

ABSTRACT

Improvisational Analogies: The Jazz Studio

Submitted For Presentation at
The 13th National Conference On The Beginning Design Student
Louisiana State University in Baton Rouge

The objective of this graduate level studio is to study the potential relationships between jazz improvisation and architecture as a beginning design method. The initial exercises examine the structural and thematic aspects of a singular *jazz vehicle* through an interpretive analysis. The term *vehicle* was first proposed in jazz by trumpeter Dizzy Gillespie as a metaphor for tune, describing the improviser's use of the tune as a machine on which he rides during his improvisation. The *vehicle* for the studio is a sequence of structured exercises that reveal underlying spatial strategies. A formal vocabulary of basic architectonic elements is given. Ideas pertaining to jazz improvisation are transposed into architectural principles such as sequence, rhythm, interplay, counterpoint, progression, tension-release, theme and variation, ascending and descending, contraction and dilation of scale, etc. The studio starts in two dimensions and works in additive and incremental steps toward three dimensions, eventually leading to a vision of building and self-referential context.

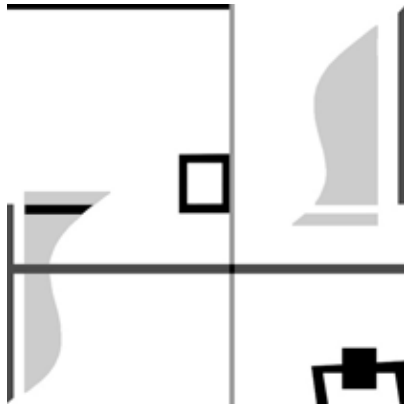
Jazz as Architecture:

The formal elements and principles that govern jazz improvisation parallel similar formal concepts in architecture. The term *parallel* means to bring into comparison in order to show a likeness (analogies). Parallel is also a musical term; instrumental or vocal parts moving so that the interval between them remains the same. The *parallels* between the two disciplines act as guiding principles for the design methods presented. Students are encouraged to maintain this interval by resisting to make architecture literally symbolic of jazz music. No attempt is made to derive overt metaphorical or literal images from the music.

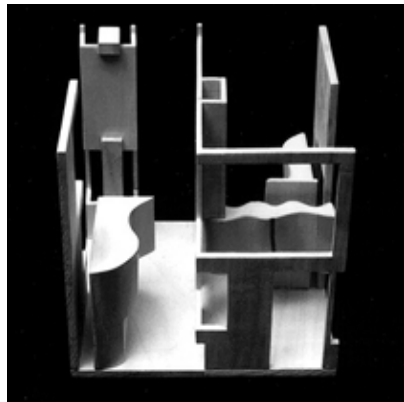
The studio ultimately promotes the act of making architecture as a discourse, where execution precedes conception. Issues of formal manipulation and spatial composition supersede programmatic concerns, function, historical allusion and precedent. The attitude presented is that **meaningful form** comes from the act of **abstracting external references**. The intention of the studio is not to study music, but to awaken the novice student to the possibility that one's preconceptions of architecture might be naive, or should at least be questioned. Students begin to understand the differences between the abstract and the literal in architectural design. The strategies and methods developed in the analytic phases condition the synthetic design of a *Jazz Studio project*.

IMPROVISATIONAL ANALOGIES: The Jazz Studio

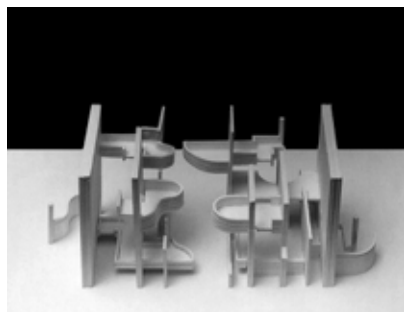
Bennett Robert Neiman



1. J. Calvery, two-dimensional improvisations.



2. J. Calvery, three-dimensional projection.



3. R. Winterrowd, Jazz Performance Stage.

...we have presented a studio course... a laboratory or workshop course which opposes an administrative attitude of "theory and practice." Naturally practice is not preceded but followed by theory. Such study promotes a more lasting teaching and learning through experience. Its aim is development of creativeness realized in discovery and invention — the criteria of creativity, or flexibility, being imagination and fantasy. Altogether it promotes "thinking in situations," a new educational concept unfortunately little known and less cultivated, so far... it is time to advocate again a basic step-by-step learning which promotes recognition of insight coming from experience, and evaluation resulting from comparison. This, in sum, means recognition of development and improvement... growth of ability. This growth is not only a most exciting experience; it is inspiring and thus the strongest incentive for intensified action, for continued investigation (search instead of re-search), for learning through conscious practice.¹

