Author: Moulis, Antony

Title: ‘Diagrams, composition and play: reading concepts and techniques through the work of Le Corbusier’

Date: 2004


ISBN: 0-646-44062-4

www.uq.edu.au/atch
Diagrams, Composition And Play:
Reading Concepts And Techniques Through The Work Of Le Corbusier

Antony Moulis

This paper situates debate on the relation between play and composition as concepts in design process, specifically drawing on the criticism of Alan Colquhoun and Colin St John Wilson. It shows how the concept of play has been differently used to assess early 20th century architectural design processes, generally as a means to critically distinguish modernist practice from 19th century academic practice. More subtly, however, the concept of play has also provided a mechanism to articulate tradition's role in modernity, by establishing the possibility of continuity with, and difference from, tradition. In this regard, play, understood as technique, offered architectural discourse a means of shadowing aspects of Beaux-Arts practice, while avoiding the connotations of Beaux-Arts composition (a term which was taken to stand for a narrow and formulaic understanding of design). For Wilson in particular, the differences between techniques of composition and play are critically important, and they mirror a further distinction between the diagram and the ideogram – which he uses to characterize different approaches within modernist design practice.

Using certain projects by Le Corbusier, the paper will extend this debate by showing how these concepts and techniques can be read graphically, that is, in the practice of architectural drawing. On one level, this reading is simply meant to offer a new understanding of the terms under discussion. At another level, the readings of these terms are intended to open up broader questions, particularly concerning the current understanding and use of the diagram within architectural discourse.
This paper situates a debate on the relation between play and composition as techniques of architectural design process; a debate which emerges with 1970s and 1980s historicist reassessments of early modernism’s legacy. Play, in this specific context, is associated with the actions of the designer who draws and devises forms rather than with the subject who uses space. Though play is paired with composition it is the former that is the operative or critical term, being variously used to assess early 20th century architectural design processes, specifically as a means to critically distinguish modernist practice from 19th century academic practice. More subtly, however, the concept of play provides a mechanism to articulate the role of tradition in modernity, by establishing the possibility of continuity with, and difference from, tradition. In this regard, play, understood as technique, offers a particular architectural discourse the means of shadowing aspects of Beaux-Arts practice, while avoiding the negative connotations of Beaux-Arts composition (a term which was taken to stand for a narrow and rule-bound understanding of design). Nonetheless, play and composition as architectural techniques are thought of in dialogue, and differences in graphic representation and the reading of representation, are critical to understanding this difference.

Before examining their relation in particular it is useful to acknowledge differing concepts of play attributed to architectural design process through this kind of criticism. One sense of the term refers to the intuitive and the unconscious as aspects of the architect’s design process and the other refers to the idea that the design process provides a certain leeway for the movement or play of elements within it. Play, related to the intuitive and the unconscious, describes an initiating action of design that has the sense of being ‘imaginative’ and outside convention. Play, describing leeway in the design process, ascribes a certain mental agility to the designer who is able to find room to move within a prosaic method or system of design. Both senses of the term can be understood to have a particular use or history in the assessment of architectural modernism.

The idea of ‘play in the system’ is part of a broader historical view of architectural design practice, advanced in the work of critic Alan Colquhoun. He uses the idea of play to establish a critical distinction between 19th century academic practice and 20th century modernist practice while also allowing some continuity between them. Play is a critical mechanism of a new understanding of design that allowed early 20th century architects to conceptualise their forms as free of traditional or prescribed meanings such that those forms be made available to new uses or functions. With form and meaning uncoupled in this way, further leeway was found between elements within the design system for what Colquhoun calls a ‘free play of forms’ resulting in various kinds of plan configurations (or at least ones that were non-axial and asymmetrical). What Colquhoun makes evident overall, however, is the broad continuity of design practice between the 19th and 20th centuries centred (explicitly or implicitly) on the act of composition, an act he defines in relation to Beaux-Arts practice as a method of formal arrangement that was thought of as generalized and beyond issues of style. In relation to avant-garde design Colquhoun writes that ‘[i]t is the degree to which these kinds of design are free from fixed rules of combination and are active and dynamic in their free play of forms, not the presence or absence of composition as such, that differentiates them from academic composition. Play is identified with the action of the designer within a “closed” system provided by tradition, who nonetheless finds the room to maneuver and devise an alternative game.

