He is a little more inclusive.

"Je vous rappelle ce 'plan paralysé' du maison de pierre et ceci à quoi nous sommes arrivés avec la maison de fer ou de ciment armé.

plan libre
façade libre
ossature indépendante
fenêtres en longueur ou pan de verre
pilotis
toit jardin
et l'intérieur muni de casiers et débarras de l'encombrement des meubles."

Palladio's structural system makes it almost necessary to repeat the same plan on every level of the building; and point support allows Corbusier a fairly flexible arrangement; but both architects make a claim, which is somewhat in excess of the reasons they advance. Solid wall structures, Palladio declares, demand absolute symmetry; a frame building, Corbusier announces, requires a



Standard framework, of Le Corbusier's Domino House, designed in 1914 for mass-production, which shows how the quality of partial paralysis inherent in the plan of solid wall buildings such as Palladio's Villa Malcontenta is in reinforced concrete structure transferred to the section.

free arrangement: these must be, at least partly, the personal exigencies of high style, for asymmetrical buildings in the traditional manner in fact remain standing, and frame buildings of conventional plan continue to give aesthetic satisfaction.

In both houses the principal rooms are on the first floor, linked to the garden by an external feature and flight of steps. The main floor of the Malcontenta shows a cruciform hall, and symmetrically disposed about it are two suites of three rooms each, two staircases and a portico. At Garches the central hall remains, one of the two staircases occupies a similar position, but the other has been turned through an angle of ninety degrees, the entrance hall has been revealed from this level by an asymmetrical well, and the external feature corresponding to the portico becomes partly a re-entrant volume, obliterating a line of support and placed in a less perceptible relationship to the main room. The cruciform shape has disappeared, and a Z-shaped balance is achieved by throwing the small library into the main apartment. There is a subsidiary cross axis at Malcontenta, which is suggested at Garches by the central voids of the end walls. These convey a certain careful character to the plan, but there is no through vista.

The wall at the Malcontenta forms the traditional solid pierced by vertical openings, with the central emphasis in the pediment; and the outer ones have the windows placed towards the extremities of the façade, a device which seems to reinforce the cubic quality of the block. The double bay in the middle is expressed by a single door, or in the rear elevation by a "Roman baths" motif, and carries the upper pediments of the roof. Horizontally the wall falls into three main divisions: base; piano nobile, corresponding to the Ionic order of the portico, terminated by a flattened entablature; and a superimposed attic with cornice. The base plays the part of a projecting, consistently supporting solid, upon which the house rests; but while the attic and piano nobile are rusticated, the base is treated as a plain surface. A feeling of even greater weight carried here is achieved by this highly emotional inversion of the usual order.

In the Villa at Garches the exploitation of the structural system has led to the conception of the wall as a series of horizontal strips, alternating void and solid, a system which places equal interest in both centre and extremity of the façade, and is maintained by Corbusier's almost complete suppression in elevation of the wider spans of the double bays, which are arranged to read as two separate bays. Any system of central vertical accent, and inflection of the wall leading up to it, is profoundly modified. The immediate result in the garden elevation at Garches shows itself in the displacing of portico and roof pavilion from the central position which they occupy in the Malcontenta. They are separated, the one occupying the three bays to the left of the façade, and the other a central position in the solid, but an asymmetrical one in the whole elevation. The diagonal of the staircase forms the balance.

The entrance elevation retains the central feature in the upper storey, but it is noticeable that the further development of this feature within itself is asymmetrical. The downward indication of weights in this sort of façade is impossible; and to see the central feature, interrupted by the horizontal voids, centrally repeated in the base, would be grotesque. Displacement and breaking up of the feature are again compensated by diagonal relationships; and in the ground floor entrance marquise and service door fulfil these purposes.

The other chief point of difference lies in the idea of the roof. In the Malcontenta it forms a pyramidal superstructure dominated by the temple fronts of the upper pediments, which occur above, and augment the central features of the main wall. Interest and silhouette are provided by the highly romantic chimneys, which possess a mediaevalizing quality, recalling the complicated machicolations of the now disappeared courtyard walls. Garches has a flat roof on two levels, treated partly as enclosure cut out of the block, and scattered with the irregular incident of gazebo, perforation and pavilion. The main

plastic elements, the framed terrace of the entrance elevation and the pavilion of the garden front, are placed respectively in symmetrical and asymmetrical relation to the façades below. As at the Malcontenta, they are dominant features in the composition, but in neither case are they placed in direct vertical relationship with the principal features of the lower wall.

Corbusier's treatment of the base is not continuous. In the cantilevered façades it is affirmed by set-backs or horizontal voids, elsewhere it is not expressed.

Mathematics and musical concord as the basis of ideal proportion was a common belief in Palladio's North Italian circle, where there was felt to be a correspondence between the perfect numbers, the proportions of the human figure and the elements of musical harmony. Sir Henry Wotton, as Ambassador at Venice, reflects some part of this attitude when he writes:—

"The two principal Consonances that most ravish the Ear are, by the consent of all Nature, the Fifth and the Octave, whereof the first riseth radically from the Proportion between two and three, the other from the double Interval between one and two, or between two and four, etc. Now if we shall transport these Proportions, from audible to visual Objects, and apply them as shall fall fittest . . . there will indubitably result from either, a graceful and harmonious Contentment to the Eye."

It was not in fact suggested that architectural proportions derived from musical harmonies, but rather that the laws of proportion were established mathematically and universally diffused. The Platonic and Pythagorean universe was compounded of the simpler relationships of numbers, and such a world was formed within the triangle made by the square and cube of the numbers 1, 2, 8. Its qualities, rhythms and relationships were established within this framework of numbers up to 27; and if such numbers governed the works of God, it was fitting that the works of man should be similarly constructed, and that a building should be a representative in microcosm, of the same process exhibited to a larger scale in the workings of the world. In Alberti's words "Nature is sure to act consistently and with a constant analogy in all her operations," what is patent in music must also be so in architecture, proportions are a reflection of the harmony of the universe, their basis, scientific and religious, was quite unassailable. Palladio had the satisfaction of an entirely objective aesthetic.

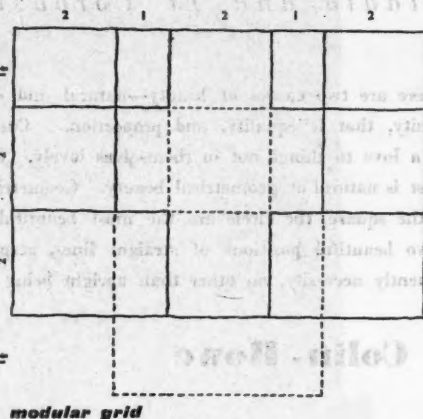
Corbusier has expressed similar convictions about proportion. Mathematics bring "des vérités réconfortantes," and "on ne quitte pas son ouvrage qu'avec la certitude d'être arrivé à la chose exacte." It is, indeed, exactness, precision, neatness that he seeks, the overall controlling shape; and within, not the unchallengeable clearness of Palladio's volumes, but a sort of planned obscurity. Consequently, while in the Malcontenta geometry is diffused through the internal volumes of the building, at Garches it resides only in the total block and the disposition of its supports.

The theoretical basis on which Palladio rested broke down in the eighteenth century, when proportion became a matter of individual sensibility and inspiration; and Corbusier, in spite of the comforts which mathematics afford him, occupies no such unassailable position. The functionalist theory was, perhaps, an attempt to re-assert a scientific aesthetic with the objective value of the old. Its interpretation was crude. Results can be measured in terms of the solution of a particular process; proportions are apparently accidental and gratuitous. It is in contradiction of this theory that Corbusier imposes mathematical patterns upon his buildings: these are the universal "vérités réconfortantes."

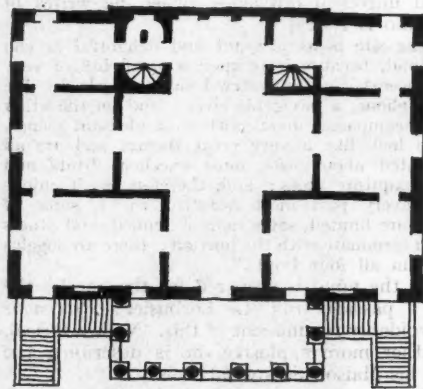
Thus, either because, or in spite of theory, both architects share a common standard, a mathematical one, defined by Wren as "natural beauty"; and within the limitations of a particular programme, it is not surprising that the blocks should be of corresponding volume— $8:5\frac{1}{2}:5$. Corbusier has carefully indicated his relationships by regulating lines, dimensions and figures, and over all he places the ratio of the golden section,

Villa Malcontenta

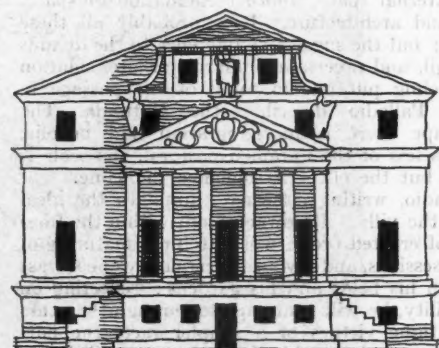
The modular grid, plan and section of Palladio's Villa Malcontenta below provide a revealing comparison with those of the villa by Le Corbusier opposite. For all their differences of style and construction, in the mathematical basis of their design these two buildings have an important factor in common.



modular grid



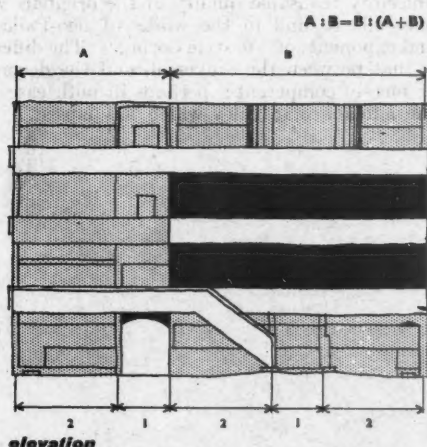
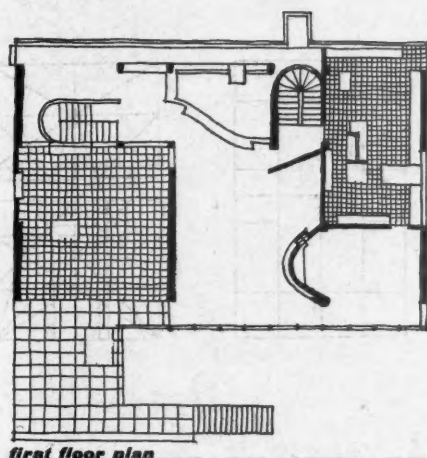
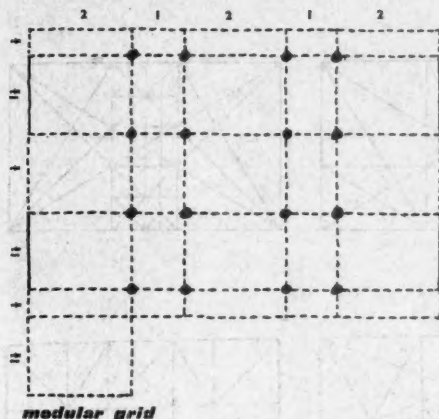
piano nobile



elevation

Villa at Garches

Le Corbusier's Villa de Monzie at Garches is like Palladio's Villa Malcontenta, an essay in the "natural beauty" that by Wren's definition is "from geometry". Le Corbusier himself supplies the proportional numbering of the elevation and places the ratio of the golden section beside his design.



