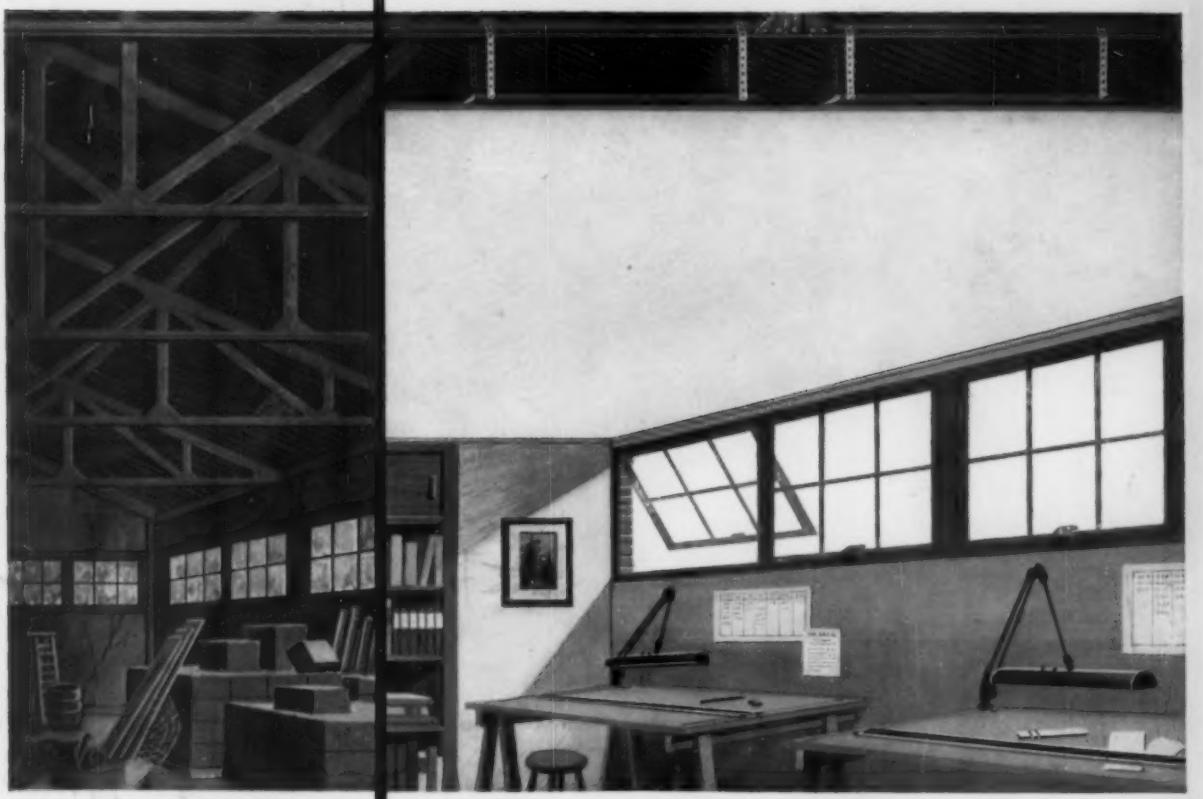
NDUSTRIAL DESIGN

uly 1957 $1.50 per copy

roundup of designs from abroad
anagement — design symposium

Martin Rosenzweig

WILSON AIR-FLOAT CEILINGS* / another new application of Homasote



Warehouse space converted to / OFFICE SPACE WORK SPACE MANUFACTURING SPACE

The unused corner of a warehouse – the wasted areas of a factory – today are *premium* space potentials. Instead of adding a new wing to the plant or erecting a new office building, the expanding company can re-organize its present structures from within. The question is: how to convert rough warehouse areas to modern office space– *economically* . . .

WITH WILSON AIR-FLOAT CEILINGS, *five* construction problems of this type of conversion are simplified:

1) No ceiling joists are needed – the Air-float ceiling hangs from the present trusses, rafters, or collar beams. 2) As a corollary, there are no alterations of pipes or wiring in the present structure. 3) Air conditioning and indirect lighting are easily introduced. 4) Multi-layer ceilings – for modern appearance and effective sound-conditioning – are "natural" to this method. 5) Interior wall partitions are movable, because they are not load-bearing.

"Continuous dry-wall" construction – made possible by Homasote Boards–is feasible for any ceiling area. Consider the Air-float method in new construction, in conversion, in modernization. For blueprint material and full particulars, kindly address Department G-12.

*Patent applied for

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LY, 1957 VOLUME 4 NUMBER 7

INDUSTRIAL DESIGN

monthly review of form and technique in igning for industry. Published for active in- strial designers and the executives throughout dustry who are concerned with product design, elopment and marketing.

CONTENTS

VER: A random selection of designs from abroad (clockwise from l bottom): German water heater, Swiss planimeter, Dutch three- eeled street sweeper, Swiss wood carving, German glasses with aring aid, German water heater. Products from these and a number other countries are reviewed on pages 27-59.

FRONTISPIECE: Two Finnish designs that will be seen at the Triennale in Milan next month are a ceramic teapot by Marjukka Paasivirta (top) and an enamel-on-copper coffee pot by Antti Nurmesniemi. For a survey of Triennale products from Finland and more than a dozen countries see pages 27-59.

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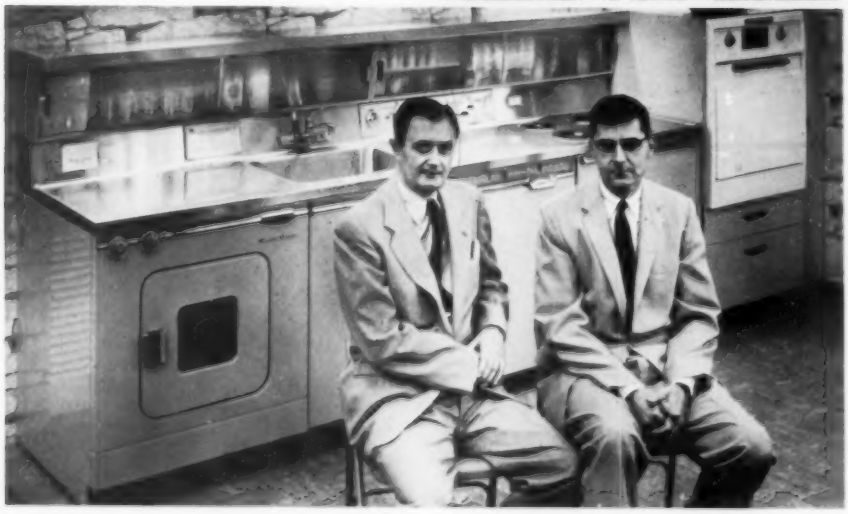
IDI Design Award winners: the 1957 Plymouth, Dodge, De Soto, Chrysler, Imperial —with Style Director Virgil Exner (top); IBM's Ramac (second from top); the IDI Award Committee (right): (left to right) Thurston, Shipley, MacAlister, Beck Hershey, Bjorncrantz, Granville; GE's Kitchen Center with designers Arthur BecVar and Robert Blee (below).



IDI awards to design teams

The Industrial Designers' Institute has again made its annual (since 1951) selection of three design teams to receive Design Awards. "The awards," said George Beck, president of the IDI, "are of equal merit and constitute unbiased recognition by professional designers of their fellow designers for outstanding creative work in industry." The award winners (left) are: Arthur N. BecVar and Robert W. Blee of General Electronic's Television and Radio Receiver Division, industrial design section, for their design of the GE Kitchen Center, a coordinated assembly of kitchen appliances, pre-wired and pre-plumbed for minimum installation time, which the jury called "a great benefit to the home owner."

The second design team winner was Virgil M. Exner of Detroit, Director of Styling for Chrysler Corporation, and five of his styling staff members—Henry T. King, H. T. Bannister, Clifford C. Voss, Carl Reynolds, Robert E. Bingham – for their establishment of a continuity of design in the 1957 Chrysler Corporation cars – Plymouth, Dodge, De Soto, Chrysler, Imperial – while maintaining separate design identity for each individual car.

The third award went to Carl W. Sundberg and Montgomery Ferar of Sundberg-Ferar, Detroit industrial design firm, and members of their staff, R. W. Figgens, U. J. Pepin, H. F. Weber, and to IBM Consultant Design Director Eliot Noyes, for the design of the IBM calculator "for imparting a distinguished architectural quality which integrates with contemporary office design."

The awards were announced on June 20th at a luncheon at the Ambassador East Hotel in Chicago. The awards Jury are all officers in the IDI and therefore automatically barred from receiving an award: Walter Granville, Chairman; George Beck, national president of IDI and head of the design staff of the GE Ithaca Plant; Carl Bjorncrantz, director of design for Sears Roebuck and Co.; Franklyn Hershey, Kaiser Aluminum and James Shipley of the University of Illinois; Gerald Thurston, designer and chairman of the New York chapter of the Industrial Designers' Institute.

PROBLEM: Make appliances better looking, more serviceable.

SOLUTION: Aluminum provides longer life, better performance and appearance for appliances. There's more buy-appeal and longer service in trim, shelves, trays and other exposed parts of bright, colorful, anodized aluminum. And it can't rust, does not corrode, tarnish or chip.

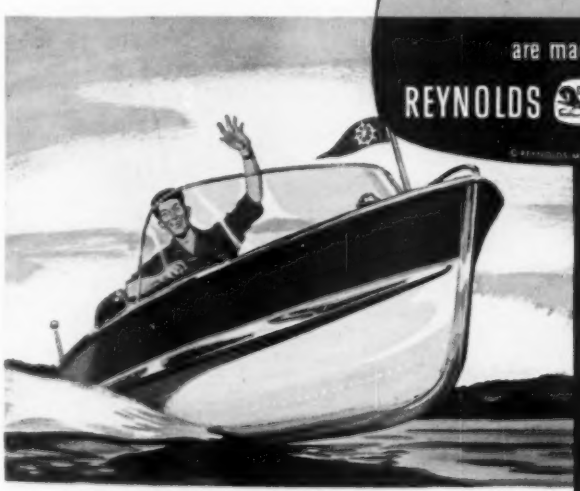
PROBLEM: Find new ways to increase auto sales appeal.

SOLUTION: Anodized aluminum has the "look of sterling" or "gleam of gold" that gives automobile grilles and trim parts a different new beauty. It can't pit, tarnish or rust. And because colorful, anodized aluminum finishes are in the metal they reduce manufacturer's costs.

The Finest Products Made with Aluminum

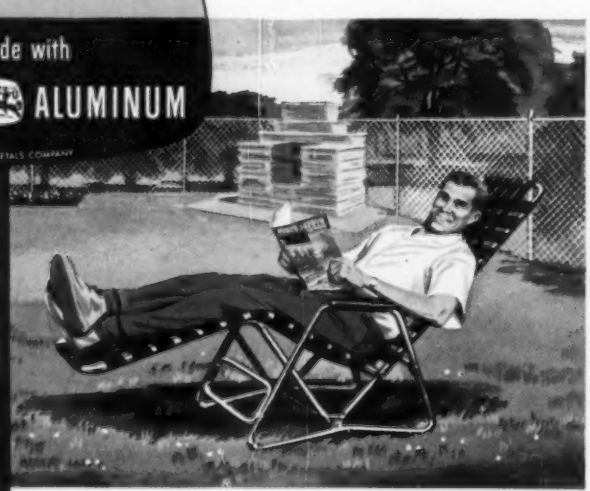
are made with

REYNOLDS ALUMINUM



PROBLEM: Make maintenance-free, lightweight boats.

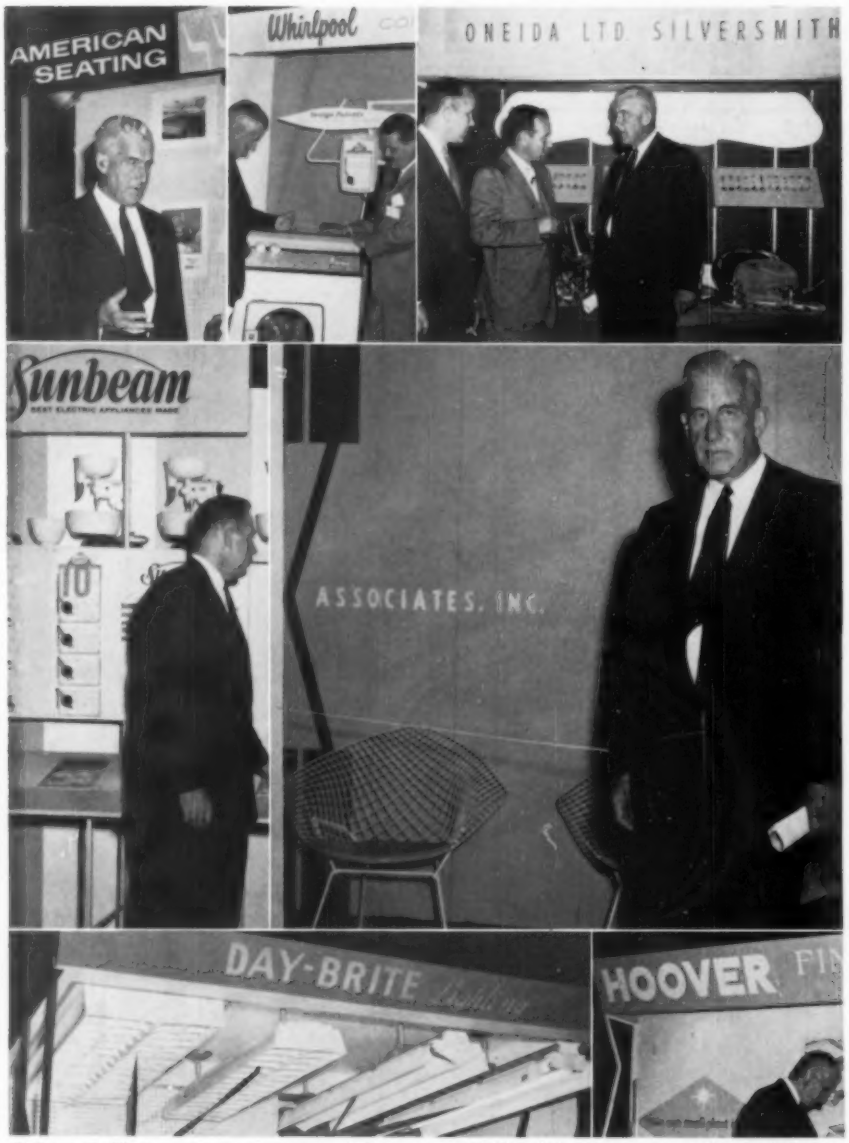
SOLUTION: For the boat market aluminum is the answer to quick, economical fabrication. Aluminum adds sales clinching features such as complete freedom from maintenance, lightweight for easy handling and top performance, shining good looks.



PROBLEM: Give outdoor furniture true weather resistance.

SOLUTION: Because it can never rust, aluminum makes outdoor furniture completely weatherproof. New furniture tubing of color anodized aluminum adds refreshing variety in color. Outdoor furniture is easy to make better — with strong, lightweight, rustproof Reynolds Aluminum.

Makers of Reynolds Wrap



Robert C. Watson, Commissioner of Patents (middle, right) inspects design exhibits.

Design patents exhibited

At a time when the efficacy of design patents is very much of a concern for both industry and designers, the Patent Office of the U.S. Department of Commerce sponsored an exhibit of American Business and Design Patents (see pictures above), concurrent with a Commerce-Industry Conference meeting to discuss the same subject. The particular point of reference was some new legislation being framed by Judge Giles S. Rich of the Court of Customs and Patent Appeals, in his capacity as a lawyer. (Judge Rich was a New York design patent lawyer prior to his judgeship and the president of the New York Patent Association.) Both events opened on May 28 in Washington at the Commerce Building—the exhibit remained open to the public through June 7.

The Commerce-Industry Conference was essentially a meeting of interested companies – Elizabeth Arden, Esterbrook Pen, Hoover, Isetta Motors, Knoll Associates, Sikorsky Aircraft, Sunbeam, Whirlpool, and many others—and the government officials, including Judge Rich, who are actively engaged in the attempt to frame more comprehensive and detailed design patent legislation. (The proposed legislation will be in process for some months to come.) The Conference was closed to the public and everything was done to generate a frank expression of opinion and comment from the participants.

There were two primary criticisms leveled at the Patent Department: 1) Design patent legislation is not strong enough; 2) service by the Department is slow on design patents. The answer to the first criticism was that the legislation Judge Rich is framing will be stronger than existing laws. The answer to the second criticism was a frank admission by the Patent Department that they are unable to give the kind of service in their design division that they would like to give but that a recent appropriation would enable them to increase their staff and hustle the process of clearing a design patent.

The Design Patent Exhibit, filling the main lobby of the Commerce Building, showed a variety of case histories in design patents. Sunbeam, for example, gave the evolution of their Shavemaster design. Since design patents protect only the appearance of an article, the exhibit did not present patents on mechanical aspects of products.

The patent laws provide for the granting of design patents to any person who has invented any new, original, and ornamental design for an article of manufacture. Patents are granted for 3½, 7, or 14 years.

Skyscrapers in a package

The skyscraper of the future will be a prefabricated structure, according to a Chicago manufacturer of steel buildings, Peter S. Pederson, Jr., president of the Wonder Building Corporation of America. Interviewed in Chicago, Pederson said he foresaw pre-packaged office and high-rise apartments, along with pre-packaged plants for heavy industry. He feels the idea of a completely pre-engineered skyscraper is by no means fantastic, recalling that architects were extremely dubious of pre-fabricated commercial buildings ten years ago, but today this construction is commonplace.

Many new buildings are pre-packaged at least in part, Pederson points out. As an example, he cites a new landmark on the Chicago skyline, the recently completed 40-story Prudential Building, which uses stainless steel spandrels in which the windows have already been set. He predicts that, as the trend is carried to its logical conclusion, within the next 5 to 10 years entire high-rise structures will be pre-packaged.

Pederson further comments that the building era of the immediate future will eliminate the use of stone, mortar, and brick in tall structures, and through use of lightweight metals and plastics, building weights will be reduced, eliminating the need for pouring concrete in the structural skeleton. Such buildings would not only be lighter but would require less extensive foundations and the supporting members could also be lighter. Pederson feels a saving in construction costs of about 50% could be realized through pre-packaging; construction time alone would be halved.

Front facade of the Built-In Age Architects Display Building, Mountainside, N. J.

Permanent exhibit for builders

For the builder or architect's client who "wants to be shown" when a new product, material or type of construction is being recommended, the Architects Display Building on Route 22 at Mountainside, New Jersey, offers an answer. In a spacious modern building with 27,500 square feet of exhibition area, a variety of products connected with residential and commercial structure are displayed. In contrast to the usual week-long exhibits that layman and builder are used to in trade shows, the Architects Display Building is a permanent affair, with each exhibitor signed to a three-year lease. During that three year period the exhibiting company can display an ever-changing array of its building products.

Erected by Built-In Age, Inc., a Newark company headed by Charles S. Cohan, the Display Building is the first of a group that he plans to build throughout the nation. There will be no direct sales made on the exhibit floor. An index card system will make sure that the interests of each visitor to the Display are registered for presentation to the company for follow-up. All the companies exhibiting have their booths manned by Built-In Age staff guides, who are under orders to give their information impartially and objectively. The exhibitors' products have been carefully screened to meet standards set by Built-In Age, and their qualifications are examined with the help of professional groups in the building industry.

Built-In Age will offer the building and allied industries several additional features: a complete reference library of building trades information, catalogues, building codes, and drafting materials for the use of professional builders, engineers, decorators, and architects anxious to sketch ideas presented at the exhibition.

The basic display units will be 16 square feet with rentals estimated at about $.81 a week per square foot.

"Operation Scramble" at Illinois

Jay Doblin, director of the Illinois Institute of Technology's Design Institute, reports a successful experiment with a new method of instruction for design student nicknamed "Operation Scramble." In "Scramble," all students except freshman were grouped in classes without regard to year or major field of study. Instead of attending a number of classes a day under several instructors, each student devoted full time to a special group project under one instructor. Students completed 14 projects in the three-and-a-half week experimental period—the time normally required for four or five projects. Teachers and students operated faster, better, and more efficiently when separated into the project groups, according to Doblin.

The purpose of the unusual program, Mr. Doblin says, was to teach students to function as an efficient creative unit. Students broadened their knowledge of the arts by working with instructors outside their major field of study, and were able to produce more and become more interested in their project by removing distractions and concentrating on one goal. The projects which the groups completed included playground sculpture especially designed for mentally retarded children, a vinyl cocoon experimental structure, lighting fixtures in which the bulb and the shade are one unit, and new designs for fountain pens. Other projects were experiments in photography, the development of games for adults, a documentation of the "Operation Scramble" itself, the planning of some exhibits, and a student magazine.

Good design on film

Roger Tilton, who teaches classes in film techniques at the City College of New York, is working toward a probable Fall release date on an educational movie he has made with the title "Seven Guideposts to GOOD DESIGN," suitable for high school and college introductory courses on the subject. The "seven guideposts" are anchor points that Mr. Tilton has evolved over the years for himself and for his students in their analysis of design. The film grew out of a design exhibit at C.C.N.Y. and is probably the only American film that discusses design on a basic education level without benefit (or hindrance) of specific product promotion. Mr. Tilton deplores the so-called design films which really concern themselves with appearance and styling, to the exclusion of a more basic approach to the design. Practicing this preachment, he has placed his discussion of appearance at the end of the film.

Breaking the discussion of design into categories rather than values, Tilton's film includes these sections; form follows function, proper use of materials, proper use of fabrication techniques, human engineering i.e. appropriate functioning, economy of means. He feels that his understanding of Good Design corresponds to that of the Museum of Modern Art and he, like them, would capitalize the term to denote design of all periods that measures up to these contemporary criteria.

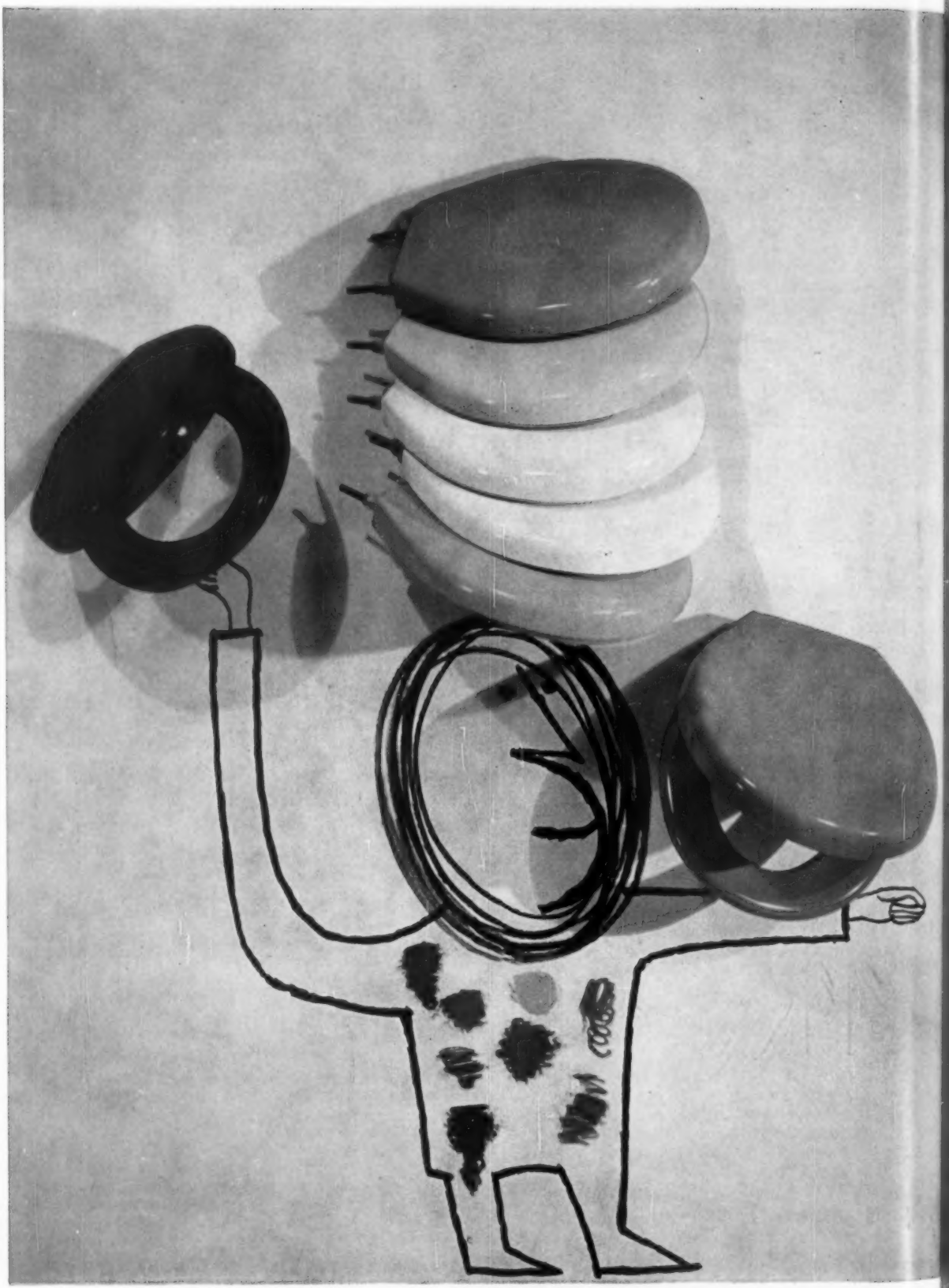
Mr. Tilton taught design courses at Cooper Union in New York before accepting a position with C.C.N.Y. Prior to these positions, he was a teacher at the State University of New York at New Paltz. In addition to his teaching, he has been active in art and industrial film making for several years. His art film "Jazz Dance," a blow by blow documentary of twenty minutes condensed from three hours at the Central Plaza nightclub, one of New York's gaudier jazz spots, won him an award at the Eighth International Edinburgh Film Festival in 1954. His filming of the frenetic rites impressed critics on both sides of the Atlantic.

In filming the "Seven Guideposts to GOOD DESIGN," Mr. Tilton had the assistance of Carl Otto, the designer of the Schick "21" shaver. The film is now being previewed by educators and designers for criticisms.

World Affairs exhibit

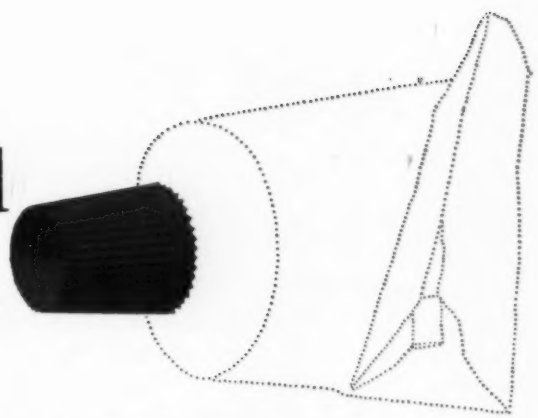
Peter Schladermundt Associates, New York designers, conceived this stylized world map (above) as the focal point of an exhibit held last month at the World Affairs Center for the United States, a new non-profit organization that is trying to promote citizen interest in international affairs. The World Affairs Center was founded by the Foreign Policy Association in conjunction with the Carnegie Endowment for World Peace.

The map depicts the earth's surface on a series of twelve free-standing plexiglas panels each eleven feet high. The panels are supported by light-weight tubular steel tripods. Lighting units incorporated into each tripod give the panels a luminous glow. Walnut cases in front of the map can hold a variety of material and can be adjusted so that the display surface is parallel to the floor or at any angle up to 90°.



Not only the colors of the toilet seats, but also the bright hues splashed on the little figure, are among the more than 12,000 available in PLASKON Urea Molding Compound.

# of toilet seats and toothpaste caps...



HERE ARE TWO VERY DIFFERENT PRODUCTS WHERE VERY DIFFERENT PROPERTIES ARE REQUIRED. YET BOTH ARE MOLDED OF *PLASKON* UREA...ONE OF THE MOST VERSATILE OF MODERN PLASTICS.

Take the toilet seat. The molder of the Teleseat* shown at left—chose PLASKON Urea for a number of good reasons. They wanted a strong, durable material with a smooth, quality surface that would not chip or peel . . . that was highly resistant to such things as nail polish remover . . . that would clean easily . . . that was available in a wide variety of appealing colors. In addition, they wanted material that had good moldability—and was suitable for molding large shapes.** PLASKON Urea met *all* these requirements as no other material could.

And the toothpaste caps. Manufacturers of quality toothpaste were looking for a material that stood for quality—had depth and richness of color, a touch and feel of smoothness—that was strong enough to take threading, was non-toxic and easy to mold. They found that material in PLASKON Urea.

What are *you* looking for in a plastic? Color? Light weight? Strength? Electrical insulation? Easy moldability? Perhaps versatile PLASKON Urea will do the job better—and at less cost! Write *today* for complete data and technical assistance. BARRETT DIVISION, Allied Chemical & Dye Corp., 40 Rector Street, New York 6, N. Y.

Allied Chemical

PLASKON® UREA...leader in the field

*Teleseat is a Registered U.S. Trademark of Sperzel Company

**MEMO TO MOLDERS—With the development of high-frequency preheating, urea has found wide use in many new, large unit moldings. Each Sperzel toilet seat takes 4 pounds, 4 ounces of urea molding compound; the tops take 5 pounds. A 10 kw. generator, operating at 60 mc., preheats the urea to 160°F. in 150 seconds.

Barrett PLASKON

UREA • MELAMINE • ALKYD • NYLON

POLYESTER RESINS • INDUSTRIAL RESINS • COATING RESINS

People

Walter Landor, head of Walter Landor and Associates of San Francisco, has been awarded an honorary degree of Doctor of Fine Arts, by the California College of Arts and Crafts. This is believed to be the first time that an industrial designer has been thus honored.

Raymond Loewy Associates, the largest of the industrial design firms of any nation, has revealed that it is currently doing an annual business of $4 million which is four times its 1947 volume. There are 191 staff members with 155 clients listed.

Richard Arbib, New York industrial designer, has been retained by the Gemex Corporation, watchband manufacturer, as a style consultant to its sales and design departments.

Walter Granville has been retained as Staff Color Consultant by Design Dynamics, Inc. of Chicago.

Furuta

Sinoto

Yosinori Sinoto and **Soichi Furuta** of Tokyo, Japan, have opened design and sales offices at 315 Fifth Ave., New York 16, under the name of Triad. They will do work in graphics, packaging, industrial, and interior design. Already associated with Georg Jensen and Company, the two designers will work in a variety of media, designing in a contemporary manner but with a Japanese flavor. In addition to their other work for Jensen, they will act as design liaison between Japan and Jensen.

