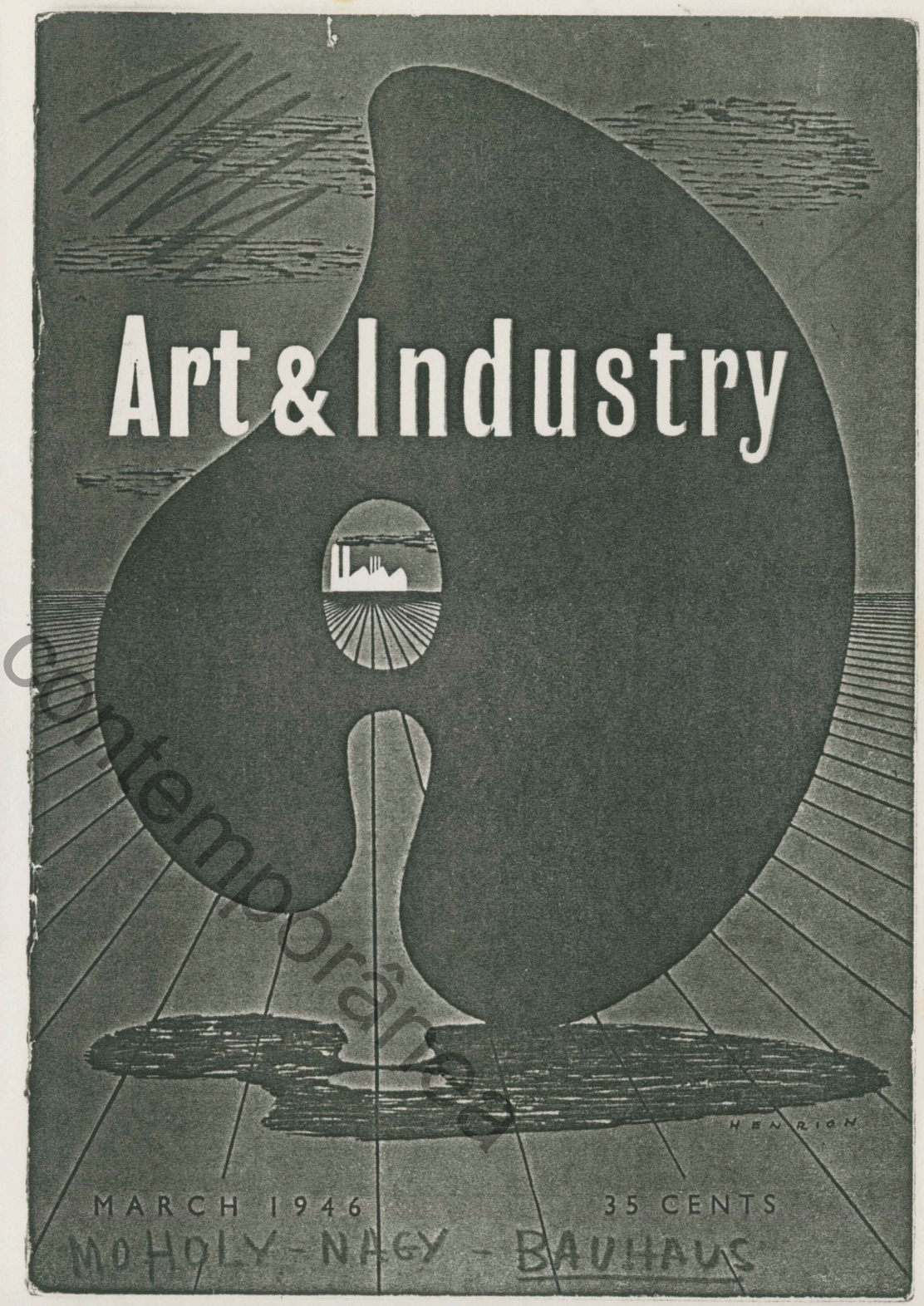
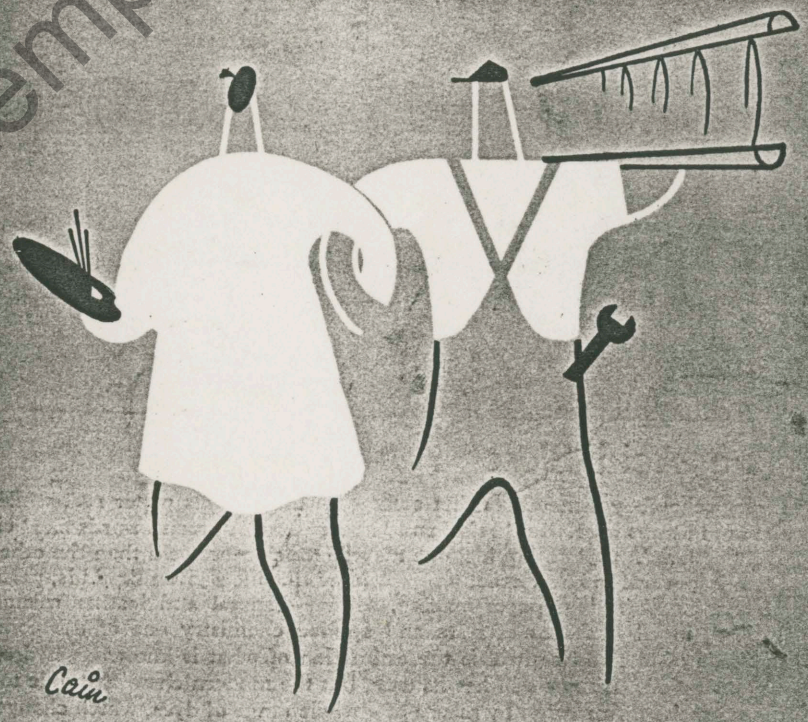