$A:B=B:(A+B)$. Thus he indicates the ideal with which he would wish his façade to correspond, although in actual fact the figures $3:5=5:8$ thus represented are only approximate.

Palladio also provides his plan with cryptically explanatory dimensions, and thus the rooms comprising the suites of three can be read as a progression from a $3:4$ to $2:3$ relationship. They are numbered 12:16, 16:16, and 16:24.

The façade is divided vertically into four main units, the two central ones being really a single division by their common expression as portico. The horizontal divisions are complicated by the introduction of the order, which presupposes alongside the "natural" proportions, a series of purely "customary" relationships. In fact these horizontal divisions are uneven although, as the figures show, they roughly approximate to a division into fifths—a fifth part to the attic and approximately three-fifths of the remaining wall surface to order and entablature.

Corbusier also divides his façade into four units; but in his case horizontally. The two central units are partly unified by their placing alongside the garden terrace, and could be considered as corresponding to Palladio's piano nobile. The vertical divisions are in the relationship indicated by the equation $(3:5)$, which Palladio uses horizontally. In both cases there are elaborations in detail of dominant, complicated by imposition upon subsidiary system. It is by vertical extension into arch and vault, diagonal of roof line and parapet, that Palladio modifies the geometrical asperities of his cube; and the use of the circular and pyramidal elements with the square, seems both to conceal and amplify the real nature of the volumes. Some of these resources are the prerogatives of solid wall construction, freedoms of the "plan paralyse," and the introduction of arched forms and pitched roofs is a liberty which Corbusier at Garches is unable to allow himself. In the frame building it is not, as in the solid wall structure, the enclosing walls that are a dominant, but the horizontal planes of floor and roof. The quality of partial paralysis, which Corbusier has noticed in the plan of the solid wall structure, in the frame building is transferred to the section. Perforation of floors giving a certain vertical movement of space is possible; but the sculptural quality of the building as carving has disappeared, and there can be none of Palladio's firm sectional transmutation and modelling of volume. Extension must be horizontal, following the established horizontal planes; free section is replaced by free plan, paralysed plan by paralysed section; and the limitations in both cases are equally severe; as though the solid wall structure had been turned on its side, the former complexities of section and subtleties of elevation are now transferred to plan.

The shapefulness and spatial audacities of the Garches plan continue to thrill; but it is an interior which seems to be regulated by the intellect only, operating, as it were, inside a stage vacuum. There is a permanent tension between the organised and the apparently fortuitous. To the intellect it is clear, to the senses deeply perplexing; and it seems not to be possible to stand anywhere in it, at any one point and receive the palpable impression of the whole. Both buildings can be absorbed from without; but from within, in the cruciform hall of the Malcontenta, there is a clue to the whole building, which is crystallized and focused there. At Garches, the theoretical equidistance between floor and ceiling conveys an equal importance to all parts of the volume in between. Allowed a sufficient height, it might be treated as a single volume, but otherwise the development of focus becomes a somewhat arbitrary proceeding. Corbusier accepts this limitation, and accepts the principal of horizontal extension; at Garches the central focus has been consistently broken up, concentration at one point is disintegrated, and replaced by a peripheral dispersion of incident. The dismembered fragments of the central focus become, in fact, a sort of serial installation of interest round the extremities of the plan.

The system of horizontal extension comes up against the rigid bounding lines of the rectangular block, which is fundamental to the programme.

Elaborate external development is, therefore, impossible, and Corbusier logically employs the opposite resource, inversion in the place of extension, gouging out large volumes of the block as the terrace and the roof garden, and exposing them to the outer space. Thus the peripheral incident, which replaces the focus, sometimes becomes one and the same with the inversions, which represent an essentially similar feature to Palladio's vertical extension.

This system of regular diffusion of interest and irregular development of points of concentration, throws into intense relief the geometrical substructure of the building. A comparable process to that in the plan takes place in the elevations, where the horizontal window treatment conveys equal interest to the centre and verge of the façades, and produces similar disintegration of vertical emphasis and displacement of the central feature. Elimination of focus immediately transfers interest to extremities of the block, which acquire a clarity and tautness, as though they were trying to restrain the peripheral incident from flying out of the block altogether.

A specific comparison is less easy to make between the Villa Rotunda and the Savoye House of 1930, the houses which seemed to provoke it. The problem, although at first it appears to be more severe, in actual fact offers a wider range. The emotional impression, concentrated in two fronts at Garches and the Malcontenta, is diffused here through all four, resulting in a more complex internal disposition and a greater geniality of external effect. The structural system of the Poissy house is less clear, and its central character is somewhat discounted by the cantilevered prolongations of what are presumably the east and west façades; and by the "directed" expression of the ground floor, with its porte cochère and utility entrances. There is a noticeable easiness and lack of tension in these façades; but there are analogous developments from the earlier houses in both cases. Such are Palladio's development of central emphasis in both plan and elevations; and Corbusier's extended interest throughout his façades and dispersing of focus. The complicated volumes of the roof gardens replace the Palladian pitched roof and cupola; Palladio's four projecting loggias are replaced within the block as the first floor roof garden, which could also be considered, as the dominant element of this floor, to correspond to the domed saloon of the Rotunda.

Symbolically, and in what might be called the sphere of "customary" beauty, these two groups of buildings are in different worlds. Palladio sought complete clarity of plan, the most lucid organisation of conventional elements based on symmetry, as the most memorable form of order, and mathematics as the supreme sanction in the world of external forms. In his own mind his work was essentially that of adaptation, the adaptation of the ancient house; and at the back of his mind were always the great halls of the Imperial thermæ, and such buildings as Hadrian's villa at Tivoli. He has several schemes of archaeological reconstruction of Greek and Roman domestic buildings, based on Vitruvius and Pliny, and incorporating elements, which in Greek and Roman practice would have been found only in public buildings, but which he regarded as general. Rome for him was still alive, and if the ancients had adapted the temple from the house, their large scale planning was no doubt similarly reflective. Development was, therefore, less a matter of innovation, than an extension of ideas already implicit.

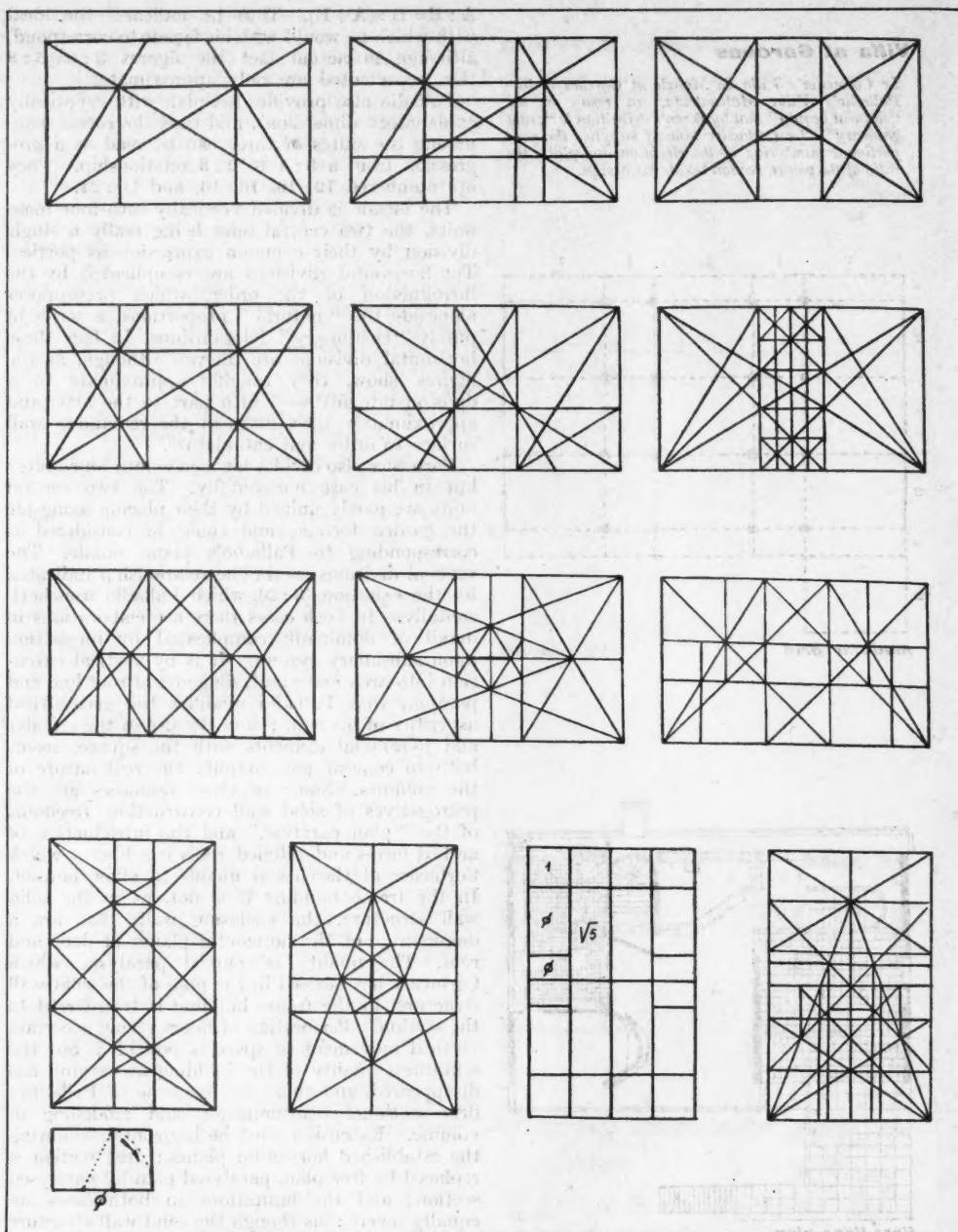
Corbusier has an equal reverence for mathematics, and would appear to be sometimes tinged with a comparable historicism. He seems to find a source in those ideals of *convenance* and *commode* displayed in the ingenious planning of the rococo hotel, the background of a social life at once more amplified and intimate. The French have an unbroken tradition of this sort of planning; and one discovers, in a beaux arts utilisation of an irregular site, elements which, if they had not proceeded Corbusier, would have been curiously reminiscent of those suave boudoirs and vestibules. Corbusier admires the Byzantine architecture of

the Mediterranean world, and there is also present a purely French delight in the more comprehensible aspects of mechanics . . . the little pavilion on the roof at Garches is at the same time a temple of love and the bridge of a ship, the detail is precise, the most complex architectural volumes are fitted with running water.