The idea of intuitive play in the design process is used to articulate a technique for generating design concepts. Broadly speaking, the technique is as follows. The architect begins to consider the design problem in a spontaneous and open-ended way until they produce an image that hints at an architectural idea or solution. At this point the architect enters into the architectural design process proper, and the image generated through play is subject to interpretation and transformation towards a final architectural solution. This rendering of intuitive play in design process has two further corollaries: the implication of the work as the architect’s unique self-expression and the idea of his or her ultimate mastery over play.

Colin St. John Wilson’s critical discussion of the work of Alvar Aalto and Le Corbusier provides example of this kind of thinking, and one that turns on the reading of architectural representation. In examining the work of these architects in parallel, Wilson cites a critical distinction between techniques of composition and play that mirrors a further difference between the diagram and the ideogram as types of graphic representations. For Wilson, a diagram is understood as an image representing a schematic reduction of architecture. An ideogram, in contrast, is an image that seems to open outward, capable of multiple allusions. It is Le Corbusier who presents architecture in diagrammatic terms and this is typified in the architect’s famous image of the free plan concept. This simple image is made of a series of points, that represent a structural column grid, and random geometric lines within the grid, that represent non load-bearing partitions. For the architect, the game is one of forming aesthetic compositions of the freely disposed elements in catering to nominal functions. While Aalto is also identified as an architect who works with simple images or figures, his play with them shows how meanings are multiplied rather than reduced. Wilson describes the seminal image of Aalto’s architecture as a pair of lines adjacent each other, ‘one straight, the other serpentine.’ As abstractions these lines are expressive of more than simple architectural forms, they operate as metaphors - a giant wing, a series of waves, the opposition of the rational to the organic and so on. These lines stand separately as abstractions, they are not representations of built form in the manner of Le Corbusier’s elements of the free plan. What is more, when Aalto brings these lines into the architectural design process they can appear in any and all of the standard architectural views - plan, section and elevation - showing themselves capable of multiple uses at various scales - typically, as the fan shape of a library set against a rectilinear block or as the wave vault of an auditorium floating above a floor plane for example.
For Wilson, Le Corbusier’s diagram privileges the technique of composition, and the critic draws parallels to Beaux-Arts principles of aesthetic visual order.9 Aalto’s ideogram is indicative of the technique of play, evidenced in his agile use of figure in free and inventive ways.

While play is a useful allusion to liberation from conventions and history (treated differently by each critic), it is also a vehicle for giving order to architectural representation (the products of design processes). What is critical to the ordering of representation around the concept of play is the sense that one can read deviations or movements across drawing as different kinds of operations in design process. The character of these operations speaks of the presence of play.

For Wilson the order of representation that gives context to play are the standard views of orthographic projection—typically, plan and section. His characterization of play as technique is the architect’s ability to take an abstract figure, from outside of architecture, and ‘discover’ its formal possibilities within orthographic projection. The movement of the figure through projection is free but orderly—the abstract figure is itself a constant. Le Corbusier’s technique does not exhibit the same freedom of movement of a figure between orthographic views as witnessed in Aalto. Instead it privileges the plan. Despite the fact that the ‘freedom’ or play with figures within Le Corbusier’s plan grid is nominally greater, it fails Wilson’s test of play and remains an issue of composition. Colquhoun’s view of Le Corbusier’s technique is obviously different, in that he sees the similarities and differences between play and composition as a relation across history. Le Corbusier’s design system is understood through its play upon Beaux-Arts practice, and thus for Colquhoun the architect’s technique “can only be understood with reference to the old, in absentia.”10 Play as an ordering of representation involves the direct inversion of traditional figures—the replacement of the vertical window with its counterpart, the horizontal window, and so on.

Wilson’s ordering of representation with respect to play implies a constant figure applied and re-applied in the vertical and horizontal of orthographic projection; Colquhoun’s ordering of representation characterizes play through asymmetry in plan and the direct inversion of formal convention. For both the concept of play is a means to see across movements in drawing to observe the limits and possibilities of design practice. The critic’s game is to isolate these operations, which speak of the new modes of design. At the same time, however, this critical inquiry implies a much broader field of possible operations (variants from tradition) than are suggested by their specific observations alone. Once play opens ‘all is movement, change, alternation, succession, association, separation’12 and this raises the question of its limits. Wilson suggests that the architect must somehow constrain their play to avoid self-indulgence or kitsch (an indication of his own critical position in the context of a modernist/historicist debate).13 Regardless, the implication of this field of operations in design emerges in their analysis.