Jesse H. Lide, formerly of McCann-Erikson Inc., has joined the Client Service Dept. of Donald Deskey Associates.

Raymond Spilman, has been commissioned by the Office of International Trade Fairs of the Department of Commerce to design the American exhibition at the International Trade Fair in Bari, Italy. Last Fall, Mr. Spilman designed the American Exhibition at the Zagreb, Yugoslavia Trade Fair.

Bruce Kamp Associates of Philadelphia, industrial designers, have been retained as consultant by the Industrial Division of Armstrong Cork Company, Lancaster, Pennsylvania.

Donald Deskey Associates of New York, industrial design consultants, have announced the opening of their second European office with the address of Toldbodgade 71, Copenhagen, Denmark. The other European office is located at Ilford near London, England. Simultaneously, Sigvard Bernadotte and Acton Bjorn, industrial designers of Copenhagen, announced a New York office, their first in the U.S.A., which will function in association with Deskey Associates and at their New York address: 630 Fifth Ave.

With women casting the deciding vote in 7 out of 10 car purchases, General Motors is proudly promoting their distaff strength in the GM Styling Section. Shown here with styling Vice President Harley Earl are: Sandra Longyear (seated), (left to right) Dagmar Arnold, Jayne Van Alstyne, Jan Krebs, Gere Kavanaugh, Peggy Sauer, Helene Pollins.

Irven J. Gershen, industrial designer of Maplewood, New Jersey, has been retained by C.B.S. Television as Design Consultant.

The Industrial Designers' Institute have been in their new quarters at 441 Madison Avenue, between 49th and 50th Streets, for about six weeks. Their phone number remains Plaza 3-8412.

Paul Rudolph, a prominent young architect, has been named Chairman of Yale University's Department of Architecture. Mr. Rudolph has designed, among other projects, the new Arts Center at Wellesley College. His famous "umbrella house" in Florida, was one of the homes selected by Architectural Record as significant 20th Century residential architecture.

Warren W. Fitzgerald, who has been a designer at Schlage Lock Co., and in the design firms of Carl Reynolds and John H. Walter, has been named an Assistant Professor in the Institute of Design, Illinois Institute of Technology. Professor Fitzgerald is currently studying the development of automotive design from 1925-1941.

Anton Parisson has been named a partner of the firm of Peter Muller-Munk Associates, industrial designers. Mr. Parisson who came with the firm in 1948, directs project supervisors who are responsible for design for a number of clients including Westinghouse and Graflex.

Parisson

James J. May of New York has been appointed design consultant for the Kimberly-Clark Corp. of Neenah, Wisconsin, for their line of Marvelon decorative materials.

John B. Burnell has been made engineer in charge of advance design for the Rochester Products Division of General Motors. He will be responsible for engineering design and development work on new products and for advance engineering on current products manufactured by the Rochester Division.

Company news

The newly incorporated **Materials Research Corporation** offers an advisory service to industry on the proper use of materials and will assist in developing new materials for specific applications. President of the concern is Dr. Sheldon Weinig, former assistant professor of metallurgy at New York University and consultant to U.S. Steel and Oak Ridge National Laboratories. The new firm has development and research laboratories at Yonkers, New York.

The Automatic Electric Company of Chicago plans to add three new colors to their line of colored phones. The new shades, chosen by merchandising survey among homemakers, are white, pink, and blue. The company's survey indicated that most women regard a white or pastel colored phone as a touch of luxury in their homes. The company's established color line includes ivory, beige, turquoise, garnet, yellow, green, and grey.

The Lewyt Corporation has pinned down its optimism for the future of vacuum cleaner sales with some figures: They estimate that about 4 million cleaners now in operation are ready to be replaced. Surveys have shown that about one-quarter of last year's sales came from customers replacing their five-year-old models.

United Van Lines have added themselves to the growing list of companies carrying out a redesign program to develop an overall visual identity for the company. **Lippincott and Margulies, Inc.**, New York industrial designers have been retained to carry out the program, which will kick off with a new brandmark design.

According to Judson S. Sayre, president of **Norge Division of Borg-Warner Corporation**, home appliance sales will equal or exceed 1956 figures. He made the prediction on the eve of the International Home Furnishings Show in Chicago.

The Society of the Plastics Industry cites about 25% increase in the sales of reinforced plastics over last year's volume, attributing part of the increase to the improved heat resistance of the material which has opened new applications to reinforced plastics. Chrysler is now using reinforced plastic transmission gears that can operate submerged in hot oil. In the appliance field, reinforced plastics are being tested for iron handles which could be produced in a full range of colors.

The Hotpoint Company predicts that 2 million air conditioning units will be sold in 1957. In the area of room conditioners, the one horsepower unit is now standard with the ½ h.p. unit extinct and the ⅓ h.p. unit only prominent in casement windows.

Taste, travel and temptations

Footloose and featherweight, you may be winging your way to Europe this summer. If you're lightweight and washable as well, there's more than a tourist's good reason for making northern Italy one wing of your journey. For out in Milan's park in the "Palace of Art," the eleventh "Triennale" exhibition of industrial and decorative art will be in full swing from the end of July to mid-November. A festive summary of three year's design in 21 countries, it promises to have a gay lot to say and to show.

For readers who may be grounded at a desk on the left side of the Atlantic, INDUSTRIAL DESIGN this summer will turn its attention to previewing, viewing, and reviewing the news of this vast international design event. On the next 32 pages, we look ahead at 100 designs from abroad that Triennale travelers will see in Milan and at other stops along the way. In August, we shall unveil the products that America has sent to Italy, and subsequently we shall explore the exhibition in its totality.

At the prospect of seeing the products of 21 nations side by side — a monumental temptation to judge by comparisons — we are reminded of some correspondence on the subject that we engaged in several months back. The British Journal of the Society of Industrial Artists decided to poll editors of design magazines throughout the world, asking their views on the relative merits of design hither and yon. When the questioning letter came, we sank into a deep blue hour of doubt and reappraisal, and emerged with this reply:

S.I.A.: **Which, frankly, do you consider the most advanced country from the viewpoint of design? How high would you say was the level of design in your country?** The question of "advancement" in design is, to me, an extremely ambiguous and unsatisfactory one. The level of design in any country is never a pure or isolated thing, but exists in a specific relationship to many other factors — technological, economic, and particularly cultural (in the anthropological sense, with a small "c").

It is tempting to generalize that traditional products from Japan, for instance, are especially pleasing to us as Westerners. Yet this means nothing in terms of "advancement," because the Japanese are just beginning to evolve an industrial esthetic that relates not merely to export markets but to the needs of the people.

It is easy to argue that mass-produced goods in Italy seem more sensitively conceived in form and detail; yet this does not mean that Italy is more advanced, for her products enjoy very limited production and consumption, and do not as yet represent a national attainment or popular expression.

The point is an artistic and not a political one. It is as hard to rank countries according to their "level" of design as it is to compare the art of various epochs. Design in every country is an original expression of a state of mind, an expression of the relationship between people and their daily life. Today, design is also an expression of the degree of war or peace existing between society and the machine. It can be judged "superior" or "inferior" only on its own terms. I am aware that moralists do not enjoy this point of view. It is hard not to rely on the crutch of our own absolute Good and absolute Bad. Yet if one is serious about judging design, the task, as in viewing all art, is to overcome the temptation to judge its subject matter alone, or its moral value, and to sense its vigor, its aptness, its communication."

S.I.A.: **What do you think is your country's main contribution to the field of design?** I suppose that America's major contribution in the design of mass-produced goods has been a kind of vigor — no doubt some will prefer to call this vulgarity or exhibitionism. Some elements of the American design character are alien, and probably irritating, to the European ideal. Yet it is dangerous to call one right and one wrong. In many ways the lack of formal perfection in American design is wholly appropriate to the fluctuating and informal pattern of American life — and therefore

an apt expression. Invention, novelty, bravado, change, will probably remain the basic elements of American design for some time to come.

S.I.A.: **Do you think British design is good, mediocre or bad, and what do you feel are its virtues and defects?** Great Britain has a rich tradition, a tradition more concerned with State and social custom than with art and craft, from which the British derive immense cultural satisfaction. This gives the British designer, beset by stringent economic limitations, a special problem in reconciling tradition and creative contemporary expression. Perhaps he is more bound by this problem — and reflects it in his work — than the designer in any other country today.

I cannot say whether all British design is "good," "mediocre," or "bad." The examples shown and published as leading designs are by and large pleasing to me. Yet I sense that most British design, good and otherwise, reflects very strict notions of a proper level of taste. The designer seems more concerned with making things acceptable within an acknowledged standard than with making something really rich, wonderful, bouyant, or inventive. I suspect he tends to see the product through somebody else's eyes before he sees it or experiences it through his own. In this, the British designer is by no means an exception — but perhaps more self-consciously taste-conscious than most.

I stress this because taste, although it expresses an immediate standard, only serves to smokescreen the deeper implications of art, in both its creation and its evaluation. Taste is very often a substitute for evaluation rather than a basis of evaluation. Good taste is one of the problems of a conformist society for, the moment something is commonly accepted as good, many other things are automatically shunned as bad, and it is all too easy for people to avoid thinking for themselves, re-evaluating, changing, as long as they have the rules firmly memorized.

Those periods in recent history in which taste was a prevailing concern generally produced lifeless, dull and unenduring art. For when taste becomes an absolute, it is a sure road to sterile and academic design. Sometimes designs that are very bad by formal standards can be good on their own terms, and may even outlive those consciously created in "good taste." In our country we are always in danger of an epidemic of good taste, of stylishness — and nothing would be more deadening.

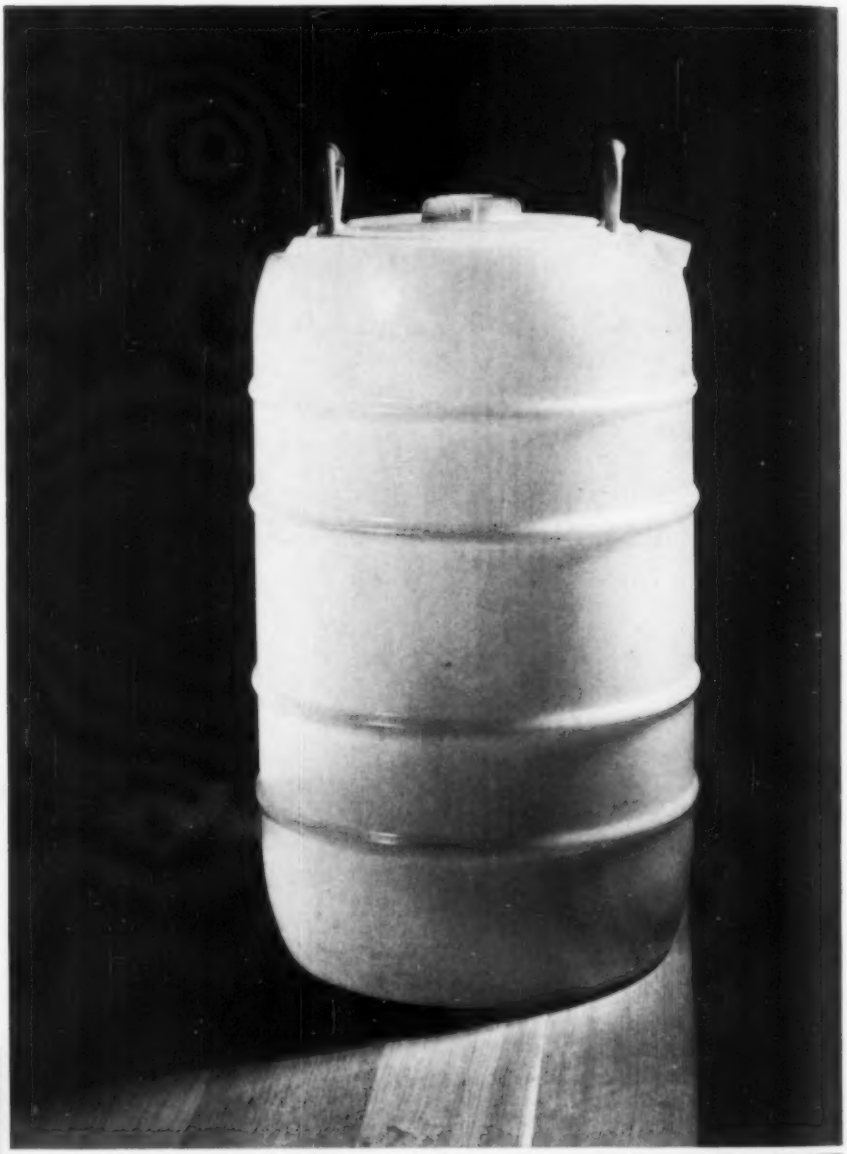
S.I.A.: **How far would you say that design today in your country had clear national characteristics or was influenced by an international contemporary style?** With communication what it is today, it is inevitable that there should be a good deal of borrowing and influencing on all sides and in this I imagine America gives as much as she receives. American designers have by and large learned to admire the integrity of foreign styles without attempting to reproduce them here. I feel that American design has a character that is positive, original and spirited, yet is a "style" only in the broadest sense. At its base there are certain underlying rhythms, certain techniques, certain attitudes toward the value of products, yet rarely does any one idiom survive, whole and pure, to become a cliche of taste.

S.I.A.: **In your country, do popular taste and the work of your best designers coincide, or are the designers trying to lead the public?**
In any country where goods are designed by one person, mass-produced by another, and consumed by a third, it would be unlikely to find the taste of designer and consumer in perfect harmony. Yet in this country, the discrepancy does not seem to present an insurmountable problem — perhaps because the human element is rather naturally regarded as part of each design problem. It seems, too, that many of the best American designers refrain from trying to impose their own taste on others in a militant way, yet find it possible to work with integrity to simply make new, good, or interesting things available and to find a common ground between themselves and the consumer. One fact is becoming more generally accepted: Finding such a common ground is quite a different matter from reproducing literally the taste of the public. The good designers are capable of a more subtle understanding of the values and pleasures and motivations that create various groups' tastes, and of interpreting those values symbolically with design means that are their own.

—J. F. McC.

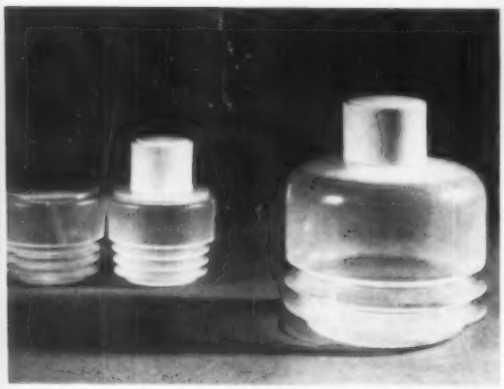
On the next 32 pages, INDUSTRIAL DESIGN has compiled design portfolios of 13 of the nations exhibiting at the XIth Triennale, including prominent personalities, significant new products, and a sampling of the designs to be displayed in Milan this summer.

Belgium plans to show a large range of products—machine tools, scientific equipment, appliances, furniture, china—at the Triennale this month. Its theme will be the growing relationship between Belgian art and industry. This idea is suggested by the polyethylene drum at right: its proportion, shape and simplified handles make it easy to use and give the air of precision for which Belgian instruments have been admired.



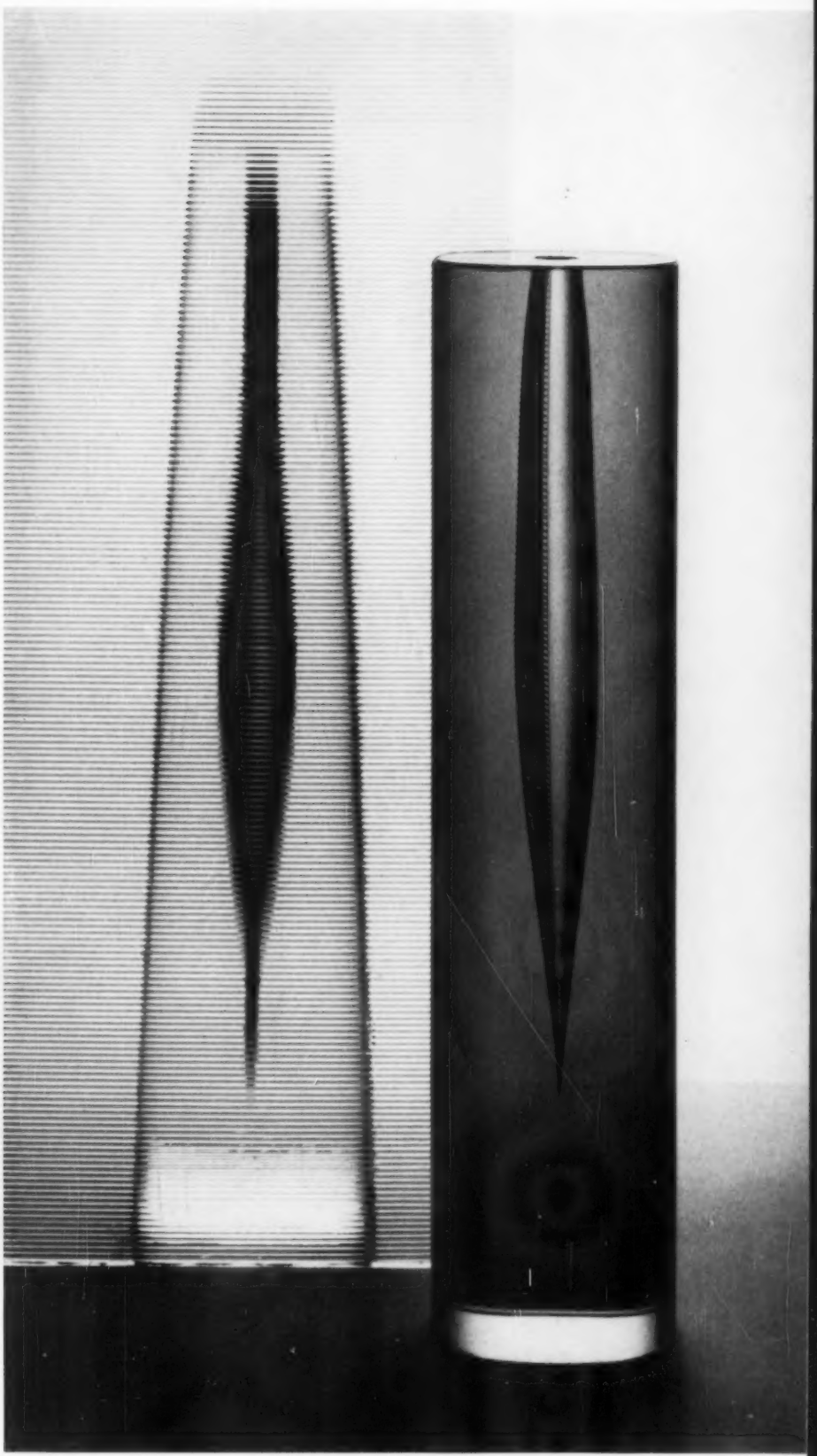
→Polyethylene drum for industrial use.

↓Polyethylene flask with bellows base. Both products are for Sidac of Ghent.



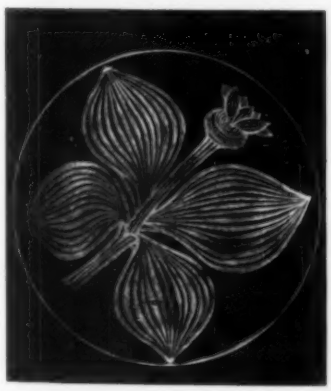
→Surveying instrument, or theodolite, designed for Fogcli of Brussels.

One hundred and fifty pieces of glassware will be included in the Czech exhibit at the Triennale. While Czechoslovakia's long history of skillful glassmaking is at once apparent in most of these pieces, the race for production in Eastern European countries may be taking its toll of the traditional areas of excellence. *Tvar*, Czech industrial design magazine, recently has remarked that good design in products is today often overlooked by producers and the public alike.



→Cut crystal vases of green glass. Designed by A. Matura and executed by Borske Sklo.

↓Crystal plate with engraved blossom designed by J. Cigler, a student.



DESIGNS FROM ABROAD

Denmark

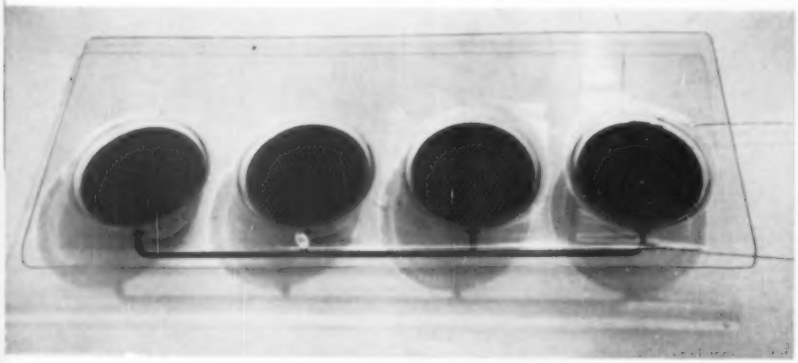
The products shown on this page will make up part of the Danish Triennale exhibit. This selection suggests a continuation in industrialized objects of the qualities that have made Danish design world-renowned: mastery of detail and a careful choice and treatment of materials. A major concern among Danish design leaders is the maintenance of this quality in the face of a growing demand for larger quantities of Danish products abroad, especially by the American market.

↑ Enamel-on-iron casseroles which come in several colors have been designed by Nanna and Jorgen Ditzel.

→ Piling cans of aluminum designed by Erik Herlow.

Below, left: Loudspeaker of Plexiglas by Arne Jacobsen.

Below, right: Aluminum pitchers by Erik Herlow.



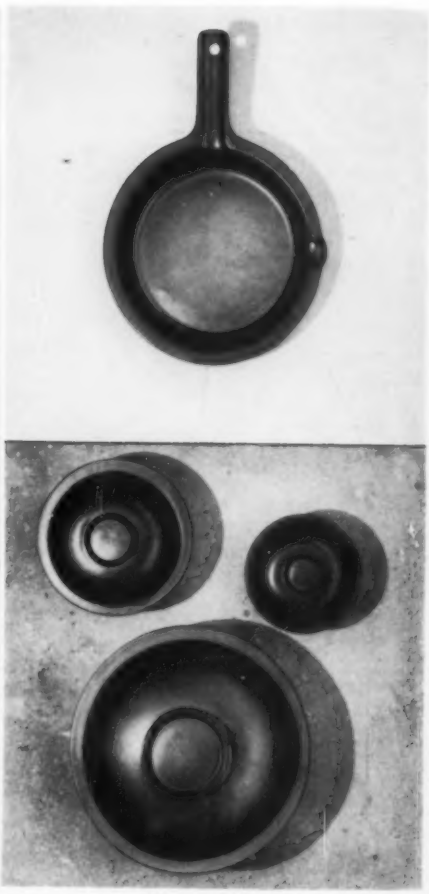
↑ Hand-operated calculator for Advidaberg.

Model of oil burner for A.B. Hugo Tillquist Oljeeldning. Both products by Bernadotte and Bjorn.

Resistance to specialization and great versitility stamp the work of Count Bernadotte, son of King Gustaf of Sweden. He has designed textiles, fountain pens, silverware, furniture, office machines. Seven years ago architect Acton Bjorn joined him in organizing what is perhaps closest to an American industrial design studio in Scandinavia. They do a variety of industrial products for local firms and have a New York branch.

The richness of Finland's current production is briefly indicated on this and the following five pages by a sampling of table wares and lamps, all of which will be shown this month at the Triennale. One has the impression here that industrialization has never completely interrupted Finland's great handicraft tradition; rather, that designers have adapted the tradition in a most sophisticated way. In the refinement of their current work there appears to be more similarity to the classicism of Japan than to the fluidity of neighboring Scandinavian styles.

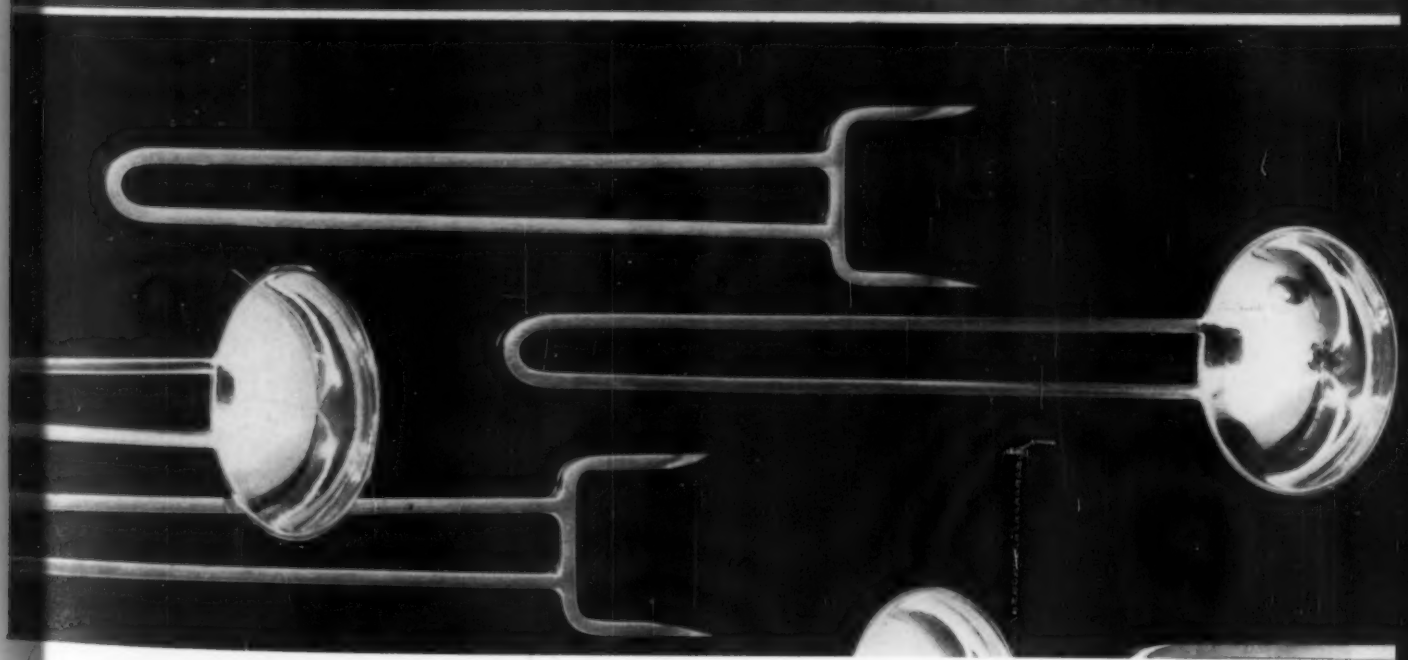
↑Colored glass by Timeo Sarpaneva, also a graphic designer and textile artist.

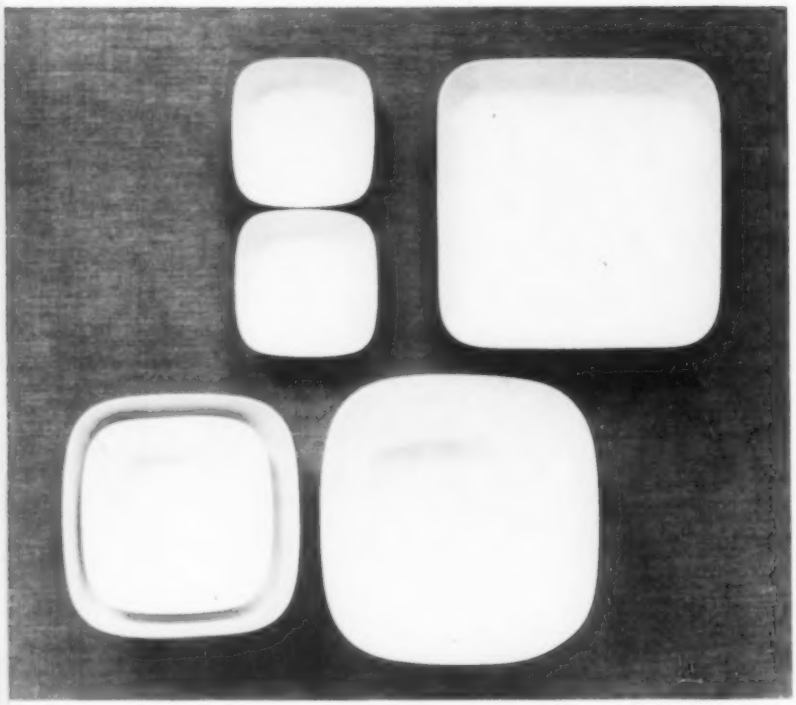


↑Fireproof stoneware pan and also a set of dishes for Wartsila-Arabia by Ulla Procope.

Right page, above: Clear goblets by Saara Hopea.

→Sterling forks and spoons from Bertel Gardberg's studio.

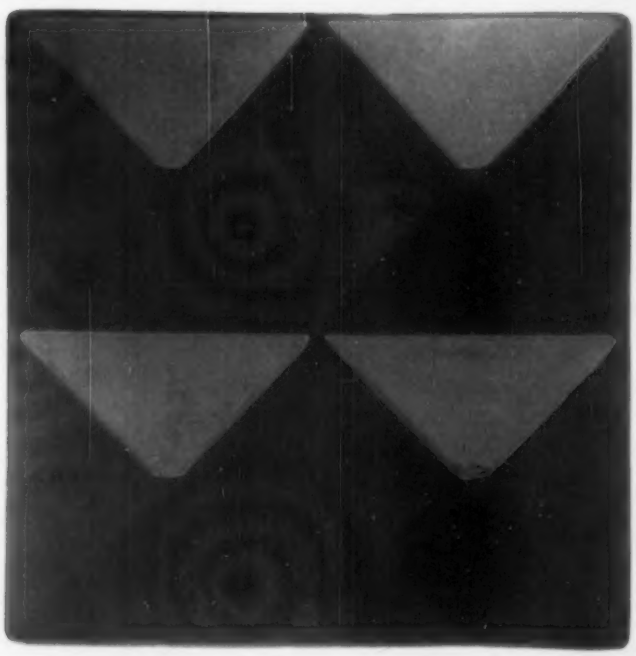


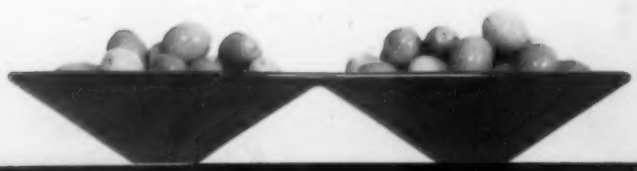


Left: White, matched dinner set designed by Kaj Franck.

Below: A cherry dish by Franck for Wartsila-Arabia.