Geometrically, both architects may be said to have approached something of the Platonic archetype of the villa, which the Virgilian dream could be held to represent. The idealisation of the cube house must lend itself very readily to the purposes of Virgilian dreaming. Here is set up the conflict between the contingent and the absolute, the natural and the abstract; the gap between the ideal world and the too human exigencies of realisation receives its most pathetic presentation. The bridging must be as competent and compelling as a well-executed fugue, charged as in these cases with almost religious seriousness, or sophisticated, witty allusion; it is an intellectual feat which reconciles the mind to the fundamental discrepancy of the programme.

Palladio is the convinced classicist with the sixteenth century repertoire of well-humanised forms. He translates this "customary" material with a passion and a high seriousness fitting to the continued validity that he finds it to possess; the reference to the Pantheon in the superimposed porticoes; to the thermæ in the cruciform saloon; the ambiguity, profound, in both idea and form, in the equivocal conjunction of temple front and domestic block. These are charged with meaning, both for what they are and for what they signify; and their impression is poignant. The ancient house is not re-created, but there is in its place a concrete apparition of antique virtue, excellence, Imperial splendour and stoicism: Rome is there by allusion, the ideal world by geometry.

By contrast, Corbusier is in some ways the most ingenious of eclectics. The orders, the Roman allusion, are the apparatus of authority, customary, and in a sense universal forms. It is hard for the modern architect to be quite so emphatic about any particular civilisation; and with Corbusier there is always present an element of wit, suggesting that the historical reference has remained a quotation between inverted commas, possessing always the double value of the quotation, the associations of both old and new context. The world of classical Mediterranean culture, on which Palladio drew so expressively, is closed for Corbusier. The emblematic representations of the moral virtues, the loves of the Gods and the lives of the Saints, the ornamental adjuncts of humanism, have lost their former historical monopoly. Allusion is dissipated at Garches, concentrated at the Malcontenta; within the one cube the performance is mixed, within the other, Roman. Corbusier selects the irrelevant and the particular, the fortuitously picturesque and the incidentally significant forms of mechanics, as the objects of his virtuosity. They retain their original implications of classical landscape, mechanical precision, rococo intimacy; one is able to cease hold of them as known objects, and sometimes as basic shapes; but they become only transiently provocative. Unlike Palladio's forms there is nothing final about their relationship: their rapprochement would seem to be affected by the artificial emptying of the cube, when the senses are con-



Harmonic decompositions of the Φ rectangle, from Matila Ghyka, *The Geometry of Art and Life* (Sheed and Ward). The Φ rectangle, whose proportions are explained by the small diagram at bottom left, is with its corollary the golden section the basic form of countless works of art, including Palladio's Villa Malcontenta and Le Corbusier's Villa at Garches.

founded by the apparent arbitrariness, and the intellect more than convinced by the intuitive knowledge, that here in spite of all to the contrary, there is order and there are rules.

Corbusier has become the source of fervent pastiches, and witty exhibition techniques: the neo-Palladian villa became the picturesque object in the English park. Content is different in both

cases, and a bad portico is usually more convincing than an ill-executed incident. It is the magnificently realisable quality of the originals which one fails to find in the works of neo-Palladians and exponents of "le style Corbu." The difference is that between the universal, and the decorative or merely competent; perhaps in both cases it is the adherence to rules which has lapsed.



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Left above, the picture seen through the eastern-most arch of the south aisle. Left below, the picture unframed.

GRAHAM SUTHERLAND'S

CRUCIFIXION

If the town of Northampton is not, in point of fact, the mathematical centre of England, it should be; the broad portico of All Saints, you feel, might shelter a national counterpart of London Stone, an English *ὀμφαλός*. St. Matthew's, however, is somewhat off-centre, a mile and a quarter (at a guess) from the hub of the town. It is what the directories no doubt describe as a large edifice, built of the local stone in the style of the thirteenth century. A high steeple stands at its north-west corner, flying buttresses span the aisles, over the crossing rides a wooden fleche. Date: 1891. And the architect? Pearson, you exclaim. But on second thoughts, No—certainly not. Matthew Holding is the correct answer.

You enter the church through the south-west door, to be confronted first by a welter of wrought iron—the railings of the baptistry. Then to the right, into the nave, and there is the vista down to the vaulted apse, with the light reflected from the snow outside streaming upwards through the clerestory windows to illumine even the farthest recesses of the roof, so that the whole interior has the even shadowlessness of an over-exposed photograph. Yes, Mr. Holding knew his Pearson. But it is time to see what you have come to see.

The first glimpse you get of Sutherland's Crucifixion, as you advance up the nave, is through the eastern-most arch of the south aisle. (How fortunate that Pearson gave his transepts such slight projection! A deeper transept would have precluded this view). A few steps further and the picture is in full blaze before you.

At this point a comparison, odious or not, is hardly to be avoided. For on the opposite side of the church, in the north transept, stands, or rather sits, Henry Moore's Madonna and Child, and while the sculptured group at first sight from a distance looks small and lost and unhappy* Sutherland's picture fills the smooth-surfaced masonry wall for which it was painted with a splendid assurance. Yet it does not, be it noted, burst it open; being sure of itself it can afford to be polite to its elders and inferiors and the extra foot that in either dimension would spell immolation for Holding's architecture has been forgone. In the same way its colour is just sufficiently deferential to Kempe's stained glass in the large window immediately above it.

So much for considerations of size and placing. Of the intrinsic qualities of the painting it is infinitely more difficult to write. For one thing its colour, of which an ordinary photograph naturally gives no idea—and it is pretty certainly not susceptible of mechanical reproduction—can only be described in the most general terms; it is best to say

* Of course this is not meant as a criticism of the merit of this work in itself. Still less is it meant to be derogatory to the taste of Canon J. R. Hussey and the Rev. J. W. A. Hussey, to whose courage the *rapprochement* of modern art and religion at St. Matthew's is due.

simply that the predominating hue is that of the background, blue, that the body of Christ is in a grey monochrome which becomes purplish as you gaze into it, that the clouds and the shadow behind Him are black, that crimson blood streams from His right hand and feet, and that the blocks of stone to right and left of the base of the cross are lit up with orange. The colouring as a whole inevitably recalls El Greco, and so in parts—in the fiercely distorted sternomastoid and pectoral muscles, for example—does the drawing, while the influence of a later if not greater Spaniard is certainly not absent.

Of course you are no nearer the heart of the matter when you have established links with the Cretan who became Spanish and the Spaniard who has never become French.

But El Greco takes you back to the religious art of the early seventeenth century, and the religious art of the early seventeenth century in England means poetry, and in particular the poetry of John Donne. "The new philosophy puts all in doubt," wrote Donne, expressing what has been the dilemma of Anglicanism ever since, while elsewhere he epitomized the situation in that unforgettable opening:

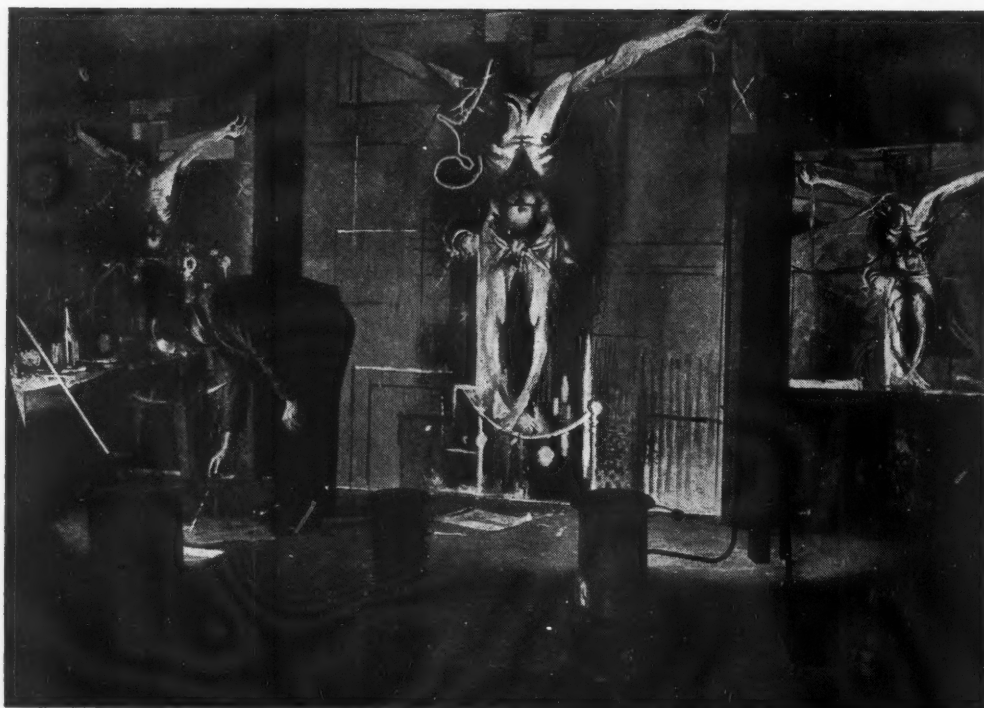
"At the round world's imagined corners,
blow

Your trumpets, Angells . . ."

Now look at the foot of Sutherland's Crucifixion. Between and in front of the blocks of stone are two posts, and between them is suspended a cord. The obvious justification of this device is that it gives a certain aloofness to a section of the picture that must hang at waist level unguarded by altar or rails; thus you can think of it as outside the picture, an accessory to the frame as it were. But you can also regard it as part of the subject. And then for a moment—until the reality of the suffering of the Christ re-asserts itself—that becomes not the Crucifixion but a crucifix. This hint of an ambiguity sets up in the sphere of spiritual meaning a sort of tension, which finds an equivalent in the formal sphere in the tension set up by the frank acceptance of the physical plane of the board coupled with its paradoxical expression in blue, the colour of distance, so that the picture, though full of space, by no means constitutes that escape through the wall into an illimitable empyrean which a baroque painter would have made it. And herein you may find, perhaps, a small part of the explanation of the fact that, although greater works of art may have been based on religious themes even in our own times, this Crucifixion is profoundly moving in a quite special way.

