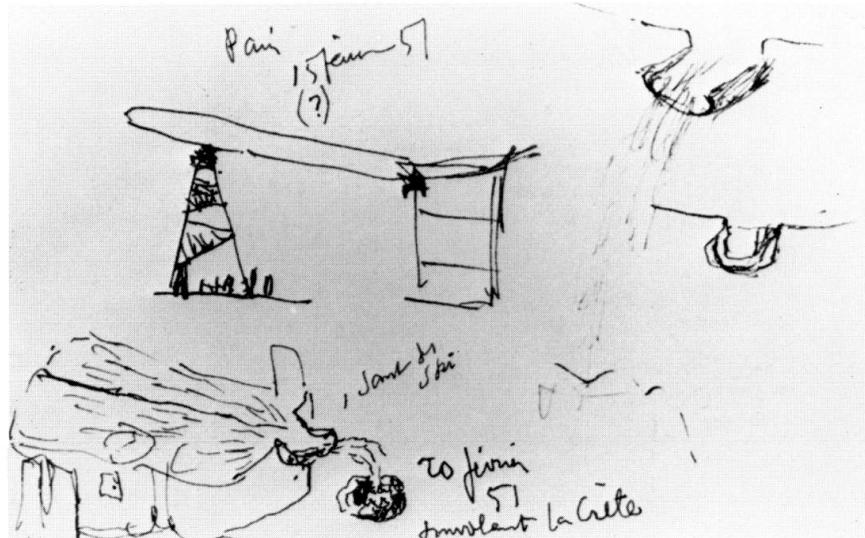
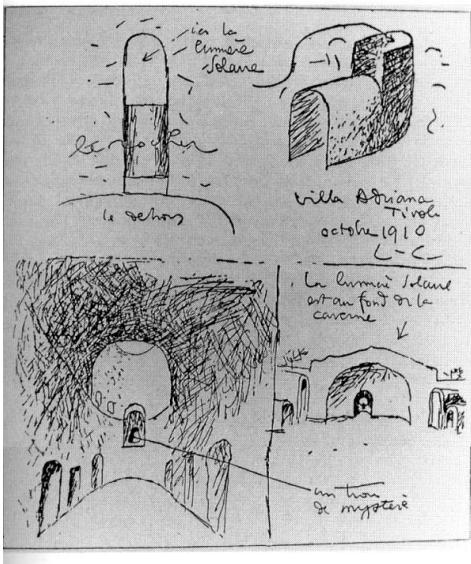


WILLIAM J R CURTIS

LE CORBUSIER IDEAS AND FORMS



• HALDON



188 (above left) Sketches of the lighting system, the Serapeum, Hadrian's Villa, Tivoli, recalling observations made during the Voyage d'orient.

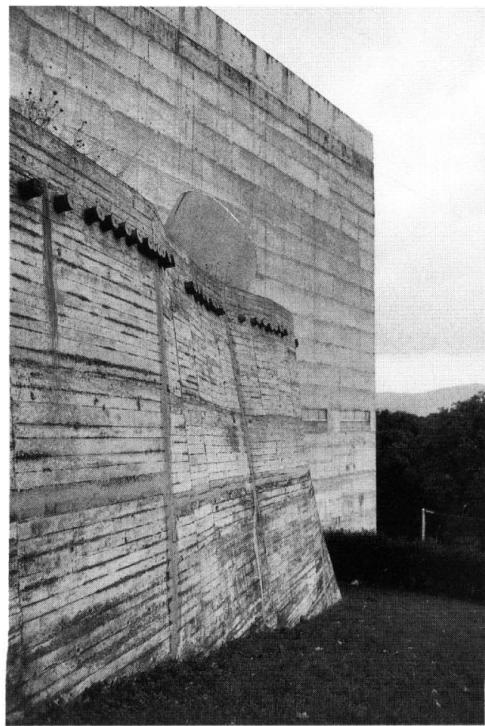
189 (above) Roof and gutter of the Chapel at Ronchamp, Sketchbook E18, 1951 (Fondation Le Corbusier).