ART AND INDUSTRY

THE DESIGN OF SMALL ADVERTISEMENTS
SCRIPT IN ADVERTISING
DESIGNS BY RICHARD WINNINGTON AND PAUL RAND
PHOTOGRAPHS BY SUSCHITZKY
RECENT DISPLAYS BY OLIVETTI

ONE SHILLING: JULY

ART *and* INDUSTRY



DECEMBER 1946 • 35 CENTS

New Education -Organic Approach

An exercise in wood-cutting designed to teach the handling of power tools by R. Koppe

AN URGENT NEED IS AN EFFECTIVE SYSTEM FOR TRAINING THE INDUSTRIAL DESIGNER. THIS ARTICLE BY AN AUTHORITY, UNIVERSALLY ACKNOWLEDGED, EXPOUNDS THE SYSTEM SATISFACTORILY EMPLOYED AT THE CHICAGO INSTITUTE OF DESIGN

BY L. MOHOLY-NAGY
Principal of the Chicago Institute of Design

THE BACKGROUND—THE BAUHAUS

THE INSTITUTE OF DESIGN, CHICAGO, is a laboratory for a new education. Founded for the training of artists, industrial designers, architects, photographers and teachers, it embodies the principles and educational methods of the Bauhaus.

The old Bauhaus, an art university, established the principle that mass production of goods and modern architecture needed not only engineers but also artists with fresh mentality and exact information about old and new materials. The Bauhaus held that this information has to be coupled with a thorough knowledge of the means of expression as well as with the principles and practices of industry; that machines can be legitimate "tools" of the artist and designer. These were basic premises which had to be understood in order to give an industrial product a maximum of function and efficiency.

At the time the Bauhaus was founded the term "industrial designer" did not exist and the profession had not yet crystallized. The profession gained its status through the work of the Bauhaus. But beyond the newly won designation function and scope of the designer-specialist, other goals were developed. It became evident that not the specialist, but the man *in toto*, in all his vitality and potentiality, must become the measure of all educational approaches.