Kaj Franck, who designed this group of products, is significant as a Finnish designer not only for his art glass but for handsome utilitarian objects as well. The unmatched table sets and glasses (opposite), practical and inexpensive, are everyday items for many Scandinavians. He conveys this conviction by developing richness in the most basic forms through a sensuous handling of details.

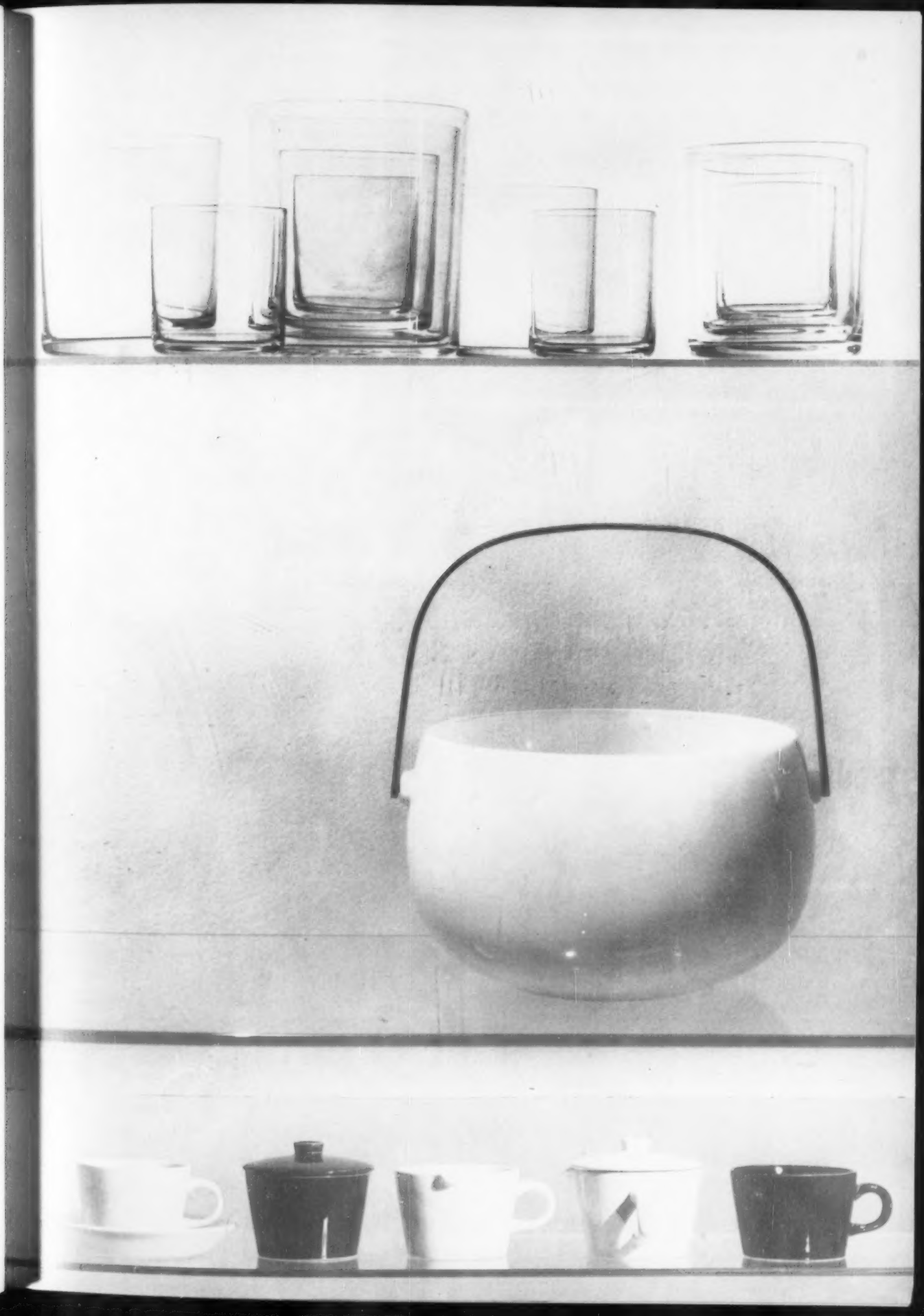




Above, right: Sturdy drinking glasses of careful proportion by Franck.

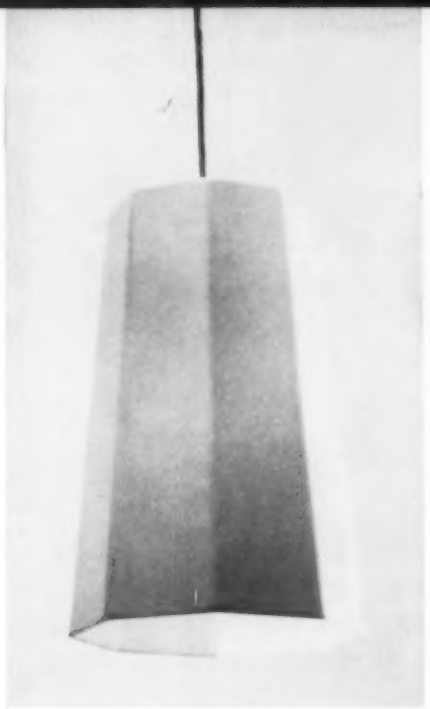
Center, right: White porcelain bowl designed with bronze handle by Franck.

Bottom, right: Unmatched dinner set by Franck.



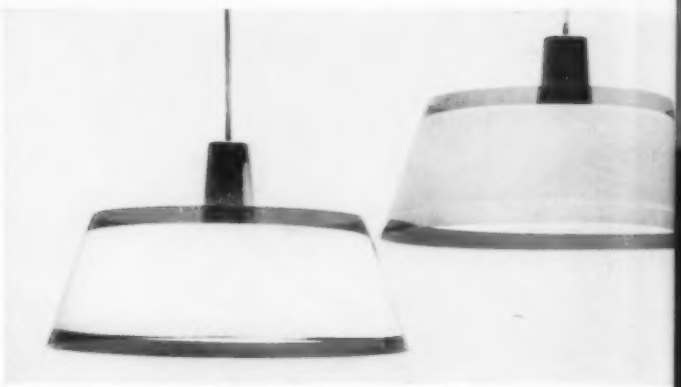
DESIGNS FROM ABROAD

Finland



←*Lamp by Lisa Johansson-Pape, who won a Gold Medal at the X Triennale.*

↓*Lamps by Yki Nummi for Stockmann-Orno.*

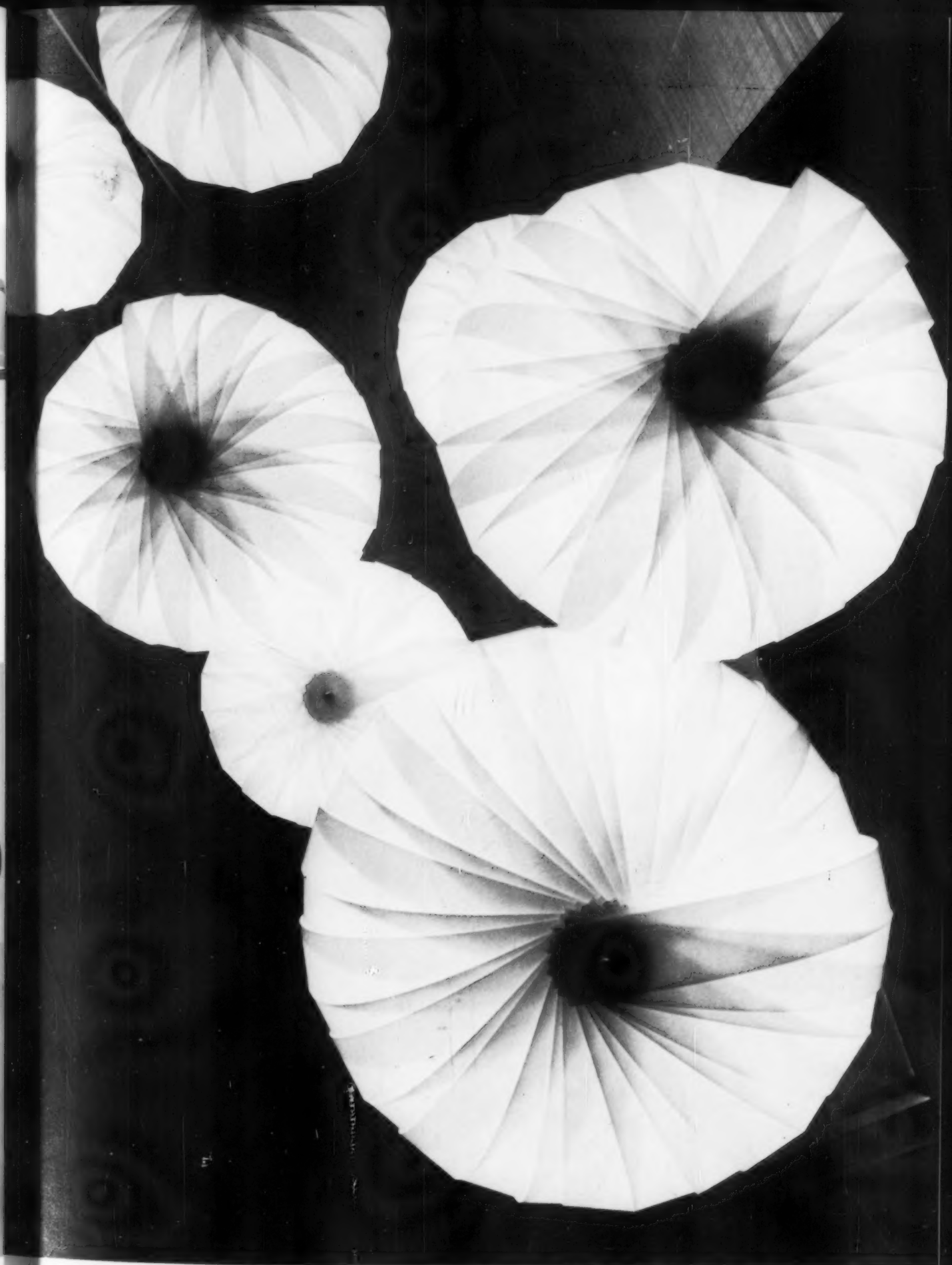


Below left: Clear glass with colored brim by Timo Sarpaneva.

↓*Stoneware pots designed by Richard Lindh.*

↓*Sterling silver pitchers designed by Bertel Gardberg.*

→*Perspex strip lighting fixtures by Nurmesniemi.*



DESIGNS FROM ABROAD

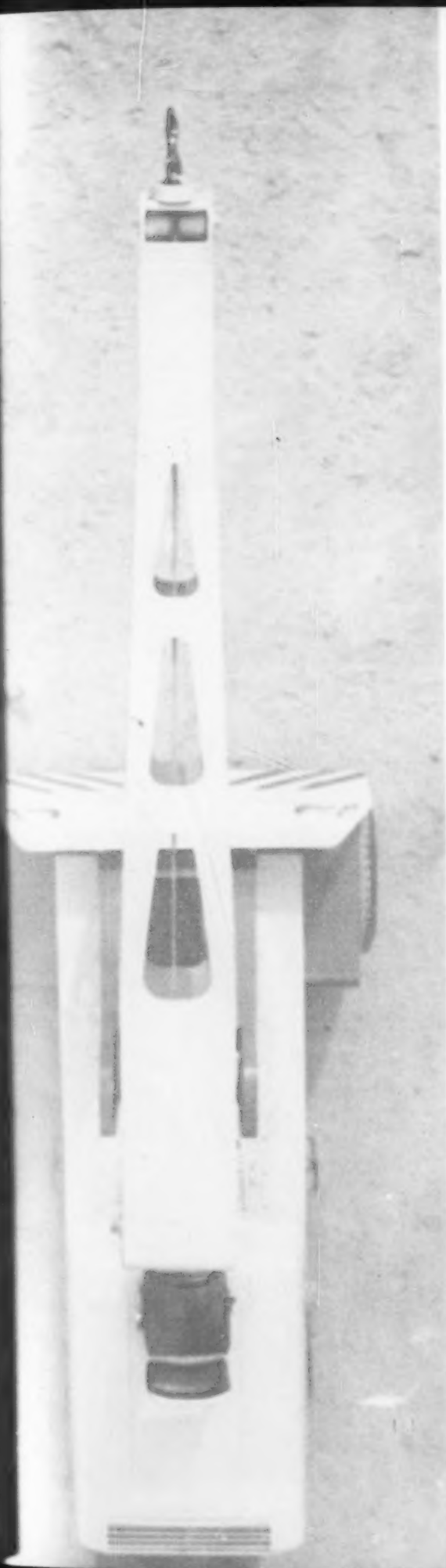
France

For centuries oriented toward luxury markets—whether for perfume, clothes, or furniture—France is now also beginning to realize the design possibilities in mass-produced goods. As in England, one problem is the hesitation of manufacturers to invest in a design change because of the cost of new tools for a relatively small market. In a country where fuel and materials are more dear than labor, where a low wage scale is further aggravated by the high cost of goods, the process of industrialization is inevitably held back. The development of an industrial design profession and esthetic awareness in France seems to have become evident first in capital goods and equipment.

Jacques Vienot, responsible for the items on this spread, all of which will be seen at the Triennale, is France's apostle of industrial design. He is director of the Bureau D'Etudes Techniques et Esthetiques, editor of Esthetique Industrielle, *and founder of the Professional Association of Industrial Designers. Membership though still quite small, is growing.*

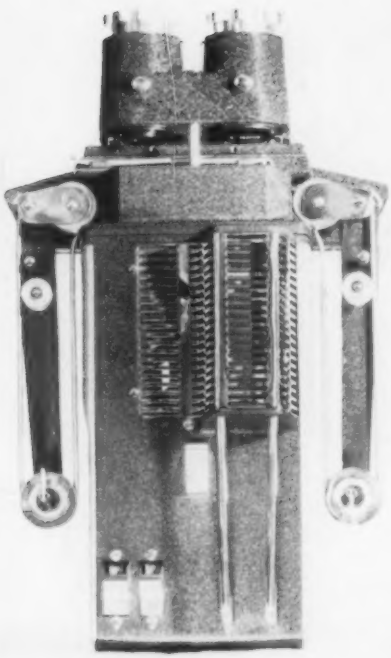
↑ Electric razor was redesigned for Calor by Vienot.

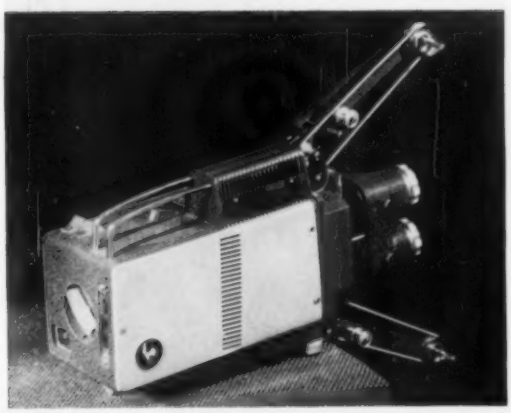
←Gambin drilling machine developed jointly with company designers.



Above and left: Two views of Salev crane lift truck developed jointly with company designers.

↓ Open and closed views of Pathe Monaco duplex movie projector.



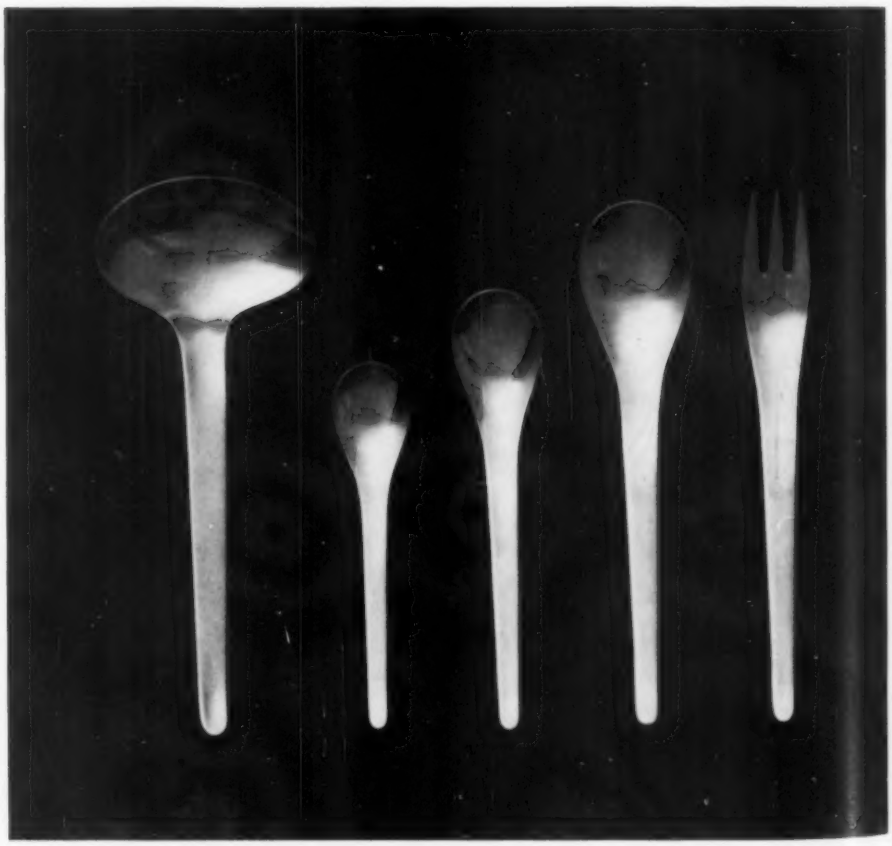


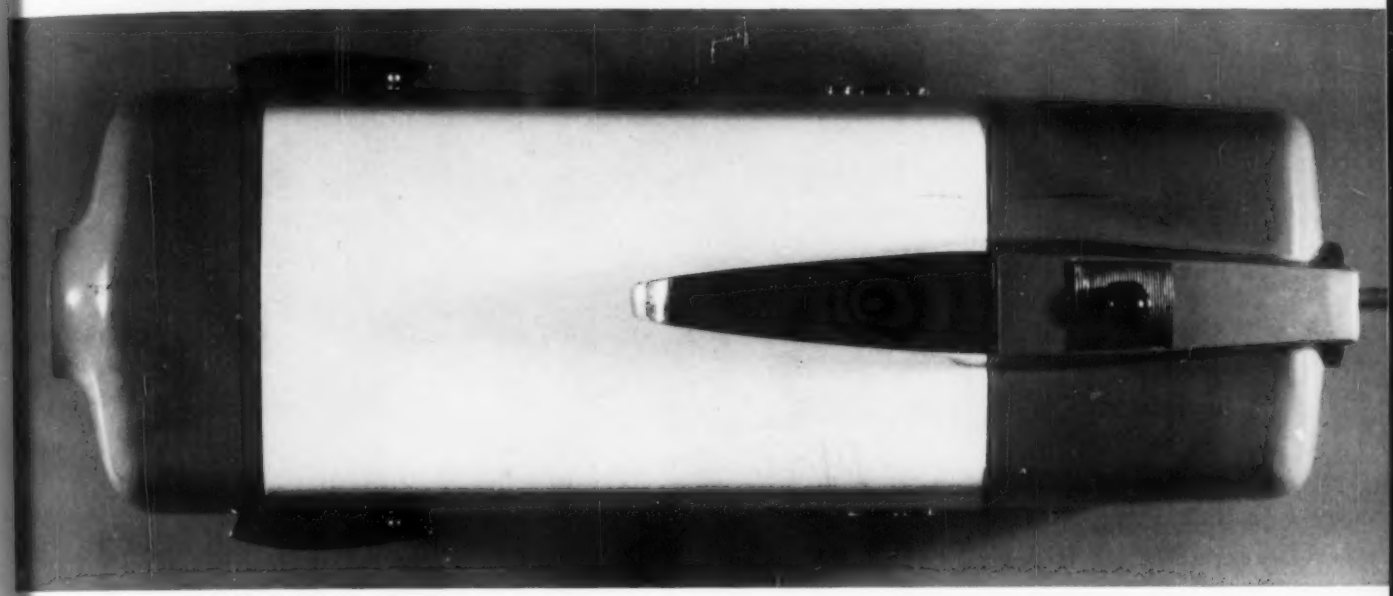
→*Fan by Christian Bachem for Albin Spreager.*

↓*Automatic projector designed and produced by Max Braun, Frankfurt a/m.*

Bottom, right: Stainless flatware designed and produced by Hugo Pott.

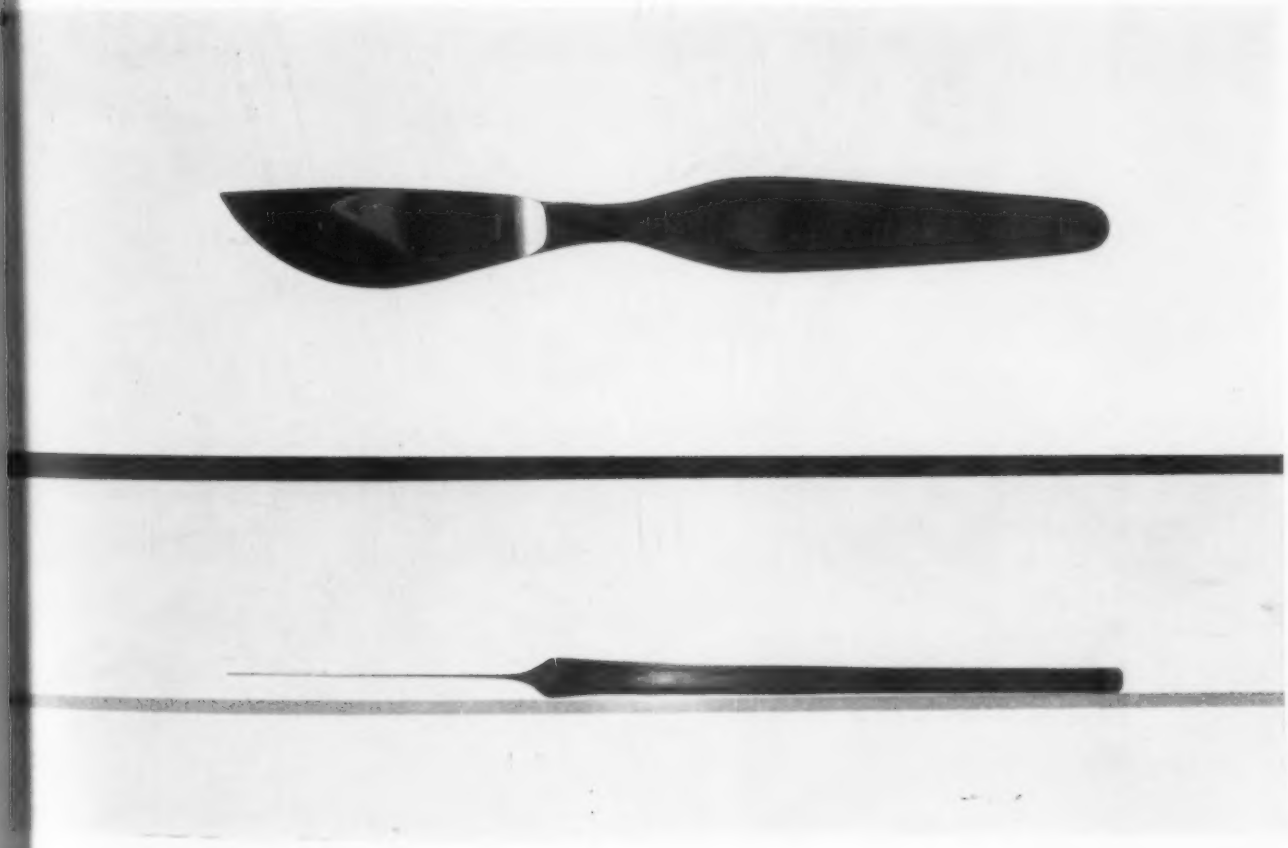
Customary precision, a clear revelation of form through clean and simple lines mark most of the products which Germany will send to the Triennale. Seeing to it that this same quality is achieved in the majority of its mass produced goods is the main concern of German designers at this point. For the most part, designers now divide their time between professional and educational work since design commissions are hard to come by in present day Germany. Another problem is the tendency toward government control in many areas of production, which has led to a standardized approach to design and design problems. An especially hopeful development, however, has been the establishment of the new design school at Ulm. With a staff including Max Bill of Switzerland and Otl Aicher, the graphic artist, its leaders are especially interested in working with manufacturers on real projects for students. The cooperation already received indicates that the re-emergence of a strong educational center will be a real stimulus for German design in the future.





↑ *Electronic flashlight designed by Dr. Lander for Max Braun, Frankfurt.*

↓ *Flatware by Joseph Hofmann for Hugo Pott.*

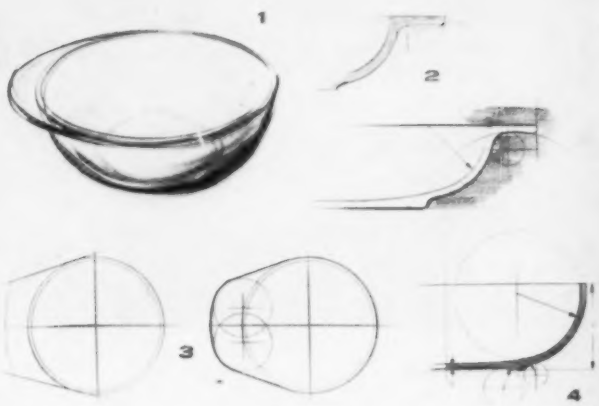


DESIGNS FROM ABROAD

Great Britain

The design picture in Great Britain (which will not have an official Triennale display, though several designers plan to participate independently) this year stirs a mixed impression. The creation of a London Design Center, now catering to 2,000 people a day, is a significant indication of interest on the part of industry and the public. But several serious problems persist for the designer. Those industries which have been prosperous longest, for instance pottery and carpeting, remain hesitant to experiment with new designs. The challenge for designers working in these industries is to reconcile a conservative tradition with contemporary design demands, and to gradually convince British management of its part in achieving sound design standards.

Independent Triennale display: Pyrex ovenware by Milner Gray, Keeneth Lamble, and John Cochrane.



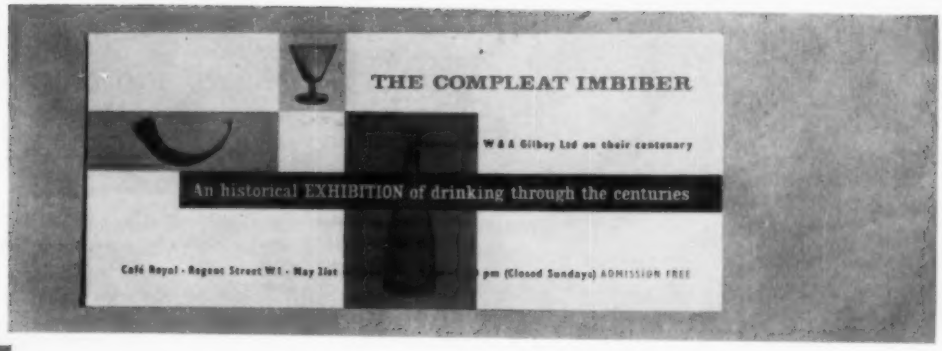
DESIGNS FROM ABROAD

Canada

Right: Molded plywood chair by Jan Kuypers.

Below: Fan-heater by Rotor Electric Co., Ltd.

Main theme of the Canadian exhibit at the Triennale will be a selection of furnishings from the new industrial town of Kitimat, B. C. The original project was commissioned by the Aluminum Company of Canada and executed by Robin Bush Associates. Canadian commissioners felt that such a unique exhibit would be more representative than a broad miscellaneous selection of products.



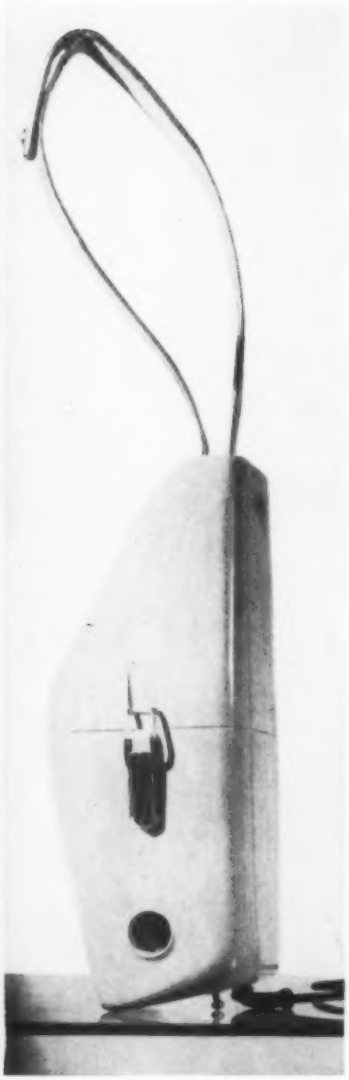
Decanter pack and window sticker (above) by V. M. de Majo for Gilbey.

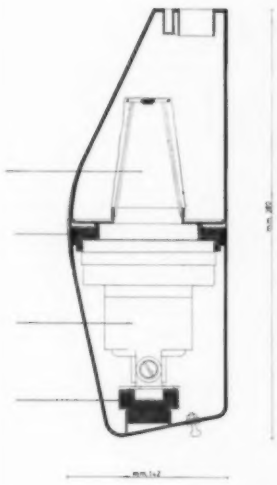
Gilbey centenary carafe by R. A. Stennett-Willson, etched by Milner Gray.

