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Time in Modernist Architecture: An Approach

Abstract

Two propositions underpin this paper. The first is thematic: there is a largely unexamined temporality specific to modernist architecture, one independent of movement. A close reading of certain projects from the perspective of time may reveal the devices and formal moves deployed to achieve the characteristic effects of that temporality. The second proposition is methodological: that the analysis of certain works of architecture as manifestations of design-led research reveal discipline-specific problems. These research problems are rendered as form relations, composition strategies, and spatial effects. Variations as to how such problems are responded to in turn constitute contributions to architectural knowledge.

Keywords: architecture, design-led research, space, time

Introduction

How are buildings and projects composed such that time is confronted? Is there a specifically modernist concept of time, a modernist mode for the creation and expression of time? Just as there are different space concepts, are there different architectural concepts of time and if so how do they work, what are their distinguishing characteristics? What kinds of relationships of time are uncovered in buildings, that is which formal moves and compositional devices create the effects at work?

To begin to respond to these questions, I adopt the concept of direct time as used by Gilles Deleuze (1925-1995) in his *Cinema 2 The Time-Image*. Deleuze proposes that in some post 1945 films a new relationship of movement and time is made visible. Time is no longer subordinate to movement, he writes, and a reversal occurs such that 'time ceases to be the measurement of normal movement, it increasingly appears for itself.' (Deleuze, 1989, p. xii)

I hypothesise that in certain works of architecture there is evidence of the phenomenon of direct time that Deleuze discerned in the realm of philosophy and cinema, one he characterized as a pure time, independent of motion's measure.

To begin to test this hypothesis, I will examine two projects that engage overtly movement and thus by implication imbed or release a concept of time. The projects are Zaha Hadid's The Museum of XXI Century Arts, Rome (1998-2010, hereafter simply MAXXI) and the Visual Arts Centre, also known as the Carpenter Centre for the Visual Arts, by Le Corbusier, Cambridge (1961-64, hereafter VAC).¹ (Fig. 1, 2)

¹ Zaha Hadid was awarded the commission for MAXXI in 1998 and the building opened in 2010. Key published sources on the project, in order of date of publication, include Cecilia and Levene, 2004; Racana and Janssens, 2010; Avagnina, et al, 2010). A good selection of preliminary drawings, images, and as built photographs can be found at <http://www.zaha-hadid.com/architecture/maxxi/>. For the purposes of floor levels and gallery designations I use those employed in project architect Gianluca Racana's article, (Racana, 2010). Le Corbusier began designing the Visual Arts Centre in 1961 and the building was opened in 1963. Standard references include Boesiger, 1965; Sekler and Curtis, 1978. I rely generally on the floor level conventions and the plans published in the *Complete Works*, Volume VII (Boesiger, 1965) though note that these plans show an internal ramp connecting levels two and three that was not built. For drawings of the building as built see Sekler and Curtis, 1978, pp. 345-57. Throughout I use the name of the building as given in the *Complete Works*, Visual Arts Center. This is consistent with the project and development drawings which carry the office's characteristic three-letter project name convention, in this case VAC BOS for Visual Arts Center, Boston.

These two buildings, at first look so dissimilar in form, calling, and mood, each overtly engage movement, appearing to foreground or make explicit architecture's reliance on movement for their coming into being. Both on the surface and perhaps in reality treat the spiral, the diagonal, and the torqued perceptions produced as generators of their characteristic effects, ones perhaps bound to, rendering, or recording a concept of time. What are the differences, however, implied? Do they overlap? Does one create a more radical, more pure, more present concept of time as compared with the other?