The Institute of Design, Chicago, building on these foundations, tries to stimulate the student's energies in their totality. The curriculum relies strongly on creative potentiality. The main intention is to produce an adequate rhythm between the biological capacities of the student and the contemporary scene. The goal is no longer to re-create the classical craftsman, artist and artisan, with the aim of fitting him into the industrial age. By now technology has become as much a part of life as metabolism. The task therefore is to educate the contemporary man as an *integrator*, the new *designer* able to re-evaluate human needs warped by machine civilization. The healthy function of a man's body, his social performance and welfare, his nutrition, clothing and housing needs, his intellectual pursuits and emotional requirements, his recreation and leisure, should be the centre of endeavours. 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.

Although the vocational goal is kept in mind in the technological training, the Institute of Design emphasizes the growth of the individual within the group. Hence art, natural and social sciences, "Intellectual Integration", are fixtures in its curriculum.* Such an integrated training aims at *more* than the education of "free" artists in the old sense. The students must learn—besides the esthetic means of expression—the technology of materials, and they must experience the organic, evolutionary use of the material. They are trained to articulate all media after they have been given the knowledge of relationships out of which the substance of expression takes shape. They have to face practical design problems too, to satisfy given needs with given means in order to earn a living. If, through stimulation by all of the practical and spiritual material offered during their training, some of them choose the career of a "free artist", the choice is their own prerogative and responsibility though certainly the Institute's delight.

THE FOUNDATION (BASIC) COURSE

The first year Basic Course is the backbone of the educational programme. It radiates its principles far into the curriculum of the later specialized vocational fields, design and architecture. The Basic Course consists of three great chapters of information and experimental work in constant correlation:

(1) Technology. (2) Art. (3) Science

Through these integrated studies the student is given assistance in developing latent aptitudes, so that his eventual decision and choice of specialization is based upon his own educational experience.

POLICY

The policy is, first, not to dominate the student; second, to provide him with the opportunity to become conscious of the world and himself through exercises which simultaneously train the intellectual and emotional spheres. The exercises are generally of such nature that he cannot look for solutions in books or in museums. Because these exercises have no direct counterpart in tradition but are built around the potentialities of tools and materials, they direct his vision to new and unexplored channels. The student must use his imagination and wit, he must debate and contemplate, he must make independent findings. Since he is not allowed to imitate past solutions, he soon finds the power to face new situations fearlessly, to develop new habits of imagination. This relieves him of the necessity of identifying or even comparing his work with past performances. This policy is a powerful incentive for the teacher too, as it lessens the danger of clinging to traditional fixations or to academic certitudes.

Occasionally the contemporary artist's intuitive research can be applied, in a simplified version, to educational exercises in order to build up in the student a new concept of living and working through analagous experimentation. The tactile (touch) exercises in the Institute are, for

A structural exercise in cut-paper suggestive of possible architectural application

* Integration, in this article means the correlation of subject matters on the basis of a common methodology governing our life, and not a new philosophical system compiled or "integrated" from the numerous other philosophical systems. "Planning for Productivity" by Knud Lonberg-Holm and Theodore Larson, (published by the Industrial Relations Institute, N. Y. C., 1940), is an excellent analysis of a similar problem.