DESIGNS FROM ABROAD

contrasts and counterparts

appliances —





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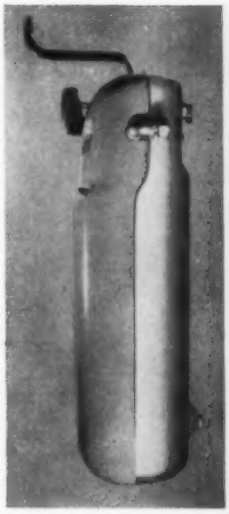

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packaging —

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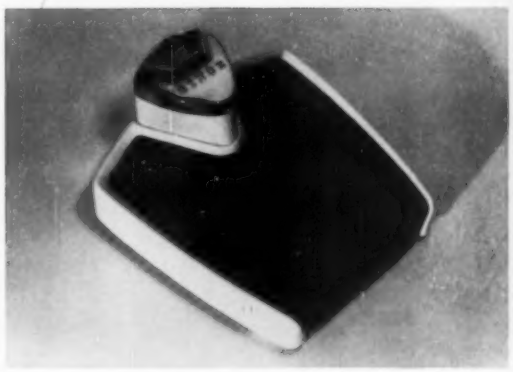


1. *Vacuum cleaner designed by Achille and Pier Giacomo Castiglioni for Rem of Italy. Nylon casing is carried from shoulder.*

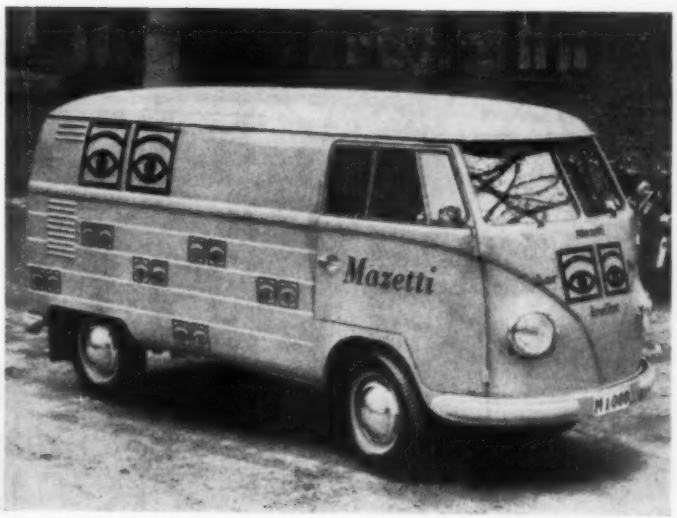
2. *Schematic section of Rem vacuum shows motor suspended on rubber bearing in lower part; upper part acts as dust container.*

3. *Gas water heater with enamel cover manufactured by S.I.M., Milan, and designed by Alberto Rosselli comes in several colors.*

4. *White enamel and black rubber bathroom scale for A. S. Ginge designed by Acton Bjorn and Sigvard Bernadotte of Copenhagen.*

On these and the following two pages is a miscellaneous collection of foreign products—radios, appliances, packages, plastics, tools. Though none are likely to turn up at the Triennale, they are presented as foreign counterparts to the mass-produced objects designed in this country by industrial designers. Just as direct comparisons are virtually impossible, the evident differences in solution and style are revealing: an Italian designer has offered a unique concept of a vacuum cleaner, for instance (1), while plastics from France to Finland (6, 7, 8, 9, overleaf) each emerge with characteristic plasticity.

5



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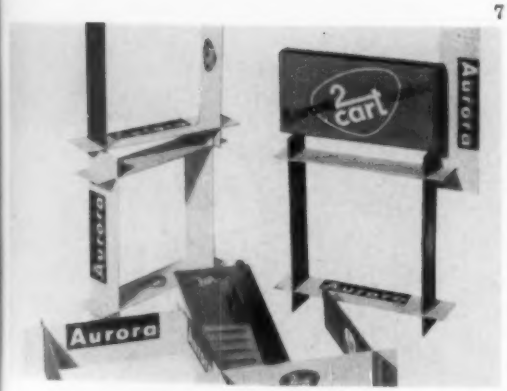


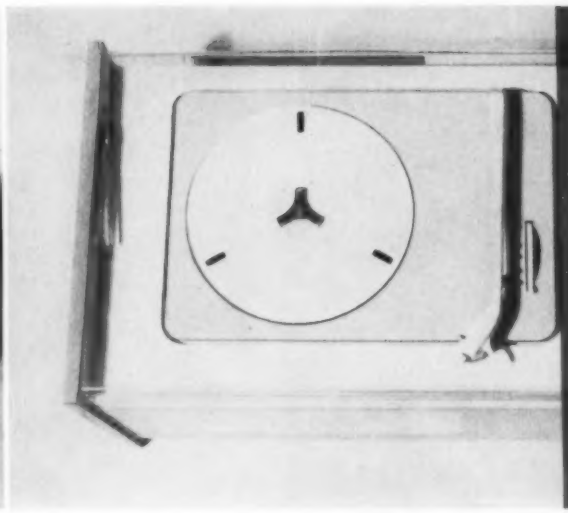
5. *Advertising truck by Eugenio Carmi for NeoTecnia, Genoa. The same advertising motif has been carried out in the company's packaging for gift pencils and in company stationery.*

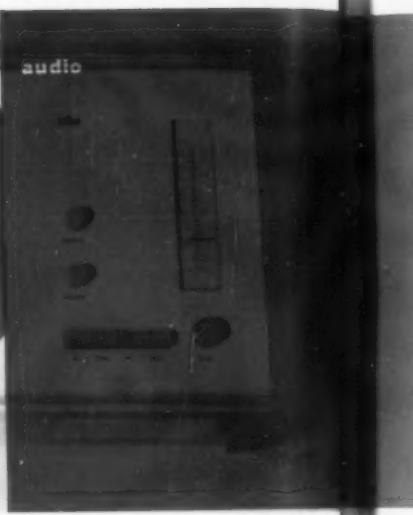
6. *Eye symbol designed by Olle Eksells, Sweden, for Mazetti, an Italian firm.*

7. *Cardboard tongue and slit stands for Aurora fountain pens, Italy, may be used in variety of window displays; by Albe Steiner.*

8. *Phonograph with acrylic case by Georgio Madini, Moretti, Italy.*

DESIGNS FROM ABROAD **contrasts and counterparts**





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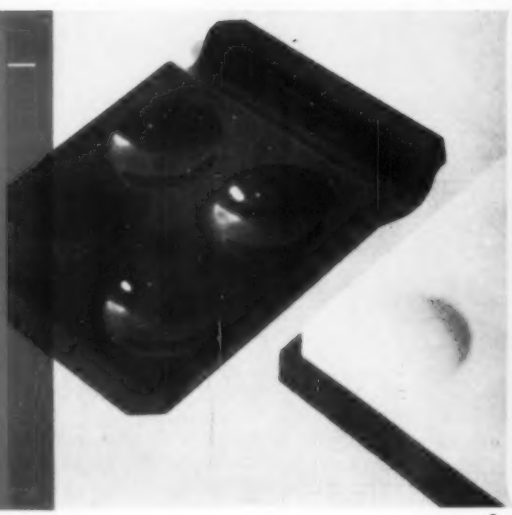

6

7

1. *Battery portable which was created by the new German design school at Ulm for Max Braun.*

2. *Braun table model radio-phonograph was also designed by Ulm school. It is made of stamped metal with light wood sides and Plexiglas cover.*

3. *Model of pliers for shoemaking by Zdenek Kovar, Czechoslovakia.*

4. *"Knifecut Pruner" for Wilkinson Sword Ltd., was designed by Hulme Chadwick, England, in cooperation with company staff.*

5. *Garden shears also by Hulme Chadwick for Wilkinson Sword, Ltd.*

6. *Hors d'oeuvre dish in polystyrene by Alvar Aalto, Finland.*

7. *Cream jug in urea formaldehyde by R. E. Brookes, England.*

8. *Plastic housewares by Stig Lindberg for Gustavsbergs, Sweden.*

9. *Plastic stool with magazine rack by Baillon of France.*

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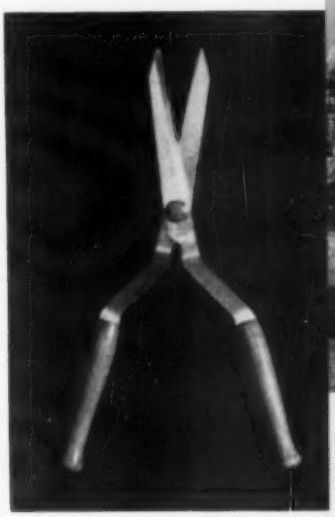

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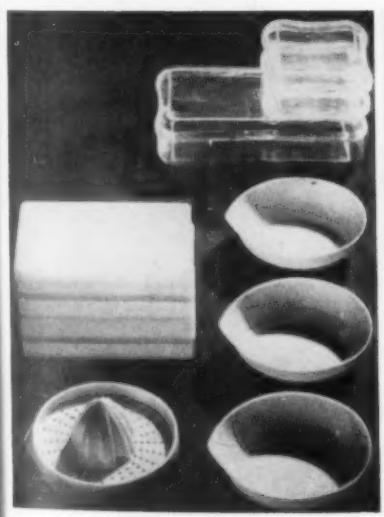

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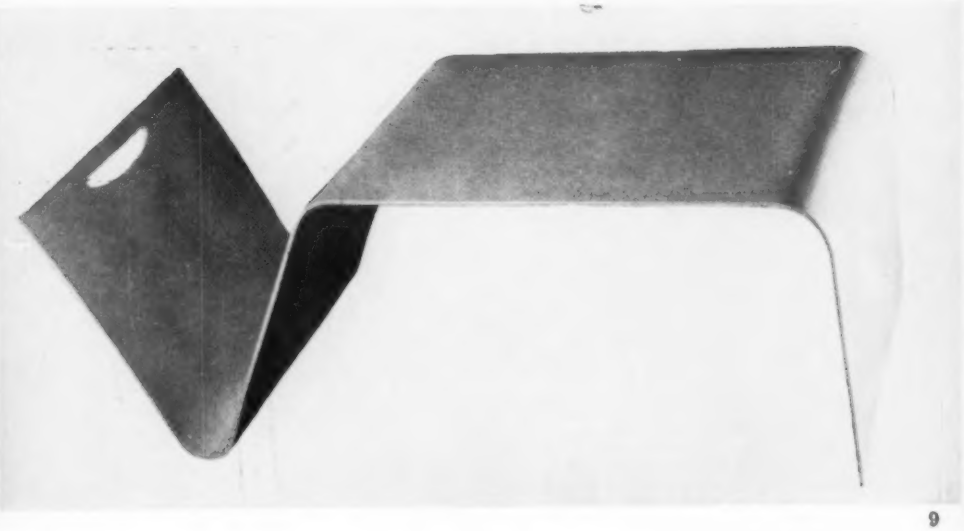

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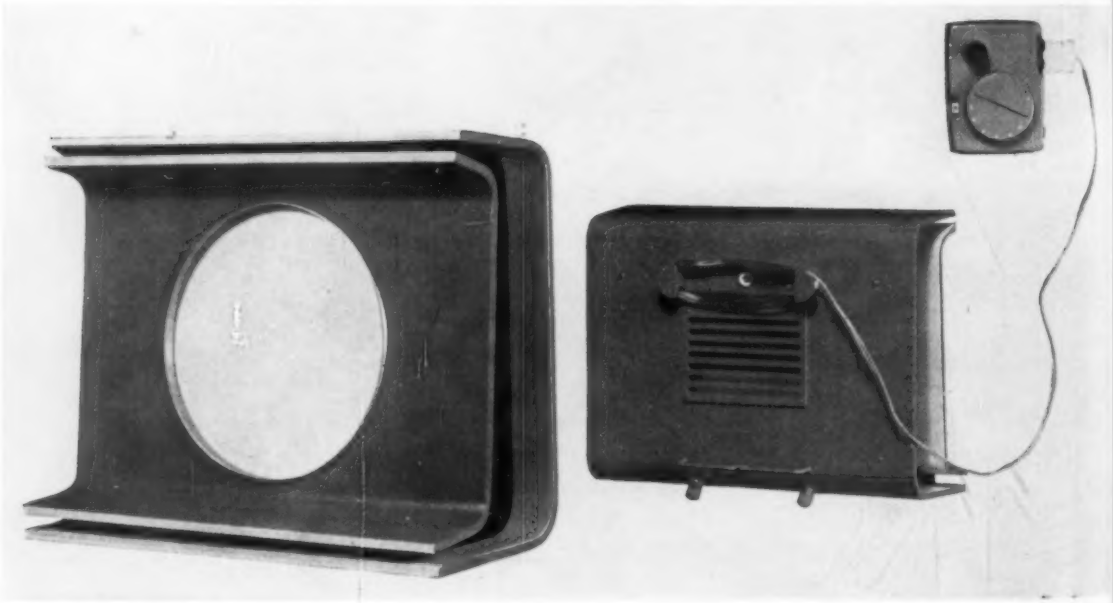
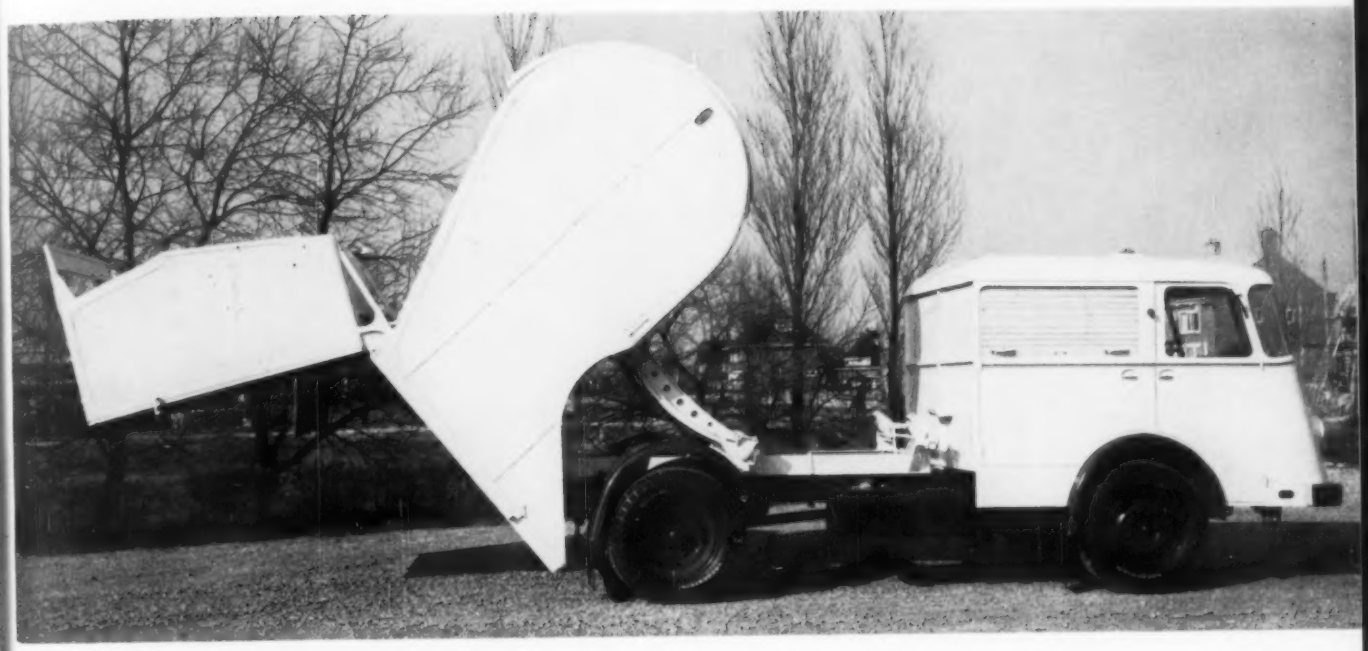
That the Netherlands will emphasize industrial rather than handicraft products at the Triennale is a sign of a growing self-confidence on the part of Dutch industry in her designers. Until recently manufacturers, with the exception of a few organizations like the Leerdam Glassworks, which has based its success from the beginning on an ideal of purity in design, have been only partially receptive to the need for industrial design. Now, by contrast, the chief problem confronting the Dutch designer is that industry's products are too diversified for the small group of practicing designers to handle. To improve relations between manufacturers and designers, the Industrial Design Institute, headed by K. Sanders, has been working since 1950. This year it published an impressively illustrated survey of Dutch design and plans furtner publications and other activities for the future.



Top: package for Holland Cheese done in red, white and blue by Jaap Penraat.

Wooden loudspeaker model designed by Charles Jongejans especially for radio distribution installations.



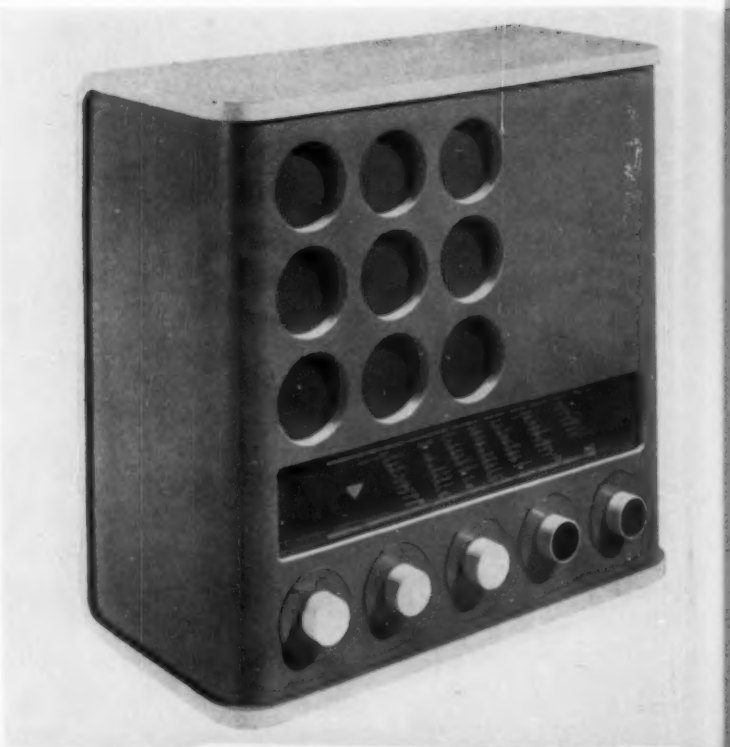
↑ *Refuse collector designed for Geesink NV of Weesp.*

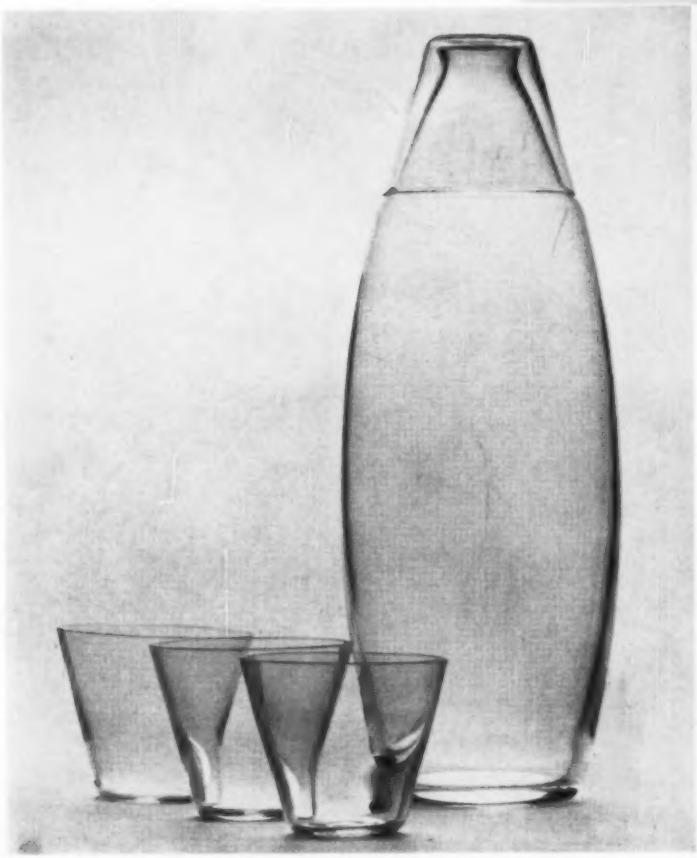
→*Bent plywood tables which have been pressed in one operation. By P. J. Muntendam.*

↓*Liquid wax container by Piet Zwart in silver-grey, red, blue, yellow and black.*

DESIGNS FROM ABROAD

The Netherlands



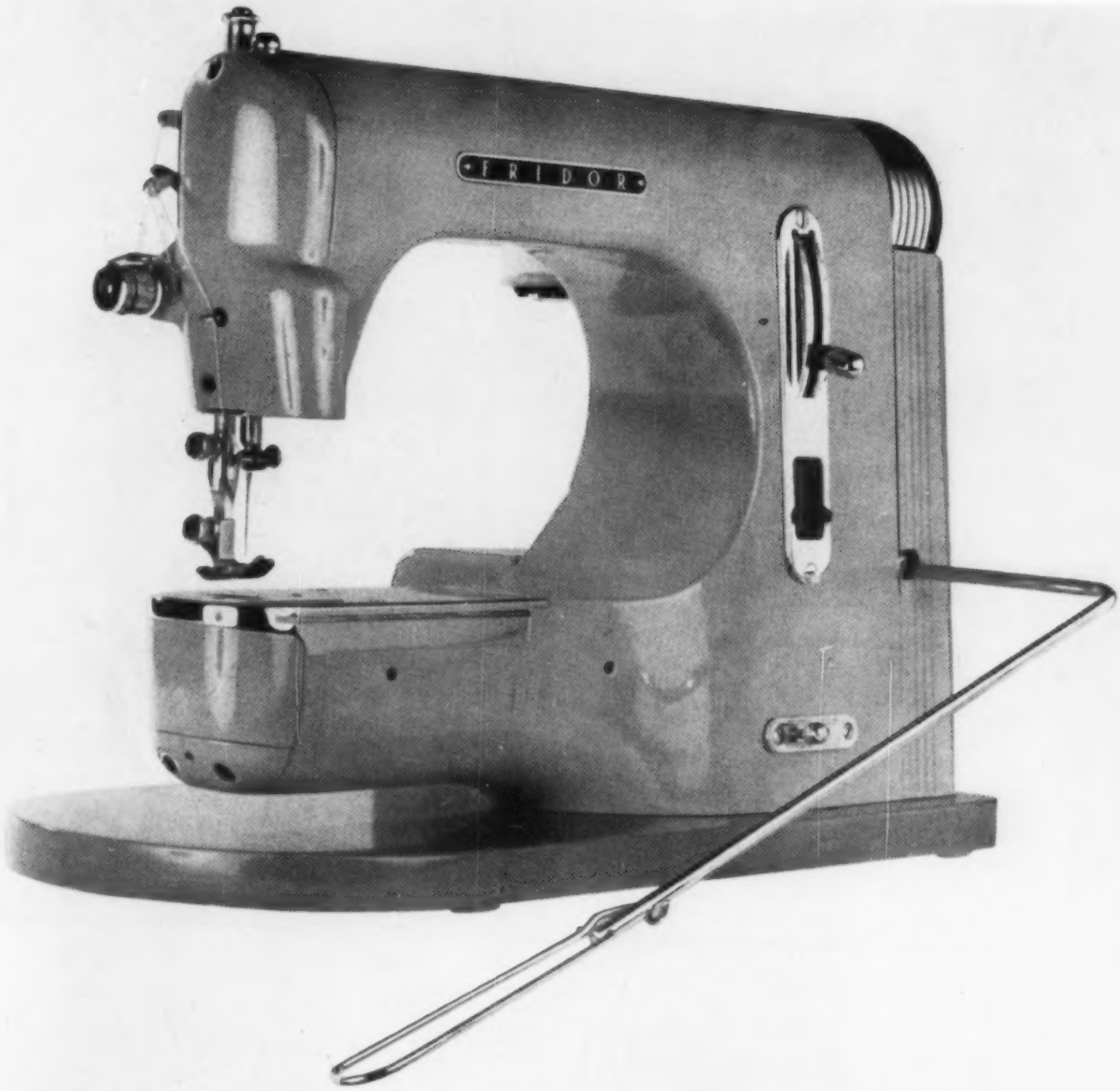


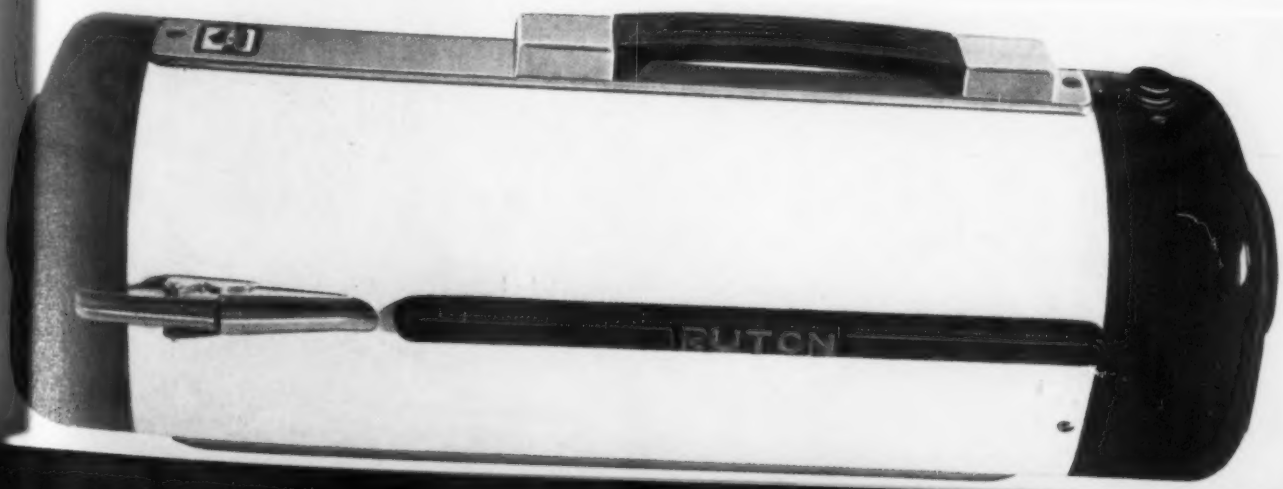
Top: W. Rietveld's radio cabinet consists of two identical parts for easy assembly.

↑ Steel and canvas armchair by C. de Vries will be shown at Triennale this month.

←Liquor set for Leerdam Glassworks was designed by Floris Meydam.

↓ *Conventional fly-wheel of sewing machine, designed by W. Flem for* **Fridor**, *has been replaced by semi-spherical unit. Bottom:* **Vacuum cleaner in black and white by W. K. Waisvisz for Rudolf Blik.**



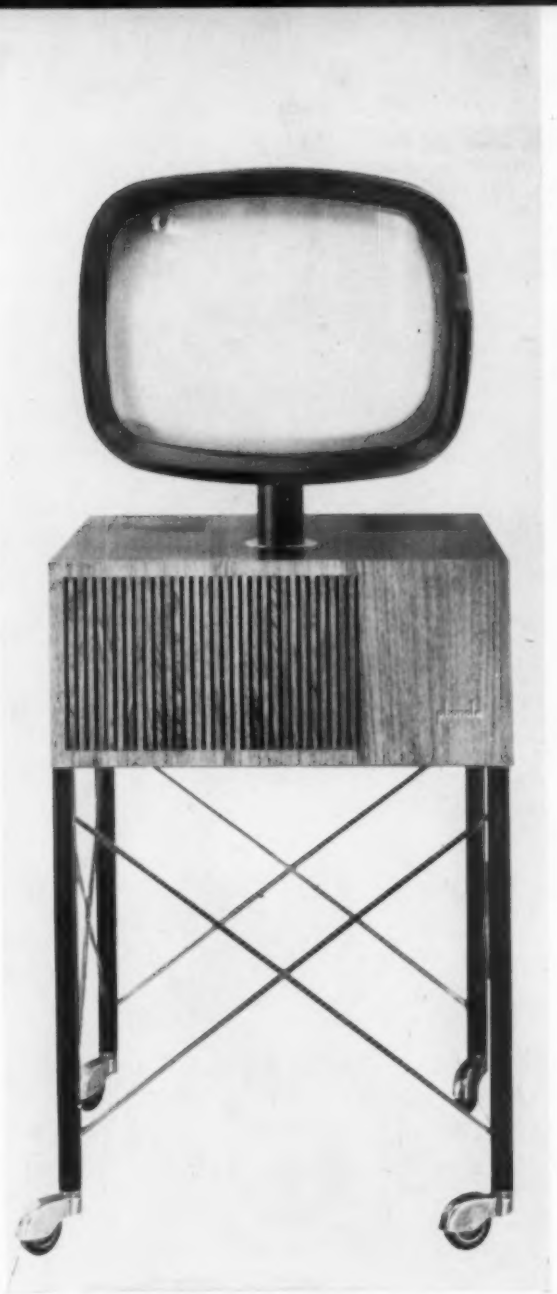


DESIGNS FROM ABROAD

Italy

→Television set designed by Butte Berizzi an Montagni Pos for Phonola.

↓Series of door handles produced and designed by Feal.

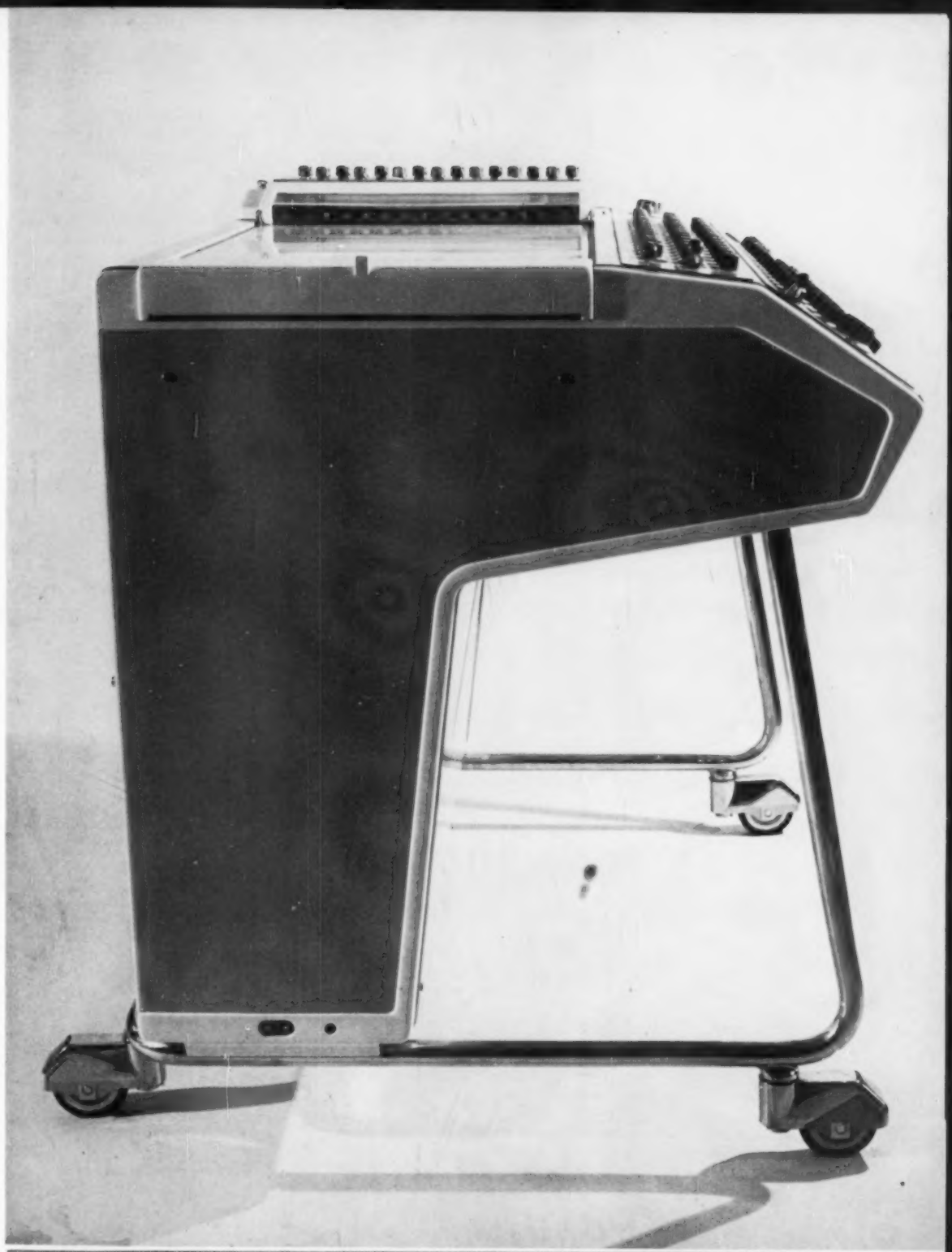


Directly warm and sensuous, these products from Italy, host country to the Triennale, are an exuberant response to the challenge of her position. Often created by the all-embracing "architetto," her products convey a pure delight in form and lack of inhibition that is characteristically Italian. The designers show great inventiveness in discovering new solutions and flexibility in creating forms, as in the TV set at right.

