

Expansion and Compression

Skin and Bones

James Morley Read, IDSA
Professor Industrial Design
Syracuse University

This class focused on the concept of expansion and compression, skin and bones, through the exploration and development of a series of different experiences. These experiences were designed to develop and hone student's problem solving skills. This class was about designing ideas, and about an examination of the ongoing dialog of the human experience. Exploration and experiments with materials and form was an integral part of this hands-on course. Play was an integral part of the creative process, and experiments with expansion and compression included investigations of least square surface coverage of soap film, lofting techniques of boat builders, and expansion through bread baking.

Materials exploration was ongoing. Initially students worked back and forth between small groups, developing sketch models and experiments in soap film wire and fabric. Whatever they put their hands on seemed to have great potential for discovery. Subsequently, they moved on to individual exploration, refining and formulating some conclusions from their play. They then worked as a whole group, exploring the staging of a public installation. Ultimately the students were asked to individually apply their newly acquired understanding of form from their exploration to furnishings.

Designers and Inspiration

Initially the students were bombarded with a broad range of design imagery. Furniture, art, architecture and natural forms were presented in a super-saturated manner. Slides, books and videos were all used to set the stage. The artist's and designer's work that was presented to the students ranged from the glass artist Dale Chihuly's "Chandeliers Over Venice", to installation artist Christo's "Wrapped Coast" and "Valley Curtain". Other designers featured were Frank Gehry and Ron Arad, for their playful materials and form exploration. These designers were considered because of their unique ability to tap into the human spirit of creation. From Ron Arad's magical slight of hand, to the performance art of large scale installations, the students quickly picked up on the energy and drive that compels designers, internalizing it and making it their own.

Designing the Designer

The project topic of expansion and compression, skin and bones alludes to some of the fundamental elements of supporting the human form. Being aware of the forces at work in supporting a dynamic shifting force was an underlying concept. The purpose of this class was not to solely design furniture and light but to help form designers capable of, and comfortable with a design dialogue. There was an exploration of materials and processes in developing furnishings, yet there also was a deliberate and mildly subversive goal of avoiding the course title. This was done to prevent a preconception of designing furniture sullied with marks and abbreviations of style and convention. Designing a well rounded, integrated designer was the goal.

On forming such integrated designers, Maholy-Nagy writes:

..... the task . . . is to educate the contemporary man as an *integrator*, the new designer able to re-evaluate human needs warped by machine civilization. . . . An education which is responsible for such a totality must be indivisible, integrating elements of art, science, and technology. Such an indivisible education may then produce the genius for the social and biological mastery of our age (Maholy-Nagy, 64).

With designing the designer as an underlying goal the students were on board for the journey. After some initial apprehension the students began this exploration of a visual language and soon were enthusiastically inspired to think and create.

Visual language

For students, this exploration of a visual language required an enormous amount of trust that there was value in discovering the fundamentals of expansion and contraction by giving in to the nature of exploration. So often one wants answers and is not aware that it is the exploration that can become the most salient moment(s) of the design experience. It is this educator's view that in developing creativity within designers, presenting answers is less important than presenting questions. In this course, there was a root understanding that this exploration had a risk of failure but there was an understanding that the dialogue which would develop was worth the risk.

Pieces ranged from a tooth paste clamp inspired chair to mysteriously ghostly lights. Regardless of individual pieces, the importance of the process through the exploration of materials and manufacturing became very evident, and was a major component in the presentation of their work.



