

**A SCULPTURAL MEDITATION ON YIN YANG, CELLS AND SHAPE:
"ANOLATABULATA"**

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A pair of flexible discs sealed together at the edges and inflated will make a cell-like shape, Fig.1.

Dividing each unit of these basic discs into yin-yang pairs results in 4 separate tear-drop (TD) shapes, Fig. 2. It is topologically convenient that the perimeter of each TD is the same as that of the original disc. Thus via new edge-to-edge matching of the four TDs an infinite series of forms can be developed. In my sculptural investigations the number of possibilities was reduced by specifying certain points of conjunction -- e.g. the points *a*, *b*, *c*, and *d* in Figs. 3 and 4.

My approach is empirical. The medium is flexible vinyl. Initially, an opaque white vinyl fabric was seamed with a sewing machine, the individual shapes linked together and the whole unit softly inflated with squirrel cage blowers.



Fig. 1

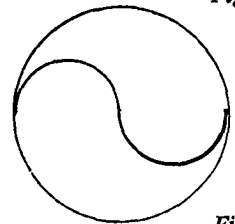


Fig. 2

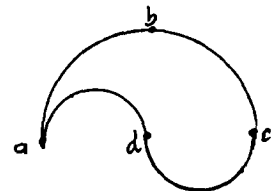


Fig. 3

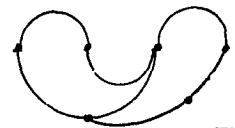


Fig. 4

Later, clear vinyl was sealed with a dielectric welder. The resulting glass-like forms had valves and could be pumped up hard with compressed air.



Fig. 5

Of the 59 morphologically distinct inflatable forms that resulted:

(a) Twelve were developed by recombining similarly oriented TDs, Fig. 5.

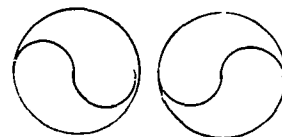


Fig. 6

(b) Twenty-nine were developed by recombining mirror-paired subdivisions, Fig. 6.

(c) Eighteen additional asymmetrical shapes were developed by recombining three similar shapes with one mirror, Fig. 7.

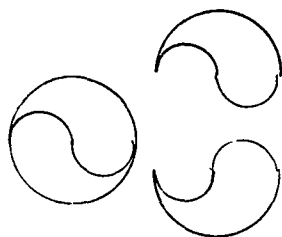


Fig. 7

Morphological distinctness in this context requires exclusion of: mirror images, degenerates and, as a function of necessity, those cases in which all four tips (a,a,a,a) would have met. The photographs that follow are a selection of forms in the set developed from mirrored pairs, Figs. 8-16.

This work culminated in a comprehensive layout on a double Zeeman's Duncie Cap.^{1,2,3} On this folded surface shapes were related according to specific construction

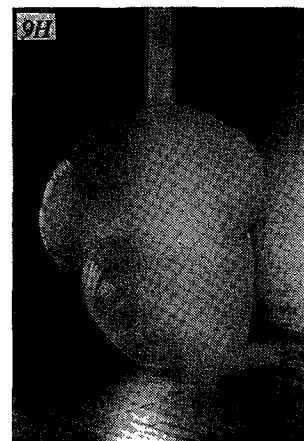
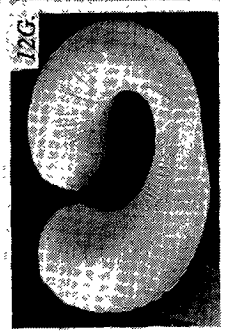
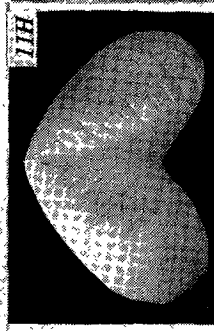
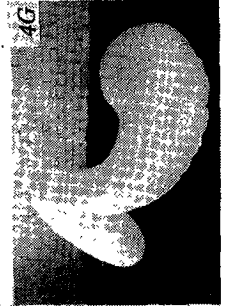
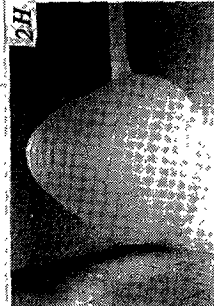
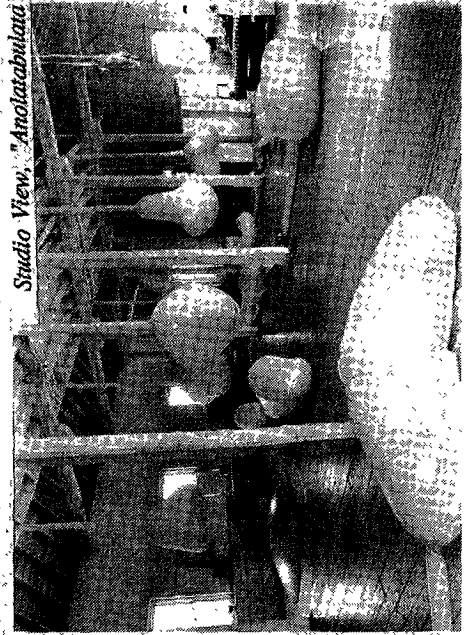
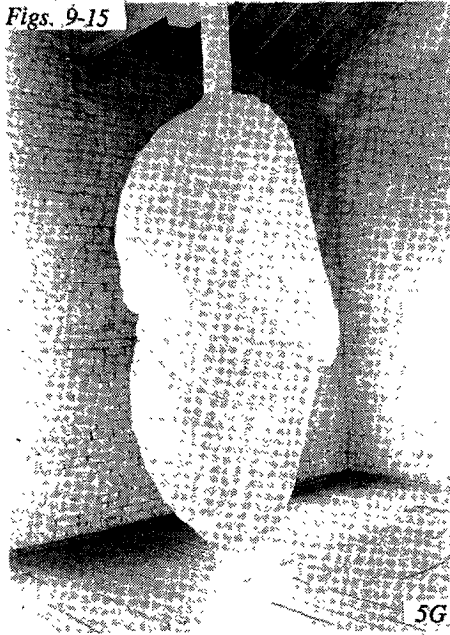