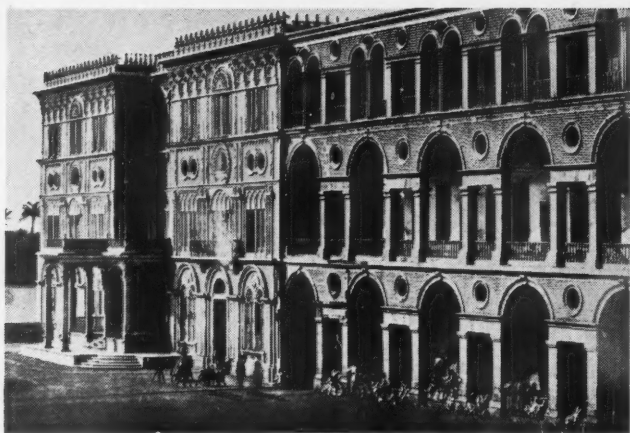
MARCUS WHIFFEN

Below, the artist viewing the painting through a Claude glass. Bottom, the artist's studio showing the painting flanked by two preliminary studies. On the facing page, a detail of the painting.

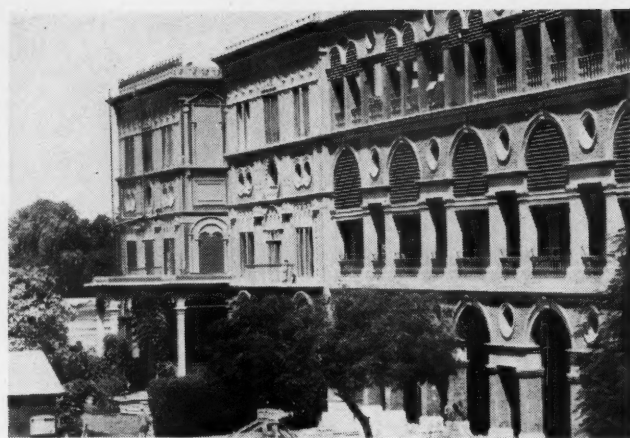


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Left, a photograph preserved in the Military Museum at Cairo, showing Kasr-el-Nil Barracks in 1870, before the British Army took them over, compared with the same viewpoint today. The Turkish-style pavilion overlooking the Nile, originally the Egyptian War Minister's residence, became, under the British regime, the Officers' Mess. The picture of the Egyptian Army Camel Corps on parade in one of the courtyards also dates from 1870.



Kasr-el-Nil Barracks, Cairo

THE HOME OF THE BRITISH ARMY IN EGYPT FROM 1882 to 1946

THE Union Jack has now been hauled down from the flagstaff on the roof of Kasr-el-Nil Barracks in Cairo and the Egyptian flag has taken its place. So ends a long association between the British in Egypt and one of Cairo's most familiar—and not least elegant—buildings, a building, moreover, which may not long outlast its term as British military headquarters. The Citadel, equally associated with the British garrisoning of Egypt, will continue to dominate older Cairo from its commanding perch on a spur of the Mokattam Hills, whoever inhabits its dusty courtyards and provides the sentries to stand within its deeply shadowed gateways, but Kasr-el-Nil Barracks, which spread themselves along the riverside close to the newer quarters of the city, are almost certainly doomed to demolition now that the British have left. The buildings are in a bad condition, as troops quartered there during the war found to their discomfort, and in any case, plans have long been afoot for clearing this stretch of the river front so as to link up the embankment roadways that already exist to the north and south.

The disappearance of Kasr-el-Nil Barracks may not, perhaps, be greeted by many with the regret the qualities of the buildings deserve. English people who know them well probably know them as the background to army life, the nature of which is not always compatible with a detached appreciation of architectural charm, though even soldiers, for whom these buildings only hold associations with army routine and weariness for home, would miss them if they no longer occupied their familiar place in Cairo topography. Especially will the view from Gezira Island be remembered. From there one looks across the opaque and silent river, the view obscured at intervals by the tall sails of *feluccas* drifting down on the flood, into the open sides of two spacious courtyards. From this distance the buildings display the dignity of their design without revealing the somewhat undistinguished character of their classical details, and in the dusty sunshine feathery palm trees within the courtyards blend their colouring agreeably with the hot red and yellow ochre of the plaster walls.

Egyptians, on the other hand, apart from the fact that nationalist sentiment would hardly allow them to feel much affection for a building so closely associated with a foreign garrison, have not yet come to admire the architecture that belongs to a period so late in their history. It requires a somewhat sophisticated taste to appreciate what might be termed Egyptian Regency, a style of ramshackle and evanescent charm that begins with Mohammed Ali's pleasure palaces at Shubra and in the Citadel, and with Kasr-el-Nil Barracks, perhaps, ends altogether. It is marked by somewhat ingenuous but often gay variations of the classical style that entered Egypt for the first time in the wake of Napoleon.

The Barracks consist of two adjacent courtyards, each with one side open to the river. The ground

floor, round all three sides, is arcaded, and on the upper floors open galleries, reached by corner staircases, give access to a single row of rooms—a simple and practical arrangement in a warm climate. These tiers of galleries give a pleasant pattern and rhythm to the long three-sided façades, which is accentuated by the deep shadows the strong sunlight throws into the arcades and openings. The two courtyards are more or less identical, except that the outside wing of the northern one ends in a sort of pavilion of a more

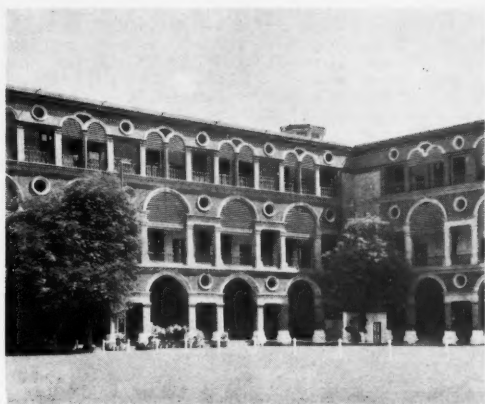


ornate design, almost overhanging the river. It is Turkish in style, its walls covered with arabesque ornament and fretwork porches decorating front and back. The rest of the Barracks is appropriately bare and unornamented inside, but this pavilion, which contains the Officers' Mess, is elaborately decorated with painted ceilings, chandeliers and gilded mirrors and all the rich trappings that result from an oriental interpretation of European rococo.

So much for the buildings' intrinsic charms. They also deserve to be remembered for the sake of their associations with British history. Nearly all the great military figures of recent generations must have crossed and recrossed their courtyards many times, from Gordon and Kitchener and Allenby down to Wavell and Alexander. Nearly all Britain's famous regiments have spent long periods stationed there, have drunk the King within the gilded walls of the Officers' Mess and been photographed in groups against the background of the courtyards' façades. British military boots have echoed along the stone-floored galleries for more than sixty years.

Nevertheless, it was not as a British military headquarters that Kasr-el-Nil Barracks started their career; for they were only taken over by the British after the occupation of Egypt in 1882. They were begun in 1853 by Said Pasha, Mohammed Ali's successor as Khedive of Egypt, and finished by Ismail Pasha ten years later. They were built to house the Egyptian Ministry of War, and also the Military School, which was transferred here in 1863 from the Saidieh Fortress at the Barrage, lower down the Nile. The elaborate Turkish-style house which forms the pavilion at the river end of the northern wing was the official residence of the War Minister himself.

From 1863 onwards, then, the Barracks were



as much a centre of Egyptian military life as later they were to be of British. Here the Khedive reviewed his troops before their departure to help the Turks in the Balkan wars, and again when he sent a contingent to Mexico to support the Emperor Maximilian. These departures and returns were the occasion of festivities and the award of honours, of ceremonial parades in the courtyards and banquets in the Minister's house, but soon more serious events supplanted them; the Barracks were concerned in Arabi's rebellion against the Khedive Tewfik Pasha, which led to the British intervention, the battle of Tel-el-Kebir and the British occupation of Egypt in 1882. They were taken over at once and have been in British occupation ever since. Now this phase of their career finishes in its turn. If it does happen that the life of the Barracks is to terminate at the same time, it will, perhaps, be better so. The placid, leisurely and ceremonial kind of military life for which they were built has now receded far back into history.