Despite an almost complete lack of local raw materials, Switzerland has produced industrial and consumer goods of consistently high design quality. Consciousness of the importance of good design led to the formation of the Swiss Werkbund in 1914. Since then the organization has promoted the Swiss design ideal through exhibits, competitions, and educational programs. The chair at right, by Hans Eichenberger, is part of their exhibit which is now traveling in the United States.

DESIGNS FROM ABROAD

Switzerland



→*Electroencephalograph designed by Spadolini.*

↓ *Alfa Romeo car designed by Pinin Farina.*

DESIGNS FROM ABROAD

Japan

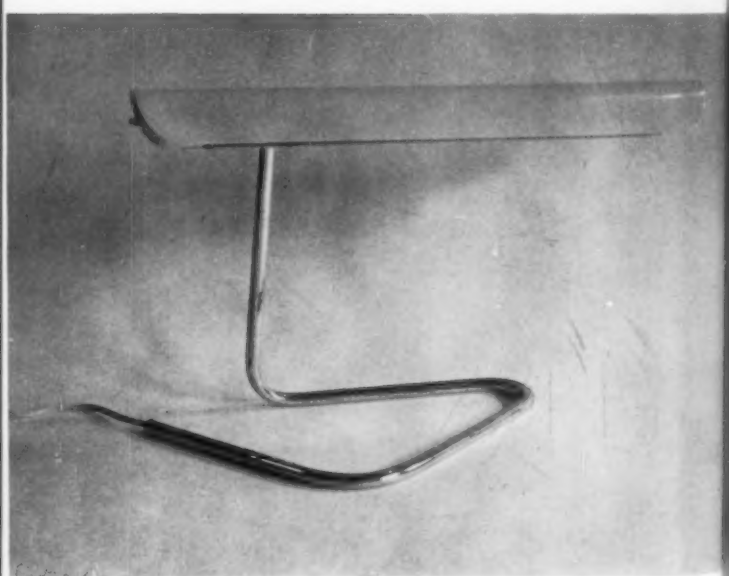
Though little experienced in Western design methods and tools of production, Japan has nevertheless had a tremendous design influence on the United States through its traditional art. Now undergoing a transition from traditional sources of form to industrial design, many Japanese designers have adopted foreign styles wholesale. By contrast, Sori Yanagi's Industrial Design Institute has developed products (some of them on this spread) in media that originally were ours, and has translated them with inventiveness into a uniquely Japanese idiom.

Sori Yanagi's Industrial Design Institute includes (left to right): Izumi Tamura, Takehiko Kanogi, Yanagi, Shirro Tonaka and Yosinori Shioto, who has just established his own office in New York City.

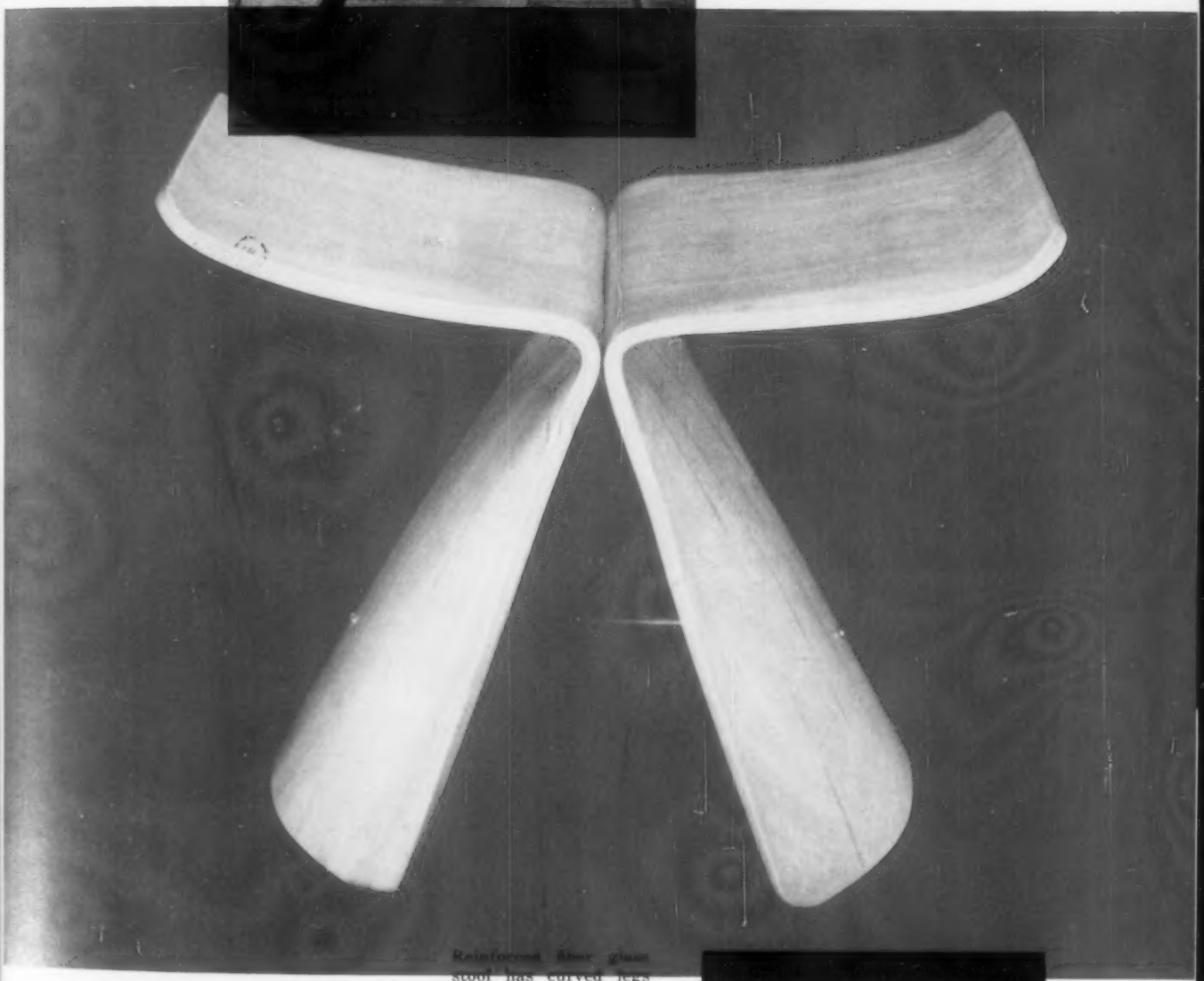
↑ Three-wheeled pick-up truck turns easily on narrow roads. Curved front panel is a new feature for Japanese trucks.

↓ Fluorescent light of simplified, efficient design.

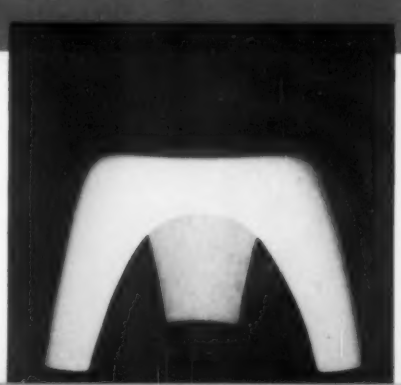
Masonite chair is steam pressed into shape. Legs are hollow iron tubes.

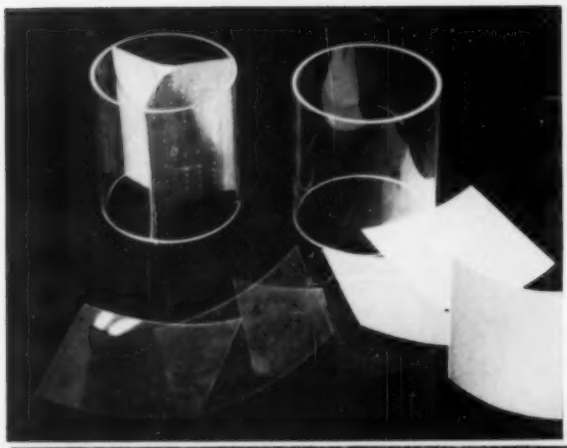


Chair and stool (center) are of heavy plywood bent by high frequency electric wave mold for strength.

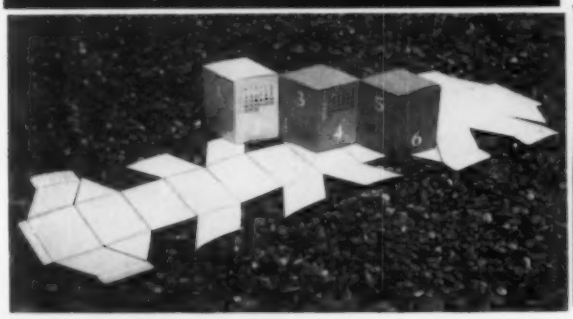


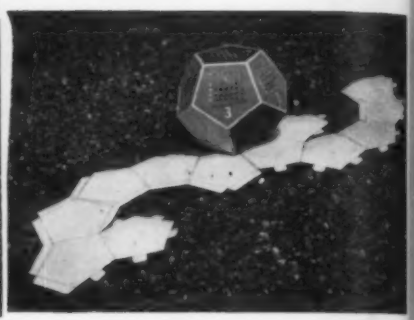
Reinforced fiber glass stool has curved legs (as do other models) that will not pierce Tatami floor matting.

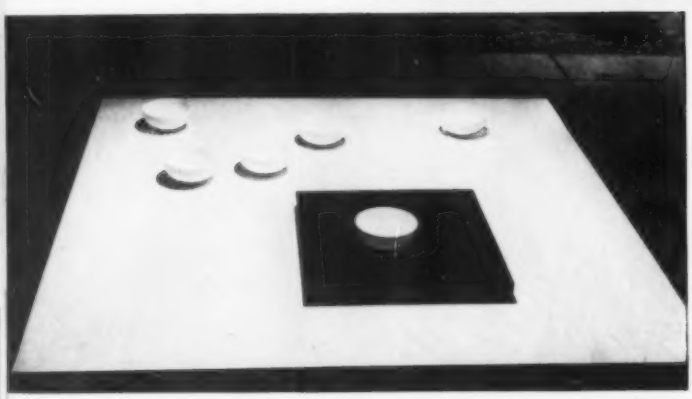




The three calandars, at left and below, are all from Yanagi's studio. Paper calandars below are die cut in continuous piece, then folded into correct forms.





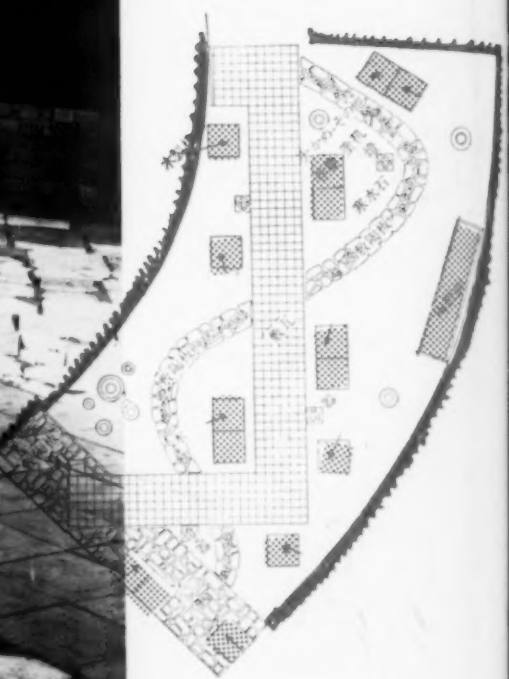


→Desk lamps by Yosinor Sinoto, former designer fr Yanagi's studio now in th U.S.A., are for Sankyo Ele tric Company, Economic and easy to mass produc the lamps are stamped fro aluminum in two pressing

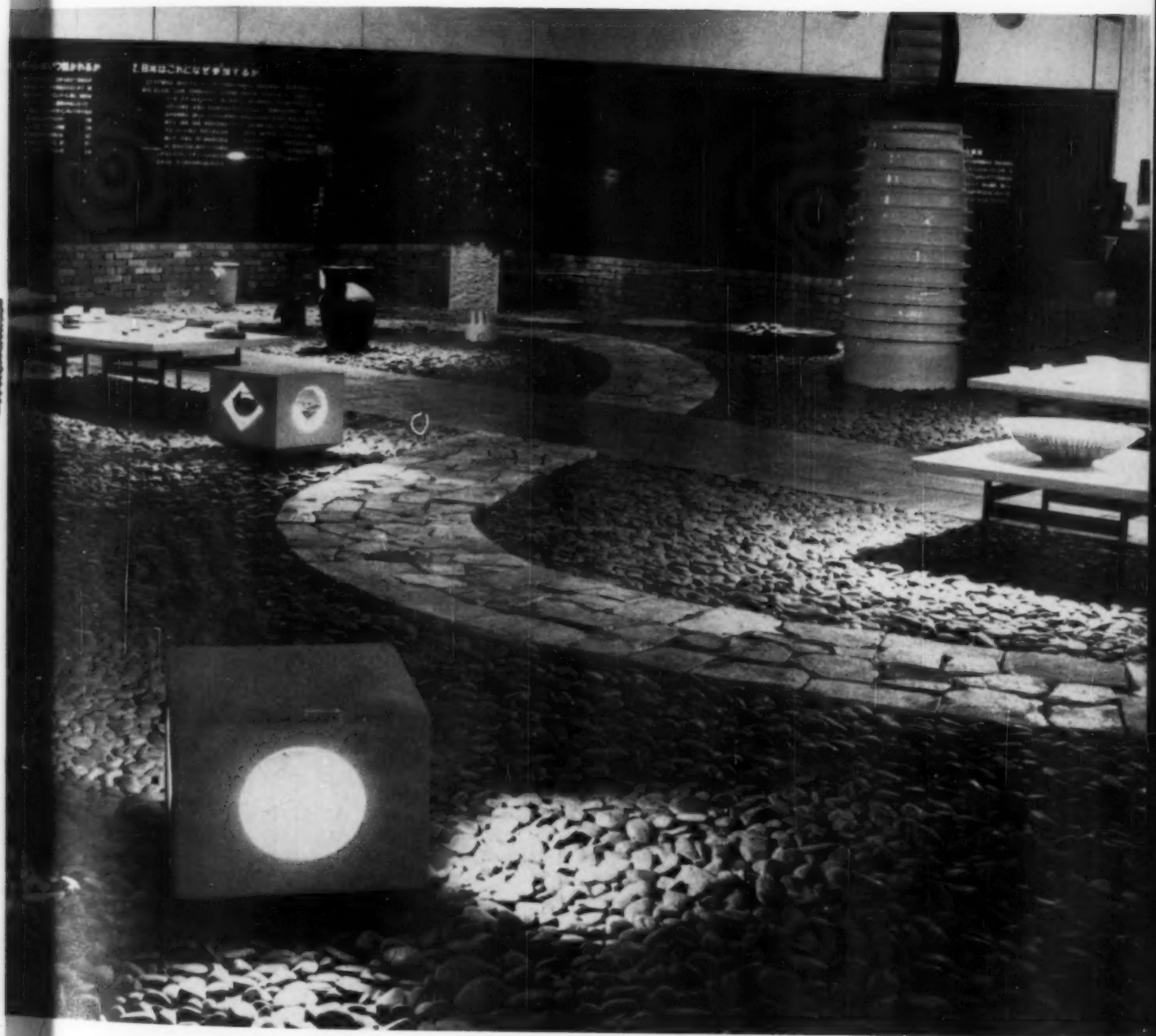
↑ Ceramic tableware and ceramics for industrial use will be featured at Japan's Triennale exhibit this month.

→Mass-produced Masonite tea table has been lacquered black in traditional manner.


MILANO 1957



Japan will exhibit at the Triennale this summer for the first time. In addition to the traditional ceramic tea sets, the exhibit will emphasize ceramics for industrial use—sewage pipe sockets, crucibles, an octopus trap, and insulators (opposite page, far right). Pictured here is a model of the exhibit as it was displayed at the Takashimaya department store in Tokyo before being sent to Milan. Through many of the products runs an attempt to reinterpret characteristic Japanese wares, such as the low, boxed street lantern (foreground, below) for Western use.



Design Management Symposium

Philadelphia Museum School forum: designers as managers and how to train

Package Designers Council

Discussion of professional standards, design philosophy, materials suppliers

Package Research Conference

Lippincott & Margulies meeting on scientific standards for package effectiv

Five viewpoints on the designer as manager

Philadelphia Museum School of Art, April 27, 1957; Co-sponsored by Industrial Design

Introduction: Joseph Carreiro, *Director of the Industrial Design Dept., Philadelphia Museum School*:

The direction, ultimate level, and future of industrial design education is a subject of vital concern to me. In turning this problem over in my mind certain questions remain unanswered, and in some areas even the questions remain cloudy.

One of the problems that constantly comes up is: What is the highest level to which the industrial designer may aspire? What are the problems at this level and how can we chart a more intelligent path to it for the exceptionally talented student?

Wondering what a school might do to educate itself to the needs of the professional and industrial world it serves, we have brought educators, company and independent designers together to ask people who have attained the position of design manager what it is, what responsibility it entails, and what the school can do to train men for the job.

Jay Doblin, *Director of the Institute of Design, Illinois Institute of Technology*:

The question of design management is very difficult to speak on, but what I would like to do is tell you what we at the Institute of Design are doing to train people for this type of position.

First, we are strongly conscious of the need for such training: it is estimated that there are 2,000 companies who have–or will have within ten years–a person known as a design director, usually on a vice-presidential level. There are two types of companies who use designers in this way: consumer products manufacturers and basic materials suppliers. Both types need the design director, but the need is even stronger in the materials businesses. There the design director is responsible for defining the corporate image of the firm he works for, giving it a form and carrying it through in everything the company does. He helps to build the personality of the company, and this is especially important where he sells not a finished product but a material for others to give form to.

In consumer goods firms, the design director must understand the levels of design in order to help set the goals for product planning. The way I see them, using the example of a gasoline pump, the levels are:

1. Designs, restyling
2. Fundamental change in mechanism
3. Completely reengineered concept
4. Reworking of design environment
5. Eliminate the gas station
6. Eliminate refueling
7. Eliminate the car
8. Design for outer space

The design executive must understand these various levels, and plan to make the transition from one to the next in the future.

There are also three less tangible areas where the design director can play an important role in the consumer-oriented company: interpreting the needs and wants of the consumer to management, predicting the trends in competition, and stimulating innovations through his talent for creative visualization.

These are the things the designer has to offer for a place as a manager, but if it weren't for business's increased dependence on design in the market place he would not be arriving where he is. This dependence is indicated by an increase in design hours for almost any product: for example, it can take from 50,000 to 60,000 design hours to produce one modern refrigerator model. As hours go up, costs go up, and responsibility goes up–the design director must be prepared to accept this responsibility.

Where does the design director come from, and how is he trained? He usually comes into the company as a specialist designer and increases his knowledge of the entire company until one day he can assume responsibility for its total operations. When he reaches this point he has ceased to be a specialist and has become a generalist. There are four ways he gains this generalized view of the company:

1. His basic motive is problem-solving—any kind of problem–and he applies his techniques to more and more areas of the company's work.
2. He has the drive, interest and ambition to be a force in management decisions.
3. He wants to accept an immense amount of responsibility.
4. He can profit by the experience behind him, the knowledge of others on the staff.

The industrial design school should therefore train people in these four areas, giving them the problem-solving techniques and a minimum level of professional skill, inspiring their drive and interest in what they are doing, and trying to build a balance of talents and interests to make the students as broadly educated as possible.

The training for a well-rounded designer must be three-barrelled: it must give him a cultural and sociological awareness–but not out of books, because this is dead learning; it must foster creativity and it must develop in him some good work habits.

Arthur N. BecVar, *Manager of Industrial Design, Appliance and TV Receiver Division, General Electric*:

In developing the ability for creative thinking, to which Jay Doblin referred, it is important to understand the role of the manager in today's business community, because that is where creative thinking must take place. The job of the manager is to *lead* people rather than to *order* them. This is difficult for the manager to do when there is an urgent job to be done. It is done by blending thought and action in making decisions. The manager's job can be broken down into its elements of planning, integrating, and organizing.

Planning on the broadest and long-range level is the responsibility of the president of a company, but it goes on all the way down through the management levels. Organizing is a matter of getting the best people to do the job required by the plan—whether they are drawn from the company staff or hired from outside. Integrating is the most difficult job of all: it is the creative problem-solving approach.

Another of the manager's jobs is to please people. To please the suppliers and purchasers, the customer with the product, the employee with the job, the owners of the company with the products.

To perform this many-sided role, the manager seeks patterns to guide his thinking. The broad basis for his day-to-day decisions is his anticipation of the needs of the complex social, economic and political environment in which he operates. He has to make use of all resources, abilities of people, time, money, facilities, materials. This is the real problem for the manager: how do you utilize these resources? To answer that question, the manager has to be conscious of the entire mechanics of the business.

Looking at the question from the business point of view, the company's desire is to see that there are personnel who are capable of taking on the responsibilities of managers. But its real problem is that most companies have not provided the climate for managers to grow and function. The answer lies in decentralization, in delegating responsibility as close to the action level as possible. People should grow in the experience of making decisions, and this will help them to operate at the management level.

How can design be integrated into the objectives of the business, so that the manager can be conscious of design goals and include them in his sense of responsibility

to the company? First we must define just what the design objectives are—what is to be accomplished. In order to answer this, the design manager must be in constant touch with all areas of the business and their objectives—especially what is called the product planning objective—so that designs are consistent with the company's objectives.

There are, however, certain individuals in the company who have a special role to play. The engineer, the industrial designer and the scientific researcher are creative people, and their potential contribution is not directly proportional to where they sit on the management hierarchy. The real contributions to a business will be made by the creative engineer, the creative designer and the creative scientist because they are the men who can think out a problem and produce a solution.

Therefore the task of the schools, if they are to serve business's current needs, is to find out the real values of creating as an individual, and to produce the people who can do this. The need for creative designers, engineers, scientists is urgent because future technological growth depends on them. The individual contributor is the backbone of productive work—and the more people who understand the entire business structure the better any one individual can function as a contributor.

A final point: one of the most important problems arising out of the new methods of management is communication. This poses the greatest challenge to the manager in the areas of clarity of purpose, common interest and mutual respect. There must be real communication of these values if the manager is to function successfully in his new role.

Domenico Mortellito, *Manager of the Central Design Section, duPont*:
I have a feeling that in its present day application, the term "design management" is too loosely used. I say this because to my knowledge there is no such thing at present as design management—either as a profession, as a school course, or as an accepted title or position in top level management in any large industrial organization. The term needs clarification, awaits acceptance, and must gain validity through practice. I do not doubt that design management will one day be an inseparable part of industrial management. But then it will become one of a group of functions, and will lose its singular type of identity.

There are several widely heralded examples of "industrial design management," such as that of Walter Paepcke for the Container Corporation of America, Houghton for Corning Glass Works, Olivetti for his Corporation, and others. What is not apparent is that these are examples of design by individual choice, by hunch or personal taste. It is the effort of these businessmen to combine their cultural aspirations with their industrial achievements in a manner that builds stature for themselves and their companies.

There is nothing wrong with this idea, but it does not provide a formula which industrial institutions can use for the selection of design managers.

What it is important to see, however, is that design in industry is today being recognized as a necessity—in some cases, perhaps, a necessary evil. It seems obvious that industry is going to need pre-trained design managers, but they will have to have special qualifications because design management:
—is a special and an important job;
—requires knowing the corporate image and becoming an effective vehicle for it;
—requires knowledge of creativity, both the techniques for inspiring it in others and personal creative know-how;
—requires talent, ability, and great faith in the function of creative design so that one can set examples where there is a question of intent or direction—in other words, be able to give proof.

But there are other important things design management must be aware of:
1. Today's client is not an individual but a corporate group.
2. Design is a function which, like sales, promotion, advertising, public relations, engineering, research and development, serves both production and sales ideas, and must contribute to the total strategy.
3. Design is not something that can be isolated from any part of management or production without losing or diminishing its effectiveness in terms of a successful job, a good product or a significant idea.
4. Design management has a threefold job:
   a) to inspire and direct creativy,
   b) to specify and control production practices, and
   c) to police or follow through on design jobs to insure that policy and thought are carried out.
5. Design is not a supplementary adjunct to industry. If it is anything, it is an integral part of industry. Like any sound practice in industry, it is most effective when used as prevention rather than cure.

Our training of design managers for the new resources of industry has to be done:
—quickly, to meet the growing need;
—comprehensively, to make design managers capable of meeting the staggering challenges of the new electronic and chemical age; and
—humanistically, to permit design managers to flex and change with the behavioral patterns of a changing world.

J. Gordon Lippincott, *Lippincott and Margulies*:
The primary function of top management is clearly and precisely to determine the corporate objective—"what is our business?" The role of the industrial designer at that level is to participate in that definition of objectives, in the form of asking the question, "what should our corporate look be?" The greatest contribution a designer can make to the corporation is to make such a policy statement.

The design manager's second target is to structure the design goals and orient the design department to implement the policy arrived at. There must be, however, a policy to begin with. The problem often is to convince top managers that it is important to get design objectives expressed in corporate policy.

Top management needs to be shown the importance of design in corporate policy, but it is only the design manager who can convince them. What is needed in the business world is an institute of advanced study to train the people to do this work, think this thought out.

A special research school is needed because the course of study itself remains to be defined, and that cannot be done within the framework of the day-to-day work of the design school. The institute must be a meeting of people with a wide range of knowledge to contribute: philosopher, archeologist, physicist, sculptor, industrial designer, painter, psychologist, and many others should be called on to contribute their point of view. One important condition of their getting together is that they should meet with some degree of insulation against the influence of advertising and other pressure elements of our culture, so that they can work out the problem in a free and creative atmosphere.

Any phase of design can be researched in a pure sense, by a very creative and talented group. Seminars held in industry should be open to the men of this proposed institute and others with wide perspective.

If training of a new kind of designer is what is needed—a designer who can think and execute in terms of an entire business and its relations with the community around it—then I would suggest that you do not think in terms of post-graduate work in existing schools, but think instead in terms of an entirely new kind of institute of design.

What can designers contribute to management?

H. Creston Doner, *Libby-Owens-Ford*: There are many designers who still want to concentrate their life on design execution. They think that they can't do a good design job if they are burdened with the managerial aspects of the business. There is a parallel situation in the engineering field and it is a problem to industry and the individual. There are, however, some cases in which a man should remain in the creative field and not be trained for a managerial position. The time may come when a top designer is paid more than the directors of design.

Raymond Spilman, *consultant designer*: A student should not be trained to think that "management" is a limiting position. He should be trained to the viewpoint that eventually he can manage the design he has created. Too many designers think that management is essentially their enemy and they should not step over the boundary into management; that if they do they have lost their relationship to the creative world. There must be some point at which the two overlap. We must find areas where creative people can transfer their feelings into management. It is this transitional point in education that has been lacking.

Joseph Carreiro: All too often, we think of management as being administrative—the manager seems simply the one who manages. But the administrative part of management is the most limited part of it; the most exciting part takes management into the domain of the designer, and this is the innovative part of management. The designer is essentially an innovator, and this is one of the reasons why he is so ably suited to assume a top management role. There is, then, no transition between creativeness and management like that which Ray Spilman referred to. Creativity exists in management, and this is the link between the designer and management.

Spilman: This is the area where so many designers fail: they reach the top management level and cannot translate their creativity into the terms of policy.

J. Gordon Lippincott: Yes, they do fail in this respect. Some companies have found that designers who became managers were more desirable as designers than as managers. The reason is that 80% of their experience was not being used in their management roles. But I agree with Joe Carreiro that the link between design and management can be effected by properly employing the designer's creativity.

Arthur BecVar: While we are on the subject of individual creativity, we ought to think about the individual, since there is a general tendency to overlook him in the large organizational structure. It is important to consider how this individual is going to get his values out of life. What does he mean to achieve, and how can we help him to achieve it? Most companies are doing this for the manager, and he gets a fairly good salary. The designer, on the other hand, is not paid on a proportional scale and certainly does not get a higher salary than the manager. He is caught between his desire to do his creative work and his feeling that our society measures achievement in dollars. Consequently, his neighbors rate him as unsuccessful. The only place where a creative person is paid proportionally to his contribution is in the research lab.

Lippincott: A manager has his frustrations as well as rewards. He suffers. I am not sure that the manager is "higher up" than the creative designer in a social sense. The creative man is contributing more to our culture. A highly creative designer working by himself may make a greater contribution than a cog in an industrial machine.

Carreiro: You bring up the question of rising in the management ladder. How far can the industrial designer go? When a designer who has attained the level of manager finds that he has bumped his head on the ceiling of his particular company, many times he is diverted into another area—and many times this area is sales.

Doner: In my present job there was a definite job specification, and it wasn't long before I reached the ceiling in what I was to do and what I was to earn. So I tried to push the ceiling up by taking on additional responsibilities that were not included in my job specification. The specification was changed, and the staff was upgraded.

Spilman: The reason the designer can do that is that he is trained to put his knowledge to a useful end: it is his ability for visual thinking that enables him to extend his position and take in the corporate image.

Carreiro: The designer is also trained to become a generalist: this is one way of broadening his viewpoint. This is another bridge to management.

John Alcott, *Rhode Island School of Design*: Organization is an essential of design, and the designer can go back to the individual parts of the production process and harmonize them.

How broad a training for design managers?

Alcott: One of the most dangerous things a school can do is to set up a separate curriculum for design managers. You will then get people who are interested in the field of industrial design but who cannot perform. The job of the educator is to help people grow in a field, but the student must be able to perform as well as to think.