example, derived from cubism and futurism, teaching that rich emotional values can be released on a sensory level otherwise neglected, namely, touch. Cubist and Schwitters' colleges have been the godfathers of the texture exercises in drawing, colour work and photography; the constructivists opened up a large experimental area for mobile sculpture, for *virtual* volume, and for fundamental tasks in light and space articulation. The principles of Mondrian, Malevich, and others could be adapted for camouflage; the stone carvings and plaster casts of Arp, Moore and Hepworth for the free-shaped hand sculptures; Bruguiere's paper photos for light modulators. Naturally, the student cannot be transformed into an " artist " with such " exercises ", but they can open for him the doors of expression and condition him to a new vision. Such exercises are especially useful in the first year courses where the student step by step comes to understand the methodology of creative approach. At the same time, skills are acquired automatically, for in these exercises the idea of " skills " is taken as a matter of course. The attitude of the school encourages experimentation. The student works with different techniques and " learns " skills. He never has the feeling of forced learning because skills are needed for the solution of the " strange " tasks for which his interest has been awakened. Stimulated by the unusual or unknown, he is anxious to perform adequately. He looks for the best possible solution. He collects the necessary data and material; he reasons about the components of his " design "; he investigates different techniques—past and present—for its realization. Since it can be executed only with " skills ", he turns his energies toward their mastery. Without being made conscious of the fact that his efforts at execution are an integral part of the learning process, he " learns " to handle tools and machines, materials, and their technology.

THE EDUCATIONAL TECHNIQUE

There are a number of points which deserve consideration.

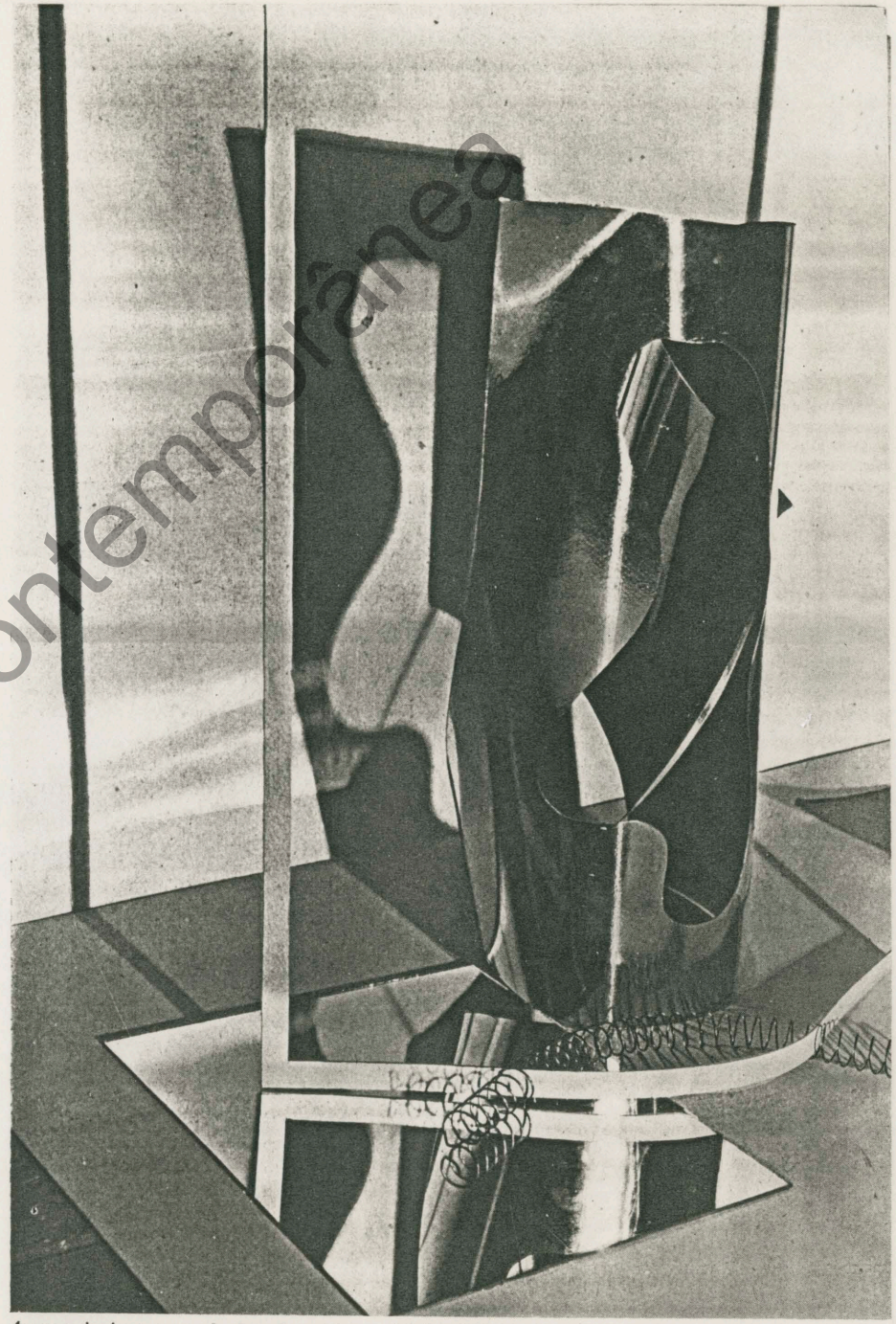
Among the exercises, one of the most important is the re-examination of tools and materials so that a given work can be executed in terms of its basic qualities and characteristics. One could call this approach an artless, unprejudiced search which, first on a modest but later on a growing scale, conditions one to creative thinking and acting, to inventiveness and intuitive assurance of judgment. This idea has an affinity with the kindergarten play technique as well as with the workshop education of the old craftsman. There is, however, a great difference in orientation. The " play " of the grown up, while it offers opportunity for relaxed explorations and collection of data, has implicitly a constructive direction. Through the collaboration of teachers who have the power of discrimination, the significant points are quickly recognized in the experiments and through subtle leadership the " play " is brought to purposeful results. An education in the crafts develops responsibility toward the product as a whole and through this it teaches the student discipline.