Josef Albers

This paper presents the work of three *Jazz Studios* taught over a ten year period. Each studio was conducted in a different manner as improvisations on the basic theme. The objective of this studio was to study the potential relationships between jazz improvisation and architecture as a beginning design method. The initial exercises examined the structural and thematic aspects of a *jazz vehicle* through an interpretive analysis. The term *vehicle* was first proposed in jazz by trumpeter Dizzy Gillespie as a metaphor for tune, describing the improviser's use of the tune as a

machine on which he rides during his improvisation.² The *vehicle* for each studio was a sequence of structured exercises that revealed underlying spatial strategies.

A formal vocabulary of basic architectural elements was given. Ideas pertaining to jazz improvisation were transposed into architectural principles such as sequence, rhythm, interplay, counterpoint, progression, tension-release, theme and variation, ascending and descending, contraction and dilation of scale, etc. Each studio started in two dimensions and worked in additive and incremental steps toward three dimensions, eventually leading to a vision of building within a self-referential context.

Jazz as Architecture

Architectural tectonics was studied by looking at analogous structures in jazz improvisation (music as an abstracted, informational medium). The initial hypothesis was that many of the tectonic elements and principles that govern jazz improvisation parallel similar concepts in architectural design. The parallels between the two disciplines was the guiding theme for the initial design methods presented. Students were encouraged to maintain a parallel interval by resisting to make architecture literally symbolic of jazz music. No attempt was made to derive overt metaphorical or literal images from the music.³

Tectonic issues of formal consistency, flexible ordering systems (establishing rules and sub-rules), interrelationships, positioning of elements, and the articulation of movement systems (controlled sequences through space) superseded strictly pragmatic

concerns. The studio emphasized that ideas about jointure of elements and articulation of space can emerge from the act of visually reinterpreting jazz improvisation. The intention of each studio was not to study jazz music, but to awaken the novice student to the possibility that studying analogous concepts from other creative disciplines, such as jazz improvisation, might reveal potent ideas about tectonics in architecture.

All of the jazz studios promoted the act of making architecture as a discourse, where execution preceded conception. The attitude presented was that meaningful form can emerge from the act of abstracting, manipulating and transforming external references be they jazz music or one's own prior work. Students began to understand the differences between the abstract and the literal in architectural design.

Jazz Studio I: Mondrian and Matisse - Fall 1986

The first *Jazz Studio* examined relationships between painting, jazz music and architecture. An interesting parallel was observed. Two formally opposed twentieth century painters, Piet Mondrian (Dutch), and Henri Matisse (French) were inspired by the new American creative music of their times, jazz. Each artist responded in entirely different and personal manners. Mondrian titled four of his paintings after jazz dances; *Foxtrot A, & B, Broadway Boogie-Woogie, and Victory Boogie-Woogie*. Matisse named a series of cutout paper collage compositions, *Jazz*.

Even though Matisse and Mondrian had radically different forms of expression, at the later part of their careers they discovered similar methods to accomplish their goals. Mondrian used a taping method on his *New York* series of paintings, carefully studying the positions, lengths and varying thicknesses of lines with colored cloth tapes. In his previous work, he laboriously painted

each line. On many occasions he returned to a painting years later to repaint the thickness or position of a line in his search for the "universality" of the piece. By using the new "taping" method, he could make these crucial judgments more rapidly.⁴