Jay Doblin: I think you should teach the student to think first, and then teach design as a specialty. To do this, the design student should first enter a liberal arts college to gain maturity and a broad base for his later work. The students who today take an extra year in advanced study do so wisely: in ten years, they will be making more money than the students who went to work immediately after finishing design school. The difficulty with specialized education, like electronics, is that the student discovers that by the time he has finished, the material he learned has become obsolete. So perhaps we had better go back to the beginning and begin training him in a general way. Then he can take an extra year of specialized study to bring him up to date in his field. Industry is supporting this scheme by subsidizing its personnel for their Masters.

Theodore Jones, *Institute of Contemperary Art*: It is fine to think of a five-year education but is this realistic? Firstly, it may be bad to have students for as many as five years. Then again, design schools may have trouble getting students for a five-year program, when they can get a qualifying degree elsewhere in four years. But if they must be given a five-year education, the best way is to have them go to a liberal arts college for two years, and then teach them design three years.

Robert Redmann, *University of Bridgeport*: Liberal arts is a great help to the student studying to be a designer, but I disagree with these proposals to accomplish this end. I think it is a defeatist attitude, since the first thing said is that five years instead of four are necessary. If we design educators are to be responsible, the question we have to ask ourselves is: how can we teach more efficiently?

In the school where I teach, students are given four years of liberal arts and four years of design—but these run concurrently, and make for a gradual evolution in maturity.

Doblin: The disadvantage of this system is that there is a division of interest between design and liberal arts. This split generates a lack of vitality in design. I believe the system of learning through project work is a better one than curriculum education.

Redmann: The force that affects the drive of the students is the vitality of the teachers. When the teacher himself is divided between liberal art interests and design, the enthusiasm of the student can be maintained in neither.

Robert Tyler, *Latham-Tyler-Jensen*: The purpose of these symposia is to determine what contribution the designer can make to industry at the de-

cision-making level, and how can the designer become a vital part of and shape the decisions of management. We might call this goal participation. The industrial designer should have a broad goal in that he tries to determine how he can influence society through industry. Educators should be concerned more with the goal than the technique: once you have established the goal, the technique takes care of itself.

Doblin: But you can't teach design as an art subject. Art requires a personal emotion decision, and this is hardly the way to train managerial material.

Carreiro: Unless something is personal, imaginative and emotional it can never be innovative. The unique thing about industrial design is that it is a marriage of logic and expression, of emotion and analysis. This is what the designer has to contribute to management, and what he must be taught in the design schools.

Do designers fit in as managers?

Alfred Blumenfeld, *Rohm and Haas*: One term that has been often used is the word "assume." To train designers so that they can assume managerial responsibilities implies that industry is waiting for someone to come up and fill a vacancy that already exists. But the truth is that this vacancy usually exists only in the minds of the enlightened. It is important to study how designers have climbed to top management levels to find out how they have convinced the firm that design is a way of life.

Mortellito: Another way of looking at the question is to find out how design managers will eventually fit into the management pattern. In order to solve this problem, there should be an institute of advanced study, such as Gordon Lippincott suggests. Perhaps such a question is difficult to answer, because the people who are qualified to answer are not here today.

Seymour Silverman, *Westinghouse TV and Radio Div.*: One of the factors that divides designers and managers is this: the manager has a money responsibility, is in a profit position. The designer, on the other hand, has no money responsibility because he is more concerned with what his colleagues will think when his product hits the market. He is not particularly concerned with the amount of money he has to put into the project, or the profit situation. This is management's biggest fear about the designer, and to a large extent is the reason why design has not yet reached the management level. Whether or not it is actually true, management still has this fear.

Doblin: The most amazing single fact about industrial designers is how emotional people can make decisions, and then convince completely logical people that their emotional decisions are logical. The only ones, however, who can get away with this are the highly reputable people.

BecVar: One of the dividing points between designers and managers is that designers are symbol-oriented while managers are word-oriented. Therefore we must teach the managers how to think, as well as the designers—each group needs the orientation of the other.

Carreiro: But in accommodating each to the other, we must be wary of extinguishing the special talent they have to contribute. When a management buys a young designer, he is raw, he thinks he knows it all, but eventually he will be tempered and will sustain just enough flame to keep the pot boiling. If the management extinguishes the flame, it will be the loser. If we all become logical, statistically oriented designers we are not guaranteed of being good designers. The same talent makes an innovative manager that makes a creative designer—and it is partly emotional and partly analytical.

Vance Packard, *author of "The Hidden Persuaders"*: I should say at the outset I feel a little out of place because I am not sure what a package is. I used to think of a package as a box until I got into research on motivations. Packages can be cellophane wrapped around lettuce. I notice *Tide* Magazine now talks about the man in Florida who is selling packaged homes in a packaged community. And a package can even be a book jacket.

People buy on the basis of irrational reasons, but we should also make the point that in our economy today, it is becoming harder and harder to buy on a rational basis because of the technological improvements. More and more of our products, like gasoline, cigarettes, whiskies, even tires and cars, if they are not entirely the same, are all good and all pretty much the same. As a matter of fact, in my research one of the things that fascinated me was that advertising men themselves kept saying that products were all the same. What that proved was that it took their genius to make them different. Through their artistry, they made the things seem different in people's minds. So there is a search on for helping people discriminate on an unreasonable basis, on the assumption that they can't discriminate on a reasonable basis.

One kind of difference-making is the kind where the people can identify themselves, where you get a self image, where people see themselves. That is why a good many studies are being made to give cigarettes, gasolines or automobiles self images, images that a large section of the public can identify themselves with. So you get four kinds of gasoline, and one of them, like Standard Oil, is austere, one like Texaco, playful, and so on. All the gasoline, of course, is the same.

Another technique is to give people relief from their hidden guilts and anxieties. Billions of dollars in products being sold today involve this guilt and anxiety, because the public is being offered self-indulgent or "easy-does-it" products. Basically, Americans are still puritans and don't know what to do with the cake mixes and the whiskies and cigarettes and appliances that are supposed to solve all their problems for them.

A third way is to offer sexual reassurance. People are selling lingerie by helping the women see themselves as beautiful, lovely, feminine creatures.

Another form of this approach to marketing is to make the product seem especially appropriate to the class you are appealing to. This can be illustrated by the design of a candy box. The manufacturer needed two candy boxes, one to sell for $1.95, and the other for $3.50; the $1.95 box to be sold to the lower-income type customer, and the $3.50 box to the upper-income type customer. The Color Research Institute made a very thorough study and concluded that for the expensive candy

Package Designers Council discusses three themes:
1. *Research: buying it, using it, incorporating it*

they could use a nine cent box; for the cheaper candy, the $1.95, they recommended a 50¢ box—which would seem to be irrational. The reasoning was that for the lower income people who buy a box of candy—the boy who buys the candy and the girl who gets the candy—the box itself is a lot more important than the candy. The girl will want to save the box, if it is a nice one, as a jewelry box. The Institute recommended a metal box, and I think they made it a bright vermilion color, with the ribbon a bright blue. The other pasteboard box of expensive candy for upper-class people, they colored in pastel, muted colors, because they established, as I understand it, that the lower you go in income groups, the brighter the colors should be, and the higher you go, the more muted they should be.

I would wind up only by saying, as an outsider, that I hope that in selling the package, you still give the people their money's worth of the product inside.

Richard Manville, *Richard Manville Research, Inc.:*

We are here today because you have defaulted on your responsibility to the manufacturer. You have failed to package yourself as a product, and you are so busy packaging everybody else, you have failed to sell yourself as a necessity. How many manufacturers can name five of you? If I said to him, "name five good packaging designers," what names would come to mind? One firm, to my knowledge, maybe two, has been selling you as a profession.

Who should make market studies? Right now manufacturers are turning to research firms to do the job you should be doing in selling them an integrated, total concept. Where packaging is paid $2,000 and research is paid $2,000, you can get $5,000 when you package them together. You are giving up your business by default because you are letting everybody else walk into your area. Get a good outside organization. Make a tie-up with them. Make sure you are willing to live by what they tell you. Make sure you learn their viewpoint, and that they learn your viewpoint. The manufacturers will profit by this in the end. Make sure that shelf tests, sales tests and in-use tests are all taken into consideration before you decide on this picture or that picture, because when you sell a product you need a unique point of distinction. And you should even tell the manufacturer, as Mr. Packard stated, "here is the package, but the product still isn't right because you are defaulting in your responsibility to the consumer." If sales are bad, the manufacturer will say he bought a new package and the package is no good.

Mrs. Egmont Arens: It seems to me, from the point of view of logicality, that if I do something and want it evaluated, I do much better to let someone who isn't in my vest-pocket evaluate, rather than let someone who is in my vest-pocket evaluate it. That is a point I wondered if you would care to comment on.

Mr. Manville: The thing farthest from my mind was a vest-pocket operation. I said to set yourself up with a good outside research organization. I must admit some research organizations, like some doctors, are not very good. I think the same could be true of package designers. I think there are several good firms around that you can team up with on a good working relationship, where you would not have the accusation which you very legitimately pointed out, that you are using a so-called captive house. That is what happened with advertising agencies. They came out with research, which convinced the client that their packaging work was the very best. But I think there is a happy medium.

Henry G. Burger, *Vice President of Merchandising, Robert Zeidman Associates:* One of the trends I want to mention, although Mr. Manville hinted at it, is toward integrated marketing. A good example is the catsup bottle fiasco. While there are a lot of factors involved, I can point up two which I think show the need, not for changing the glass shape, but for doing integrated marketing in the packaging.

One is, there was no tie-in between the advertising campaigns and the appearance of the new package. The new package, when you saw it on the shelf, looked like another product, even though the contents were the same. There was no language on the label to show that the new package would fit into the refrigerator. A housewife would think the old one held more. The package must tell its own advantages. It is not enough to tell the ingredients.

The second factor is that some package work does not involve any fundamental product change. However, catsup in the wide mouth bottle quickly discolored. Without knowing too much about chemistry, I am sure there are anti-oxidants that could have prevented it. No change was made in the product. It was merely put in a new shape.

Alan Berni, *Alan Berni Associates:* I would like to know in your estimation as a research man, and as a director in marketing, what your opinion might be of a package design firm setting up a separate department for market research and testing; how it might influence the packaging field?

Mr. Manville: I don't know what the ultimate shape will be, whether it will be a vestpocket captive firm, or a wholly-owned subsidiary, which is the trend. McCann-Erickson has set up a separate publicity department, a separate research department and other separate departments.

I feel it can't but help to give a salutary effect. I think it is all to the good. Whether the ultimate form will remain that way, I don't know. I say unless you fellows integrate, combine, coordinate, if need be go out and buy and set up your own separate PDC research fund, I say they are going to walk away with you.

Egmont Arens: Could I make a comment on that? You said that if designers did not get into this field pretty quick, the research organizations are going to step into this field and preempt it. Is that about what you said?

Mr. Manville: Research cannot design, and I did not mean to give that impression.

Mr. Arens: You felt we are missing the boat by not doing it, and we are losing a tremendous lot of business. Supposing we all put research organizations into our shops. Does that mean you independent research boys are going to go out of business? Probably not. In other words, don't you think there is going to be a give and take here; some designers are going to go out and buy research if they need it for individual packages and individual research projects, and others are going to put research in because they have a big organization and want to dramatize that business.

Milton Immerman, *partner and Projects Admin., Walter Dorwin Teague Assoc.:*

One of the basic principles that effects all the questions on research is that of the integration of all our skills in the organization. We do not practice architecture as such, engineering as such, packaging as such, product design as such. But we do all this work in our organization. We look upon a department store project as a vending machine assignment. Part of it is an architectural problem; some of it is an industrial design problem; some of it is an engineering problem; but it is the coordination of all these efforts that makes up the end result. This promptly eliminates being able to say what percentage of effort is creative. It is all creative. We believe that everybody in our organization does a creative job. This includes our office boys, who are encouraged to be creative in the handling of their daily work assignments. It includes our comptrollers, who do a creative job of cost accounting. Since when do designers, who serve mass production—that is the only reason we are in business, all of us—live in an aristocracy of creative groups, partitioned off, with creativeness assigned to certain groups within the organization? In our organization, we want to hear from everybody.

The first thing we do is not researching of the project; the first thing we do is find the problem. What is it exactly we are supposed to do? Now, this doesn't mean that the manufacturer who has come to us for assistance has no problem. It doesn't mean he has a problem, either. We don't accept his definition of it, because close examination may indicate there is nothing wrong with the package; he just needs a new sales manager.

Ray Stock, *Exec. Vice President, Frank Gianninoto Associates:* Growth, in my book, is the happy consequence of turning out good work. However, the transition from small to big is not without danger. Ours is a field in which the tradition has always been one of personal service.

Today's package designer can be that kind of a person up to a point. He can handle the first package he designs in a personal manner. He can give his own attention, skill and training to his second client and his third and fourth, and perhaps to ten clients. But what happens when the eleventh company comes along while he is still working with the previous ten? He is no longer capable, from a purely physical point of view, of doing the job himself, and must be content with doing what is essentially supervisory work. And as he attracts more clients, even direct supervision sometimes becomes a physical impossibility. What happens to the designer at the head of his own business, in terms of his own creative powers, as he becomes more and more of an intermediary, a salesman, and less and less a designer? A designer must set his own limitations as to growth. In our own organization, we have taken the position that we don't want to get so big that we cannot personally service our clients.

The greatest asset in a firm, which has grown beyond the one-man organization, is the design staff. What should our relationship be toward this valuable property? How do we handle this sensitive and oftentimes volatile group to bring out the best ideas, harmony and team effort?

In working with our own staff, I believe in the importance of the design conference. I feel that designers must not be treated as workers on a kind of giant design assembly belt, each plugging away at some detail without knowing what product is being made, what the totality must be.

Now we come to the delicate question of remuneration. Is the designer paid adequately for his work? To argue this point we must first decide what he is being paid for. What experience and services does he bring to a problem in the development of a design? Is he a competent artist, or is he being paid for his skill as a designer, merchandiser, color expert, engineer, and various other professional skills? If the latter, and I think it is increasingly so, then I believe he is underpaid. Very few designers get for their entire fee for a new package design an amount that equals a one-page, one-time insertion, color advertisement in *Life*. Yet, in any given week in which a claimed 24,000,000 people see *Life*, I daresay that at least four times as many people see the package. Without going into all the ramifications of the importance of the package, which I am sure many of you can detail most eloquently yourselves, let me just point out here that merely as an advertising medium, the package is being designed today for a lower fee than it merits. The problem in this area is to establish a realistic balance between the importance and value of a top notch design job, and its cost to the manufacturer.

Lee Epstein, *attorney at law:* In general, the public will take you pretty much at the valuation you place on yourself. If you are going to act in a cut-throat competitive manner, that's how your clients are going to treat you. If you treat yourselves as professional people and go out for business with dignity, you will be met that way.

I can think of some similar businesses, or professions, in which the failure to establish proper codes has had very bad results. One is the advertising agencies, where agencies spend thousands of dollars to get new work, get up lavish presentations—something I don't let my clients do. (I tell them, if you are going to make a slot machine, don't show that slot machine to a slot machine manufacturer. If you go to a coffee manufacturer, show him the slot machine.)

If you want to act like a profession, there are several things you have to do. One of them is to realize clearly that you are selling a service and not a product. While you call yourselves package designers, you are not selling a package. I don't think any of you would get up a package and go to a potential customer and say, "I have this package." A printer will do it. You make it clear that what you are selling is a service, as all professions do. A lawyer may deliver a brief or a contract, but what he is selling is a professional service. When you get his bill, it is marked "for professional services." Incidentally, maybe I am giving away a trade secret, but there will be much less resistance if you say "for professional services," and list all the services, the conferences, conversations, spell it all out. It goes much better than if you said "for professional services: designing one package."

The other side of professional standing is simply discipline within the profession. The legal profession spends much time in policing itself, protecting the public against malpractice and wrongs. As a result, we often feel that one of the reasons the legal profession is in such bad odor, is that lawyers are willing to say within the profession that their fellows have misbehaved, and will even publicize the fact.

I wish I could give you a list of ways in which you should exercise self discipline. I can't. Justice Holmes years ago said, "the growth of the law has been history and not logic." In the same way, a code of ethics is history and not logic. No matter how careful you are, at some point you will find somebody who is within your code literally, yet all of you feel that his is a shabby way of acting. The only thing I can suggest is that you will have to sit down and change your code of ethics. It is an after the fact way of doing it, but other design organizations have had to do it from time to time, and nobody is smart enough to foretell everything that a profession will frown upon. A tax man will find a loophole in the existing tax laws, and the next session of Congress will amend it, and then they will find a new loophole.

The third thing you have to worry about is limitation on practice. You can't become a lawyer unless you pass an examination. Doctors must have a license. But anyone can call himself a package designer. The story is told that Moss Hart, when he made his first money, bought himself a boat, a new jacket and a yachting cap, and went to visit his mother in Brooklyn. She said, "What is that?" He said, "I'm a captain." And she said, "By me you're a captain and by you captain, but by captains you're no captain." I could get stationery printed tomorrow which says, Lee Epstein, Package Designer. By me, I would be a package designer. By package designers, I would not be a package designer. It is more than a joke. The PDC should mean something. You cannot at this stage get the states to say that a person cannot call himself a package designer unless he passes an examination. If your own admission requirements are to mean anything, a package designer cannot be somebody who just has stationery printed.

This goes back to my prior point of self discipline. Suppose somebody does something everybody else in the profession is mad about. If PDC means something, you can say, "you are out of the organization," and it might mean something. If you tell somebody now you will take the PDC title off his name, he says, "who cares?" If it doesn't mean something new, it may eventually mean something to have PDC after your name. This is something that Mr. Manville referred to as packaging the profession. If you do that, you can have some means to police your organization.

Mr. Arens: I would like to ask Mr. Epstein one question with regard to a code.

You say if the code of ethics does not cover the situation, change it. Would you say that in a group, which was set up to be a professional group, and was found to have a great many who were not moving in the preferred direction, would you think it would be advisable to downgrade the ethics, or do you think it would be better to keep the ethical standards and hope some day the group will see the advantage of maintaining these high standards?

Mr. Epstein: I think the code of ethics—this is a personal point of view—should be normative, rather than descriptive. Make it a goal to which you aspire. If it is merely descriptive, you will have to admit that everybody in the profession is justified in using the tactics that the lowest member is using. Particularly in a new organization, I think you must aim for a goal which you would like to achieve, rather than make the code of ethics so low that it becomes meaningless, so that anything you

might do would fit under it.

I do not think you should have ex post facto rules. If you say that something can no longer be done any more, you cannot discriminate against someone who has already done it. There is a legal phrase, "every dog is allowed one bite." It is only after he bites you that you can say he is a vicious dog. If you think something is wrong, say, "Listen, from now on this stuff doesn't go. If you do it again, we now have a rule of ethics against it, and we will toss you out on your ear."

Mr. Arens: There is one other question in relation to that. A good many professions, such as lawyers, believe that it is wrong to incorporate; that it is better to keep professional standards by not setting yourself up as a business but as a profession, therefore not indulging in corporation.

There has been a good deal of thought on both sides of that question, partly on account of the tax situation. What is your suggestion on that question?

Mr. Epstein: Under the law, lawyers cannot incorporate, neither can doctors. Architects cannot in most states.

Dave Chapman has a corporation, called Design Research, which handles the research aspect of the design job, although he himself in just the design work is not incorporated.

There is nothing to stop a professional from owning a corporation. Those of you who want to form research corporations, like Dave Chapman has, could, of course, use a separate corporation as part of the same package, or as a separate job. The main function of incorporation, aside from taxes, is to avoid unlimited liability, and the aura of taking protection behind a corporate form does not fit in with the feeling of your individual responsibility and relation with the client. I think the designer should practice as an individual, but I do not think it would be unethical to engage in some corporate activity.

Query: One of the main problems that we face—both the large design company and the individual small designer—is the matter of fees. We know in other professions—medical, legal, architectural—there are certain standards for fees that have been put forth to the potential client as a base fee. An architect may work on a certain percentage of the design plan. An interior designer will get a certain percentage of the overall cost of the assignment, and so on.

Do you think the package design professional can establish certain fees that would be in keeping with the assignment, whether he does just the design for the market research plus design, or engineering research plus marketing plus design? Do you think that this type of fee arrangement should be established so that the designer, regardless of his size and stature in the overall professional field, can then put forth to his potential client a better means of operation, and consequently lead to greater recognition of his talents.

Mr. Epstein: You are so varied I think if you drew up a minimum fee schedule, it would probably militate against the smaller people. If I can get a big name for the same fee, why should I get somebody I never heard of. There would be a tendency to go to the big name, if you could get them for that fee. I think one of the things you can do is avoid competition on a price basis, but this is not always possible. I just don't know how to answer the problem, except that designers will go around and say that they will do the same job cheaper; ultimately, all of you will work at a low margin.

Query: You certainly are all aware that your biggest competitors in package design, at least on mass market products, are the packaging materials suppliers, who have added designers to their staff and offer speculatively-designed packages, in the hope of selling the package and getting the job of supplying the materials. At the same time, you have the problem of managers who are very economy minded, who want as much as possible for as little as possible, and who are happy to have a design tossed into their lap with no cost. That there is a hidden cost, of course, everybody recognizes.

We need help to sell package design as a part of the whole marketing operation, where it is not a one-package project, but part of the whole marketing problem, the whole marketing objective; where you work on an overall basis on all packaging work for the company; where you sell yourself not as a supplier, but as somebody on the marketing team.

Mr. Stock: If management wants as much as possible for as little as possible, the independent designer offers him just that on a one-package project, and even more as a member of the team when a line of products is involved.

Query: We are actually faced with the fact that supplier organizations are offering similar services, and perhaps just as competently as design organizations. They are offering those services free, and are combatting and competing directly with independent design companies. If they are starting at the low end of the ladder, for nothing, and the large design firms are charging high fees for the same or a similar type of service, how can the design profession establish fees that will be equitable?

Mr. Epstein: I have the same problem in my work as a lawyer. I am asked what I will charge to form a corporation. I can form a corporation in an hour, and I will be glad to form corporations all day long for $75.00 apiece, if I had that kind of work. But I only get to form one every two weeks, let's say, and I will charge $250.00.

I have always said to designers that they should pay for the privilege of being designers. If you are hungry for the job and you have overhead to pay, there is a tendency to say, "I can do it for less." You charge what the traffic will bear. But you are always going to underestimate what it costs you. A designer should never say, "I am going to be paid $10,000.00. The job has already cost me $11,000. I'll quit now." I know that industrial designers always finish the job. They want to make the job perfect.

Milton Immermann: I would like to answer one question on this matter of suppliers. I think there is a professional stand that you can take that is very persuasive. I think it is wise to inform your prospective client, and even those who now employ your services—and to keep reiterating this fact—that the supplier supplies his art, true enough, but it is always geared to his limitations or his needs. He will give you a design for a folding box, a cellophane envelope, whatever it might be—a solution to the problem suitable to his own limitations. Therefore, the client is not getting the problem resolved to *his* interest. This is an important point to keep stressing over and over again.

Maxwell Rogers, *Director of Package Design, Avon Products,* I have a lot of suppliers calling on me, who are very anxious to come in with a package design and, they say, at no expense to ourselves. These packages might have been done by very good package designers; sometimes they are not, but more often they are not done by the staff of the box company or the bottle company. These companies hire free-lance artists and give them the problem; the solution is taken back to the supplier and then submitted to us. The reason for this is that if they submit a design that will pass my desk, and I show it in a packaging conference, or to a package committee, and it is accepted, I am immediately obligated, purchasing is obligated, everybody else is obligated to that one supplier. I stay away as much as I can from any designs that come directly from a supplier, unless they are unusual, where the construction itself is so in harmony with the design that they have put on that particular project that it has to be given further consideration. Not only is the free-lancer not familiar with the personality of the company, not too aware of our problem, but further I do not want to be obligated. With many suppliers doing that same thing, I have to send out letters this year to stay away. And still they come. I can understand it. I just don't like to work that way unless I am forced to.

Martin Prehn, *Design and Account Supervisor, Donald Deskey Associates:* How does the designer define his work? I think of what I do as solving packaging problems in all their phases. This is a pretty complex thing and of course, prior to doing any solid thinking, I get together as many facts as possible. I have sometimes expressed it this way: A design solution in some way is like getting together all the figures, like doing an arithmetical problem. The more figures you can get, the closer you can come to the correct answer. It is a system of bringing facts to bear on a particular problem.

Most of the solutions, I would say all of them, have to do with visual communications for the mass market. A good many of the things that I do are for supermarket consumption, developing package personality, seeking what I like to call emotional liaison with the consumer. I dig for such things as symbols, familiar things that have meaning to people on either a conscious or an unconscious level.

I think any one of us can recognize that these methods of working have been used in the past. You have heard the expression "there's nothing new under the sun. There is nothing original." And maybe there isn't. But there always seems to be a new way of taking the commonplace, handling it a little bit differently, making it seem fresh. Therefore, I get back to the familiar symbols, things that we all recognize, which have deep meaning for us. The problem is to put forth those things which have the proper associations for the particular product.

There is also an obligation on a designer's part to—you might say—quarrel with his client; not to accept some of the restrictions that are outlined; to determine what are bona fide restrictions and what are not, which ones are based on fact, and which are based on tradition, fear and other inhibitions that tend to block the things that do make sense.

It is important that you express yourself to the client—how you feel, what you think. And "goofing," making a mistake, admitting you don't know but can find out, I think helps to break down the potential barriers between a client and a designer, to get it down on a human level, to dissolve any feelings that you are some superman, or some guy up in the clouds.

I would like to express a few things about the designer himself. A designer has to be a good many things. I think the broader his background—the broader the sum total of his experiences—the more effective he can be as a designer. In addition to having a tremendous total of experiences, he has to have an awareness to those experiences. To experience and yet not be aware of what is going on is a rather unfortunate thing. The designer must have the ability to draw on the rich fund of the sum total of experiences, to be able to call on his hidden reserves of knowledge. It is essential that a designer have an awareness of life, to know what is going on around him. He must have the ability to feel and to express. If you don't feel anything you cannot express anything, and all your experiences are bottled up inside of you. I think basically one's philosophy, one's attitude about life, and the ability to draw on this inner file of experiences are of the utmost importance.

There are all kinds of design theories. You do this, you don't do that. As for myself, I design by feel. I think one just works without consciously appealing to so-called principles. But after a point you examine your works and you just get a feeling about them. This isn't quite right, that isn't quite right. I think this is a situation where you rely on your instincts; call it the creative instinct. I think that is the most important contribution that a designer can make.

Will Burtin, *graphic designer:* Design has emerged as an all-encompassing present, which includes all areas of visual approach, from architecture and painting to motion pictures and TV programs. If someone made a statement of that kind some 20 or 25 years ago, it would have sounded like a broad sort of statement to swallow. Now the evidences are before us.

When we say design, we don't merely mean a more or less individualized way in which we express our personal attitudes toward the problem. What is meant is that a sufficient number of experiences have been accumulated, and are open for comparison as well as study. On that basis it has gradually become clear that the designer is a human man or woman, in a time when people are not sitting most of their lives in one particular place, but are continuously moving and changing (and even if they stay in one locality, they are in continuous contact with the world at large through TV or movies or newspapers, so that the whole idea of isolation has changed). As a matter of fact, the whole idea of—let's call it—intimacy of the environment has changed, and is increasingly dependent on interpretive thought.

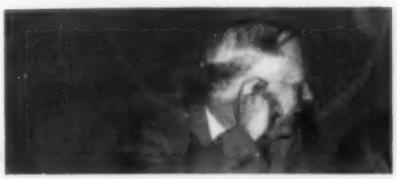
I have just been reading a review of a book, just published, called "The Modern Trend in Human Values." The reviewer pinpoints an object here, which I think is pertinent to this subject. He says the entire world community is confronted with an inability to determine what method is appropriate for the establishment of moral, esthetic, and legal values. And it is thus left up to the scientist to help pave the way for material values. It has apparently rashly been defined as remaining for the scientist alone.

I believe that is a very compelling statement. How could he pave the way? It is all very true that science has influenced us morally by using what this reviewer calls the value-free judgment on which a great deal of research is based—research which in turn determines the attitude of many people toward designing. This research usually, seemingly, gives plausible answers. Yet the designer, offering a visual approach, or as an interpreter of meaning, is confronted with the findings of research; he usually finds that most of his judgments are based on his past performances. We designers usually find there is relatively little use, or seemingly little use, for the data that has been assembled.

The point is this. In our field, there is a great deal too much respect for the assembly of facts, and too little respect for—let's call it, in plain business terms—the leeway that the interpreter of values needs. It is one of the biggest problems which I believe a designer has in relationship to a client. He must—I would not say "must" in a categorical way—if he wants to survive as an individual in his profession, he must interpret, he must convey an understanding of a far more refined approach to those elements of the world that are interpretable on an individual plane. He finds that this is a matter of judgment, which involves a great deal more than trying to fix proportions percentagewise, or to fix colors on the basis of sensation-barometers. In fact, just as soon as a researcher has established a certain outline of what has been done, and what is being done, he finds that the situation has changed and the entire material cannot be used as an instrument of looking forward, but rather only as a summary of the past. I think this is helpful for the designer in order to free his mind from the chains that have been put on it, on his imagination, particularly. After all, no matter what has been done before, it does not necessarily mean that new problems have to be done over again in the same way.

This is, I think, what we must always keep in front of ourselves, and what our clients do benefit from when they are made to understand it. I believe that in other professions, like architecture, it is much simpler where one can talk in terms of very definite structures, which have to support themselves under certain conditions—where there is a solid basis of fact to justify whatever structure is to be erected. In our visual field, particularly in

graphics and in packaging, things are far more tentative, and also far more flexible. This may be, in terms of theory, our drawback. But I also believe we can turn this to our advantage. We cannot afford any longer to build a dogma before we have proved the case, and the only way of proving a case is to defend the progress in the visual and cultural field. Are we or are we not enlarging the field of man's vision and knowledge; are we or are we not increasing his pleasure in his environment; are we or are we not really interested in proving to ourselves that we have lived and have done something that has pushed the wheel of progress maybe only a few inches forward, but nevertheless has made our life and our profession really count?



Jo Sinel, *industrial designer*: This is a remarkable country, one of the few nations in the world where the basic economy is practised on a continental scale. It is a country of the juke box, Grand Coulee Dam and the Golden Gate Bridge. It is a country where there are so many things in the realm of visual communication thrust upon us by two organized institutions alone, advertising and the motion picture, that it is impossible for the average individual to understand, to consume, that message of communication. Consequently, he has to depend upon a selection of the things that are placed before him, or things have to compel his attention and thrust their merits upon him. It is a country of almost anything. All things happen here. But it is a country where I sit in a group of designers, and I do not even hear the word "beauty" spoken. I heard the adjective "beautiful" in Will Burtin's talk, but not "beauty."