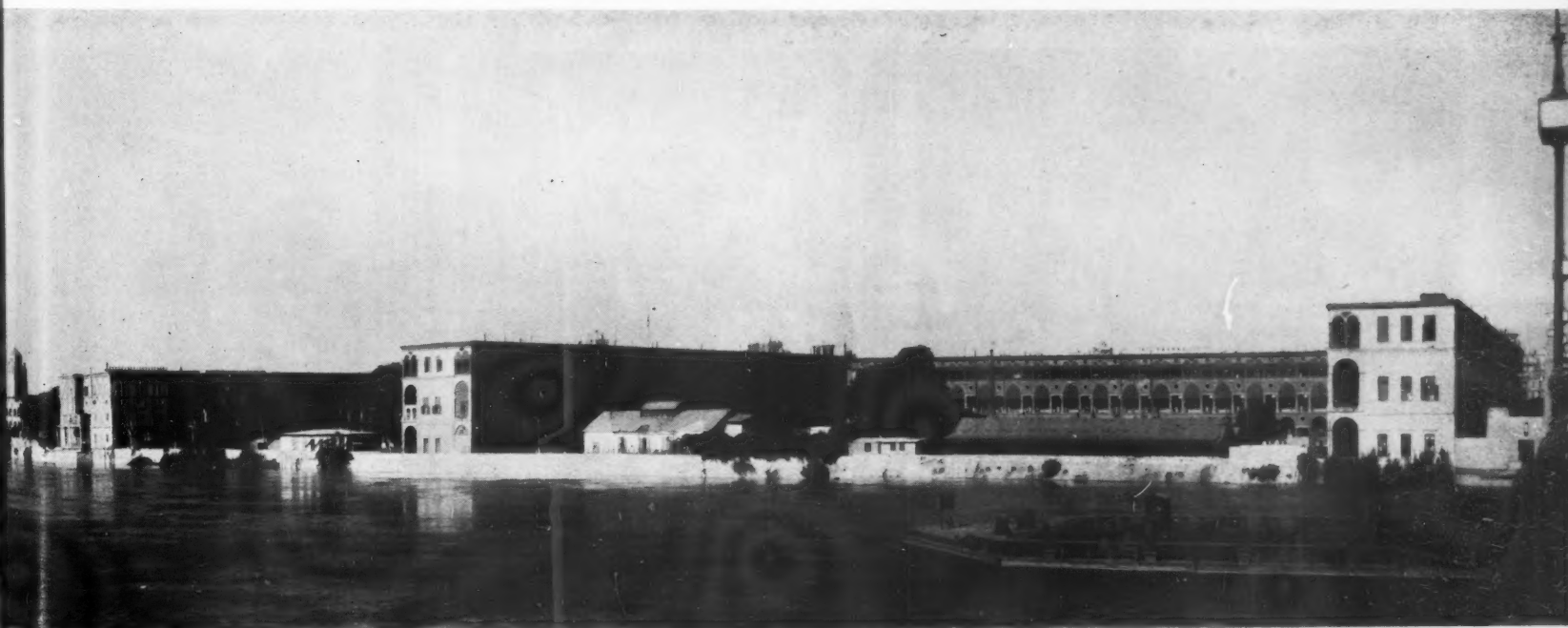
J. M. RICHARDS

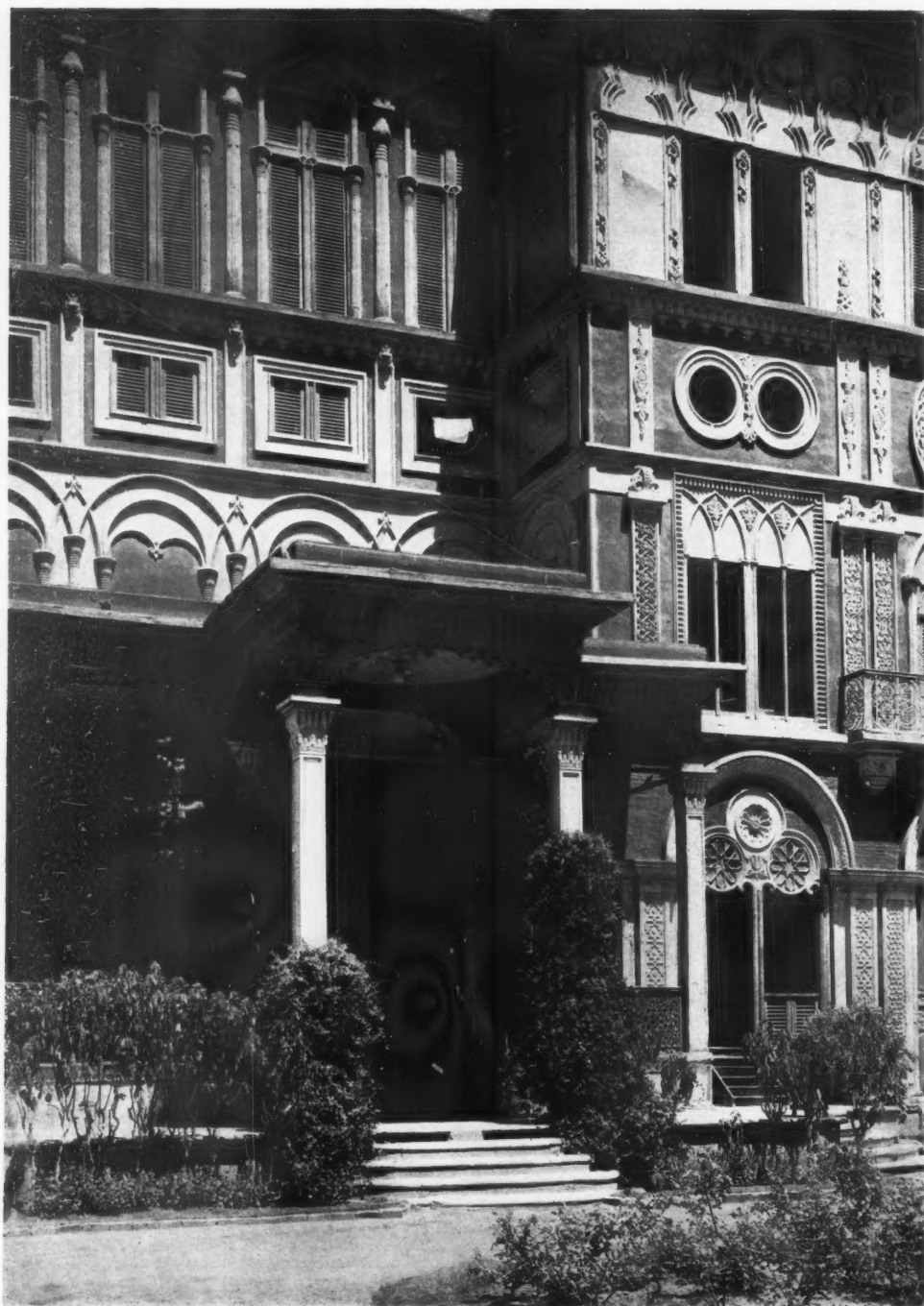
acknowledgments

Acknowledgment should be made to Mr. Robert Medley, but for whose initiative Kasr-el-Nil Barracks might have lived and died unphotographed, to the Commanding Officer of the Cairo Area, B.T.E., for permission to take the photographs, and to Abdel Rahman Zaki Bey, curator of the Cairo Military Museum, for information about the buildings' early history and for the loan of the photographs which show them in 1870.

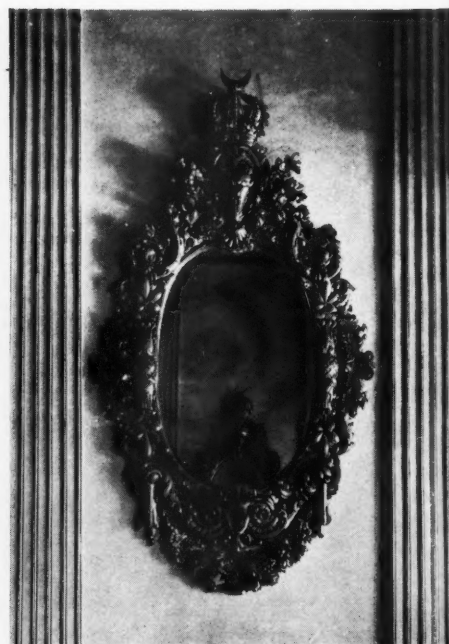
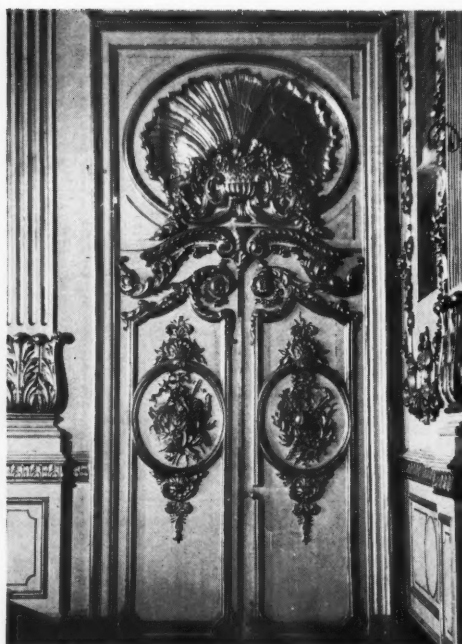
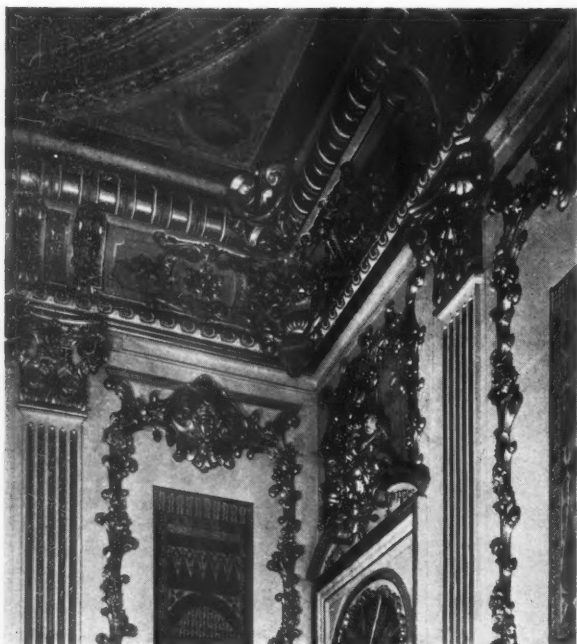


Top left, a corner of one of the courtyards, showing the arcaded galleries on each floor. The upper galleries are reached by corner staircases lit by turrets, the tip of one of which can be seen. Above, a detail of the end of one wing. The Nile is immediately beyond. Below, Kasr-el-Nil Barracks from across the river. The Turkish-style pavilion, illustrated on the next page, is on the extreme left.





The two formal courtyards of which Kasr-el-Nil Barracks consist terminate at one corner in a more ornately styled pavilion overlooking the River Nile. When the Barracks were built between 1853 and 1863 this was designed for the War Minister's residence. After the British occupation in 1882 it became the Officers' Mess, and remained so ever since. Left, the entrance front, with cream-coloured stucco ornament in relief against a terra-cotta wall surface. Above, the main salon, in recent years somewhat dilapidated but still preserving its gilded ceiling and wall mirrors. Below, details of the rich rococo ornament in the white and gold drawing-room and a close-up of one of the mirrors in the salon.



Nôtre Dame de France

A church of 1868 right in the middle of the west end of London with all its columns and all its arches and ribs in cast iron? Very few know of it. And fewer still know that this church, Nôtre Dame de France in Leicester Place, Leicester Square, is actually the old Panorama of 1791, still intact, except for some repairable bomb damage.

The Panorama was a showplace got up on the patent of Robert Barker, of Edinburgh. In it you saw displays of The Fleet at Spithead, The Battle of the Nile, The Attack on Copenhagen. Reynolds saw the first of the displays and said, according to Northcote, that these paintings represent nature in a manner far superior to the limited scale of pictures in general. The principle was that of the curved theatre backcloth. Hence the building was circular.

By the middle of the nineteenth century it had somewhat lost in popularity, and when the French Roman Catholic colony of Soho was in need of a church and Cardinal Wiseman ready to give his support, the Panorama was bought in 1865, and ways and means had to be considered as to how it might be made into a seemly church without spending more money than what little had been collected.

The answer was found in Louis-Antoine Boileau's system of iron architecture, advocated by him in a book of 1853, called *une nouvelle forme architecturale*, and tried out successfully at St. Eugène in Paris 1854-55. This large church had taken only twenty months to build and cost only 530,000 francs. It has cast-iron columns and rib vaults with iron ribs. Boileau had then gone on experimenting with other forms of iron vaults, especially ribbed domes. This was done at Vésinet in 1863—and it was the system adopted for London too.*

Iron as a building material was no longer new then. For roofs it had been in use first in the eighties of the eighteenth century (Théâtre Français) and then more and more frequently, for columns in churches Soane had used it among others, for tracery, for instance, William Porden at Eaton Hall, and Labrousse had between 1845 and 1850 made a valiant show of iron in the Geneviève Library in Paris—to say nothing of the Crystal Palace.