A second principle is to break down complex tasks into fundamental components so that they can be digested one after the other and then brought into functional relationship. The requirement is, however, that even such elementary exercises, though they may combine only a few elements, must achieve entity, " form ", must produce a coherent whole.

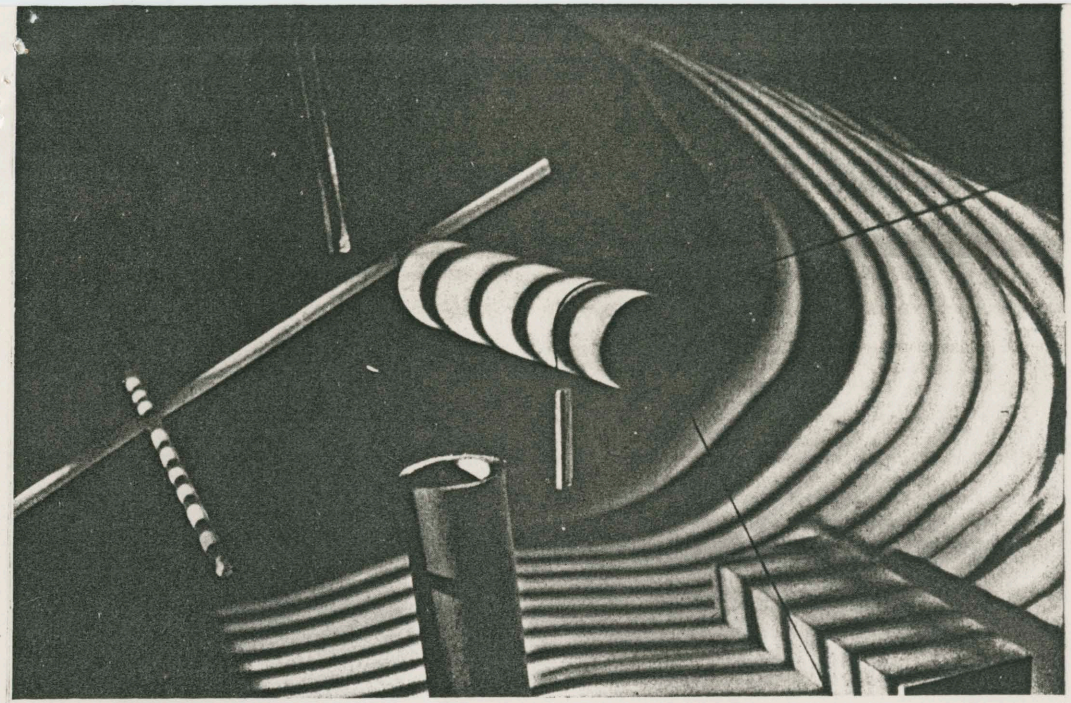
In all exercises a certain rhythm is introduced through an alternating pattern of freedom and restriction. First, expression is encouraged with the greatest range of emotional interpretation without any censorship. For example, a tactile chart, an illuminating, enriching exercise for the fingers, can be composed solely with the power of intuition. But after that, a photographically precise rendering of the chart, its facsimile, has to be made. This requires minute observation, a co-ordination of the eye and hand. With this combination of approaches swift emotional decisions are brought into an organic relationship with the relatively slower process of the critical mind.