Beauty is something that makes the businessman afraid, we tell ourselves. You must not say "beauty" in his presence. You must not say "arts" in his presence.

I think otherwise. I think the super salesman in the United States is the artist. I am now talking about the man in the independent arts, the painter and the sculptor, because he sells quite frequently without an agent, and his client comes to him at his cocktail party–the bankers and the manufacturers and the merchandisers –to meet him in person. They never like to go away without some of his paintings or sculpture, because they would be derelict in their cultural duty to do that. We evidently do buy the artist's work.

It is a country where, fortified by research in every department of business enterprise the executives of corporations sit around the conference table and talk until each opinion and each concept is canceled out, and then at the eleventh hour a fatigued decision is made on a compromise basis, so that it is difficult to understand how they could come to such a conclusion, or why any purchasing public should be pleased by the results of the decision.

Incidentally, we are the country with a broad spread of public education, and maybe the broadest spread of esthetic illiteracy of any country. It seems to me that it is the purpose, the job of the designer, to correct –at least to do something about–that esthetic illiteracy; and he must do it by infusing beauty into the products on which he works. Of course, that beauty is like art. It can be a hotly disputed subject. But I believe there are certain universal indications of what it is. The simple wild flowers I saw in coming here in Connecticut–I think there is a universal response to them.

But when we come to the products that we use, there seems to be an urge to make the "thing" unbeautiful. I, as a designer, feel that for the most part we do not assert ourselves. We merely carry out technically the ideas of the men who engage us.

In terms of design in this country, and on the basis that Will Burtin just suggested, there is a very important, essential contradiction in our accelerating technology. The artist is extremely necessary in industry. The engineer, even a creative engineer, cannot perform the task that the creative artist has to and there is nobody who can substitute for him. Of course, he must use research. It would be stupid to think that he should not use research. But did Eugene O'Neill or Bernard Shaw not use research when they wrote plays? Did they need a lot of other people to come along and tell them how to do the job, or to approve of it when it was done? Their plays are given to the same consuming public, and become successful. There is still the opportunity, but there will never be any vital advance in the design of the American product (or in the activities surrounding the merchandising of materials for people to live with) until the designers themselves assert their sincerity of purpose, and have the audacity to make a basic contribution in spite of whatever evidence is given to the contrary.

Ernst Ehrman, *graphic and interior designer:* If the designer fails to satisfy the needs and wants of the consumer, both the designer and his client are out of business. To satisfy those needs and wants, the designer must understand the consumer in all his complexity, must know his past and present, and must be ready to anticipate his future desires. To gather this information requires a great deal of time, much more time, unfortunately, than we designers allow for it. I do not agree with any set percentage figure, but I still insist that the percentage of time and effort for research should be larger than that devoted to implementing the information.

Now, if we gather information – or rather listen to the information from others–to know something about the consumer, I feel *could* be quite a confusion. If the designer listened to the economist, for instance, he would find that the consumer is a statistic. He has a family of x members. He makes y-thousand-z-hundred dollars per year. Of this he pays q-dollars in taxes, spends r, and saves s. The sociologist says the consumer is an individual who has been reared in a certain ethnic environment. He has a cultural heritage, a language background, religious beliefs, and assorted biases and prejudices, all arising out of that environment. The psychologist would tell us the consumer is an organized mass of reflexes, conditioned reactions, unconscious fears and phobias, wants and desires which he himself is not aware of.

Each is right in his own field, but they are all wrong if we consider their definitions a final statement of information. To understand the consumer, the designer must pick up the pieces, and then look around for more. He must be able to interpret likes and dislikes the consumer feels somewhere but cannot verbalize, to interpret them and convert them into esthetic, dimensional form. And to do this, he cannot rely on the surveys of others alone. He must go out and meet the consumer directly, at the store and at home. After all, we are trying to effect a happy marriage between our ideas and those of the consumer, and you cannot have a marriage unless you are willing to go down the aisle, for example, the supermarket aisle.

Personal contact with the consumer and human research are the guiding principles that enable the designer to think in functional terms. Information supplied for the designer by others may be deceptive unless that information is supplemented by his own observations.

Robert Gage, *Art Director and Vice President, Doyle, Dane and Bernbach advertising agency:* I, too, would like to speak a little bit about research. We feel strongly that research is a tool to be used, but with great caution. It tends toward conformity. In many cases, it is a crutch which the client relies upon and is made to feel safe with. I think that there are in our field a lot of designers who also use it as a crutch.

In my opinion, creative ideas are the life blood of our competitive society. No amount of research will ever replace the great designer with the great idea. The danger to men all over the world is that they are in danger of becoming robots. What we need is individual courage, courage to buck the crowd, courage to create the thrilling design even though the research boys tell us we have overestimated the average intelligence.

BEHAVIORAL RESEARCH

Dr. James G. Miller, *Director, Mental Health Research Institute, U. of Michigan*:

I am going to talk to you today about seven new, or relatively new, techniques and a principle—altogether eight different points—which have come out of research in behavioral science in recent years. Most of them have not been applied in the field of package research, or only in relatively minor ways. Each of these can be connected to an overall theory as to why we act as human beings.

The first technique is a motion picture test to determine whether people respond more to color or to form. As far as I know, it has not been used in the field of industrial design. There are geometric figures in it and in one of the figures there may be squares, circles, triangles or diamonds. The figures inside will change form from right to left. At the same time the color, which will be yellow, green or blue, will change from left to right. It is possible by changing the color of the figures to have different progressions at the same time.

A few words are shown to the subject of the test. Some of them are shown in vertical planes, in horizontal planes, and in various positions of the clock. You are asked to see whether the movement was to the left or right. Your eye can be photographed and your eye movements traced: it can be a completely objective test.

There are some remarkable differences in response between kinds of people: for example, men respond more to form than women. There are also differences between different nationalities and different cultures. These differences can have a real importance in terms of the emphasis of color versus shape or form in any product or in any package coming into the home.

The second sort of behavioral research which, I believe, can be used in package research, is size-constancy. It is the principle whereby an object seems to be in the same shape to us in the back of the room as it does when it is in front of the room. This is remarkable because the size of the image in the retina of the eye decreases with the field of vision. This is not true with all objects equally. Some objects alter their shape when they are near or far.

There are also differences between individuals in their responses to size and shape. The important thing is that various shapes and various designs have different amounts of size-constancy in relation to the individuals perceiving them and, therefore, certain types of designs are more likely to appear to be the same. Other designs appear to vary according to how near or far away they are from the observer. It would seem that there are implications in this type of research for package design.

Another principle comes from the field of economics: it is called "game theory" and was originally developed to determine what was the best move to make in checkers, but it actually has to do with the problem of making decisions with minimum losses and maximum profits. You have to make a decision concerning several incompatible factors; game theory can be applied to such a situation, and the solution can be worked out by a quantitative method. There may be a similar problem with a package's message, the same concerns about shape, size, capacity, etc.

The fourth method is the rapid exposure of pictures, words or symbols to find which ones are most readily seen and which are the most compelling to the viewer. Some research of this sort has been done for packaging, but so far as I know, it has not been applied extensively to the field.

The fifth method is a procedure for testing quantitatively the memory of consumers for various designs, symbols and slogans. I don't think it has been very common to evaluate the memory value of a design before it was selected. Suppose you have a dozen different or tentative designs for a vacuum cleaner, or for a cereal box; it would be possible to put these designs on what we call a memory drum developed by the Air Force and Navy for training personnel in the observation and detection of aircraft. It is simply a drum with pictures on it that goes round and round; you push a button when you make a decision and a gong will ring if it is a right decision. When the subjects get gongs all the way around, you know it. I would suggest an average group of consumers be tested to see which designs you are considering are the ones most easily remembered.

The sixth method is a technique or procedure for studying which combinations of packages go best together in tie-in sales, in joint packaging. This is perhaps a less significant issue; nevertheless there are a number of fields in which combined packaging is considered. If, for example, you have ten little cereal boxes, each with a different type of cereal, and you want to package six, say, which six would sell best together rather than cancel themselves out?

The seventh and final of these techniques I am suggesting deals with possible mathematical methods for measuring the aesthetic quality of designs. Denman Ross of Harvard has worked out a theory of pure design, based on psychological experiments, which tries to define harmony, balance and rhythm in the things we see by their actual form and quality, and their relationships to other forms. I believe the aesthetic measurement has given us some insight as to why some designs are more pleasing than others. It has told us, for example, what relationships of angles to circles to planes are most satisfying to most individuals, and I think it is possible quantitatively to evaluate most new packages in terms of aesthetic design.

I have a final principle to suggest, and that is that evaluations of people's reactions should be made not in terms of words but accomplishments. Set up situations in supermarkets, places where alternative selections must be made and where individuals must go to pick one package over another, where you can observe how she does it, and ask her "how" she is going to do it (because there is a high likelihood that she will say she will pick one, and then pick another).

In conclusion, I have demonstrated to you what may appear to be the long-hair theorizing of universities; but you should be aware that techniques are continually coming in which may have direct and important applications in industrial fields like the one we are talking about today.

MOTIVATION RESEARCH

Dr. Ernest Dichter, *President, Institute for Motivational Research:*

Let me state my personal credo or philosophy, that the problem of package research is much less a physical one than we normally assume, and has much more to do with psychological elements.

In advertising and packaging, we are dealing with intangible forces, with structural relationships of a kind—we call them the company image, or the personality of the company. This matters a lot more than what the colors are, and what specific headline is employed. We must concern ourselves with the total image, the total configuration that is communicated, not with whether the i's are dotted or the t's are crossed.

There are two principles which I think are important in package research. One is that you cannot just try to investigate if a red or green package makes a deeper "groove in the brain." This is a materialistic approach. People are not guinea pigs. If you think they are, you are wrong. Not because it isn't a practical approach (and it isn't), but because you are wrong by definition. You must investigate people and products as interrelated in a basic fashion, in terms of their whole, dynamic reactions.

The second principle is that people tend not to react critically; they react emotionally. We have found that only about 12 or 15 per cent of our reactions are critical in

nature. The rest are emotional. (If your research techniques only get at critical, non-emotional responses, you have a very biased sample.)

We feel our job is to communicate to the designer the language of the consumer. We don't want to strap the designer, we don't want to interfere with all those things he knows anyway. We want to work with him in a way that we can be useful, by giving him professional help dealing with some of the deeper-lying, less obvious things that motivate the consumer.

PERCEPTION RESEARCH

Prof. H. A. Witkin, *Director, Psychology Lab., N. Y. State College of Medicine*:

Previously, perception was studied mainly from the standpoint of sensory physiology, with reference only to the objects or "stimulus configuration" giving rise to the experience. There is today much evidence to show that the individual's perception is related to deep and central aspects of his personality. People differ in their characteristic modes of perception, and these differences are associated with differences in needs, feelings and ways of living.

One phase of our work has been concerned with what might be called the individual's capacity for "overcoming imbeddedness." This phenomenon can best be measured by looking at figures in a picture. In this picture are seen a simple geometric design and next to it a complex colored figure which contains the simple figure, but which is so organized that the simple figure is hidden or "imbedded." The subject's task involves "weeding out" the simple figure from the complex surrounding field. To put it another way, it is necessary to "break up" the complex field, to deal with it "analytically" rather than to see it "as it is." You can see that the term "overcoming imbeddedness" is descriptive of what takes place here. Perhaps if you substitute for the simple geometric design a package with which you are particularly concerned, and for the complex design a cluster of competing packages, you may find implications for your own problems.

Let us now consider how factors within the perceiver may influence the impression that is formed by looking at these materials. Going back to the geometric figure slides, we have found that there is enormous variation among people in the speed with which they can locate the simple figure that they have "hid" themselves to discover. The whole story does not lie in the stimulus itself. Something about the nature of the person looking at the stimulus should also be considered. Personality studies have revealed that a person who has difficulty in weeding out the hidden figure is also basically passive and dependent on others. It carries over into his problem-solving behavior. These tasks are appreciably more difficult for women than for men (although it is not true that every man is better than every woman in them).

Knowing how these personal factors interact with the stimulus factors to determine the final reaction, we have a means for predicting and even controlling what and how people will perceive in a given situation. This, I imagine, is of particular importance in packaging work. We can create a stimulus configuration of such a compelling character that there will be little room for individual variation, or for individual differences in what is perceived. Or, if it is desired, a stimulus configuration may be devised which will make the perceptual outcome more subject to influence by the personal characteristics of the perceiver. Under such conditions, a wide range of impressions may result.

There is an important practical suggestion to package researchers that follows from recent perceptual research of the kind I am describing. It is that specially contrived stimulus material, rather than the actual package about which a decision is to be made, may be used very effectively in arriving at the factors that determine the impression which will be formed.

I want to turn next to another area in which a good deal of research has recently been done under the impetus of the new person-centered approach to perception. This is the study of what has come to be known as "subception" or "perception without awareness." I have selected this body of work for discussion because here again there are findings and concepts which seem to me to have direct relevance to problems of packaging. The shopper in the store or the person going about his everyday business may give his focused, concentrated attention to a particular object or a particular area of the environment about him. But often our viewing of the environment consists of quick, rapidly shifting glances, with much of what our eyes pass over forming only vague impressions, and some of it going entirely unnoticed. To the extent that this kind of perceptual behavior is prominent in the shoppers' dealing with the package to which you hopefully want them to give their attention, the research on "subception" is important, because this research is concerned with just this kind of perceptual behavior.

Our finding is that those stimuli which make an imprint on the retina, but of which we do not become aware, are not truly lost. They may be "unconsciously noted" and then set off processes which may modify subsequent behavior. To translate this finding into the terms of a concrete situation with which you are likely to be concerned: a shopper may pass by a package on the shelf which she does not notice, so that she later could correctly deny ever having seen it. The item may not have been noticed because of lack of immediate interest or because of a specifically motivated avoidance of it. With all this, it is possible that an impression has been made, which may guide the person's subsequent behavior toward that item, whether positive or negative.

I hope it is apparent from this very simplified account I have given, that a person's seemingly casual, fleeting observations of his surroundings represent an extremely complex process. Behind the conscious, and therefore relatively accessible elements of perception, there lies an elaborate unconscious structure with the whole "economy" of the individual brought into play in the selection and ordering of his experiences.

THE EXPERIMENTAL METHOD

Dr. Arthur H. Wilkins, *Chief, Motivation and Copy Research Division, Dancer-Fitzgerald-Sample, Inc.*

In this talk I shall try to set forth the nature of the experimental method and illustrate its application to package research. Since we are all familiar with attitude and opinion surveys, it will be easiest to start out by explaining how experimental studies differ from surveys.

A survey of attitudes or opinions typically uses a questionnaire interview in which people are asked to indicate and sometimes to explain their feelings and ideas about the subject under investigation. The thing that makes this a survey is that it assumes that all (or most) of the respondents understand the questions, and that they are able and willing to answer them. The logic of a survey might be expressed as follows: "I (the researcher) don't know how people feel about this package. But *they* ought to know! So I'll ask."

There is a problem—a very basic one—which the survey researcher has to face. That is, will the findings be meaningful? Will they solve a packaging problem? Specifically, is it useful to him to know that a majority of the people say his package is attractive?" Does this tell him that his package will attract people's attention when it appears on the store shelf? Or (assuming that people do notice it) does this mean that the package adds to the desirability of his brand? Possibly. But his research hasn't demonstrated it! It merely

assumed it.

I suggest that surveys are useful only in a relatively few, simple cases. They are useful when the package is obviously superior, or when it is obviously unsatisfactory. But this means that the survey is most applicable in cases where the packager's good judgment is most reliable, where research is least needed.

In order to understand what people really feel, we have to use experimental research. One characteristic of any experimental study is that it seeks to uncover *causal* relationships between two phenomena. The basic research procedure is based on this search for causes: it tries systematically to eliminate or cancel out the influence of all factors other than the one being studied, and then to observe the relationship between what one believes to be the causal factor and the effect one is investigating.

To illustrate: When we say that one package is more eye-catching than another we mean that, when they stand next to each other, one will be noticed by more people than the other—particularly at first glance. Our first step, therefore, is to give a sample of women just a "glance" at the group of cake-mix packages that we want to test, and then find out which one is identified by most women.

But our test is not complete yet. If the research is to be really helpful, we have to know *why* one rather than another was identified by most women. There seems to be only two possible explanations: either the most recognized package was more "eye-catching," so that women looked at it, noticed the brand name, and were able to report it to the interviewer; or the package was not unusually eye-catching but its brand name stood out most clearly and was easiest to read quickly.

Our problem, then, is to find out which of these two possible explanations is true. We can find out by running the same type of test, but this time using a slide of each brand mark *separately*, without the distracting influence of three other packages competing for the viewer's attention.

Examining the results of this test we may find that brand A and brand B were identified by an equal number of people; thus the two brand names are equally legible and recognizable. Then why did more people identify A in the *competitive* situation. Only one hypothesis remains: A's superiority in the competitive situation must result from the greater attractiveness of its package. (B was easy enough to read, but not as many bothered to look at it when A was available.)

From this example it will be apparent that experimental research is radically different from the mere surveying of opinions. The experimenter does not blindly assume that people can correctly answer his questions. Instead he creates a situation in which the effect of every factor (other than the one he is studying) is randomized and cancelled out. To the extent that he succeeds in doing this he can confidently attribute the cause of variations in people's responses to variations in the factor he is studying.

While I feel that survey research is of little value to us, I do not believe that every problem in package research can be solved by an experimental study. Experimental research typically pin-points some specific problem, and then proceeds to investigate it. It depends for its success on the fact that before the study begins the researcher has clearly formulated the hypothesis that he is going to test. Hence, it is usually not an efficient way to *generate* new hypotheses. Depth interviewing is a far more flexible method of generating hypotheses.

If we want, also, to define the general outlines of a broad attitude area, depth interviewing will usually provide a better overall picture in much less time, and at a lower cost. For example, if we want to design a new cigarette package, we ought to know what kind of brand image the cigarette should have. How do people feel about cigarettes? What is a good brand personality in this field? Many of the answers to these questions come from depth interviewing.

But if we want to find out whether the package we have designed contributes to this favorable image, and if want to know, specifically, in what ways it is successful or defective, experimental studies will probably provide the safest, surest answers.

THE PACKAGE AS A SYMBOL

Barbara Kaye, *Senior Project Director, Market Planning Corp. (affiliate of McCann-Erickson, Inc.):*

We all know that in today's marketing situation various brands within the same product field often tend to have few discernible physical differences. From blind product tests in many fields we have found that the most brand-loyal of consumers cannot in any way differentiate their favorite brands. Consequently, we have postulated that the consumer's brand loyalty is determined, not so much on the basis of product, but rather on the basis of brand image. As we know, a consumer's image of a brand is a function of all the consumer's experiences relating to that brand: the advertising, public relations, marketing policies and, of course, the package.

We must ask, however, what specific elements in these brand stimuli determine brand loyalty. I would like to suggest that a major determinant of brand loyalty is the unconscious symbolic communication of the brand stimuli. We know that certain brands "pre-select" consumers with certain unconscious elements of personality.

What, then, is "symbolic" communication? First let me say that the "manifest" level is communication between observable elements of the package and conscious, rational mental processes. The symbolic level is communication from the latent content in the package to the emotional levels.

We should pin-point two areas of relevance in a theory of successful symbolic communication in packaging. One is the excitation of impulses or feelings. The other area is defense or rationalization—the guarantee that the excited impulse will not be disturbing or alienating. These two areas may be crucial to successful symbolic communication in packaging. Before exploring their implications, let me state that this is still very much a theory, and by no means established fact.

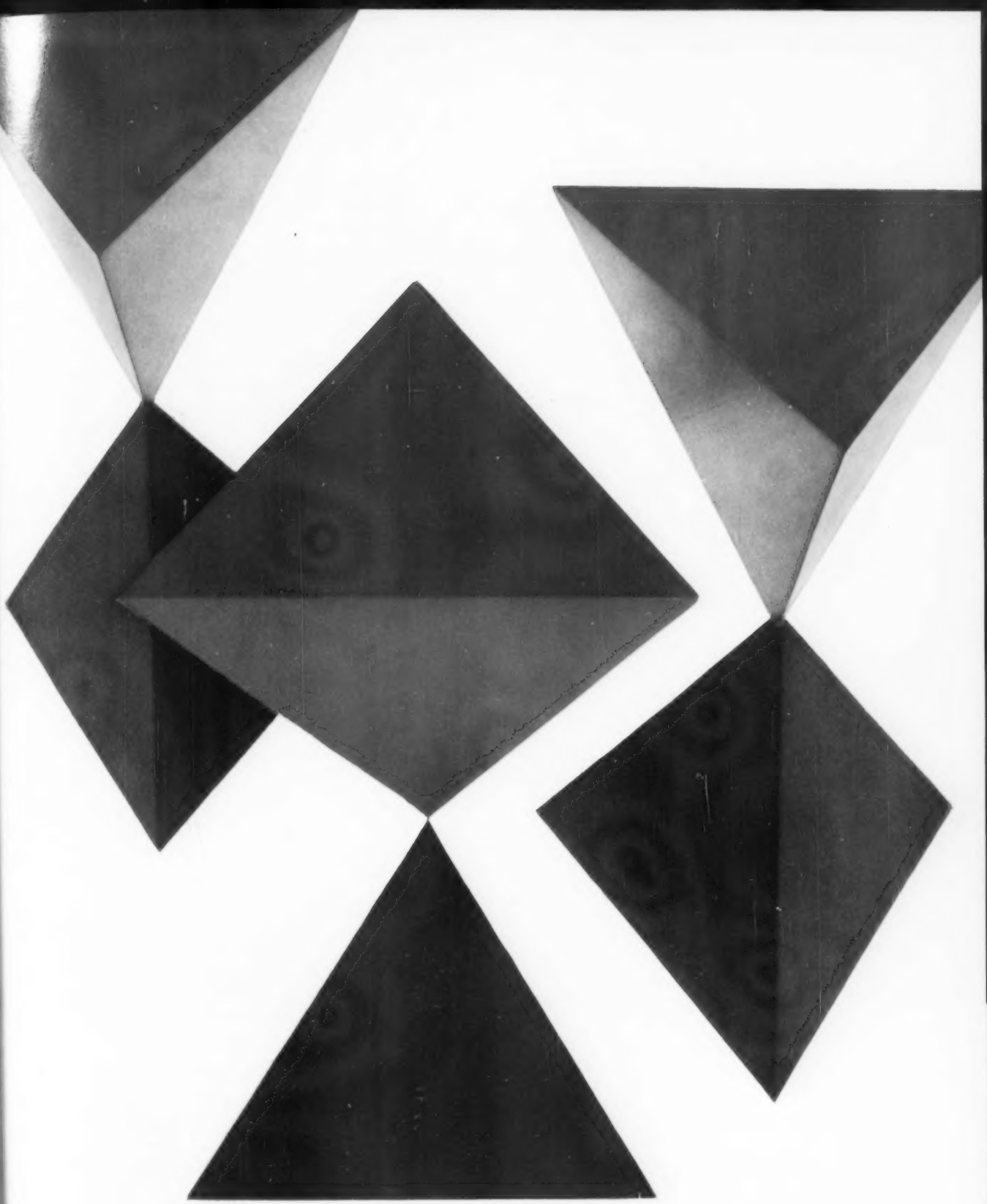
Certainly some impulses or feelings are more disturbing to us than other impulses or feelings. I'm sure the impulse to destroy is considerably more disturbing than the impulse to create. One of our hypotheses in our theory might be: *The extent of the defense is proportionate to the discomfort of the impulse excited.*

Now what kinds of impulses should we try to convey symbolically in packages? One hypothesis might be: *The impulses evoked should be those which the product and/or its image can most readily and naturally satisfy.* For example, one cookie box design elicits the need for hoarding; another elicits the desire for eating. Certainly the desire for eating is more relevant to cookies than the desire for hoarding.

Thus far I have discussed a theory of symbolic communication in relation to package images. Actually, I think this theory might be equally applicable to the shape, size, materials, colors and functional attributes of a package. In effect, all the aspects of a package integrate to communicate one central symbolic message.

But how do we know? How do we know what a package communicates symbolically? How do we know whether it communicates a relevant impulse?

We need, I feel, more sensitivity on the part of our researchers to the various reasons that may be operative in package success or failure. Our researchers must, in a sense, be artists. They must be able to find, in the limited data we usually get, hypotheses which explain why the consumer's preferences are what they are, what the nature of the response to the symbolic communication is. Only such hypotheses can enable us to understand how to change and improve the symbolic communciation. There are, of course, no rules for discovering hypotheses, just as there are no rules for designing a successful package. Both are artistic creations that science cannot give us, but that science can prove.



ALCOA VENTURES A FORECAST

Herbert Matter's 3-D interpretation of Alcoa's triangular symbol, first advertised last spring, launched a long-range "Forecast" program that uses design for a new kind of experimentation with aluminum—combining the work of leading designers and top photographers whose ideas and results are displayed on the next six pages.

As no one in the aluminum industry needs to be told, design has become a vital tool in the competitive race among suppliers. The design activities of the Big Three (ID, August, 1956) have included good-sized budgets for design departments, traveling design consultants and speculative design ideas. Most of the efforts to date have used design to influence immediate users of the wonder metal—manufacturers and industrial designers. Recently the biggest of the three, Alcoa, which is busily developing a design program with its own distinctive character, decided on a program for home and family in which designers, including Isamu Noguchi, Alexander Girard and others, would project a new image for aluminum, both to their colleagues and to the public at large: a design program for advertising that puts "dream" thinking to a new and serious purpose.

"Forecast," as the new program is called, began to take definite form early in 1956. Despite a run of new uses for aluminum, and the firm's continuing development of new textures, finishes and colors, the average consumer and many designers were still likely to picture aluminum as a light, white metal that's good for pots and airplanes. As Alcoa executives pondered how to create a dramatic new image for aluminum, Arthur P. Hall, Vice President of Public Relations and Advertising, put it up to the company's agencies for suggestion. Ketchum, MacLeod and Grove of Pittsburgh helped suggest a way to do it: focus on the designer as the man who can stimulate the consuming public with inventive projects for today's home. The result is a $3,000,000 management program that is scheduled to continue for three years and that is "designed" from the concept of the product to its appearance in a full page ad in the nation's slickest magazines.

As F. G. Close, Alcoa's manager of Market Development, said of the program at its announcement, "Alcoa regards Forecast as a unique opportunity to make significant contributions to our way of life." What Alcoa wants, when it goes to a designer, is not a product to manufacture, but a concept to promote. It buys a design with the right to advertise it as a design, and this includes exhibiting the prototype at appropriate public places. Not only is a new aluminum product created for presentation to the public, but the presentation, itself, is a careful and sophisticated work of photography in full color by some of the country's leading photographers: Richard Avedon, Irving Penn, Ben Rose and Bert Stern among them.

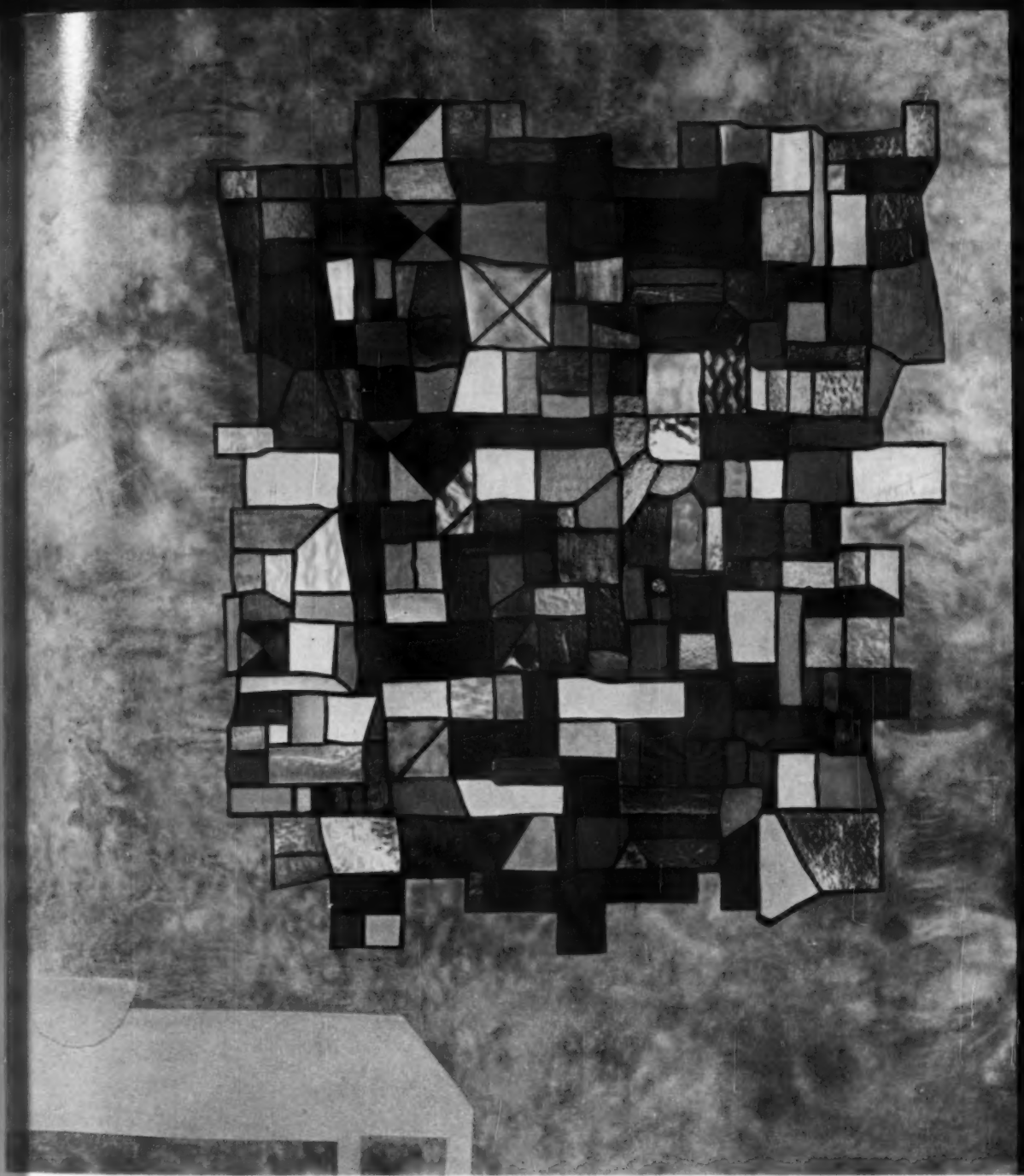
There are some 20 designers now working with Alcoa on Forecast projects, and others will continue to join the program as it develops. To find the right creative talent, the program administrators first called on leading museums and studied the work of designers known not only for industrial products, but for clothing, home furnishings, toys, equipment and architecture. In fact, when the advertising program broke into print, it began not with a product but with something of a sensation—an aluminum evening gown shown below, by French couturier Jean Desses. This was followed by two decorative pieces on this spread, which led to the current more product-oriented phase of the program.

