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AN APPROACH TO DESIGN

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PERHAPS some people are not quite clear about the term *industrial design*, but we may define it loosely as the design and construction of mass-produced useful objects — furniture, ceramics, household appliances, silverware, tools, automobiles, toys, and many other products. There are also certain areas where sculpture, architecture, engineering, industrial design, and interior design overlap, but there is a particular relationship between sculpture and industrial design.

The basic principles for any type of visual expression — such as painting, ceramics, stage design, or advertising, for example — are the same. The difference lies in the degree of complexity of the organization and in the type of emotional content involved. For instance, if you think of art as being the organization of forms in a planned relationship, a beautiful chair may involve, in its way, some of the same relationships of form as a piece of sculpture, but the design of the chair will be conditioned by its materials and function, by the fact that, in our economy, it must be mass-produced, and, finally, by its cost. All these impose certain limitations, but are not necessarily detrimental to good design. The chair remains a challenge worthy of an artist, one who can

combine form, line, and plane with knowledge of the materials and methods of production. And a good chair can be an emotional statement.

It is as necessary for the student of visual art, whether sculpture or design, to have a thorough training in the elements of visual expression as for the student of music to have a thorough training in the fundamentals of musical relationships. He may add training in the fine arts, or in specialized fields such as illustration, advertising design, industrial design, and the like.

The basic elements of design are line, plane, volume, value, texture, color, and space. All artists will not agree on the relative importance of these elements, nor the time and analysis which should be devoted to them. We find at the Pratt Institute that our best results come from a curriculum which investigates each element separately, in abstract form and then in various combinations.

It Starts With Line

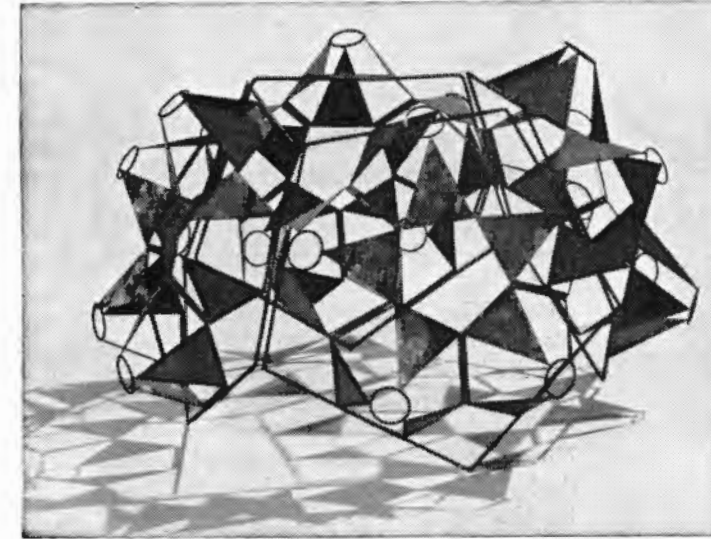
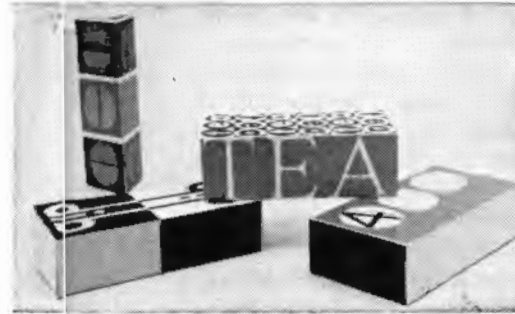
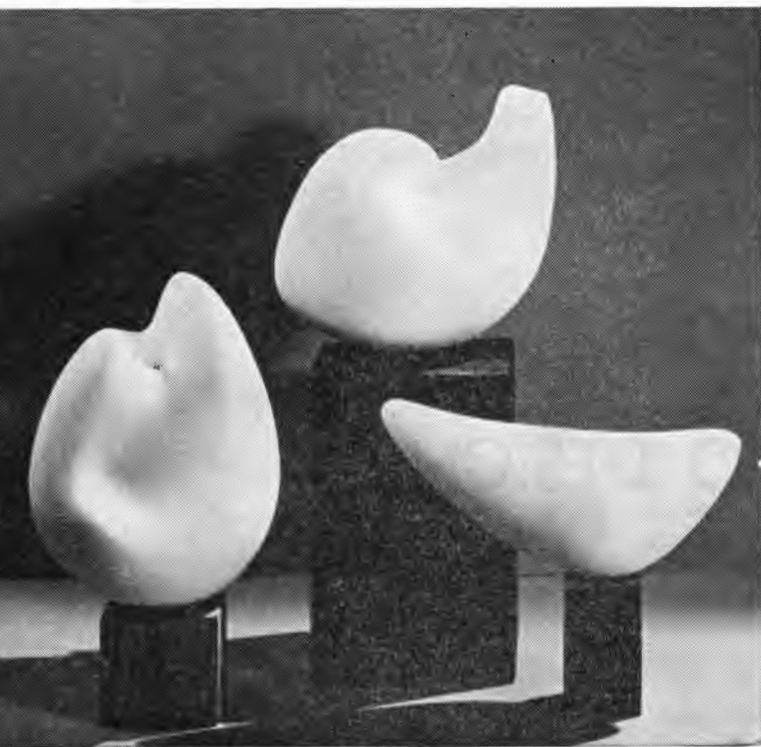
A first-year student of industrial design is given problems dealing with the line — its general character, possibilities, and limitations — and many different combinations of curves and straight lines. He then ex-



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cutes several studies based on line in natural forms. He is encouraged to strive for an emotional expression of the relationships involved and the results are sometimes quite astonishing.