fig. 01 – Student Sketch Models 2000©



fig. 02 – Student Sketch Models 2000©



fig. 03 - Student Sketch Gallery 2000©



fig. 04 - Student Sketch Gallery 2000©

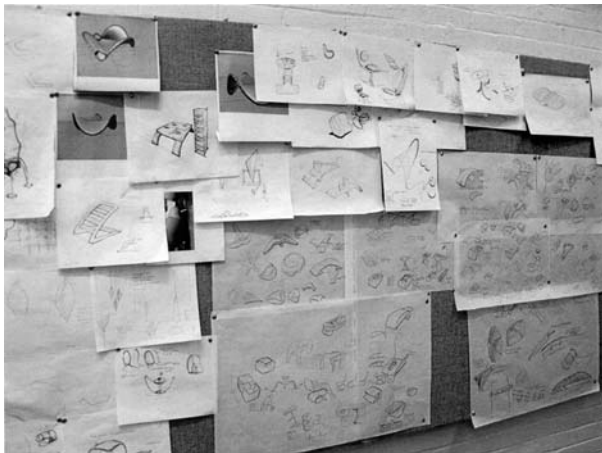


fig. 05 - Student Sketch Gallery 2000©

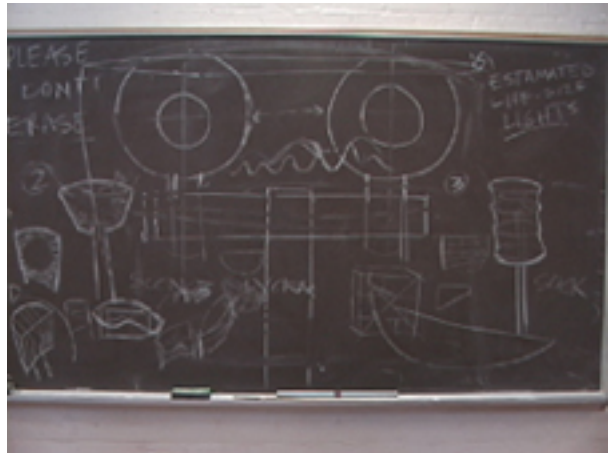


fig. 06 - Student Planning 2000©



fig. 07 - Rodgers 2000©



fig. 08 – Hanks 2000©

fig. 09 – McLaughlin 2000©

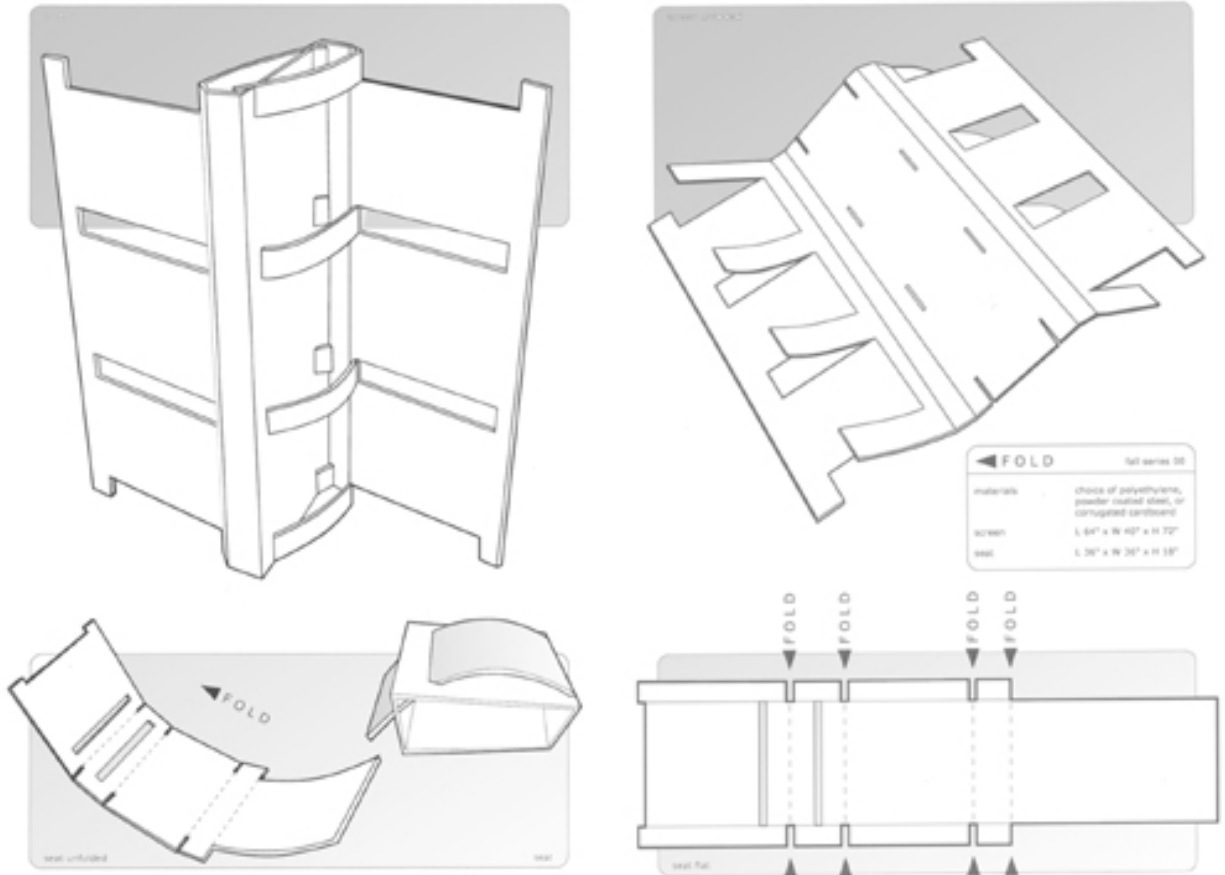


fig.10 – Lu 2000©