As discussed below, in both MAXXI and VAC there is a condition of vibration and energy already contained or produced by the building independent of movement. Time has "gone creative", and this condition perhaps resembles or renders physical a notion of direct time in the realm of architecture, one not bound to a vision in motion or a *promenade architecturale*.² To that end, gleaning concepts or forms of time is aligned with tracing the architectural energies at work

Both architects have made specific statements about the plan driven nature of their work and both exploit the plan's formal possibilities, though I equally focus on the section. Alongside Le Corbusier's famous 'The plan is the generator... The plan carries with it the essence of the sensation...' (Le Corbusier, 2007, p. 116), Hadid similarly emphasizes the plan-focused nature of her work. An early statement by the architect provides a shorthand to this working method, with far reaching consequences. Her ambitions extend, she states, to 'almost rewriting the script for architecture. And that script could be manifested on a plan. So it becomes a new calligraphy of a plan. And the implication of that is that it could make a new kind of life.'³

Far from engaging the larger field or attempting to re-establish the provenance of forms or ideas – either individually or within the context of the parallel project trajectories each was developed in – I focus on the relatively modest task of considering how each building works on time, describing in a preliminary way some of the devices and formal moves used, the consequent architectural effects, and their differences. I start with observations on approximate configurations and then move to identify differences in order to test how certain shared motives and effects might be generalized into composition strategies. In so doing I begin to describe various

² I borrow loosely here from Deleuze's notion of direct time. Deleuze does not specifically propose this effect but its appropriateness is suggested. He writes, in relation to the cinema image: 'What is specific to the [time-] image, as soon as it is creative, is to make perceptible, to make visible, relationships of time which cannot be seen in the represented object and do not allow themselves to be reduced to the present.' Deleuze, 1989, p. xii.

³ Zaha Hadid, excerpt from an interview in Blackwood, 1989.

formal logics or compulsions underlying each building and in turn conjecture on how they might characterise an architectural temporality.

Analysis

An examination of the two projects from the point of view of time reveals at least four research problems under consideration: diagonals, volume or expressive space, structure, ambiguities.

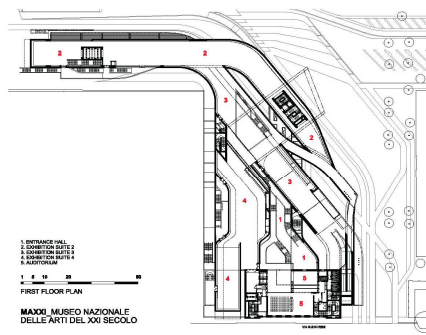


FIG.1.. Zaha Hadid, Museum of XXI Century, 1st Floor Plan (© Zaha Hadid Architects).

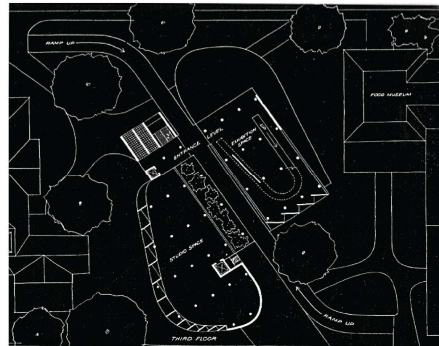


FIG.2. Le Corbusier, Visual Arts Centre, 2nd Floor Plan, *Complete Architectural Works* Vol. VII, 58 (© Le Corbusier/ADAGP Licensed by Viscopy, 2014).

Diagonals

As the plans and sections reveal, both MAXXI and VAC are centrifugally ordered, one channelled and vertically stacked, the other self-bifurcating and horizontally distributed. (Fig. 1, 2, 3, 4) An overall effect of continuity is rendered in plastic terms by a variety of means. Frontal views are difficult to achieve and are deemed static; three-quarter views are favoured in both buildings. Peripheral composition is sought over centralized, and interpenetration favoured over separation, though in MAXXI emphasis is on the vertical and in VAC on the horizontal.

And out of these relations, a general, fairly constant diagonal condition is shown to exist. From there, a closer review of the plans reveals a disposition different from the *enfilade* (room to room) plan and the *poché* (served and servant) plan. It is the case of an open plan in the one and a free plan in the other.

Both favour transverse over cross-axial or longitudinal arrangements. In MAXXI, one enters on the oblique, and continually slides in either a counter clock wise or clock wise motion up the building. And then back down again, sliding always on the edge. MAXXI's plan is layered by open Ls (boomerangs) or flattened S-shaped volumes - no rooms -, with circulation slipping along the edges in a sideling manner. Galleries thrust forward, as in Exhibition Suite V, in part in a burst of energy or, as in Gallery Exhibition Suite II, in the promise of future extension.⁴ The building folds over itself in an almost Boolean movement.