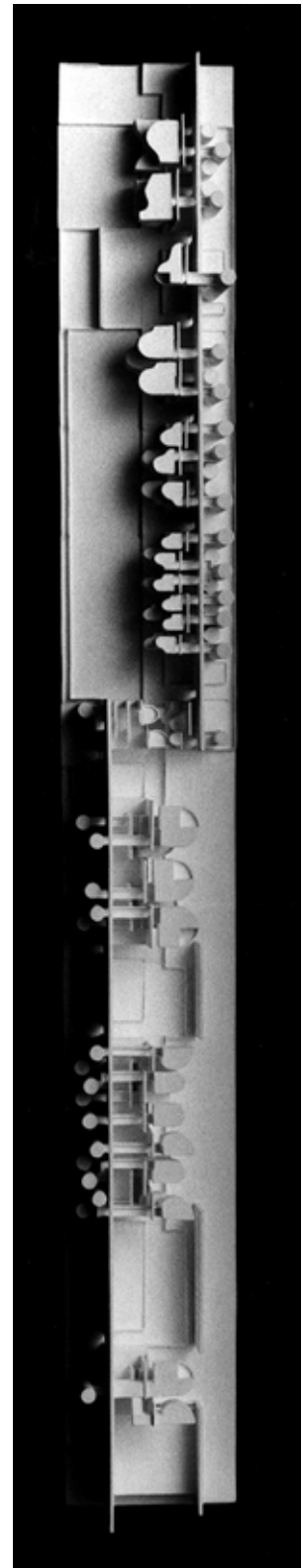
Matisse utilized a method similar to Mondrian's taping. He applied pre-painted papers to a white ground. With scissors, he cut various shapes and designs. In effect he "drew" or "sculpted" with the scissors. His assistants were directed to arrange the shapes on the wall, according to Matisse's wishes. Final compositions were permanently pasted in place. These final compositions were translated to silk screen for printing and publication.⁵

The vocabularies of these artists were presented to the students as representative of opposing formalistic forces: Mondrian's as the rational, orthogonal grid, and Matisse's as the intuitive, free floating object. Together they embodied a primal attribute of modern architecture; the free plan.

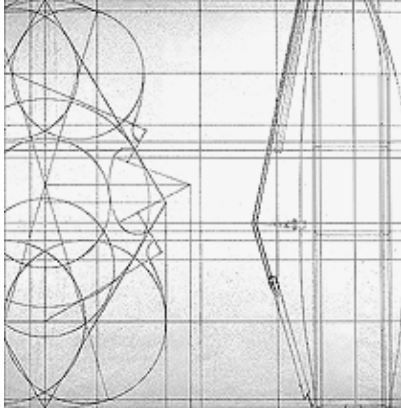
The studio began with a research phase, attempting to relate jazz music with Mondrian and Matisse. This was followed by a series of two-dimensional improvisational studies (fig. 1). These collages were projected into three-dimensional proposals (fig. 2). The formal vocabulary and relationships discovered were applied in the design of a *Jazz Music Performance Stage* (fig. 3) and a *Jazz Music School* for a hypothetical college campus (fig. 4).

Jazz Studio III: Musical Instruments, 1990

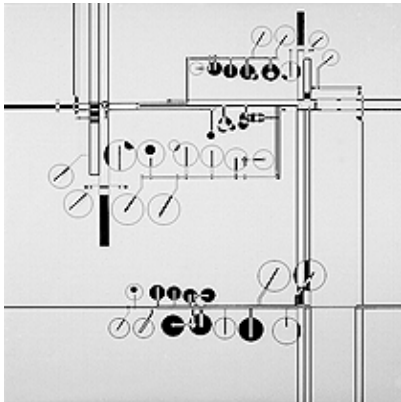
In jazz, musicians record an improvised performance several times. They must critically decide which "take" is the one that will appear on the final released album. The *alternate takes* are analogous to sketches in design.



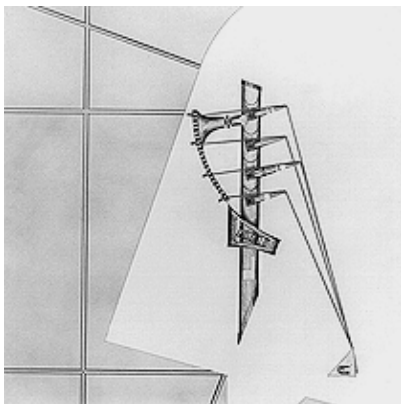
4. R. Winterrowd, *Jazz Music School*.



5. T. Meade, bass geometric analysis.



6. S. Austin: tenor saxophone abstraction.



7. V. Kolouch: bass fret detail re-interpreted.

This studio consisted of a series of planimetric and sectional studies that examined the form, space, line, materiality and detailing of various musical instruments (fig. 5). The underlying structure was derived from structural analyses of Thelonius Monk's jazz compositions. The *takes* began as analytical interpretations of the instruments applied to an underlying musical structure (figs. 5-6).