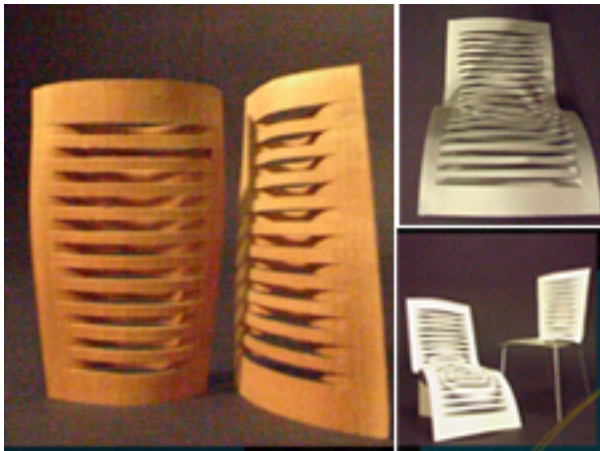


fig.11 – Collen 2000©

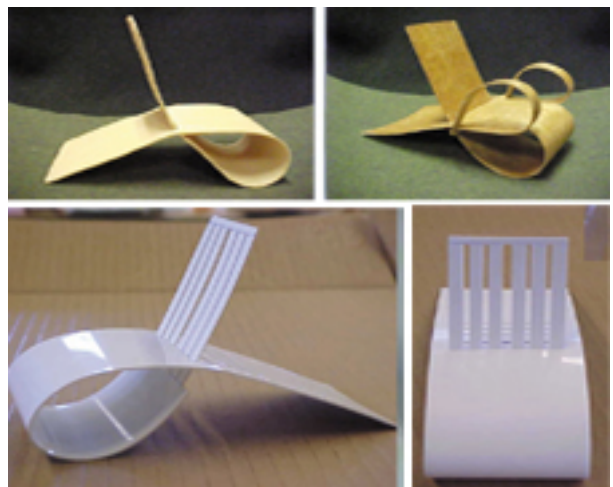


fig.12 – Kasar 2000©



fig. 15 - Yar 2000©



fig. 16 - Rose 2000©

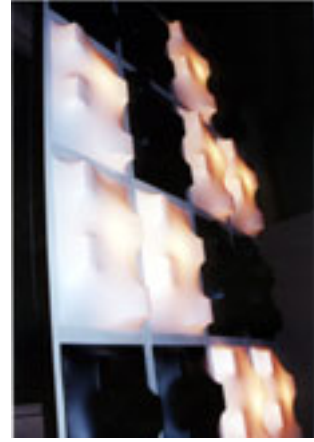


fig. 17 - Bauer 2000©



fig. 18 – Ribits 2000©



fig. 19 – Kahule 2000©

Thanks to all the students who participated in this class for their inspiration, persistence, and trust.

Reference List

Moholy-Nagy, L. 1947. Vision in Motion The Wisconsin Cuneo Press