Still, to London in 1868 such an unashamed show of iron in ecclesiastical architecture was new, and it is surprising to find that it met with so little comment or acclamation. Was that due to Ruskin and his influence, to Ruskin who in *The Seven Lamps of Architecture* (II, 9-10) had said of the cast-iron spire of Rouen

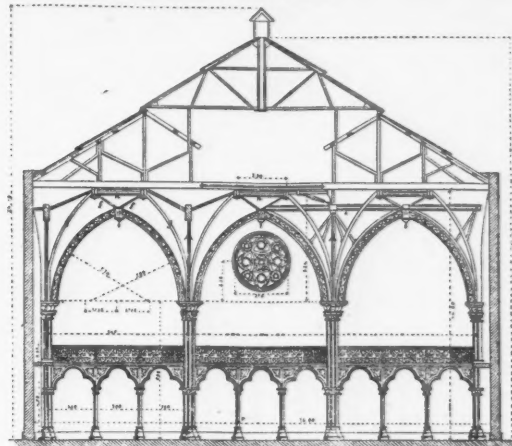
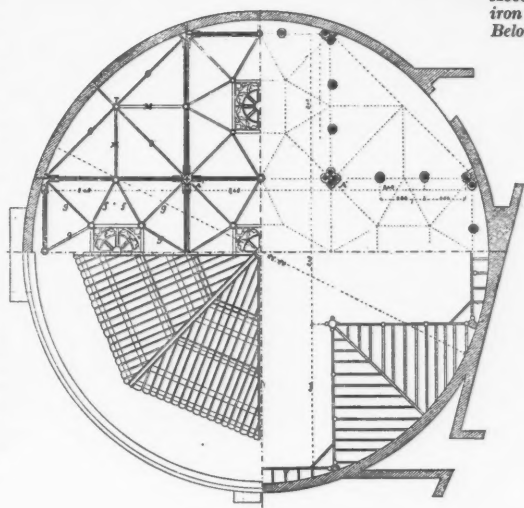
* Vésinet was made known to the British public by an article in *The Builder*, vol. 23, 1866, pp. 800-805.

Cathedral and the iron roofs and pillars of our railway stations and of some of our churches that they were "not architecture at all"? In France the attitude of Ruskin's opposite number Viollet-le-Duc towards actual specimens of iron architecture is all the more remarkable, because theoretically they both believed in iron. Ruskin, only a paragraph or two before the passage quoted, wrote: "The time is probably near when a new system of architectural laws will be developed, adapted entirely to metallic construction," and Viollet-le-Duc said in one of his lectures apropos such new materials as iron: "If we want a modern architecture, we must not lie." That was published in 1863, five years before Nôtre Dame de France was built—a very workmanlike job with its iron columns, iron tracery and iron ribs. It may be of interest in connection with this able handling of his material that Boileau, who lived from 1812 to 1896, started his career as a church woodworker and that his first books deal with carpentry. He was no more trained as an architect than Paxton. Yet, once he had discovered the potentialities of metal he went into them more wholeheartedly perhaps than any other architect of his generation except Labrousse. He published book after book on them, books with such titles as *Le fer élément, principal de la nouvelle architecture* (1871), *Principes et exemples d'architecture ferromière* (1881), *Histoire critique de l'invention en architecture* (1886), *Les préudes de l'architecture du XXe siècle* (1889).

Nikolaus Pevsner



Above, the interior of Nôtre Dame de France, Leicester Place, L. A. Boileau's iron church of 1868, contrived within the walls of the old Panorama of 1791. Below, plan and section showing system of construction.



BOOKS

Guildford

THE REPORT ACCOMPANYING AN OUTLINE PLAN FOR GUILDFORD PREPARED FOR THE MUNICIPAL COUNCIL. By G. A. Jellicoe, M.T.P.I. Published by the Borough of Guildford.

SUPPOSE as a child I had lived at Guildford with my grandmother. I might have walked all round the town on a Sunday—to St. Mary's church in the morning and home by the Castle or Semaphore hill to get an appetite for lunch. Down York Road to the mean little terraces of red brick houses with parcels of food and clothing for an old servant in the afternoon, and home again by Stoke Park and a London Road which was bordered by elm trees and meadow land. On weekdays we might have taken our constitutional on the downs, going in the direction of St. Martha's, or through Fairyland to Newlands Corner, for in those days, only twenty-five years ago, Guildford was a neat, comfortable, compact little town in the country.

Now, a quarter of a century later, the population has doubled and the area multiplied itself four times. You no longer walk from one side of the town to the other. Buses ply between housing estates and in spite of the by-pass the High Street and Epsom Road are choked with week-end traffic. The servantless houses of the last century have become Government

offices, and the working-class terraces wait their turn to be pulled down. It is the same picture all over England. In one generation the old market towns have been transformed and almost overnight the streets and footpaths we walked over as children have become the town centre of to-day.

Mr. Jellicoe has grasped this fact and his outline plan for Guildford caters for it with masterly skill. He assumes stabilization of the population in the near future within the framework of the greater London plan. He rounds off and defines the boundaries of these loosely aggregated housing estates which surround the town forming each into a self-contained neighbourhood with a full complement of schools and social equipment. Then by a phased programme of gradual change he transforms the nineteenth century town into a twentieth century town centre capable of serving the needs of the surrounding communities, and drawing them together in the enjoyment of a genuinely urban life. All this is done without interrupting the normal flow of traffic. The High Street remains undisturbed. A loop road, using for the most part existing alignments, is used to relieve this old shopping area of superfluous traffic. And local character is revived by careful choice of areas for redevelopment and by numerous small alterations which exploit the latent possibilities of the site. For instance,

"Special pedestrian routes have been developed as follows:—

(a) A waterside walk from the bridge of shops, under the Farnham Road, to the station; and thence less

spectacularly but continuously to the public playing fields in Stoke Park.

(b) A landscape walk from the civic centre to Stoke Park.

(c) A landscape stairway from Denzil Road to the Cathedral.

(d) A wooded path from the Cathedral railway bridge to the Cathedral precincts."

A more ambitious long-term programme of road reconstruction is suggested for the outer areas and it is doubtful whether some of the proposals will in fact ever see the light of day. For example, the proposal to divert the Godalming road through a tunnel under the Hogs Back.

All these recommendations are put forward in a series of short statements. The whole document is not more than a dozen pages long, but every sentence carries as much weight as a chapter in de luxe editions of other outline plans.

AILEEN TATTON-BROWN

Paintings on the Wall

MURAL PAINTING. By Hans Feibusch. A. & C. Black. 21s.

A VAST amount of wall painting (quick, cheap and washable) was produced during the war in the temporary buildings which were put up to feed, sleep or entertain the workers making munitions to knock down someone else's walls with. To millions of people in England, these and the pre-war milk-bar

"decorations" must have been their introduction to mural painting: of the thing on the grand scale they have little idea, and there are no multitudes of fine old murals here as there are in, say, Italy, to which public attention can be directed, so we must hope that Hans Feibusch's most timely book may inspire the commissioning of some really full-dress murals now, when there is so tremendous an opportunity. We have the artists, and the buildings will be going up soon.

Mr. Feibusch hopes that his book will not be "a step-ladder by which the perpetrators of easy decoration may reach greater proficiency" and (though his technical section is so thorough that precepts are bound to reach perpetrators) the illustrations, enchanting at the end of six years when murals have been stoned out of existence, are all against facility and fuzz. There is nothing facile about the flat walls of which architecture is mostly made, and it is rightly emphasized in this book that nothing facile should go on to a wall; also, several photographs, notably No. 23, show perfectly how a painted ceiling can be kept off our heads by the precise receding perspective of the painted architecture. Now, a great deal of contemporary work lacks this architectural base (which need not, of course, be expressed by using buildings as a theme), and has instead a quality of slippery ease which brings it sliding forward off the wall—to the discomfort of the spectator. And the crisp wall demands that anything so much a part of it as a painting on its surface should have a certain crispness too, with contrast nearby in foliage or furnishing: this seems to forbid to the mural painter that soft-focus look which comes more easily to work in oils than in the fresco and tempera mediums—another reason against too much oil-paint to add to Mr. Feibusch's already weighty list. Alas that so many commissions to-day just cannot be carried out in any other way.

It would have been pleasant if we could have had a few reproductions in colour, and some of the smaller photographs do appear terribly dwindled—Picasso's "Guernica," for instance, which would push back the edges of any entire page, is sadly straitened here in less than half a one. But for compensation there are some lovely details, and in the text a good balance between love and effort, between enthusiasm and the knowledge that painting a mural is very hard work, even if all jobs are not Sistine Chapels.

BARBARA JONES

Switzerland

L'ART ROMAN EN SUISSE. Edited by Lucien Mazenod, text by François Fosca. Les Nouvelles Editions D'Art, Geneva, 1943.

L'ART EN SUISSE. By Peter Meyer. Swiss Central Tourist Office at Editions Schweitzer Spiegel Verlag, Zurich, 1945.*

IN considering architecture, painting and sculpture in Switzerland, we are drawn unwillingly to the conclusion that the Bourgeoisie is not a good patron of the arts; unwillingly because there are examples created under its influence which do stand out above the general level and which are of a high standard. Nor can we overlook its achievements in the fields of town planning and domestic architecture.

During the Renaissance, Swiss adventurers serving as officers with foreign armies, having amassed large fortunes, returned bringing with them cultural ideas absorbed during their travels abroad. Though they provided the money for patronage, for the most part they seem to have lacked discrimination in its use, so that we find that most of the work dating from this period has the air of being "in the manner of" and lacks that conviction which distinguishes work commissioned by the great family patrons, the Medicis and the D'Estes, the courts of the kings and princes of Italy and Spain, and above all by the Church. Switzerland enjoyed comparatively little of this sort of patronage.

The first book, as its title implies, is a collection of works in Switzerland from the pre-Renaissance, the Romanesque period. It does not pretend to be Swiss in character and, as one would expect of works from this period when the Swiss confederation as such did not exist, it shows no distinctive local style. It is a collection of works influenced and probably executed by craftsmen from France, Italy, Germany and Spain in the style which was almost universal in Europe at the time. The reproductions, of which there are eighty-three, are for the most part exceptionally good, especially of the sculpture which is often given a full page (eleven by fourteen inch) illustration. The double page of the tympanum from the cathedral at Basle is worthy of special mention and the head of a caryatid figure of a Saint from Coire cathedral is superb.

The paintings include the complete roof painting from the church of St. Martin at Zillis in the Canton

of Grisons, an amazing work reputed to be the oldest extant painting of its kind in Europe, and too good to have remained for so long in obscurity. It consists of one hundred and fifty-three panels, of which one hundred and twenty-one remain in excellent condition. MM. Mazenod and Fosca have done a service in showing to such good advantage a work which deserves to be better known.

Photographs of capitals from the cathedrals at Zurich, Coire and Grandson are good, but those of the miniatures and other paintings are uneven in quality, some being unsuitable for reproduction and in others the photography is poor. The reliquaries and crucifixes illustrated are interesting but not remarkable.

Mr. Meyer's book makes very good reading. He traces the history of Swiss art from the Romans to the present day; or almost to the present day, for he fails to mention the contemporary Swiss architects and Paul Klee, the most significant of recent Swiss painters. The standard of production is high and the illustrations are excellent, presenting a comprehensive selection of architecture, painting, sculpture and the folk arts. If, towards the end of the book, there are works from the nineteenth century which we may not like, their inclusion may be justified on the grounds that they are representative of the period. Each style is considered together with its sociological background, and the evolution of towns, which is perhaps one of the greatest achievements of the Swiss, is given special prominence. The book seems to have been published principally for the tourist who has an intelligent appreciation of the arts, for while it has none of the guide-book technique, it is a valuable book of reference for the traveller with little knowledge of the cultural treasures of Switzerland and where they may be found.