The students reflected a *jazz attitude* by treating each subsequent drawing as a "take." A second series of studies distilled key elements or details from the instruments (figs. 6-7). Proposals for abstracted buildings and landscapes were generated from re-composed elements (fig. 8). The final "take" involved the construction of an interpretive conceptual/material model, entitled *The Jazz Studio* (figs. 9-10).

Jazz Studio V: *Lester Leaps In*, 1994

In this final jazz studio, the ability to spontaneously manipulate and articulate form and space in architecture was seen as similar to the treatment of disparate links, connections, transitions and joints in jazz improvisation. The jazz vehicle chosen for analysis was *Lester Leaps In*⁶ performed by Count Basie and his *Kansas City Seven*. Tenor saxophonist Lester Young was the featured soloist.

Lester Young's solo represented a spontaneity which was ordered and structural. There was a quality of balance, unity of parts and a clarity of concept lying beneath the surface, under an invigorated texture of notes.⁷

Lester Leaps In was recorded in two improvised live takes based on the same arrangement. The recordings are quite different, especially in the solos. This was one of those sessions where nothing had been planned prior to coming into the studio. The musicians just decided to

play what are now regarded as classic performances. The improvisations were spontaneously invented within the mind and generated from what the musicians heard internally.⁸ By listening to both versions, the students witnessed the differences of spontaneously recorded, abstract, musical composition. Their mission was to apply this sensibility to architecture.

Lester Leaps In is an AABA structure which refers to the melodies within each chorus. The (A) melody is repeated twice, followed by a bridge (B) melody, then followed by a return to the (A) melody. Each section (A or B) is eight measures (bars) in length. Each measure consists of four beats, therefore a single section has 32 beats. The entire vehicle consists of an introduction and six choruses.⁹ The four-bar introduction and first chorus set up the melody, formal structure and basic themes from which improvisational solos vary in the subsequent choruses. These component parts became a datum from which comparisons are made.

The studio was divided into six analytical groups based on pairings of choruses in the piece (1&2, 2&3, 3&4, 4&5, 5&6, 6&1). An arrangement chart of the piece was made available to the students (fig. 11). The first step in the process was to listen to the music repeatedly. Each group was required to become familiar with the entire piece, then concentrate on their chorus pairings.

The first visual exercise (jam session), required the students to analyze the structure of the vehicle and distill key musical elements from their chosen choruses. A strict technical analysis of the music was unnecessary because we were looking at the exercise as architects, not musicologists. The goal was to translate the basic relationships and events of the musical vehicle into a graphic representation of line studies and colored paper collages. The ordering concepts of constants and variables regulated intuitive moves. By re-

peated listening and observation, the students began to discover and recognize subtle relationships and references.¹⁰ Students were required to draw an underlying reference system, analogous to the measure and beat system of the vehicle (fig. 12).

A vocabulary of base forms were given: squares, rectangles, L-shapes, and U-shapes (fig. 13). The vocabulary was not entirely rigid or inflexible. Students could diverge and interpret this vocabulary in many directions and possibilities through size, shape, location, orientation and number. For instance, U-shapes could be manipulated with respect to relative lengths and thicknesses of the base and legs to form distorted U-shapes, or transform the U-shapes into J-shapes or other hybrid forms. Later on, a distinction was established between background (field) elements (as shades of gray) and the figure elements (as white or black). The fields had to conform to the underlying AABA structure of the choruses.

The two-dimensional improvisations lead to a quasi spatial analysis. In order to entice students into thinking in three dimensions, they were presented with a model format consisting of several clear planes and a base (figs. 14-15). Five of the planes were frontally distributed and one lateral plane acted as a longitudinal reference. The two-dimensional improvisations were decomposed and rearranged on the planes. The model was flexible so that students could experiment with the spatial positioning of figures and fields. Students eventually added a series of three-dimensional, projected inserts between the clear planes.

A series of rhythmic collage studies were made from a given formal vocabulary of basic elements limited to orthogonally positioned figures (fig. 16). A series of complex grids were generated out of the collage studies (fig. 17). These studies were articulated into planimetric and sectional studies (figs. 18-19). The organizational structure/parti/big idea was em-

phasized. Set locations for the physical structural elements became the primary spatial ordering device. The spatial definition of primary, secondary and tertiary hierarchical precincts was generated from the previous two-dimensional studies. The correspondences between plan and section and the relationship between structure and tectonic elements was developed through several preliminary study models and axonometric diagrams (fig. 20). These studies were developed into the final three-dimensional conceptual model (fig. 21).