In VAC, oblique and transverse moves are equally at work throughout. Simultaneous, diagonal motions off the parallel streets of Prescott and Quincy initiate this condition. The second floor studios continue it with an echeloned cascade along the outer edge of the mandolin-shaped space. The plans as published in the *Complete Works* show a U-shaped ramp connecting the second and third floors in a clock-wise spiral moving up the building which, if built, would have continued and intensified the external ramp's momentum.

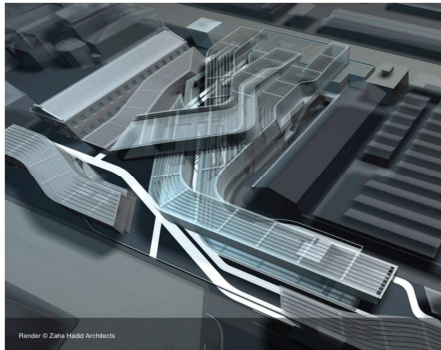


FIG. 3. Zaha Hadid, Museum of XXI Century, Design Development Model (© Zaha Hadid Architects).

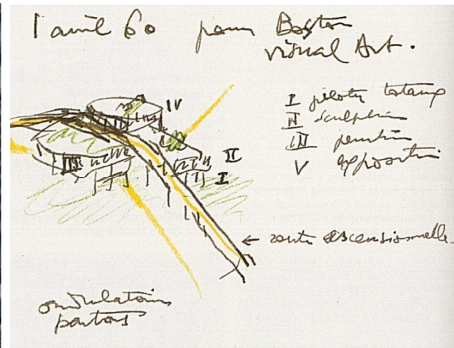


FIG. 4. Le Corbusier, Visual Arts Center, Initial Sketch Idea, *Le Corbusier Sketchbooks*, Vol. 4, 1957-1964, New York, The Architectural History Foundation, 1982, Sketchbook P60 (© Le Corbusier/ADAGP Licensed by Viscopy, 2012).

⁴ Design drawings and renderings suggest future phased elements to the south, extending Suite II, and to the north-west. The oddly truncated corridor or narrow gallery which swings away from the building to the north is intersected by another corridor from the east which, in study sketches, is fully developed into another flattened "S".

Volume, or Expressive Space

If VAC is mostly about horizontal volumes formed by floor and ceiling planes and MAXXI about ribbons or lines, then the one is perhaps most obsessed with conflating the free plan and the other with spiral lines, traces or ribbons. If one extends the description and abstracts the reading, then one can generalize the differences: planes enclose space, lines elaborate space in their pull and torsion; planes bring into focus providing emphasis, lines dissipate, leading the eye away from a static, single 'object' focus the effect of which is to remove firm boundaries so that a 'new reality' can be created.⁵ (Fig. 3, 4)

We can perhaps then say that each building disposes volume so as to engender a dynamic space, that is to produce what can be characterised as expressive space. The demands of expressive space – Hadid's never ending 'new life' referenced above, and Le Corbusier's free plan animated by organ events and object types – might come first, only to be later rationalized in terms of structure or composition principles or use. This sensitivity might extend to a divergence on the one hand toward continuity and on the other toward separation. Or different kinds of continuity, where continuity is understood as a unity of space and structure. Separation of supporting point columns and functional partitions: structure does not define space but punctuates it. Look at their respective sites as additional evidence. Both occupy flat, urban sites and to a certain extent create their own topography. Another consequence of the volume disposition is the use in both cases of overlap and the different strategies of central compression and peripheral dispersion.

Perhaps the two attitudes are not as different as they may at first appear. Both are in pursuit of an architectural idea. And in support of the continuity ideal, it is clear that neither plan is interested in the fragment. Even if the plan of MAXXI is open ended, in anticipation of future construction phases (the drawings imply at least two), the plan is specifically not about the fragment. And VAC is adamantly complete, not to say static. A close examination of MAXXI's section, where the volumetric modelling is palpable, supports this reading. Still it is generalized. The plan is perhaps, staying with first impressions, about open ended, incomplete forms in a condition of continuous motion at their mid points.