While Ronchamp was still in the late stages of design, Le Corbusier received the commission for the Dominican Monastery of La Tourette, to stand on a slope near Eveux-sur-l'Arbresle, a few miles to the west of Lyons. Father Couturier again played a major role in securing the commission for Le Corbusier and in explaining the rudiments of monastic life to him. Not that the architect needed much encouragement on the subject given his early passionate interest in the charterhouse at Ema, a building which had made him 'conscious of the harmony which results from the interplay of individual and collective life when each reacts favourably on the other. Individuality and collectivity understood as a fundamental dualism'. Despite the fact that La Tourette was destined for the Dominican Order of Preachers, Couturier encouraged him to visit and to study the Cistercian monastery at Le Thoronet in Provence, arguing that this was the quintessential expression of the monastic ideal. He even suggested that the issues did not vary much from period to period—an implication of 'constants' that must have appealed to Le Corbusier. With his letter (written in June 1953), Father Couturier included a sketch of the typical Cistercian plan with communal facilities attached to a cloistered courtyard which was, in turn, clamped to the side of an oblong church.

Le Corbusier's abstraction of these and other monastic prototypes is best understood if one first



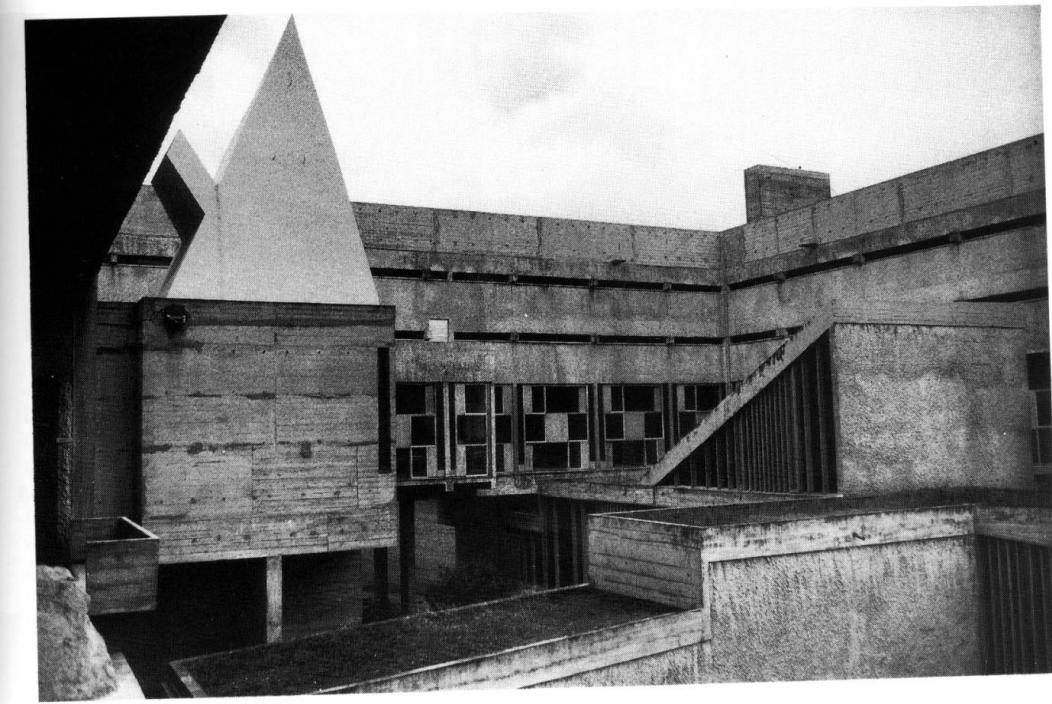
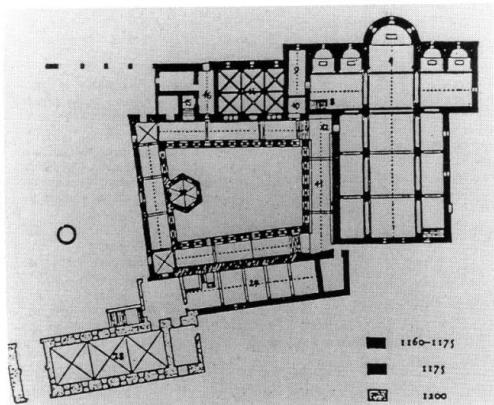
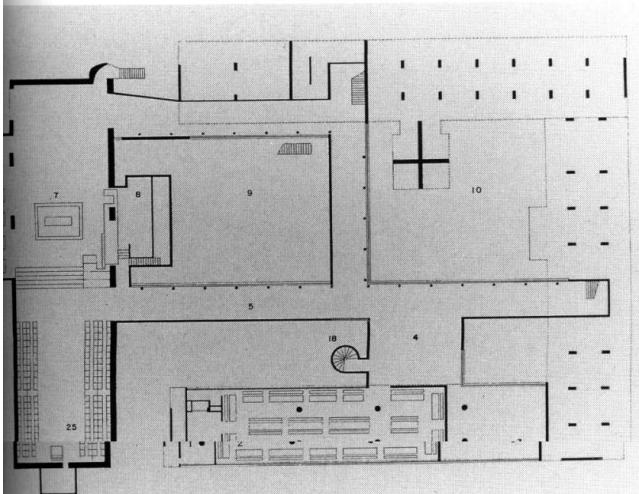
190 The Monastery of La Tourette, Eveux-sur-l'Arbresle, 1953–7, view from the north-west.