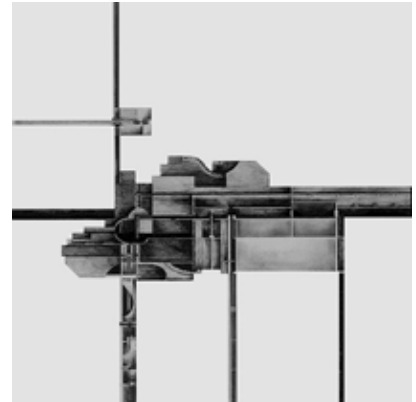
Students became aware of developing a consistent approach to tectonic articulation beginning with the relationship between solid and void. They exploited a three-dimensional orthogonal vocabulary of volumes, planes, columns and beams.

Conclusions

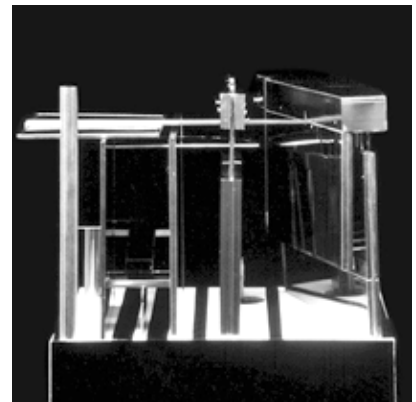
The opening quote by Josef Albers represents the underlying spirit of what took place in each of the studios. The students made thoughtful insights into the problem through their analyses and observations. Once presented with the premise of the studio, they were eager to look at architecture in a non-conventional light. It became apparent that participation in this kind of an exercise required a continuity between the steps of the process and the final product.

A jazz vehicle was used in the studio as a point of departure, as an analogous condition, as a vehicle for improvisational generation of architectural form which had to be structured and ordered.

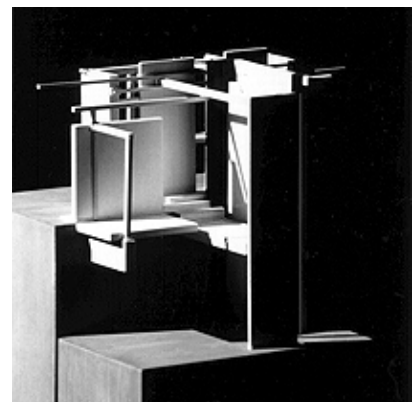
The key lesson of this studio was the meaning of creating an idea and working it through as an improvisational sequence. In other words, devising an idea, revising the idea, adjusting it, evolving it, and transforming it into architectural space.



8. R. Klap: upright piano re-interpreted section.



9. T. Samura: trumpet jazz studio.



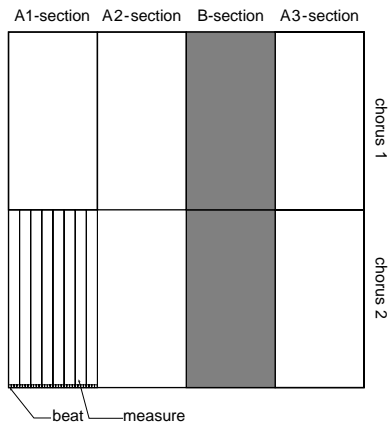
10. R. Klap: upright piano jazz studio.

"LESTER LEAPS IN"
 COUNT BASIE'S KANSAS CITY SEVEN
 (LESTER YOUNG)

Vehicle Type:
 Standard (an original melody,
 borrows its chord progress from the standard "I Got Rhythm")
 Formal Structure:
 AABA (each section is 8 measures or bars long)
 Length of Selection: 4 + 192 measures