The analysis thus far might suggest that MAXXI is about movement of volumes and the plan is an illustration of an architectural promenade. This interpretation might then imply a time concept aligned with a primarily empirical, chronological, idea of

⁵ Project description on the office website: <http://www.zaha-hadid.com/architecture/maxxi/>

time, one subordinate to movement: a this then that, a past then present, a before then an after. And equally, in VAC, we are only ever satisfied or satiated with a kind of space triggered by movement, with what might be call an Acropolis effect. On the other hand, we can observe that in VAC an intensification of local conditions might be a first obvious finding. Those mandolin shaped organs capture in a spiralling disposition the edges of their Georgian neighbours, organizing the elements such that a force, or multiple forces, are shaped and temporarily focused only to be quickly dispersed so that even in the absence of a peripatetic eye there is still a vibration produced in that building and thus perhaps a record of a pure time independent of any reliance on motion or movement to bring it forth. If perhaps too early to state a preliminary finding, one might thus far be justified in claiming that MAXXI works on the concept of space and VAC on problems of time, though which form or style of time is unclear.

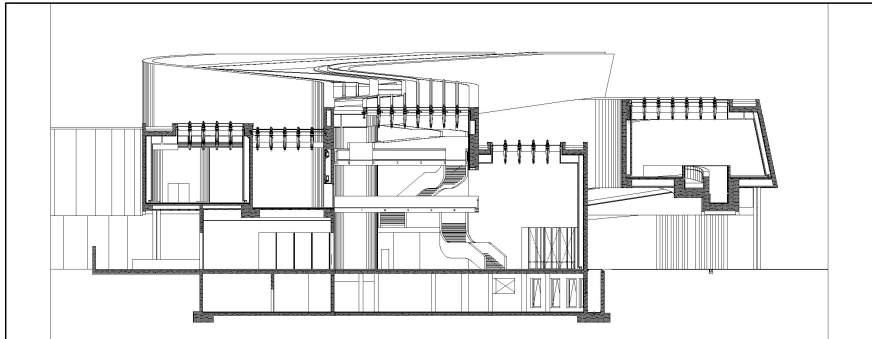


FIG. 5. Museum of XXI Century, Main Lobby Section (© Zaha Hadid Architects).

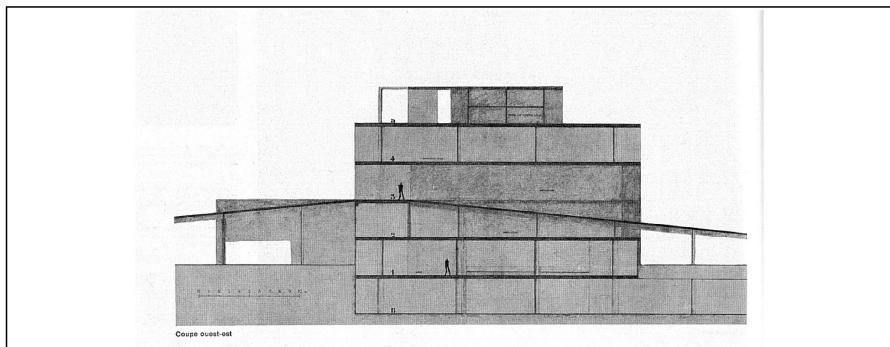


FIG. 6. Le Corbusier, Visual Arts Center, East-West Section, *The Complete Architectural Works*, Vol. VII, 58 (© Le Corbusier/ADAGP, Licensed by Viscopy, 2012).

Structures

Another title for this section might be the free plan versus the free section. To begin, we notice that columns have almost no role in Hadid's building. Outside, there are six clusters of thin tubes at cantilevers or overhangs of first and second floor volumes. (Fig. 5) Inside there is a single instance of a line of three thin tubes on the edge of the first floor outer gallery. In the adaptive reuse of the existing via Guido Reni building, finally, there are four columns in the ground floor space, now used for exhibitions. Animation and architectural effect is developed from other elements at MAXXI, whereas columns play a fundamental role at VAC.

In both, other conditions dominate, set up in part by the difference between the (Domino) flat slab and point column in VAC on the one hand, and insitu concrete wall and stacked cantilever structures of MAXXI on the other. (Fig. 5, 6)

The structural systems are entirely different and both look to some extent to structure as a justification for their plan dispositions. VAC is set out in a rectangular bay grid rotated relative to the bounding streets, generally employing round section columns with local incidents. MAXXI's structure, other than the clusters of thin columns supporting the first floor galleries as noted, is monolithic exploiting the characteristics of the poured in place concrete.