191 La Tourette, curved side chapels protruding from the north wall of church.

has the finished La Tourette in mind. The usual approach is from the north, and the first view is of a blank rectangle of concrete which turns out to be the side of the church. This is surmounted by a cross and punctured low down by a curved protrusion containing side-chapels. The ear-like shape with its battered walls recalls Ronchamp, but here light comes in from the top through a series of sloped 'light cannons'. The blank wall is a forceful and enigmatic expression of a closed and exclusive institution. Only when one draws level with it does one realize how subtly this vertical plane plays against the slope while drawing in long diagonal views over the valleys and hills to the west. In fact the top line is not horizontal, but slopes down towards the east end, engendering an illusion of compressed perspective while adding life to the volume of the church inside and out. Rowe has hinted at the brooding presence of this wall: 'a great dam holding back a reservoir of spiritual energy'.

A few more steps and one passes the other wall of the church, to perceive a rectangular vignette of landscape between it and the rest of the building. The monastery is revealed as a rectangular 'U' embracing a precinct: the Le Thoronet diagram rethought and reassembled. But at La Tourette there are cells (rather than a communal dormitory), and there is no habitable courtyard



192 (*top left*) La Tourette plan at level of church.

193 (*above left*) Cistercian monastery of Le Thoronet, 12th century, plan.

194 (*above*) La Tourette, view from the main entrance along the south wall of the church.

195 La Tourette, the courtyard: the pyramid stands over the Oratory.

reached from a cloister. The old type has been recast in the form of a flat-topped communal concrete jetty floating out over the landscape on piers. The ideal society blends the images of a precinct and of a transparent box floating above the terrain. An assemblage of glazed walkways, skylights and prismatic objects punctuate the basic moves of the design.

Variations in fenestration, sculptural weight and transparency signal changes of use. The private cells of the monks run around the top two floors on the exterior rim of the building, each marked by a sun-shaded balcony: the individual is blended into the communal order. Access corridors to the rooms run along the inside surfaces of the court and are lit by thin horizontal slits at eye level. The entrance is beneath the double stack of cells and is reached from the outside over a bridge parallel to the oblong of the church, a device recalling the bridge at Le Thoronet as well as the entrance sequence into the Cité de Refuge. The most public functions — the novices' library and seminar rooms — are on this level. So is the Oratory, which is experienced as a pyramid over a cubic volume. La Tourette was to be a teaching institution for the Dominican Order of Preachers; correspondingly the entrance level is treated in an open, inviting way. The access deck is a relative of the street-in-the-air at Marseilles, but here it runs along the inner edge of the court and is given a complex pattern of glazing and opaque panels. The seminar rooms on the outer perimeter are treated to full floor-to-ceiling glazing divided by unevenly spaced concrete mullions called '*ondulatoires*'. Between some of the struts vertical, pivoting ventilating doors called '*aérateurs*' are inserted. The combined fenestration system was laid out by the musician/architect Yannis Xenakis according to Modulor proportions to create 'musical glazed rhythms' (Pl.149).

These *ondulatoires* come fully into their own on the next floor down, that containing the monastery's own communal functions, such as the Chapter House, the Refectory and the glazed walkways linking to the church. There is no courtyard/cloister in the full sense at La Tourette: the site would not have allowed it without expensive excavation. The promenade on top of the building, and the lower walkways (laid out in the form of a cross) are set aside for contemplative strolls and for the reading of the Office. The *ondulatoires* in the walkways dramatize the actual movement behind them and ripple into sculptural action as one passes by. When seen on the diagonal, they evoke the receding planes of light and shade of the traditional cloister's arcading. The bare concrete forms in taut proportions echo old aspirations towards a pure abstraction in stone: light, music and mathematics had been used by the Cistercians as the means for touching on the Divine. The elegant serenity and poverty of La Tourette's finishes are not without moral associations.