PRACTISING CORRELATIONS

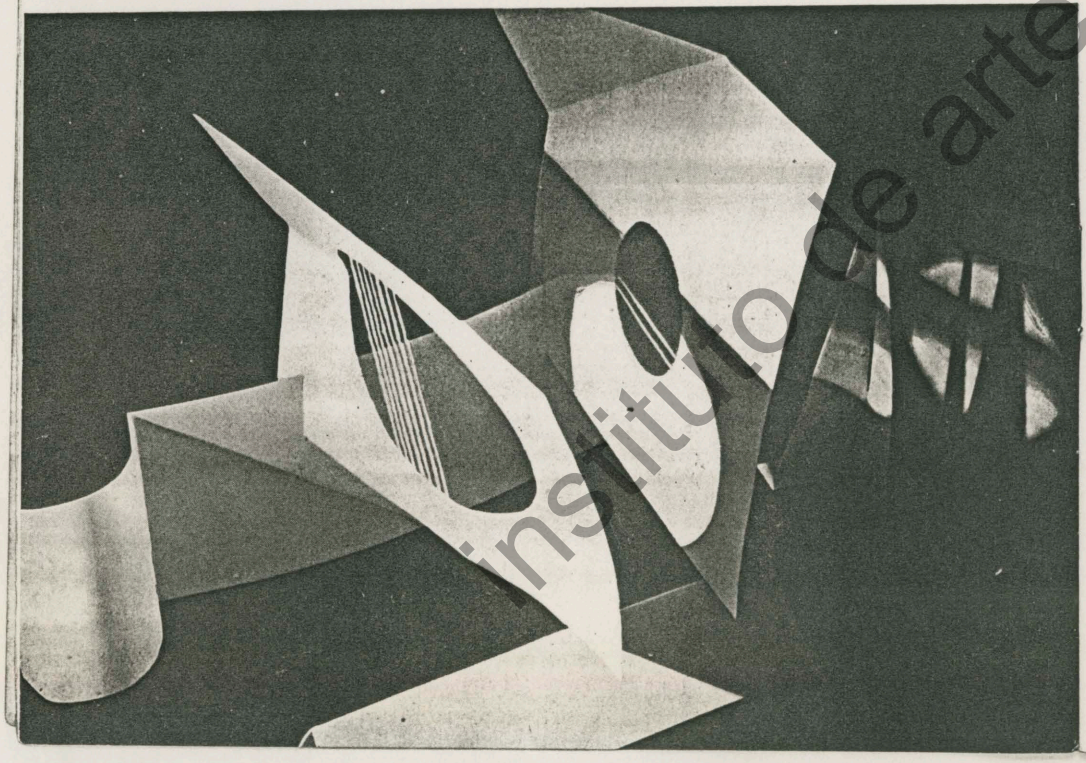
A number of exercises which confront the student are aimed toward self-discovery; that is, the awakening of his own creative abilities. The exercises are mostly built upon sensory experiences through work with various materials, with their technology, the skill of the fingers, the hands, the eye and the ear, and their co-ordination. This is accomplished through tactile charts composed of textures and hand-sculptures carved out of wood, which are to be handled and felt; through machine-wood-cuts which make lumber as elastic as rubber; through folding, rolling, cutting and other manipulations of flat