Generally speaking this field of operations is something like the context set out in contemporary practice from which the idea of the diagram emerges. However, concepts like composition and play discussed in debates about the historicist legacy in modernism are not part of this contemporary context and the paper will return to consideration of this in the conclusion. Next the paper proposes an analysis of the development of Le Corbusier’s free plan concept through the architect’s oeuvre from the 1920s to the 1960s to further discuss the issue of reading design processes and to link forward to contemporary concepts of design practice and the diagram.

Through the 1920s Le Corbusier is seen to model his free plan arrangements with respect to phenomenal transparencies, the construction of architectural promenades.14 And yet by 1928, in parallel with the architect’s project for the Villa Savoye, the architect experiments at varying the relationship of the former to later—a change of thinking that generates a new plan image. This new image is the plan of the World Museum (1929) in which the promenade achieves a definitive figural plan form as a monumental three-dimensional square spiral, leaving the free plan column grid and partitions as a means of subdivision along its length. This plan image is effectively a direct reversal of prioritising of the Villa Savoye plan which famously places the promenade, as ramp, at the center of the dominant free plan arrangement. If as Colquhoun suggests the free plan is an inversion of the Beaux-Arts concept of the dominant structural wall then the World Museum plan pictures a double inversion from this conventional image, revealed in the move from the dominance of the structural wall to free plan and then from free plan to promenade.

By 1931, with Le Corbusier’s design from a Museum of Contemporary Art in Paris (also a square spiral form), the relationship of free plan to promenade is once again the subject of play. The major difference between this square spiral plan and its predecessor is its three-dimensional form. In the 1931 scheme, the spiral figure is deployed in the one horizontal plane rather than as a helicoidal form. In terms of the movement from the former to the later the spiraling ramp of the World Museum collapses down and forms itself into one plan layer. This formation of the plan into a single plane produces another difference as the walls between the arms of the spiral are freely opened and turned out, blurring the difference between the plan images of free plan and promenade. This ambiguity is evident in the nature of the plan’s extension, which follows the pattern of the spiral promenade space only to be subsequently rearranged as free plan space.

The next iteration of the spiral plan comes in 1939 with the project for a Museum of Unlimited Growth. With this project the architect identifies, in retrospect, the trajectory of his play with the promenade as plan form, writing that this project is continuous with ‘a series of studies over a period of ten years.’15 Here, contrary to the 1931 project, there is a return to a stricter observance of the spiral/promenade as the organizing principle. Where the form of the spiral
is not strictly observed we find another type of plan
figuration brought into the arrangement, a series of
four axes organized as a pinwheel and overlaid on
the spiral. This plan figure creates an orderly pattern
for breaking out across the spiral walls. If we consider
this intervention of axes within the plan as technique
then clearly it indicates a reprise of a conventional
(Beaux-Arts) compositional strategy (despite the
axes forming themselves in the modernist image of
a pinwheel). This return to convention is alluded to in
the architect's commentary on the project where he
describes the axes as expressing the overall unity of
the plan as a necessary 'correction' of the labyrinthine
tendencies of the spiral plan.16

In projects for the Cultural Centre of Ahmedabad
(1954), the Tokyo Museum (1957/59) and the Museum
of Chandigarh (1956), the plan proposed for the
Museum of Unlimitted Growth, of pinwheel over spiral,
eventually comes to built realization more or less in-
tact. At this point the architect's movement of figures
seems finally complete, and the wayward trajectory
of transformations based on the free plan image are
now ended. Yet that play is not over and enters a
new phase in the 1960s. The Venice Hospital project
(1963) demonstrates this new turn. The plan image,
which had crystallized in the 1939 Museum of Un-
limited Growth, is multiplied, dissected and collaged
to form the basis of a new serial structure. As two early
study images show, the discrete plan figure of the
museum is directly appropriated, cut out as shapes
and reassembled with tape to sketch out the hospi-
tal's plan.17 Further to this, the spiral formed sections
of the museum's plan are cut out, replaced by orthog-
thonal layout of wards, offices and patient rooms. The
remnant pinwheel axes form the circulation routes but
with none of the clarity of their former use as expres-
sion of the plan's overall unity. The axes now run into
each other, doubling in length and arriving not at the
outside of the building but back into its interior courts.
The multiplication and collaging of the pinwheel axes
has not clarified the whole but turned it back into a
labyrinth.

