HITCHCOCK, DOROTHY J. An Exhibition of Diagrams and Models of Constructions in Plastic. (1969) Directed by: Mr. Gilbert Carpenter pp.6

This thesis is a series of diagrams and models of constructions in textureless, colorless plastic that contrast oppositions of flexibility and rigidity, opaqueness and transparency, that are at once inherent in the plastic material, intrinsic to the design, to the construction, and to the working process.

The thesis is comprised of the following: two models, (1) a vacuformed modular piece, (2) a hanging vinyl piece; and three photo-copied modular pieces. The thesis is accompanied in the exhibit by (1) a scale projection and a drawing of a design of a large vinyl hanging, (2) a diagram to scale of the vacuform piece, and (3) the two molds used in vacuforming with one untrimmed styrene vacuform from each mold.

The thesis exhibited in The Weatherspoon Gallery of the University of North Carolina at Greensboro January 10 - 24, 1969 is accompanied by a written statement about the work and is illustrated by 35 mm (2" x 2") color slide photos of the exhibit which are deposited in the library of the university.

AN EXHIBITION OF DIAGRAMS AND MODELS OF CONSTRUCTIONS IN PLASTIC

by

Dorothy J. Hitchcock

A Thesis Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
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Master of Fine Arts

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Approved by

Gilbert R. Carpenter
Thesis Adviser

APPROVAL SHEET

This thesis has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

Thesis Adviser _____

Oral Examination
Committee Members _____
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Jan 15 1969
Date of Examination

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CATALOGUE OF EXHIBIT

(recorded on 2" x 2" 35 mm slides in the
Library of the University of North Carolina, Greensboro)

Piece	Dimensions
1. Vacuform modular interset, a model; material: translucent styrene, metal bolts and wire 11, 12/68 and 1/69	96" x 120"
2. Plastic room hanging, a model; material: transparent vinyl and plexiglass monofilament line and acrylic rod 12/68	60" x 63"
3. Photo-copied modulars	
a. 12 prints	$32\frac{1}{2}$" x $32\frac{1}{2}$"
b. 6 prints	22" x 22"
c. 8 prints	$16\frac{1}{4}$" x 43"
material: light sensitive paper plastic film, metal tacks 10, 11, 12/68	
4. Diagram to scale for vacuform piece material: plastic graph film 10/68	17" x 23"
5. Diagram to scale for projected large room hanging with a drawing of the proposal material: graph paper and vinyl 1/69	
6. Vacuform molds a. equilateral triangle s = 24" b. rectangle 20" x 32" material: chipboard, contact glue, epoxy cement	
7. Untrimmed styrene vacuforms for 6a and 6b	

PRELUDE

process organic layered complications

transformations

horizontal-vertical hard-soft dark-light

rigid-flexible transparent-translucent

oppositions

forming inner equilibrium unity growth

finite modulars to infinite modulation

anti: the traditional category; the singular; the precious; the entity; the answer;

the finite end

A. Design Structure
B. Material
C. Construction
D. Working Process

a. vacuform interset
A
B
C
D

b. vinyl hanging
A
B
C
D

c. photo-copies
A
B
C
D

POSTLUDE

A. DESIGN STRUCTURE

Not energy, or matter, but the phenomena of aesthetic organization is my concern. Being expressible through the degree and kind of order of a system, which is the wholeness in which we discover and examine structures, the meaning comes from the arrangements which follow definite laws in the network of relationships of elements and elementary processes.

This structure is the formal and expressive means itself, free of all possible representational association. Structure creates itself rather than being some rigid condition. It develops out of different kinds and different interpenetrable forces.

B. MATERIAL

I chose plastic for its qualities of rigidity and flexibility, transparency and translucency, hardness and softness, lightness combined with strength without distraction of color or of texture in imitation of anything else. Plastic thus has an 'identity-less-ness' which lends itself to diagraming structure and organization.