In terms of consequent volumetrics, MAXXI is a narrow volume folding back on itself. VAC is a hybrid of the Domino flat plate point column grid and an assembly of independent organs. The ground is of secondary importance with ascendancy given emphasis.

One aspect of MAXXI's solid wall structure is a certain freedom in section that is not allowed in the flat slab, column point grid structure. The free plan effects of VAC are in one sense transferred to a kind of 'free section' at MAXXI.⁶ The impacts are not strictly in the nature of the sculptural quality of a building as carving but nearly, Hadid's sectional transmutation and modelling of volume yielding much of the plastic effect. Horizontal extension, reinforced by the shear, taut, unencumbered ceiling plane of VAC is matched by vertical pull at MAXXI. The horizontal planes of floor and ceiling are dominant in the one, the enclosing walls channelling movement and reinforced by a highly articulated and in parts transparent ceiling and floor in the other.

⁶ Rowe employs this term to describe the difference of Palladio's Malcontenta when compared to Le Corbusier's Villa at Garches. Rowe, 1976, p. 11.

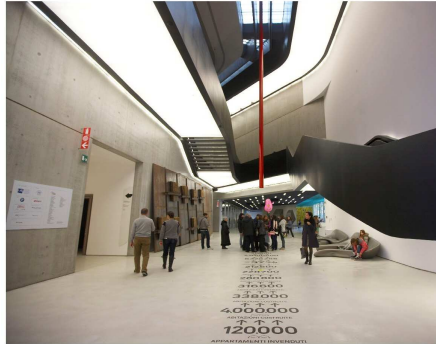


FIG. 7. Zaha Hadid, Museum of XXI Century, Main Lobby (© Camille Tokerud Photography).



FIG. 8. Le Corbusier, Visual Arts Center, Ramp at 2nd Floor (© Camille Tokerud Photography).

Ambiguities

Thus far, a diagrammatic comparison of MAXXI and VAC has explored the themes of diagonal or transverse relationships, of internal volumes rendered expressive, and the consequences of free-plan and free-section structural ideas.

In general idea, as can be seen in my cursory examination of the plans, the overall architectural system of the two works bear some similarities. They are both conceived perhaps around diagonal movements with functional spaces disposed either as coincident with circulation (MAXXI) or as appendages to lines of circulation (VAC). The fourth theme to be developed concerns ambiguities in field/object or figure/ground conditions.

Neither building can be absorbed from without. Values of wholeness, the ideal of being able to stand at some point and receive a palpable impression of the whole is specifically not an aim. And development of focus somewhat of an arbitrary and for Hadid intentionally ambiguous proceeding, explicit if her pronouncements are taken at face value.⁷ A potential single, central focus is consistently broken up, concentration in one point is never sought. Rather a peripheral dispersion of incident in the case of VAC and a peripheral, shifting look, an animated vision – largely frontal even if following a switchback or Z-shaped pattern – in the case of MAXXI dominate. In both, the geometric centre is a void, a void occupied by a ramp and outdoor atrium at VAC, the main stairs, atriums, and light slots at MAXXI. In both, any assumption

⁷ Mostafavi, et al, 2004, p. 50.

of a central focus is relegated to dismembered spaces in a sort of serial installation of interest (organs, events, ribbon-galleries) round the extremities of the plan. (Fig. 7, 8) So while this is perhaps too easy a parallel and things are evidently more subtle, can we say that at MAXXI the plan is all field and no object and VAC that the plan is all ground and no figure. And that we are here confronted with a constant architectural condition of middles or of background intensity, and thus in a realm of real ambiguity?

This is surely a response, in part, to the fact that in both projects the site and program required intensive development as elaborate external deployment was not possible within the more or less set and limiting boundaries.