This 'final' transformation from an ideal free plan im-
age produces nothing like its original image. The link
between them is more complex, a chain of discrete
operations in plan projection that show how the
earlier image moves forward by its inversion with the
promenade, by its correction with the application of
complementary figures, and by its dissection, multi-
plification and reassembly. In Le Corbusier's work, the
free plan image is seminaur not simply because it is an
image so readily repeatable but as a consequence of
the various generative design operations that are
applied to it, and such a reading brings us to consid-
eration of the contemporary concept of architectural
diagramming.

The diagram as vehicle of architectural production
has lately placed issues of method in the forefront
of contemporary architectural discourse. Diagram-
matic method counters and displaces a historian-
typological based design practice with a practice
that speculates on the autonomy of architectural
methods and the possibilities self-generating form.18
The proper way into the discussion of the diagram in
contemporary practice could be given by any or all
of the following: Colin Rowe's seminal analyses of
Le Corbusier's Villa Stein, Peter Eisenman's House
series and the philosophy of Gilles Deleuze, not via
the critics and projects discussed here.19 The debates
on play and composition in architectural design proc-
ess described existed within a certain sphere of the
discourse on modernism and historicism at its height
in the 1970s and 1980s; and its key terms have the
sense of being inadmissible in current discourse. The
problem with composition now is its centrality to the
classic notion of design, implicating 'that post-Rena-
sance trajectory of architecture'20 eschewed by con-
temporary avant-garde practice. Play, as described
in the historicist debate, is equally problematic. The
suggestion that play in design practice is reference
in the architect's unique self-expression is contrary to
the idea of contemporary diagrammatic method that
presents concepts of self-generation in architectural
production as a means to critique authorial intent and
the author-subject position (process might be a game
but it is not 'child-like' play). Despite these problems
there are also some observable parallels. What the
play/composition debate shares with the discourse on
the diagram is the general context of Rowe's formal
analyses, whether explicit or implicit. In schematic
terms the play/composition debate also sets out,
by virtue of its central question, the idea of a field
of operations in design which is outside convention
that can be understood by examining movements of
figures or images through drawing – figures that are
rotated, inverted etc. There is also the complemen-
tary idea that the process of design involves an 'initial
ideal or generic form'21 taken through a series of
transformations. It is the notional limits of (or possi-
bilities for) kinds of transformations that is the divid-
ing issue between contemporary theorizing and the
historicist debate described. And yet there is also a
sense in which 'transformation' might be a substitute
term, shadowing the concept of play while avoiding
its negative connotations.

The reading of transformation/play in Le Corbusi-
er's work from the free plan to the Venice Hospital
reveals a greater range of possible movements and
operations in design process that exceed those
described or intended in the modernism/historicism
play/composition debate. At the same time these
transformations might be seen as casting forward to
contemporary theory. Thus when the condition of the
diagram in contemporary architecture is described as,
'the abstraction that may generate into more than the
thing itself, and thus potentially overcome normaliza-
tion'22 then the trajectory in Le Corbusier's work, from
the free plan to the Venice Hospital, can be seen as
anticipating the processes ascribed to diagramming,
suggesting that generative operations in design proc-
есс that re-form images (so as to exceed their con-
ventional use) is, in some sense, a technique already
well exploited in the processes of modernist play.
2 Although Collins does not use the term ‘play’ in particular he does argue a difference between Beaux-Arts and Modernist planning based on the latter’s technique of subdivision which implies a type of game of arrangement. See Peter Collins, *Changing Idioms in Modern Architecture 1750-1950*, Montreal: McGill-Queen’s University Press, 1998, p.226.
5 Colquhoun, *Modernity and the Classical Tradition*, 34.
8 Wilson’s purpose in making these claims is his broader mission to distinguish a dogmatic modernism (here represented by Le Corbusier) from its organic counterpart represented by Alvar Aalto who forms part of Wilson’s other tradition of modernism with Hugo Haering and Hans Scharoun.
13 Wilson, ‘Functionalism and the Uncompleted Programme,’ pp.164-165.
19 R.E Somol, ‘Dummy Text, or the diagrammatic basis of contemporary architecture,’ in Eisenman, *Diagram Diaries*, pp.6-25.
22 Peter Eisenman, *Diagram Diaries*, p. 42.