C. CONSTRUCTION

To reflect the design structure idea of rigid-flexible, hard-soft and modular the construction was conceived as a visual necessity. It was not to be hidden or covered over to effect any look of traditional "finish."

D. WORKING PROCESS

Incorporated into the idea of the working process was the necessity of play between the rigid and flexible. It was necessary to plan, but not too much or too far. Waiting for developments, exploring new possibilities as developments indicated, to juggle, to re-orient, to be dependent on professional technicians and commercial machinery was intrinsic to the project.

a. the vacuform interset:

A. rigid geometric vertical entities held as modular partials in a horizontal configuration become a new entity; the modulars, mutually dependent, hold the configuration rigidly; opaque becomes translucent with changes in light source.

B. light weight, colorless, translucent, semi-rigid styrene modules, formed by heat, and great sucking pressure over heavy molds; removable metal bolts; metal wire.

C. large horizontal configuration from simple vertical modulars suspended with wires strung taut and held in formation by its own rigidity and bolts; the whole ends up having a light, slightly flexible feel while appearing hard.

D. scale drawings; exploring technical means and suitable material to carry the idea out; finding the technicians who could and would do it; preliminaries: the molds; 1 3/16 chipboard glued together with contact cement, cut to size with a 2° angle from the top surface to the bottom; painted with epoxy cement and sanded smooth; molds taken to the vacuforming company where they are secured on platforms and readied for the vacuforming press; styrene sheets are assembled, press is set up, sheets are laid on one at a time, heat and sucking pressure applied, and adjustments made, until the forms come off without flaw; twenty rectangular and four equilateral triangles plus several flawed forms are pulled; vacuforms are then transported to the gallery where they are trimmed, assembled

on the floor, strung with wire, and bolted; with a team of five men it is hung in place between the gallery walls, and washed down with detergent to repel dust.

Note: the vacuform was conceived initially as being executed in clear plexiglass, but due to the much higher cost of material and production a model in styrene as described above was done; the increased rigidity and thickness of the plexiglass would not have required tension wires and it would have been truly an interset as I had intended. however, the styrene model, being more frail, and requiring the 'storing-up' of the wire is, I feel, as successful in all its parts for what it is.

b. the vinyl hanging:

A. partial, curvelinear shapes, clear, flexible, layered vinyl hung in space by clear acrylic rods, scroll-like, enveloping and lacing the rigid, finite, transparent geometrical forms; light, focused on it, makes it nearly invisible; direct light on a wall surface behind it makes it visible.

B. clear, textureless, colorless: flexible vinyl; rigid plexiglass; monofilament line; acrylic rods.

C. flexible vinyl, hanging on rigid acrylic rods by means of fish line envelops and sews in the rigid plexiglass lightly, holding it into its configuration; curvelinear partials are tacked lightly onto the outer envelope; the inverted arc shape is cut out of the enveloping vinyl.

D. scale-drawing, planning of patterns to cut from rolls of vinyl, collecting materials; assembling, sewing, lacing, cutting out, hanging.

c. the photo-copied modulars:

A. modulars; prints made from a design of rigid geometric entities that become partials in a geometric configuration which in turn becomes a part of a larger configuration; multiple prints and varied orientations of the modulars reveal an array of reversals, and patterns that are like fabric; the quality of light exposure makes them have an immateriality about them at the same time.

B. light sensitive paper, and tacks and plastic protective covering.

C, D. the prints, taken from zinc plates in the process of being prepared for the highly precious technique of etching, were 'contact exposed' on light sensitive paper in a photo-copy machine, with the original purpose in mind of recording the progress of the build-up of ground and stop-out on the etching plate; the photo-copies being quickly produced, and having this strange quality of no substance and of 'hanging in space' was what I wanted to find; playing with the varying light exposures, coupled with the quick-multiplying of them enabled me to exploit particular properties of rigid to flexible, dark to light, horizontal to vertical reversals and the emergence of unexpected patterns and transformations.

postlude

process organic layered complications

transformations

horizontal-vertical hard-soft dark-light

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