Inversion or intensification in the place of extension: more fluid at MAXXI, no less concentrated at VAC for being bound by those floor and ceiling plates and directed horizontally. Especially if you study the sliding or staggered distribution of main spaces and the dense center, doubled or echoed by perimeter incidents. No simple dispersal of focus but more of a rebound, waves bounding back to confront initial ripples. In MAXXI the concrete walls of the galleries channel the effect. At VAC, potential release is denied, energy bounced back from or ricocheted off all those perimeter vertical incidents: curving wall, ondulatories, brise-soleils, columns.

Peripheral interest in horizontal expansion in VAC; contained concentration of a rather constant nature, sliding and swung along vertically at MAXXI. Two different compositional strategies yielding in one sense, however, similar effects: no one centre, a kind of indefinite though not neutral space. Never uniform, in fact it is always potentially fully animated such that hierarchy (of figure over ground or object over field) is shown specifically not to be the intent. The absence of one dominant centre, produces this other kind of condition of being always already in an ambiguous kind of middle condition.

So while there is perhaps the idea or promise of a *denouement* in both, it is endlessly deferred. I believe this is further evidence of a concept of time at work. In neither do you ever fully arrive, suggesting time has always already passed.

Look again at the plans. (Fig. 1, 2) In MAXXI, the interest is the field as a constant condition.⁸ Suite V, that gallery reproduced so frequently, is not the main thing, it does not conclude. It is the end but only in a tentative way, an effect of the sloping floor, the view slot, the oblique cut of the end wall in plan and plane. In VAC, the effect of deferred arrival is similar though the means different. Certainly the artist's apartment perched on the final floor might want to satisfy a desire for a conclusion or

⁸ For a discussion of the concept of field, see Schumacher, 2010, p. 39.

pyramidal cap. In Le Corbusier's work, the Beistegui Apartment in itself provides that effect, as do in different ways the roof terrace events at the Villas Savoye and Stein. But it is not the case here. If the internal ramp had been built between the second and third floors, then perhaps in Cambridge the third floor would have gained some hierarchical role.

Conclusion

The four composition effects or problems now surveyed, we return to the germinal questions around time. Is there a concept of time rendered in each building, or more generally of a time concept specific to the work of architecture? What kind of temporal structures are evident and how do they function?

In the proceeding analysis implicit has been the question of a direct or a pure time – both as an effect created and made manifest in the building and as an interpretive category. What kinds of devices would be at work to give rise to a pure time, one different from a past-present-future time, that purely empirical succession of things. One aim of this paper has been to begin to identify elements for a theory of those temporal structures that certain modern works of architecture may be able to grasp and reveal. Though tentative, and calling for further development, I believe there is evidence of a concept of time at work in each of the buildings considered.

The four aspects explored above, when reviewed together, thus can stand as a provisional description of some characteristics of an architectural concept of time: diagonal and transverse relationships; a voided center that creates intensity independent of any other animating presence. In addition, there is a specific idea of structure: the flat slab and point structure in VAC overlapping with dense perimeter conditions and the cantilever, ribbon-like shapes in an open-ended plan of MAXXI. And perhaps supporting or enabling all, field and ground ambiguities. To varying degrees, and with all the qualifications called for, there is a suggestion of terms and effects for describing an architectural concept of time.

From the above analysis we can now perhaps say that, though employing different means, MAXXI and VAC are equally about movement and about a temporal structure. Both buildings render manifest an idea of time out of joint, one that does not rely on movement to gain presence. Different from Le Corbusier's emphasis on the Acropolian sequence, and the motor and visual aspects that implies; and the parallax effects so immediate and palpable in that whirl of columns and tilting planes proceeding up and through VAC; and despite the combination of oblique movement and peripheral incident dispersed over and across several floors, and the 'free organs'

staggered vertically; despite or in addition to all this, time perhaps appears directly, independent of an animating movement.

And equally true, it can be claimed, MAXXI freeze frames a moment in time and thus perhaps illustrates a kind of pure time by means of the strategies examined above: oblique movements already underway, folding volumes, an animated middle (no beginning or end).

Thus we are confronted with forms of simultaneity, with concepts of time as overlapping durations, the consequence of compressions and release, all working to create folds in, or give thickness to, time. And these seem to be valid and real findings, if only tentative conclusions which nonetheless support a direction of further research with other concrete examples to be sought, and terms of reference to be refined and amended.

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