An exercise in structural mirroring with metal foil, mirror and paper, by Robert Bruce Tague and William Keck



Light Modulators. Above, by Nathan Lerner. Below, by Lawrence Cuneo



paper sheets which lead to the understanding of basic three-dimensional structures; through plane, volume and space division and their further articulation. In addition there is work with sheet metal and wire, glass, mirrors, plastics, drawing and colour, mechanical drawing, photography, group poetry, and music—a full range of potentialities.

These subjects, organized in the first year curriculum, become correlated through a method of simultaneous handling of the same problem in the various workshops, classrooms, and studios, emphasizing the mutual influence of technique and materials. For example, when a sculpture is made in the modelling workshop, the same sculpture is used in the photo studio to serve as a study for light and shape definition. Again the same sculpture is utilized as a departure for volume and space analysis in mechanical drafting, as a theme in drawing and colour exercises, and the same object will also be analyzed in the science and technology classes. Since in such an approach many different angles must be considered, the student gains a comprehensive understanding of the single object. He learns that this method can be utilized for various subject matters, giving him the courage to attack other problems without inhibition and fear and with a sharpened sense of logical and emotional interpretation.

The last step in this technique is the emphasis on integration through a conscious search for relationships—artistic, scientific, technical as well as social. The intuitive working mechanics of the genius gives a clue to this process. The unique ability of the genius can be approximated by everyone if only its essential feature be apprehended: the flashlike act of connecting elements not obviously belonging together. Their constructive relationships, unnoticed before, produce the new result.

If the same methodology were used generally in all fields we would have *the* key to our age—*vision in motion, seeing everything in relationship.*

SCIENTIFIC CURIOSITY

An educational approach based upon workshop experience is the best stimulus for intellectual curiosity and individual findings. The more surprising the findings, the more intense will be the student's urge to analyse their nature. Then after a while when he is on the way to form his own technique of research, he becomes aware of his need for more skill and more information. Instead of having to be urged to learn, he himself demands more scientific instruction because through it he receives answers to the growing number of his questions. The task of a good teacher is to let this interest then flow into organized channels of scientific inquiry and laboratory experimentation. This will provide a sure ground for scientific education of the student as well as for the theoretical structure of engineering which may later receive more prominence in his specialized work.

The scientific and humanistic studies are arranged so that within eight semesters the student participates in general courses given by experts in biology, sociology, economics, anthropology, general semantics, history, literature, art history and intellectual integration.

Mathematics and physics are given for the beginning classes as cultural subjects; later, with increased mastery of the fundamentals, these subjects are taught more thoroughly and understood as tools of the designer and the architect.

There again, without any outside pressure, the student realizes the purposeful interrelation of all these subjects with his "design" problems. If he then encounters cases which require special information, he finds the details without difficulty, because the integrated education has provided him with the basic tools of research, a technique of inquiry in the logical as well as in the subconscious fields.

COMMON DENOMINATOR

Implicit in this approach is a cultural task. The student is imbued with the artistically neglected substance of the machine age, mass production, materials, techniques, structures and shapes which conditions him to all forms of contemporary art, so that he cannot fail to incorporate this new world into his art and design. He is taught to revolve his design problems around the social complexes and needs of present day civilization.

Such an education—the integration of art, science and technology—leads the student to a simultaneous acuity of sensory experiences and nonverbal expressions. It stabilizes his virtues, sublimates his faults or asocial tendencies. It makes him inventive, resourceful, and conscious of his creative power. From that time on, learning and critical evaluation of the forces around him become part of his very existence.

The Basic Course gives research opportunities to students of different ages and backgrounds, to high-school as well as to