BERNARD MEADOWS

News out of Hungary

OLGYAY & OLGYAY, ARCHITECTS. "Arts and Artists" series. Budapest, 1946.

A COPY of the first number of a new series entitled "Arts and Artists" managed to escape through the cultural "iron curtain" at present separating Central and Western Europe. This new series, judging from the first number, aims at overcoming this barrier. Published in Hungarian and English, with all the typographical refinements and *clichés* of the by now classical lay-outs of the Corbusier volumes, this number introduces the work of two young architects, twin sons of a well-known painter and graphic artist. The works illustrated include a church, private houses, blocks of flats, factories, slum clearance schemes, monumental town planning projects, government and civic buildings and exhibition work.

The brothers worked abroad for some years: in Rome, London, Paris and New York, bringing home with them reminiscences of Mussolini's new architecture, all the trappings of Le Corbusier's work, American polish, and—from England—Tectonian formality (including their balcony detail). Looking through the many pleasant drawings and photographs of their work one major question arises: What are the chances of contemporary architectural form surviving and developing its national characteristics, once the big wave of modernism has swept over it?

Hungary, a small country, situated outside the cultural zone of western Europe, kept down by Hapsburg rule and modern totalitarian tyranny, was never allowed to lift itself above an existence level of the lowest grade. The years between the two world wars saw little of the new ideas developing; very few of the "avant-garde" of young intellectuals were able to establish themselves and on the whole building was under the influence of Beaux-Arts thought, mixed with the diluted national *décor* derived from peasant motifs. It is therefore very interesting to get a glimpse into the architectural activities of the young generation. We can see the simple pleasures in geometrical form, the slightly crude predilection for monumentality, and inconsistencies in expressing architectural form and detail; and find that the skill and well-studied bravado of the work hides all the uncertainties and incongruities of the pioneer.

STEFAN BUZAS

SHORTER NOTICES

SUFFOLK PLANNING SURVEY. By T. B. Oxenbury, M.I.M. & Cy. E., L.R.I.B.A., M.T.P.I., County Planning Officer. Published by W. S. Cowell, Ltd., Ipswich, and distributed by John Murray, London. 12s. 6d.

The results of the Suffolk Planning Survey are published in a collection of 17 neat maps, each with a short explanatory note on the opposite page. The subjects covered are the usual ones, starting with geology—solid and drift—and ranging through various aspects of agriculture, industry, traffic and school attendance to recreational centres and places of historic interest. The text is short and in note form, the main burden of the story being told by the maps. On the whole, considering the scale of the maps, the symbolism is

remarkably clear and some of the graphic methods employed, for instance that of showing seasonal variations in the number of tickets collected at main stations, are new and very ingenious. The least successful maps are those dealing with industry and school attendance. Here figures of different size are used to indicate the numbers of people involved, each 100 people, for instance, being indicated by a figure which is about twice as tall as that used to symbolize 20 people, units of 500 and 2,500 people being symbolized by figures which are taller again but not proportionably taller. Unless one makes some rather laborious calculations when studying these maps it is easy to go away with the impression that 80 people are more than 100 or that 2,480 people are considerably more than 2,500. The larger the number of people involved the more confusing the picture and one cannot help feeling that this is just the sort of problem that arabic numerals were originally invented to solve.

PETER PAUL RUBENS: THE CHATEAU DE STEEN. By Neil MacLaren. VERMEER: LADY AT THE VIRGINALS. By Benedict Nicolson. DAUMIER: THIRD CLASS RAILWAY CARRIAGE. By S. L. Faison, Jr. ANTOINE WATTEAU: LES CHARMES DE LA VIE. By Denys Sutton. Lund Humphries and Co. 4s. 6d. each.

When we were very young we visited picture galleries in pursuit of significant form and plastic values; scholarship we despised and literary content we ignored. To-day all that is changed, and we can appreciate that although aesthetic pleasure is the ultimate goal it must be approached by most people through devious ways, while the residual elements in a work of art are not in themselves quite worthless—an attitude none the less new for having had no wild bells to ring it in. There are dangers in this, of course, and a nice sense of balance is required to enable one to climb out of the frying-pan without falling into the fire. Each of the authors of this batch of Gallery Books shows that he possesses that sense of balance. Benedict Nicolson is perhaps the most skilful, while both Neil MacLaren and Denys Sutton are more than adequate, and Mr. Faison demonstrates that a lesser work of art may provide a peg for interesting discourse.

GEORGE MELHUIH. With Introduction by W. Richard Hutton. Bristol Writers' and Artists' Association. 10s. 6d.

This book contains reproductions of some thirty pictures by the Bristolian painter George Melhuish, together with a thoughtful and closely reasoned introductory essay. Melhuish was born in the inauspicious year 1916, and thus came of age at a time when neither faith, hope nor charity were easily to be embraced; it says much for his integrity that he should have had enough of the first, both in art and in his own star, to make himself a painter the hard way—for he is self-taught. As a painter he would seem to have come of age in 1941, although the *Toilette* with which this series of reproductions opens is for all its skill essentially student's work. Manifestly a romantic, and sometimes laying on his impasto with an almost Manierist abandon, Melhuish nevertheless has a real feeling for form. Mr. Hutton tells us that he regards portraiture and the human figure as his most important work; to say that one would gather as much from the present collection is not to be taken as disparagement of his architectural pieces. Critics are fond of saying that so-and-so is a painter to watch. Would it be too much to suggest that Melhuish may be one to buy?

PRO MEMORIA ANGAENDE UTVECKLINGSPLANERING PA JORDBRUKETS OMRÅDE. Report of a Committee convened by the Swedish Minister of Agriculture, Stockholm, 1946.

It has been found that the regional boundaries drawn for the purposes of town and country planning and economic planning in general do not coincide with those required for the solution of purely agricultural problems. Thus, while in no way invalidating the demand for regional town and country planning authorities, this report recommends that a survey and plan for farming and forestry should be carried out in conjunction with, but not under the sway of, the general plan. The regions are delimited in accordance with their type of farming and the problems they represent. This results in regions of very different size. It might correspond to grouping the Scottish Highlands into a single region, while another region would be restricted to the fens or the Vale of Evesham. While the overall size of regions varies, the actual boundaries are drawn in accordance with existing administrative boundaries of parishes or districts. The Regional Plan is based on existing or *ad hoc* surveys, whose aim it is to find shortcomings, bottlenecks, or "incomplete" aspects of farming in the area. The plan confines itself to tackling communications, equipment, organisation and the development of buildings, nucleation of villages, soil improvement schemes, all towards the end of full utilisation of the natural resources of the district.

The regional survey is followed by individual surveys based on random samples of 8 to 20 per cent. of the farms of the area. Again it is the faults of organisation and the "incomplete" features that are sought for. In the regrouping of fields or any changes that affect more than one farm, the work proceeds from parish to parish. Rationalisation of the individual unit is the aim. The survey uses official statistics of equipment, yields and returns, and only uses site visits for occasional very intensive spells, when the local population is brought into the centre of the schemes and proposals and their opinions are listened to for two or three days. Plans are not permanent, but remain flexible to deal with a changing political and agricultural situation.

The work has been carried through in three sample regions. Valuable data and statistics form the bulk of the book.

* An English translation of this work has now been published by Nicholson and Watson at 6s.

ANTHOLOGY

Washington Yesterday

Take the worst parts of the City Road and Pentonville, or the straggling outskirts of Paris, where the houses are smallest, preserving all their oddities, but especially the small shops and dwellings, occupied in Pentonville (but not in Washington) by furniture-brokers, keepers of poor eating-houses, and fanciers of birds. Burn the whole down; build it up again in wood and plaster; widen it a little: throw in part of St. John's Wood; put green blinds outside all the private houses, with a red curtain and a white one in every window; plough up all the roads; plant a great deal of coarse turf in every place where it ought *not* to be; erect three handsome buildings in stone and marble, anywhere, but the more entirely out of everybody's way the better; call one the Post Office, one the Patent Office, and one the Treasury; make it scorching hot in the morning, and freezing cold in the afternoon, with an occasional tornado of wind and dust; leave a brick-field without the bricks, in all central places where a street may naturally be expected: and that's Washington.

The hotel in which we live, is a long row of small houses fronting on the street, and opening at the back upon a common yard, in which hangs a great triangle. Whenever a servant is wanted, somebody beats on this triangle from one stroke up to seven, according to the number of the house in which his presence is required; and as all the servants are always being wanted, and none of them ever come, this enlivening engine is in full performance, the whole day through. Clothes are drying in the same yard; female slaves, with cotton handkerchiefs twisted round their heads, are running to and fro on the hotel business; black waiters cross and recross with dishes in their hands; two great dogs are playing upon a mound of loose bricks in the centre of the little square; a pig is turning up his stomach to the sun, and grunting "that's comfortable!"; and neither the men, nor the women, nor the dogs, nor the pig, nor any created creature, takes the smallest notice of the triangle, which is tingling madly all the time.

I walk to the front window, and look across the road upon a long, straggling row of houses, one storey high, terminating, nearly opposite, but a little to the left, in a melancholy piece of waste ground with frowzy grass, which looks like a small piece of country that has taken to drinking, and has quite lost itself. Standing anyhow and all wrong, upon this open space, like something meteoric that has fallen down from the moon, is an odd, lop-sided, one-eyed kind of wooden building, that looks like a church, with a flag-staff as long as itself sticking out of a steeple something larger than a tea-chest. Under the window is a small stand of coaches, whose slave-drivers are sunning themselves on the steps of our door, and talking idly together. The three most obtrusive houses near at hand are the three meanest. On one—a shop, which never has anything in the window, and never has the door open—is painted in large characters, "THE CITY LUNCH." At another, which looks like a backway to somewhere else, but is an independent building in itself, oysters are procurable in every style. At the third, which is a very, very little tailor's shop, pants are fixed to order; or in other words, pantaloons are made to measure. And that is our street in Washington.

It is sometimes called the City of Magnificent Distances, but it might with greater propriety be termed the City of Magnificent Intentions; for it is only on taking a bird's-eye view of it from the top of the Capitol, that one can at all comprehend the vast designs of its projector, an aspiring Frenchman. Spacious avenues, that begin in nothing, and lead nowhere; streets, mile-long, that only want houses, roads and inhabitants; public buildings that need but a public to be complete; and ornaments of great thoroughfares, which only lack great thoroughfares to ornament—are its leading features. One might fancy the season over, and most of the houses gone out of town for ever with their masters. To the admirers of cities it is a Barmecide Feast: a pleasant field for the imagination to rove in; a monument raised to a deceased project, with not even a legible inscription to record its departed greatness.