Le Corbusier was adept at distorting, inverting and contradicting the order suggested by an ideal type. As one spirals down La Tourette, one

glimpses bizarre juxtapositions of forms: the pyramid over the Oratory breaks into the court and rhymes with the tilted diagonal of the atrium roof; the cylinder of the 'medieval' spiral stair echoes its modern factory counterpart, the kitchen stack, and resonates with the curious curved cubicles for visitors by the entrance; the low lump of the Sacristy, with its rows of 'light guns', collides with the church wall, and plays against the cruciform walkways. The result is a marriage of different shapes, identities and associations. But these contrasts are minor compared to the collision between the horizontal layers of the monastery and the vertical box of the church. The resulting tension is particularly rich when seen across the meadows. The play of major mass against void, of light against shade, is reinforced in a minor key by smaller ratios and intervals of varying depth, texture and transparency. The tension between, and resolution of, individual and collective — central to Le Corbusier's interpretation — are carried through into smaller parts.

La Tourette embodies a variation on the old Corbusian theme of a box on stilts. But the 'Five Points of a New Architecture' have been enriched and extended to allow new elements. Piers of various sizes, shapes and profiles channel the space on the outside; cylindrical *pilotis* of various dimensions articulate the public spaces inside. Church and cells are highly concentrated rooms. Façades are textured by *ondulatoires* and *aérateurs*, conceptual cousins of the *fenêtre en longuer*, the *pan de verre* and the *brise-soleil*, in that they too embody the Rationalist ideal of a grammar appropriate to the reinforced concrete skeleton. It was typical of Le Corbusier's approach that he should have sought a different form for each function: the fixed panes between the *ondulatoires* are there exclusively to light, the vertical aluminium doors of the *aérateurs* (recalling aeroplane flaps), exclusively to ventilate. The old functions of the window find themselves recast in a new language of 'type-elements' which Le Corbusier felt were archetypal.

When Le Corbusier went to the trouble of inventing new elements it was usually because the old ones had failed, and/or because he was faced with an unprecedented situation. Since the early 1930s he had had trouble with fully glazed, sealed façades. Some of the environmental problems had been handled by the various sorts of *brise-soleil*. He evidently valued the idea of full floor-to-ceiling glazing and the idea of natural cross-ventilation. Moreover, he had gradually discovered that an intermediary texture between the sculptural crates of the *brise-soleil* and the machine-age smoothness of *pans de verre* was needed for expressive reasons. *Ondulatoires* fitted into this agenda nicely. The basic moves of La Tourette — overhanging cells on top and piers underneath, but with public spaces needing views between — may have encouraged the search for a façade solution that was textured enough to allow a vertical transition from piers to cells, and dynamic enough to allow horizontal movement in response to the stepping layers and the idea of a



196 La Tourette, interior of church looking west from altar to choir.

building hovering towards its setting. *Ondulatoires* solved such problems adeptly. Xenakis has described the agonies that went into establishing a hierarchy of rhythms between the struts which harmonized with the composition, reflected interior uses and conformed to the numerology of the Modulor. The *ondulatoires* enriched the interiors too by slicing up views into intriguing vignettes while giving a slight sense of enclosure. Seen on the diagonal in cross light, they gave a mysterious opacity to the fenestration, and revealed themselves to be relatives of Classical mouldings. To

their author they perhaps recalled the perceptual ambiguities of rows of fluted columns seen in raking views of Greek temples. Combined with the overhanging 'cornice' of the cells, and the forceful plasticity of the piers, the *ondulatoires* of La Tourette aspired towards the 'spiritual mechanics' which Le Corbusier had praised in the tight profiles of the Parthenon.

On the interior, materials were handled with equal directness, the cells being pebble-dashed like Ronchamp — small, spare rooms of intense concentration, looking out on to little rectangles

of sky, trees and hills. Pipes and ducts were left bare in corridors. This modern, functionalist austerity may be construed as monastic in intention, but it is as well to remember that the budget of La Tourette was slashed in two. Floors in the walkways were bare concrete, patterned according to the Modulor to create a 'dallage' echoing masonry paving. Bold touches of primary colour enlivened the surfaces, as at Marseilles and in Chandigarh.