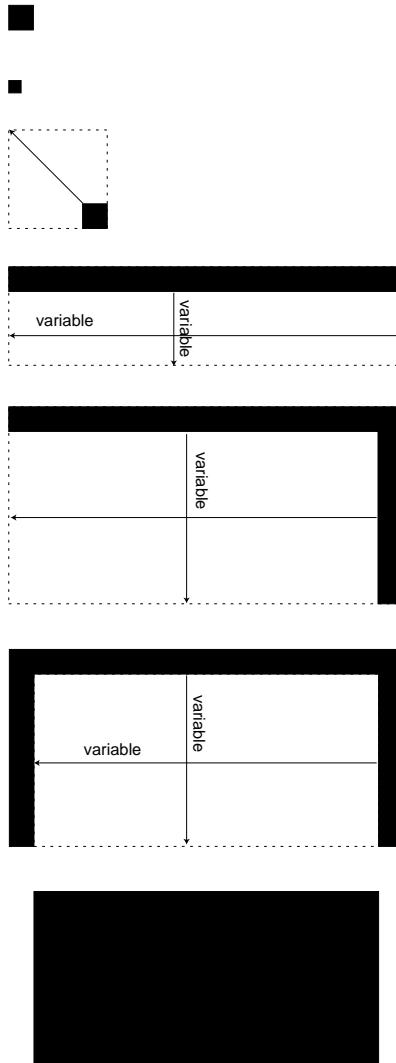
INTRO						
4						
piano sax bass & drums						
FIRST CHORUS						
A	A	B	A			
8	8	8	8			
ensemble melody		rhythm section	ensemble melody			
SECOND CHORUS						
A	A	B	A			
8	8	8	8			
tenor sax solo						
THIRD CHORUS						
A	A	B	A			
6	2	6	2	8	6	2
stop-time	time	stop-time	time	time	stop-time	time
tenor sax solo						
FOURTH CHORUS						
A	A	B	A			
4	4	4	4	4	4	4
piano	tenor sax	piano	tenor sax	piano	tenor sax	piano
FIFTH CHORUS						
A	A	B	A			
3	5	3	5	8	3	5
ensemble	tenor sax	ensemble	piano	piano	ensemble	tenor sax
SIXTH CHORUS						
A	A	B	A			
3	5	3	5	8	3	5
ensemble	bass	ensemble	bass	bass	ensemble	

11. jazz arrangement chart.



the beat becomes the minimal unit for measuring the grid
 4 beats per measure
 4 sections per chorus (AABA)
 8 measures per section (32 beats)
 32 measures per chorus
 128 beats per chorus

12. underlying reference system & format/grid for 2D improvisations.



14. conceptual model base parts.

13. base forms.

minimum unit = one beat = 1/8"
 sub-minimum unit = 1/2 beat = 1/16"

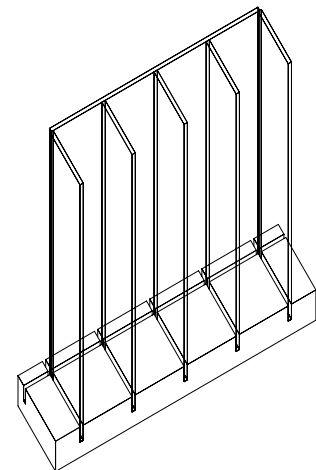
squares (variable but equal dimensions).

bars or rectangles (variable, independent dimensions).

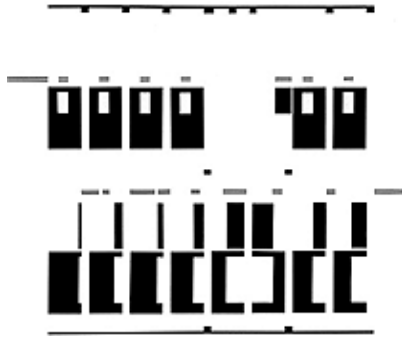
L-shape (all dimensions, including bar thicknesses are variable and independent).

U-shape (all dimensions, including bar thicknesses are variable and independent).

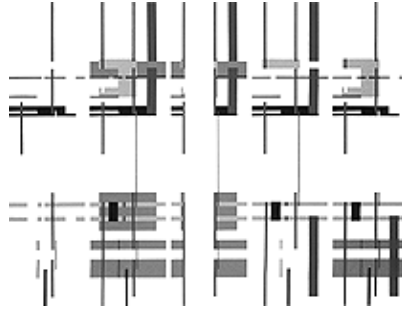
must use the resultant rectangle or square positive-negative (subtraction).