Such as it is, it is likely to remain. It was originally chosen for the seat of Government, as a means of averting the conflicting jealousies and interests of the different States; and very probably, too, as being remote from mobs, a consideration not to be slighted, even in America. It has no trade or commerce of its own, having little or no population beyond the President and his establishment; the members of the legislature who reside there during the session; the Government clerks and officers employed in the various departments; the keepers of the hotels and boarding-houses; and the tradesmen who supply their tables. It is very unhealthy. Few people would live in Washington, I take it, who were not obliged to reside there; and the tides of emigration and speculation, those rapid and regardless currents, are little likely to flow at any time towards such dull and sluggish water.

CHARLES DICKENS (*American Notes*, 1842).

MARGINALIA

Acknowledgments

The photographs of Palmyra in this month's issue were taken by T. M. Clark, the author of the article. The photographs illustrating Graham Sutherland's Crucifixion on page 106 were supplied by the Keystone Press Agency; those on pages 105 and 107 are by Studio Jay.

London Statues

In the House of Commons recently the Minister of Works was asked when the statue of King Charles I would be restored to its pedestal at Charing Cross. Mr. Tomlinson replied: "There is still a certain amount of work to be done on this statue, but I hope to see it restored to its site in the spring." Of Eros there seems to be no recent news; presumably he still reposes in County Hall. Collectors of nice distinctions will note with pleasure that while the kings of England are the concern of the Minister of Works pagan deities are cared for by the L.C.C.

Grant for C.I.D.

The Industrial Organization Bill (whose main purpose is to make provision for the establishment in any industry of a Development Council, "to increase efficiency or productivity . . . to improve or develop the service that it renders or could render to the community, or to enable it to render such service more economically") empowers the Board of Trade to make annual grants to the Council of Industrial Design and to design centres. A sum of £234,000, it is estimated, will be required by the Council in 1947-8, while grants to other bodies may amount to £50,000.

Hull Advances

Hull is in more ways than one a go-ahead sort of place, and now the Kingston-upon-Hull Citizens Arts League have published what is described as an advisory pamphlet, entitled *An Arts Centre in Hull*. There is no need to recapitulate here the arguments used to urge the desirability of such a building, but the boldness and forthrightness of the pamphlet deserve a word of commendation.

It is pointed out that an Arts Centre could be provided in one of three ways—by the generosity of an individual, by the voluntary contribution of private subscribers, or by the far-sighted policy of the Local Authority. "The first method is an excellent one if a donor is forthcoming at the right moment. As for the second, why should a comparatively few interested people subscribe for a cause which is to benefit the whole city? Both these methods have the additional disadvantage of being slow: the first, while we wait for the donor to appear; the second, while we wait for funds to accumulate. The third method is not only the quickest, it is, in the long run, the surest and fairest."

The Essence of Gothic

"The first of the six public art lectures on *Architecture in History and To-day*, arranged under the Perry Bequest, was held last night in the Reception Room of Bristol University. With lantern illustrations, Mr. John Summerson, curator of Sir John Soane's Museum, gave an interpretation of Gothic architecture in his *Heavenly Mansions*. The lecturer considered that the most striking innovation of



FOOTNOTE TO 1923

In November, 1923, THE ARCHITECTURAL REVIEW published an illustrated article by Huntly Carter on Severini's frescoes at the Chateau de Montegnioni, which were commissioned by Sir George Sitwell. Many people must have been surprised that the medievalizing baronet should have had a taste for the work of the ex-futurist painter. The explanation will be found in the second volume of Sir Osbert Sitwell's autobiography, *The Scarlet Tree* (Macmillan, 1946): "My brother and I admired Severini's work and were anxious to help him and please ourselves by obtaining commissions for him, but we realised that my father might not like his designs . . . One day, however, some time after we had in vain urged him to write to Severini, my father suddenly asked us . . . 'What sort of work does Mancini do?' We replied truthfully, 'Sargent has always admired Mancini's paintings tremendously,' and on this recommendation my father engaged Severini to decorate some walls for him."

Gothic architecture was the universal adoption of the pointed arch in place of the semicircular arch of the Romanesque."—(*Western Press*, January 22, 1947).

War Damage in the Russian Zone

In a letter from Berlin John W. P. Bourke writes:—

Since I sent my last report to you I have been transferred to work in Berlin. This has given me an opportunity of trying to collect some information about the present state of the brick Gothic churches and other buildings in the Mark Brandenburg, in Mecklenburg and in Pomerania. The following short report is a summary of results hitherto reached. Its meagreness is due to the fact that the places in question all lie in the Russian occupation zone, so that I have had to collect such details as I could second-hand.

BRANDENBURG.—*Churches.*—CATHEDRAL: undamaged. KATHERINENKIRCHE: baroque steeple damaged. Otherwise intact (including the fine triple openwork gable on the south side). PETRI-KAPELLE and JAKOBSKAPELLE: undamaged. GODEHARDKIRCHE: Slightly damaged. JOHANNISKIRCHE, NIKOLAIKIRCHE, PAULIKIRCHE: all almost entirely wrecked, except for the Paulikirche cloister. *Other buildings.*—ALTSTÄDTISCHES RATHAUS: intact (including the Ordonnanzhaus). NEUSTÄDTISCHES RATHAUS: wrecked ex-

cept for the gable. KURFÜRSTENHAUS: wrecked. STEINTORTURM, PLAUERTORTURM, RATHENOWERTORTURM, MÜHLENTORTURM: all have some structural damage, apparently not of a serious nature.

NEUBRANDENBURG.—This picturesque brick town with its well-preserved wall and fine gate-towers has evidently been heavily damaged. MARIENKIRCHE: burnt out. Roofs gone and vaulting mostly down. Outer walls and tower standing. The splendid east gable is reported to be not seriously damaged. JOHANNISKIRCHE: fairly intact. STARGARDERTOR: outer archway destroyed. Roofs gone. Walls pitted with shell holes. TREPTOWER TOR, FRIEDLÄNDERTOR, FANGELTURM: superficial damage only.

STENDAL.—CATHEDRAL: roof, chapter house and part of the cloister reported damaged. The glass was removed for safety.

TANGERMÜNDE.—STEFANSKIRCHE: roof and some window tracery damaged. RATHAUS: the main gable is intact, but the later south gable slightly damaged.

ROSTOCK.—It is clear that the town as a whole is heavily damaged. *Churches.*—MARIENKIRCHE: no information yet. NIKOLAIKIRCHE: burnt out. Outer walls stand with dangerous cracks. Steeple gone. PETRIKIRCHE: similar condition. JAKOBKIRCHE: similar condition. Vaulting collapsed. *Other buildings.*—KRÖPELINERTOR: superficial damage only. PETRI TOR: similar condition. KUH TOR: completely wrecked. AM SCHILDE: the two fine brick gables on two houses are destroyed.

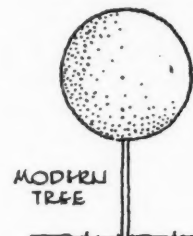
PRENZLAU.—The town is reported to be almost completely wiped out. MARIENKIRCHE: burnt out and badly cracked. Roof gone and vaulting mostly collapsed. But, as at Neubrandenburg, the magnificent east gable is fairly intact.

CHORIN.—The ruin of the Cistercian ABBEY is reported to be still in its pre-war state.

GREIFSWALD.—Reported to be quite undamaged.

SCHWERIN.—CATHEDRAL: reported to be intact.

The Modern Movement in Arboriculture



From *Architectural Models* by Robert Forman (Studio).

R.I.B.A. War Memorial

The Council have appointed a special Sub-Committee to submit proposals for a war memorial to commemorate the memories of members and students

[continued on page 116]

Regarding delivery . . .

During the past 2 or 3 years difficulties in obtaining labour and additional equipment have made it impossible to meet the constantly increasing demand for 'Hopton-Wood' Stone.

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A.R. 1:3:47

continued from page 114]

who lost their lives in the recent war. The Committee consists of J. Murray Easton (chairman), H. T. Cadbury Brown, R. Gordon Brown and G. Grey Wornum.

It is proposed to include the names of civilian members and students who lost their lives as a result of enemy action as well as those serving in the armed forces. In order to ensure that the records are as complete as possible members are asked to send the Secretary, R.I.B.A., details of any members or students whose names should be included, particularly of those whose names have not already appeared in the lists published from time to time in the *Journal*.

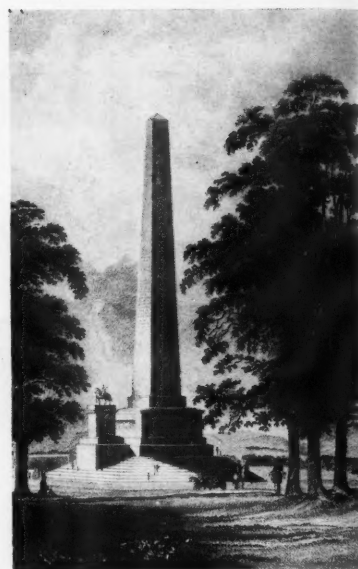
Opus in Preparation

A work on the principles and elements of architecture is now being written at Columbia University under the sponsorship of the School of Architecture, Leopold Arnaud, dean of the school, has announced. The work has been tentatively titled *The Forms and Functions of Architecture*.

Talbot Hamlin has been named editor and is already at work. He will write some of the text himself while the sections on building types will each be written by a recognized expert in the field. The complete list of contributors will be announced in the near future. Although no definite date has been set

for publication, the work will be published in three volumes by Columbia University Press as soon as possible after the completion of the writing. It is anticipated that the three volumes will run to about 800,000 words, and will be fully illustrated. The following are named as members of the advisory board: Turpin Bannister, dean of the School of Fine Arts, Alabama Institute of Technology; Jean Labatut, Professor of Architecture, Princeton University; John C. B. Moore, and Morris B. Sanders.

"The architecture of to-day is no longer revolutionary," Dean Arnaud said in announcing the beginning of the work. "Contemporary design in buildings has been sufficiently established, and has developed over a long enough period, so that its elements and principles can be studied and evaluated. Its place in the continuing stream of architectural tradition is assured; its relationships to the basic problem of architecture—the integration of use, structure and beauty—is clear. The time thus seems ripe to produce a work for architects and architectural students which will do for the architectural elements, the principles of design, and the building types of to-day what Julien Guadet did for the eclectic architecture of 50 years ago in *Elements and Theory of Architecture*. The School of Architecture of Columbia University, realizing this, has undertaken to prepare such a work."



DISAPPEARING DUBLIN

Everyone who knows Dublin will be saddened by the news that the Iron Bridge over the Liffey (erected in 1816) has been condemned as unsafe and is to be removed. Now it is reported that the more extreme nationalists may at last get their way in the matter of Smirke's Wellington Testimonial in Phoenix Park, seen here in an engraving of 1840.

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