The sequence through La Tourette takes one into spaces of varying psychological character, from the enclosed mystery of the little pyramid Oratory to the open luminosity of the atrium, to the formality of the Chapter House and Refectory. The last has four fine *pilotis* passing through it, defining a main axis and side slots for tables. Consistent with the overall collagist strategy, the size, weight and texture of structure are varied from place to place. La Tourette creates a medieval warren in concrete: a closed city of the spirit enlivened by stunning views over nature. The plan was determined by the Rule of the Dominican Order, a programme of daily routines with long historical sanction:

'I have tried to create a place of meditation, study and prayer for the Order of Preachers. The human requirements of that problem have guided our work ... I imagined the forms, the contacts, the circuits which were necessary so that prayer, liturgy, meditation and study should be at ease in this house. My work is to house men. It was a question of housing friars and trying to give them silence and peace, which is so essential in our life today. The friars ... please God in this silence. This monastery of rough concrete is a work of love. It does not show off — it is from the interior that it lives. In the interior the essential takes place.'

Perhaps the path through La Tourette from the secular world outside, over the bridge, through the novices' zone, down into the communal areas, on into the church, and finally into the curved bulge of the side-chapels where Mass is said by the ordained monks (the same protrusion seen in the earliest view) has the significance of a rite of passage towards the priesthood. The church which culminates the route is a space of chilling gravity, force and discipline which the *Oeuvre complète* describes as 'd'une pauvreté totale' ('of a total poverty'). The choir stalls occupy the west end; a few public seats the other; the altar stands between on a raised plinth. Light creeps in through low slots by the stalls (surprisingly adequate for reading), through a crack at the top between roof and wall (the slight depression of the ceiling breeds an eerie tension), through a vertical slot in one corner, or else through the aperture to the side-chapels in the curved extension. The 'light cannons' illuminate the side altars clearly, while the smaller variants over the Sacristy are even aligned to the sun's angle at the equinox. The main church space is a cross between a Corbusian *boîte à miracles* ('miracle box') and a stark church interior from the Middle Ages or earlier. Like Ronchamp, it suggests a

return to beginnings. In *Vers une architecture* Le Corbusier described Santa Maria in Cosmedin in terms of 'the Primitiveness of the Early Christian Chapel': '... a church for poor people ... set in the midst of ... luxurious Rome, proclaims the noble pomp of mathematics, the unassailable power of proportion, the sovereign eloquence of relationship. The design is merely that of the ordinary basilica, that is the form in which barns and hangars are built.'

La Tourette blends old Corbusian themes like the box on stilts and the flat-topped urban structure pulling away from a hillside (e.g. Montevideo 1929) with more recent inventions like the interior street, *béton brut* and the textured façade. It fuses Ema with Le Thoronet in overall organization and even in certain details. The sloped cloister of Le Thoronet is found in a new form in La Tourette; so are the ideas of a linking bridge, an upper walkway, a pyramid and a church with level changes. Le Corbusier did not mimic his sources directly but transformed them, holding on to the elements that he thought retained validity or value. Attracted to the intruding polygon of the fountain in Le Thoronet, he made equivalent staccato incidents with the Oratory and spiral stairs at La Tourette. At a deeper level still he sensed in Cistercian architecture an elemental purity of formal expression transcending period and style. After visiting a church constructed by the Order he wrote of the poetry of light and shade in 'this architecture of truth, calm and strength'.

Even the conception of an ideal community suspended above an idyllic landscape was an amalgam of Le Corbusier's own utopian typology and old memories from the *Voyage d'orient*. The monasteries at Mount Athos in Greece were perched above the hillsides with elaborate outriggers extending the cells at incredible heights. Tops were flat, bottoms extended downwards to meet the irregular slope, and one entered from high ground at the back. Courtyards had chapels and shrines dotted around in them. In the young Jeanneret's own words: '... a large, alluring fortress wall ... A vast horizontal crowned the quadrilateral of buildings, guiding the eye far away towards the sea ... cells with their galleries open to the sea, high up in the sky.'

Like the Unité d'Habitation at Marseilles, La Tourette draws sustenance from Le Corbusier's youthful Mediterranean dream. The blank north wall with restated court evokes old European religious echoes, and even resonates with the vernacular patterns of the Midi in which windowless north walls face up to the chill of the Mistral while social life and sunlight live within. Le Corbusier had hoped to address his conceptions of the ideal life to the modern city, but had to be content with the piecemeal unités, and to watch their devaluation in grotesque housing slabs worldwide. It was somehow central to his predicament that his vision of societal harmony had to evade mass society to remain intact; and that this vision should have been realized in a remote rustic spot for the social programme from which it had originally sprung: the community of monks.

197 La Tourette: cell balconies and *ondulatoires* in the south façade.