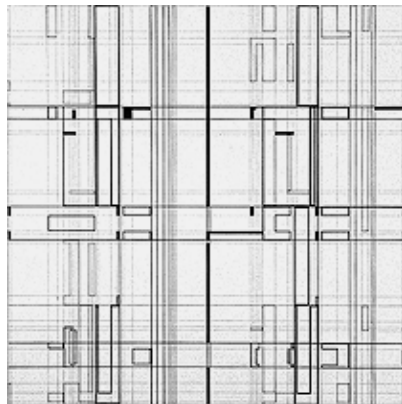
15. conceptual model format.



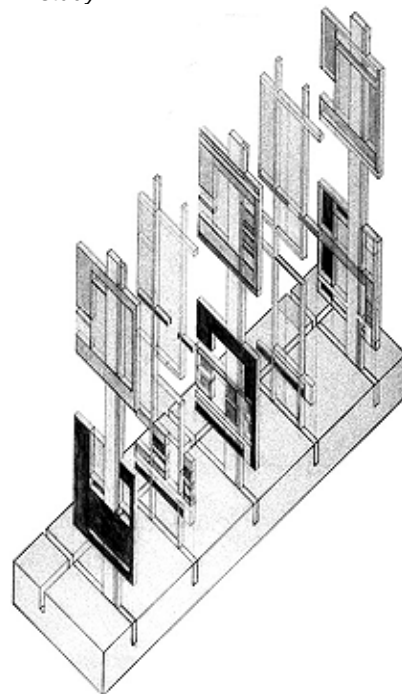
16. V. Boddie: rhythmic collage study.



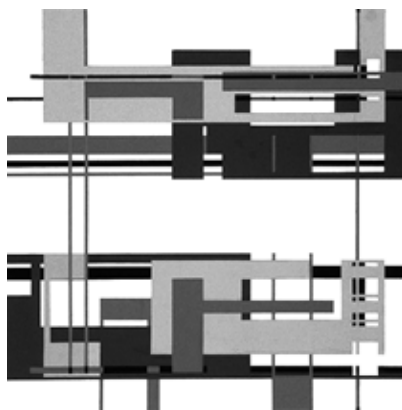
19. D. Albright: sectional sequence study.



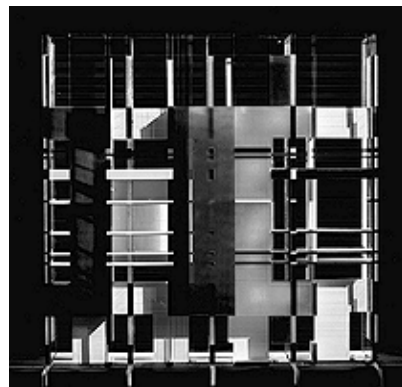
17. A. Woodward: grid generation study.



20. A. Woodward: five panel sequence study.



18. A. Woodward: planimetric vocabulary study.



21. V. Boddie: conceptual model.

Notes:

- ¹ Josef Albers, *Interaction of Color* (New Haven: Yale University Press, 1963), p. 69.
- ² Jerry Coker, *Listening to Jazz* (Englewood Cliffs, NJ: Prentice-Hall, 1978), p.9.
- ³ Yolanda Cole, "Frozen Music: The Origin and Development of the Synthetic Concept in Art," *Precis 6* (New York: Rizzoli, 1987), pp. 170-181.
- ⁴ E.A. Carmean, Jr., *Mondrian The Diamond Compositions* (Washington: National Gallery of Art, 1979), pp. 57-67.
- ⁵ John Elderfield, *The Cut Outs of Henri Matisse* (New York: Braziller, 1978).
- ⁶ Recorded for Vocation, CBS Records from Epic LN 3107, New York, NY, November 5, 1939. Musicians: Count Basie (piano), Buck Clayton (trumpet), Dickie Wells (trombone), Lester Young (tenor sax), Freddy Green (guitar), Walter Page (bass), Jo Jones (drums).
- ⁷ Martin T. Williams, ed., "Bebop," *The Art of Jazz : Essays on the Nature and Development of Jazz* (New York: Da Capo Press, 1979).
- ⁸ Oscar Treadwell, from his radio program, *The Eclectic Stop-Sign*, WGUC-FM, Cincinnati.
- ⁹ Coker, pp. 95-103.
- ¹⁰ John De Cesare, "The Theory of Visual Space in Music," *Precis 6*. (New York: Rizzoli, 1987), pp. 183-187. In this example, the author translated musical scores to graphic representations.