He is given corresponding studies in three-dimensional design with thin wire as a medium. These experiments lead up to a very abstract, but emotional, expression of a figure in wire.

In a similar way, the other elements — plane, volume, color, and so on — are studied separately. Design courses are supplemented by courses in the nature of materials, methods of production, and merchandising research and other specialized subjects.

One of the sculptural problems assigned to a second-year student is called "The Study of Convexity." Convexity, of course, is one type of volume, but a rather difficult and subtle one. It might be described as expanding form, or form pushing into space, as opposed to space (or negative volume) wearing away form (concavity).

Examples of this concept can be found in nature — for example, in a convex character of certain animal forms, or of rocks, fruits, and the like. Concavity may be observed in certain cave formations, for instance.

The student is somewhat prepared for the subtle relationships that he must search for by his earlier experiences with simple geometric volumes. He knows that all forms imply an axis, or "gesture," and that any volume is bounded by planes and lines. Of course, there are many other relationships involved as well.

The student begins by experimenting, tentatively, in clay with forms which dramatize the character of convexity. His first attempts are sometimes awkward, but he gradually begins to understand the qualities peculiar to convex form and learns to make it a means of personal expression. As soon as his experiments have produced an idea which seems capable of development, he is given a large block of stone, plastic, or common salt (the kind used by

farmers) and the tools with which to work. If he succeeds in keeping the combination of emotional intensity which characterized his first "sketches" and a control of the new design relationships he is discovering, he will not only produce a good piece of sculpture, but he will have had a valid experience which can be translated into many other forms.

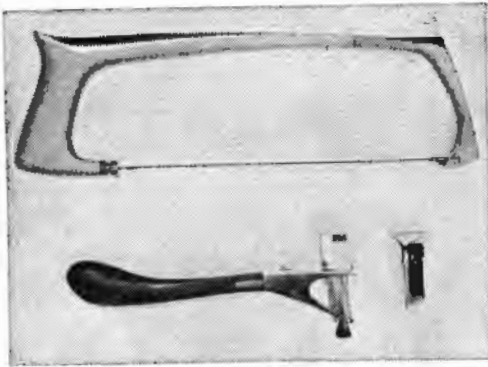
More Than Talent Needed

Good design involves more than talent, although, of course, that is necessary. It involves a discipline and a body of information and creativity which extends over a wide field. A designer is not only asked to design a product, but he is often called upon to suggest a new product. This calls for a true integration of all of his knowledge and experience plus an awareness of public taste and of what is happening in other fields — not only of technology, but of painting, sculpture, and architecture.

It is true that not all designers are capable of such an integration. There are in our time, as in all other periods of history, good and bad design, just as there are good and bad literature, art, and architecture. But the quality of industrial design that is being offered to the public is constantly improving and there is enough variety in any field for the consumer to have a good choice.

In a sense, we are saying that the designer has a responsibility to his culture and to his age. In all great civilizations this has been true. But what of the responsibility of the public to the designer? Does the consumer realize that each time he makes a purchase he has, in a very real sense, cast a vote for either good or mediocre design and that whether he knows it or not, his vote is counted?

Before the days of mass production, this choice was important to purchaser and individual designer only. But in the industrial age, the launching of a new product, whether a line of flat silver or an



automobile, is a serious financial risk. Tooling for a new design alone involves hundreds of thousands of dollars. Then there are merchandising, advertising, and all the other costs of our economic system. No wonder manufacturers spend a great deal of money on research in trying to determine what the public will buy.

But the final answer lies in what the public *does* buy. If a piece of furniture sells well, the manufacturer is inclined to follow the general trend that the public has indicated. If the manufacturer produces a well-designed object and only a few people buy it, he may take a great loss. The next time someone tries to persuade him to produce something that seems a little out of the ordinary, he will conclude that the public is not ready for it.

On the other hand, the taste of the public may be underestimated. This is the rea-

son for certain lags in the production of objects that people would seem to be demanding. Either way, the purchase of manufactured products is a serious responsibility, not only to the purchaser, but to the designer and our whole economy.

The housewife may think that it is hard enough to select a broiler that will work efficiently and economically at a price she is prepared to pay. But suppose there are two broilers, equally efficient and not too far apart in price range. By her choice, she is making a statement about design. A design is not always good because it is expensive or "modern." At the risk of oversimplification, we might define a good design as a direct and logical expression of its function, well made in good materials, and with a beautiful relationship of forms.

A civilization is ultimately evaluated by many things, both formal and informal. The Greeks were remembered not only for their sculpture but for their beautiful useful objects. In our time, a designer-artist can function only as well as the public will allow him. Since he has no direct contact with his clientele, he can interpret their desires only by their actions.

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