Fig. 8

Figs. 9-15



characteristics so that in a full display one would not only see families of shapes but how transformations occurred.

Context:

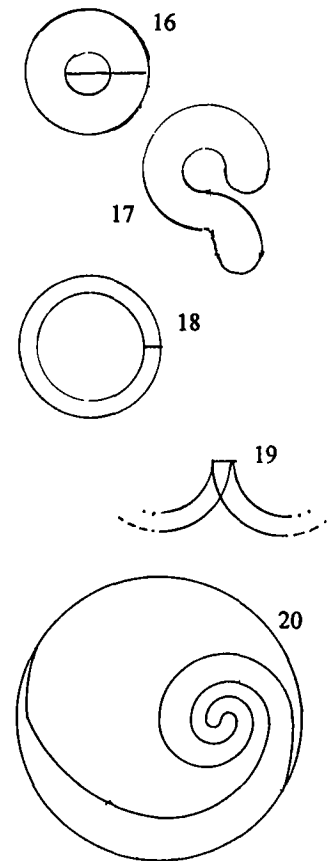
"Anolatabulata" is just one unit of a twenty-year empirical investigation that included:

(a) Symmetries of sequence developed via pairing, circling and recombining subdivisions of a disc, Fig. 16. This subdivision was assembled in seven different ways. Fig. 17 is one example. Again the infinity of possible combinations was constrained, nevertheless each set had enough pieces to disclose symmetry of sequence.⁴

(b) Repeating Helices and Progressive Helical transformations that resulted from matching, then progressively displacing, mirror annuli, Fig. 18.⁵

(c) Expanding Open Surfaces from congruent chains of annuli, Fig. 19.^{6,7}

(d) Advanced Morphology. The series entitled "Life Sculpture" and "God's Games" were advances on the basic yin-yang subdivision of a disc, e.g. Fig. 20.



Figs. 16-20

1. P. Huneke, "Smooth Tessellations of a Sphere and Other Surfaces (a la Betty Collings)", Amer. Math. Soc. Summer Conf. *Patterns, Tiling and Symmetries*, 1977.
2. P. Huneke, "Smooth Tessellations of a Sphere" in *Drawing on Sculpture*, Urdang Gallery, 1979.
3. B. Collings. Photographs, schematic drawings, statement, etc. in *Drawing on Sculpture*, Urdang Gallery, 1979.
4. Exhibited as developed at New Gallery, Cleveland, 1976; also in *Recent Works* (Cat.), Kent State University, 1976; also in *10 From the File* (Cat. by L. Alloway), Columbus Gallery of Art, 1977.
5. Exhibited as developed at Urdang Gallery, NY, NY, 1979, 80, 83 and 89. See also: (i) Exhibit Statements (Cat. by J. Fryer-Kohles), Columbus Art League Invitational, 1980; (ii) Antioch College, 1982 (Cat. by W. Olander); (iii) Concourse Gallery CUNY Graduate Center, 1983; (iv) "Triple Helix" (Cat. by F. Kalister) Ohio U. at Lancaster, 1983.; (v) "7th Curated Exhibition Columbus Art League, 1992" (Cat. by E. Osterwalder and E. Colston); (vi) "Arlington Artists: Celebrating Our Own" 1993 (Cat. by P. Denning).
6. Exhibited as developed O.S.U. Faculty Exhibition 1977; also Akron Art Museum, 1978.
7. "St. Laurent's Bubble Chamber", an installation in Gallery Vistavka, Kiev, 1992, was a comprehensive presentation of (b) and (c). It included many of the "Universe" pieces and photographs from the old Bubble Chamber at the Stanford Linear Accelerator.