Forecast's administrators have no desire to preempt the creative role by commissioning the projects *they* would like to see tackled. They visit designers who have been selected and explore with them their current projects and ideas—each one is encouraged to suggest what he would like to try out in aluminum, on the belief that the strongest motivation will produce the most original results. Each project is then set up on a three-stage contract: 1) sketch 2) model (not necessarily a working one) and 3) finished prototype. Hall, Close, and a management committee re-

(*Continued on Page 79*)

Jean Desses *of Paris made the first forecast: an aluminum crepe ball gown. The fabric, engineered in the Alcoa labs for G. Hirsch & Son, Inc., had an unusually high percentage and finer version of the well-known plastic-laminated aluminum thread. The gown made its debut in Paris, opened here at Neiman-Marcus, Dallas.*

Marianne Strengell, *head of the department of weaving and textile design at Cranbrook Academy of Art, designed and constructed a 6' by 12' aluminum rug. At her command were 30 different metallic shades which she stranded into 19 of her own color combinations. Made of almost 75% aluminum fiber, the rug has stripes of varying widths broken at irregular intervals by black and gray wool and viscose. It was introduced in May at New York's Museum of Contemporary Crafts, has yet to appear in advertisements.*

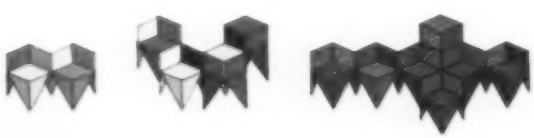


Aluminum wall mosaic created for the Alcoa collection by Ilonka Karasz Photographed by Ben Rose

Ilonka Karasz *took bits and snatches of workaday aluminum foils—wrapping, candy box liners, frozen food foil, candy wrappers—to make something very new: a wall mosaic to hang on a foil wall that will heat the home of tomorrow. Some of the foils she used in their original patterns and textures, others she painted or patterned herself. Taking her cue from the Alcoa symbol, which is incorporated into the mosaic, she worked entirely in irregular quadrangles and triangles. The shapes were cut from plywood with a bandsaw, bonded with foil coverings, then assembled against a background of heavy gage foil. This first exploration into its possibilities convinced Miss Karasz that foil is a new decorative material with its own unique textures, colors and patterns. Miss Karasz is a designer of wallpaper and fabrics, and a noted "New Yorker" cover artist.*

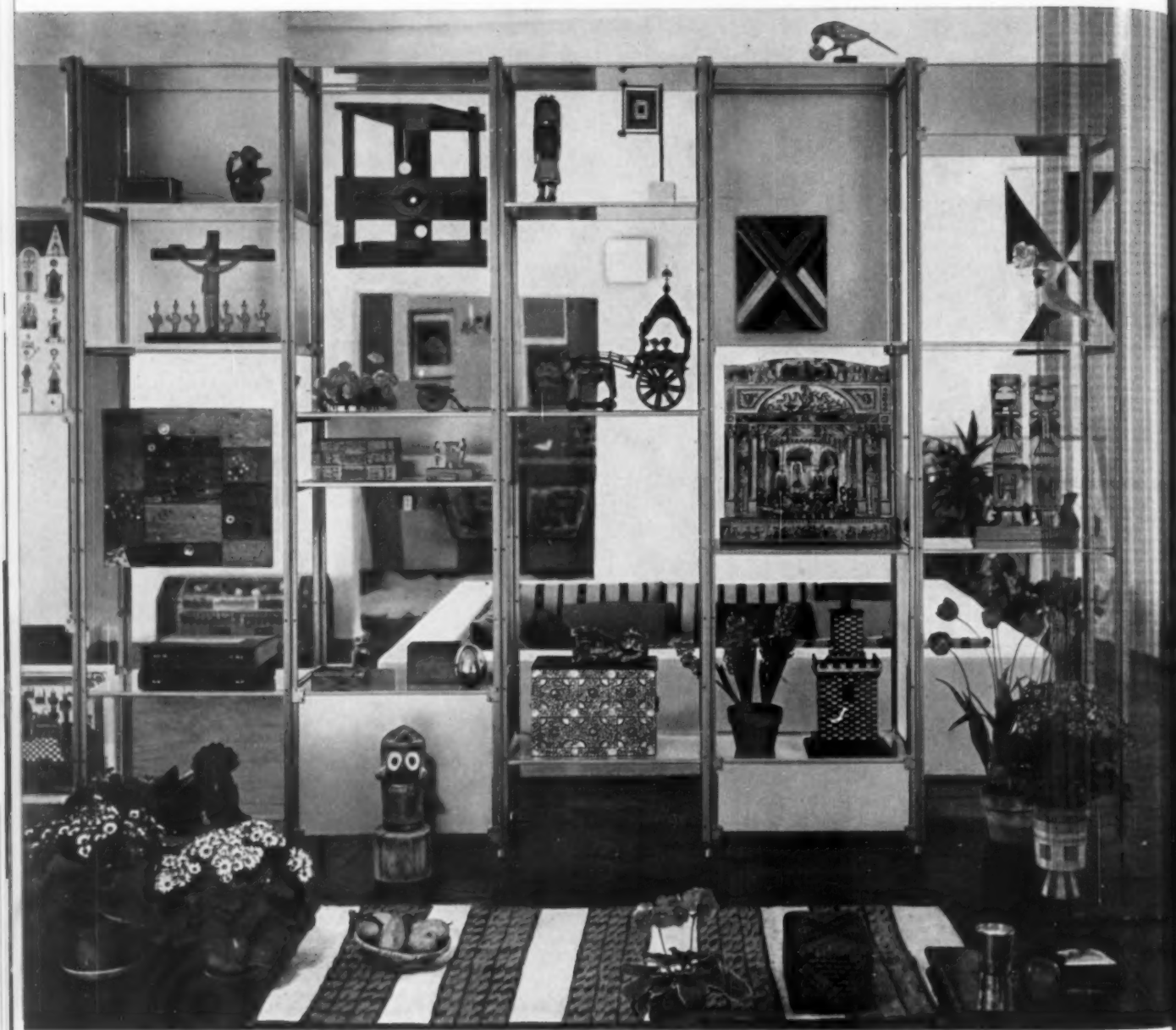
Aluminum table of interchangeable sections designed for the Alcoa collection by Isamu Noguchi. Photographed by Irving Penn.

Isamu Noguchi *was exploring the field of low cost furniture when Alcoa enlisted him in the Forecast program. His contribution: an hexagonal stack table which can be made for as little as $13. Working with pyramid shells derived from the Alcoa symbol, he combined them in threes, stood them on their vertices to make a three-legged table. Each unit can be colored by anodizing or enameling, and combined to the consumers' taste (see below).*

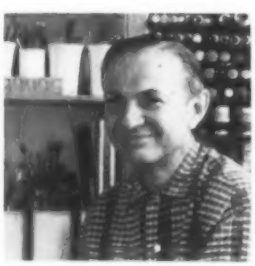


Aluminum summer house designed for the Alcoa collection by Harrison & Abramovitz. Photographed by Bert Stern.

Harrison & Abramovitz *conducted a design competition among its architectural staff when it was commissioned to create a beach house for the Forecast program. Winning design by Robert Fitzpatrick was a house that turns with the sun. Introduced at Macy's summer aluminum promotion in 4/5 scale model (photos left), it is made up of identical triangular sections engineered around a central column to resemble an eight-pointed star. Peaked aluminum roof reflects suns rays, casts long shadows; triangular glass walls open outward. Harrison & Abramovitz have worked closely with Alcoa on its architectural program, also designed Alcoa's Pittsburgh office building, which is prototype for other new aluminum-clad buildings.*



Aluminum shelving unit designed for the Alcoa collection by Alexander Girard. Photographed in Santa Fe by Charles Eames.



Alexander Girard, *textile and display designer, devised an aluminum room divider that manages not only to hold a part of the collection in his Santa Fe home but to frame it well. Anodized aluminum risers, 8' high, hold shelves of thin glass strengthened with aluminum honeycomb. Four risers make a unit to which sets of two can be added either in one line as here, or to make an L shape. As many as 20 units, 2' wide and 16" deep, can be used for a storage wall. Textured and gold anodized aluminum back panels are used intermittently both for decorative and structural reasons.*

view and approve each project after the first and second stages–not for esthetic, but for its concept and general direction. At any point either party can terminate the agreement and all work done will be paid for – an arrangement that gives both designer and client a chance to evaluate, change their minds and try a new tack if necessary.

And, in fact, it frequently has been necessary to try a new tack. The Forecast committee is highly selective of the projects it approves for final realization –both in terms of their originality and their realizability. It has not hesitated to turn down those that did not fill the bill. But since the contract is essentially with a creative person–not with an end product – the committee that rejects one design invariably goes back to the designer to work out another approach, another idea, another solution.

This learning to work with the creative process, in fact, may be one of the primary gains for Alcoa. In a year and a half of working with designers, it has learned many invaluable facts: ideas that seem sound in the telling may be less so in the sketch; designers are not easily pleased, especially when it comes to their own work, and often want to discard good work for a chance to do something better. Perhaps the biggest headache among these, however, is a purely practical one: fitting creative output to an unceasingly regular corporate advertising schedule.

Designers have done some learning, too–about the colors, textures and constructions possible in aluminum for carrying out their designs. Alcoa has made a special point of offering technical aid on all problems that come up. The engineers also developed new devices to carry out designs: clamps for the Noguchi table, fasteners for the shelves of the Girard room divider. From this cross-influence Alcoa arrived at a new idea: a research and development lab to work with designers. Thus the program, in its process of growth, may well stake out a new relationship between designer and materials supplier.

Paul McCobb *was Alcoa's choice of designer when it was decided to add aluminum furniture to the collection. In the works for some months, McCobb's project is virtually completed and is scheduled for announcement this fall. McCobb is preparing for eventual production of a number of pieces.*

Don Wallace, *designer of stainless steel tableware and author of "Shaping America's Products," has been retained to develop another project for* 1958.

Charles Eames, *who caught public attention with his molded plastic chair, is another noted designer tapped for the Forecast program. He is now at work on a project which has not yet been announced.*

David Aaron *has just completed an aluminum climbing tree—a playground fixture for children. The design, which is being readied for photography, will be advertised in consumer magazines this fall.*

Martin Rosenzweig and Harold Krisel, *winners of the Museum of Modern Art's Play Sculpture Competition* 1955, *were a logical choice for a children's playground design. Their project, scheduled for* 1958, *contains sound play sculpture (pipes which children strike to get sounds), spectrum sun dial, tactile hopscotch, climbing rings and giant blocks.*

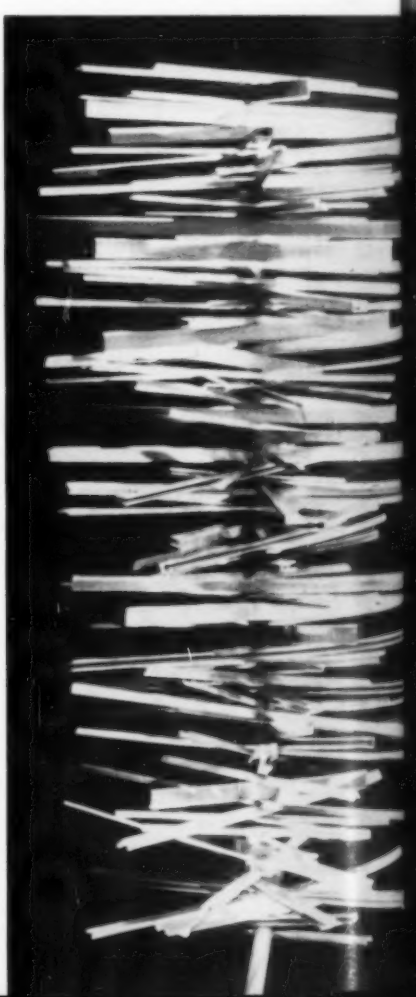
Report on the second

Design Engineering Show

It is significant that the 1957 Design Engineering Show, held at the Coliseum in New York in May, had more than three times as many exhibitors as the first exposition directed specifically to the design engineer, staged in Philadelphia last year. Almost at the risk of becoming too broad, the 1957 show was striking evidence of the increased importance that industry is placing on the design engineer and his responsibilities. Despite its greater size, the Second Design Engineering Show effectively retained the theme established last year: To exchange ideas on new methods, components, and materials.

The words "It pays to specify"—captured by the photograph at the left in the Du Pont exhibit, where the physical and electrolytic properties of Mylar were demonstrated—applied to virtually every exhibit on the three floors of the Coliseum. Products on display ranged from the smallest fasteners to the largest extrusions, and innovations were legion. On the following pages are representative examples of new developments seen by attending design engineers, designers, and executives. They also learned, for example, that Heintz Manufacturing Company has introduced a new chemical surface

Aluminum extrusions *were the focal point of two exhibits. Samples of gold anodized extrusions made by Aluminum Extrusions, Inc. for their customers were put together to form a mobile (right), the center of attraction in their display designed by George Nelson & Co., Inc. Alcoa's giant extrusion for the aircraft industry (far right) was curved into its final shape after the extrusion process.*

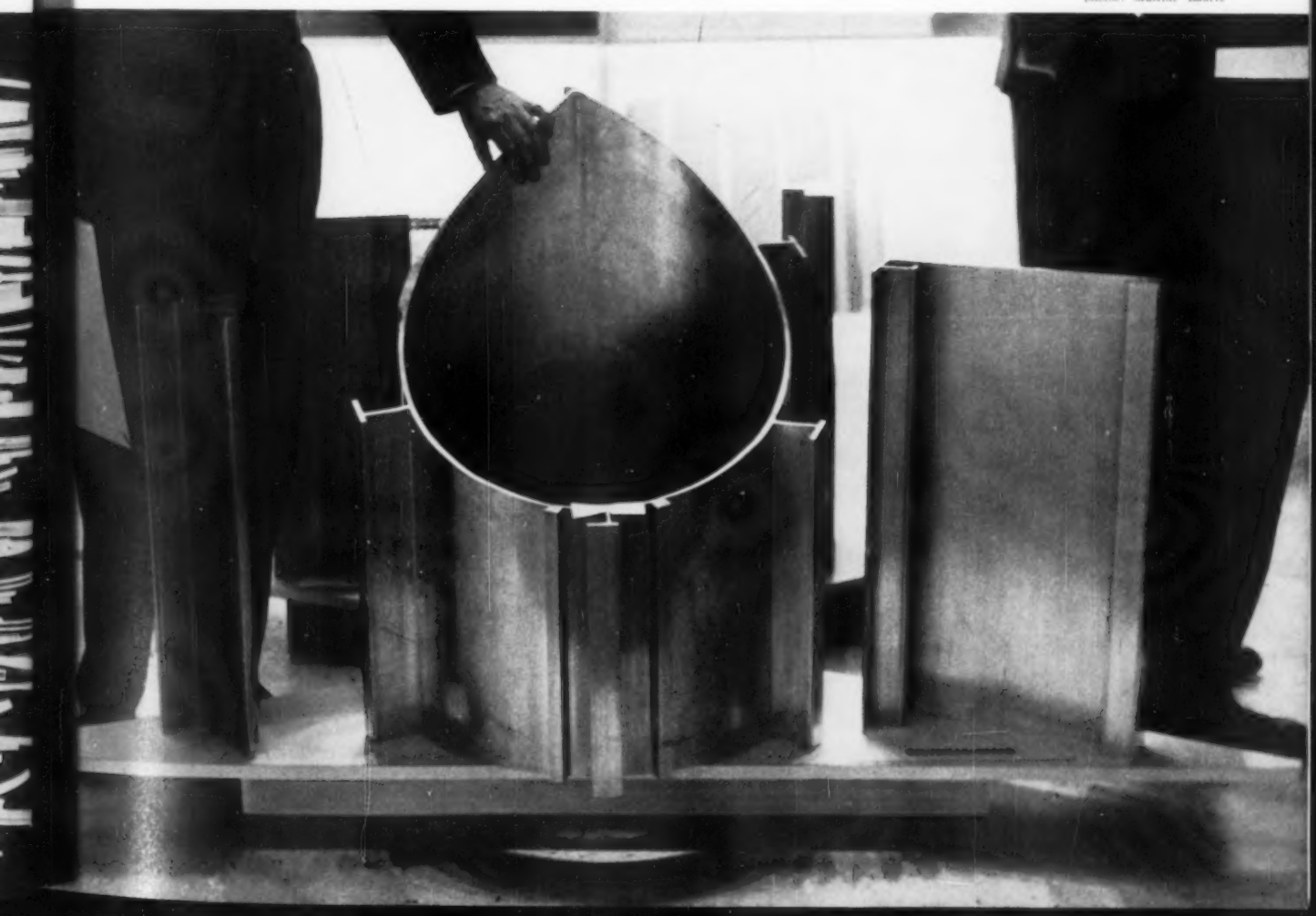


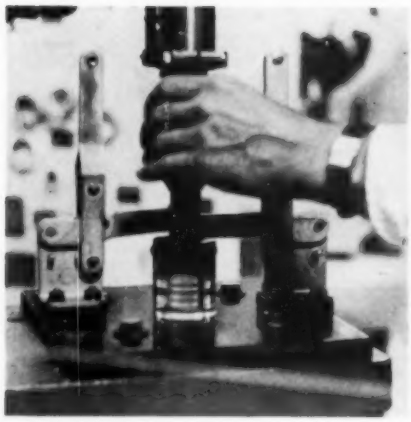
Exchange of ideas was the theme of 1957 *exposition*

treatment for metals that promises to replace rare tin as a coating for containers; and that David Feldman & Associates of Puerto Rico have a new flexible wood veneer that requires no finishing and is suitable as an overlay on curved and angular surfaces. Polyethylene attracted attention in the form of a new resin by Du Pont, reported to resist sagging during thermo-forming. Containers for ice cream and cottage cheese, as well as trays, shoe components, hats and other products formed from sheet material are its possible applications. Bakelite Company emphasized phenolic foams with new properties that make them more effective as foamed-in-place insulation. Latest advancements in silicones by Dow Corning Corporation included the first completely transparent rubber, developed for high-temperature safety glass windshields on supersonic aircraft; new silicone rubbers with mechanical strength approaching that of organic rubbers; and the first commercially available solventless silicone impregnating and encapsulating resins.

In conjunction with the exposition, a series of conferences were held under the sponsorship of the Machine Design Division, American Society of Mechanical Engineers. The subject of the first panel discussion was "Procedures in Developing New Designs," and it included comments from two industrial designers, Robert H. Hose of Henry Dreyfuss, and Walter Immermann of Walter Dorwin Teague Associates. Their presence on the panel, as well as their comments on design, reemphasized the teamwork between industrial designers and engineers that has become increasingly important. Other sessions covered three broad areas as they relate to design engineering: electrical, mechanical, and materials engineering.

photos: Matilde Laurie

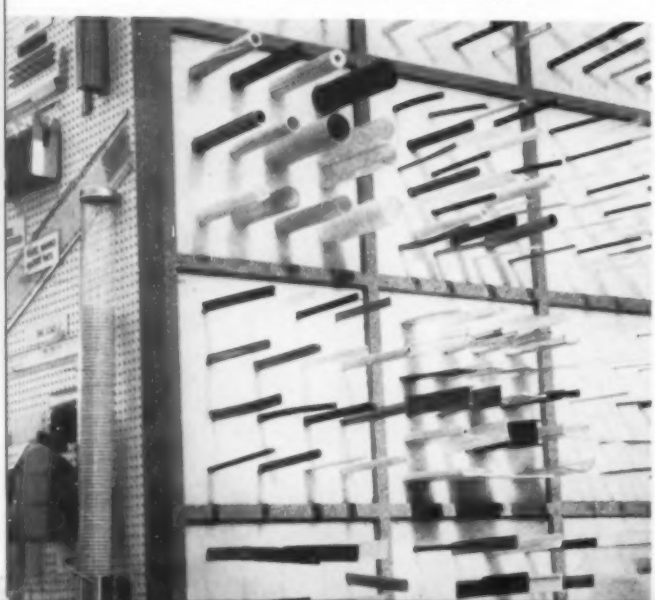




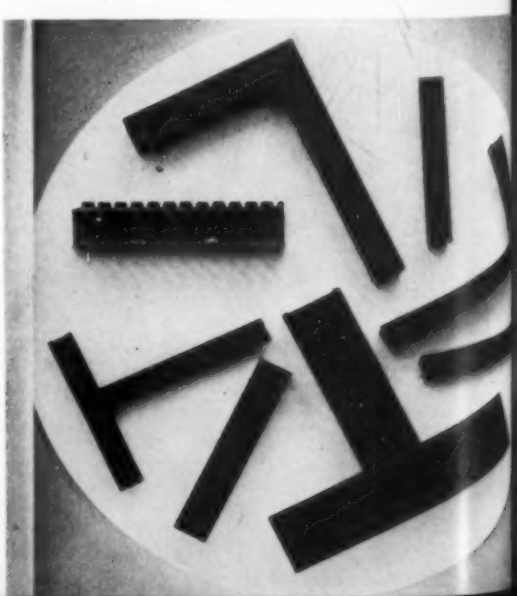
Spin - welding, *a technique for joining thermoplastic materials, uses frictional heat to melt and weld two surfaces together. Du Pont is making the new method available to the molding trade to make multiple-colored aerosol bottles, tool handles, instrument knobs, etc.*

Plastics are on their mettle for many new applications

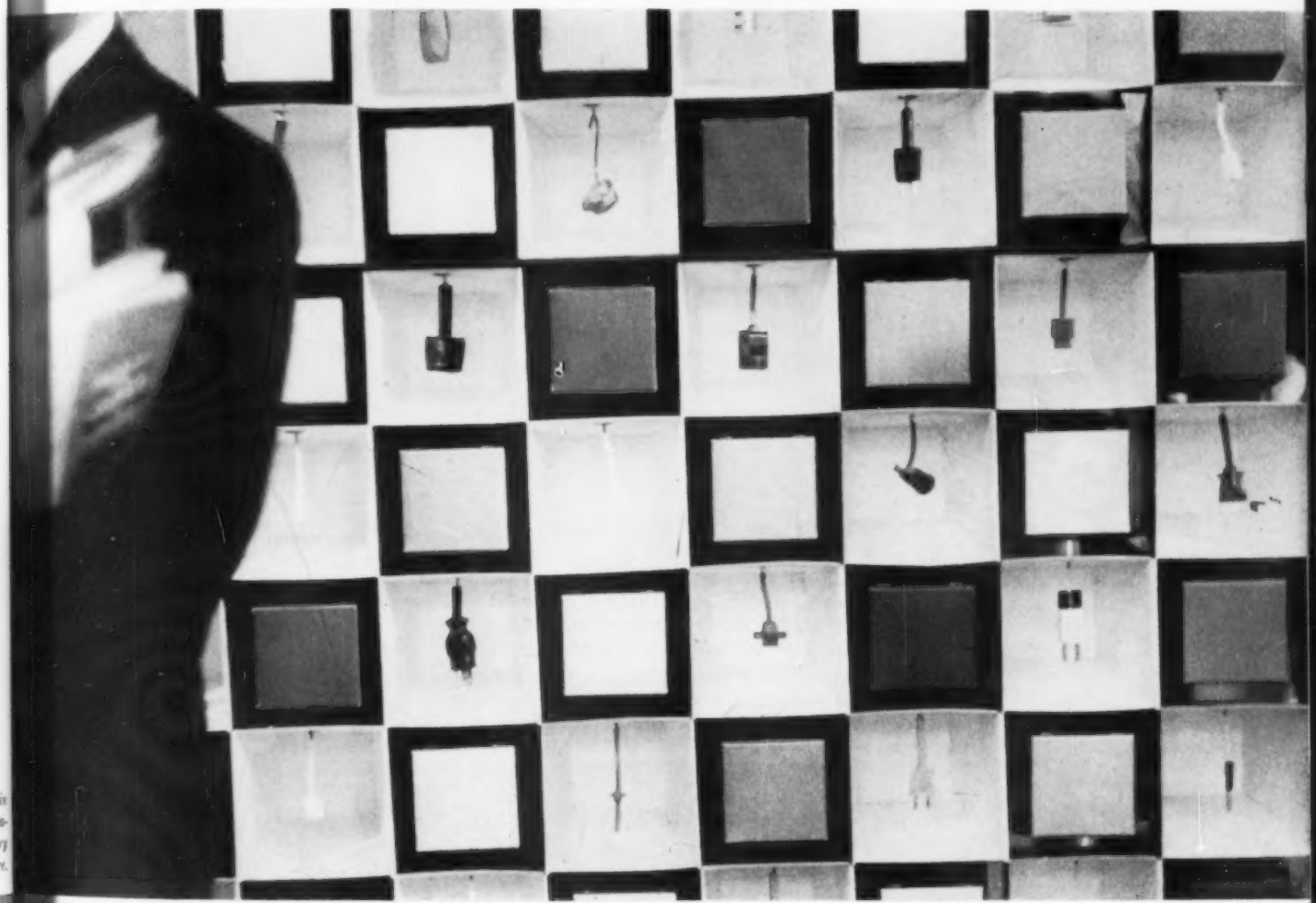
Plastic extrusions *in a virtually unlimited variety of shapes by Anchor Plastics, Inc., Long Island City, have an equal number of applications. Some are laminated with foil to give decorative metallic effects.*

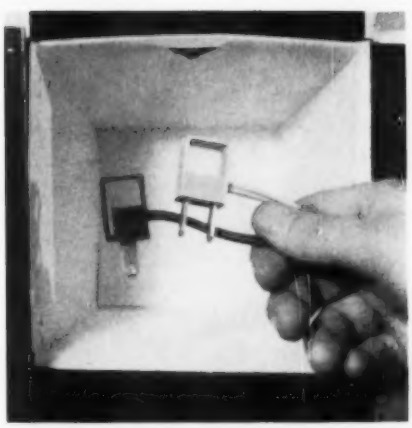


Panel Chanel, *manufactured from phenolic by Stahlin Brothers, Inc., Belding, Michigan, gives easier installation to complex circuitry. It can be cut with ordinary woodworking tools, needs no finishing, resists fire.*

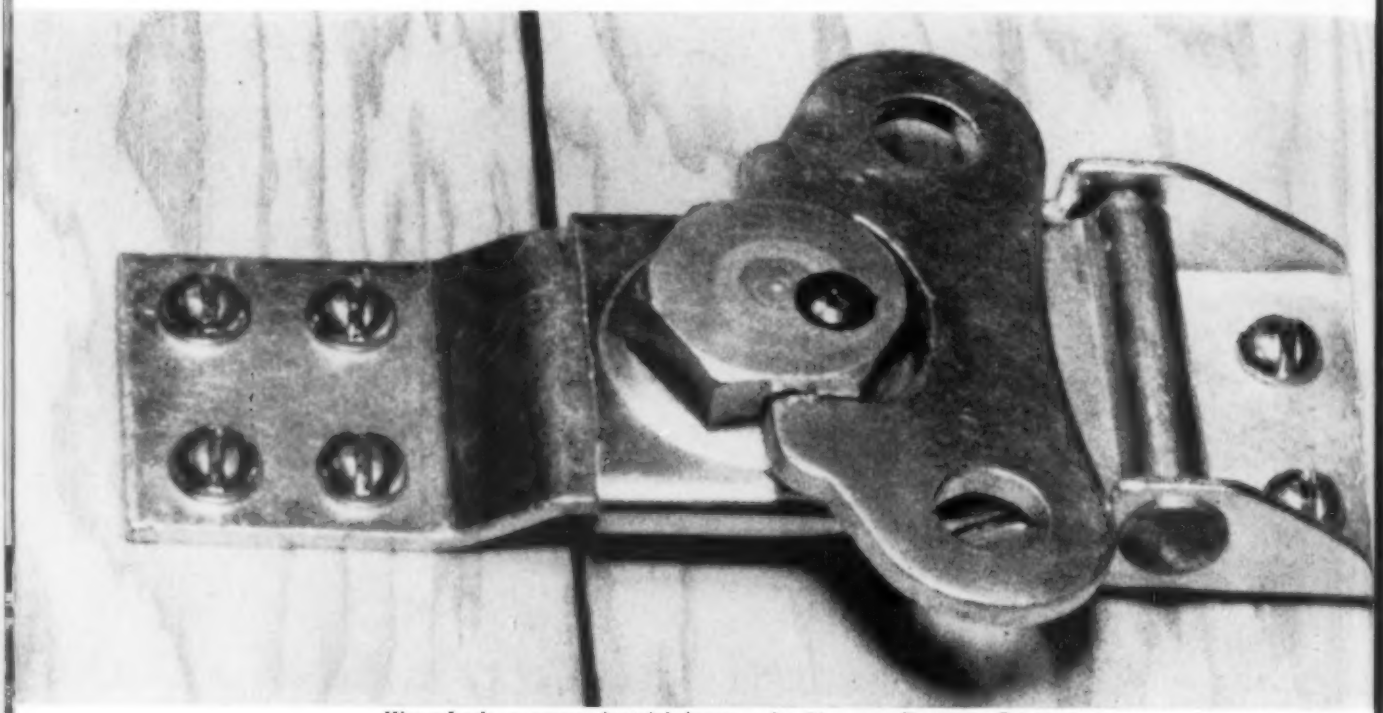


Electrical connectors and components, *injection molded of vinyl, nylon, polystyrene, cellulose acetate or butyrate by Miller Electric Company, Pawtucket, R.I., offer a range of color combinations with moldings bonded to wire insulations of like or unlike materials. Finger-pull attachments (below) are molded onto some Miller plugs for safe and easy removal from outlets. The loop can also be used to hold excess cord lengths.*





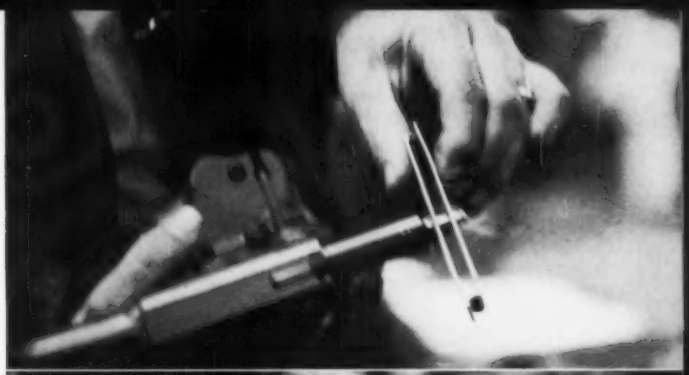
New rivets, bolts, and staples solve old fastening problems

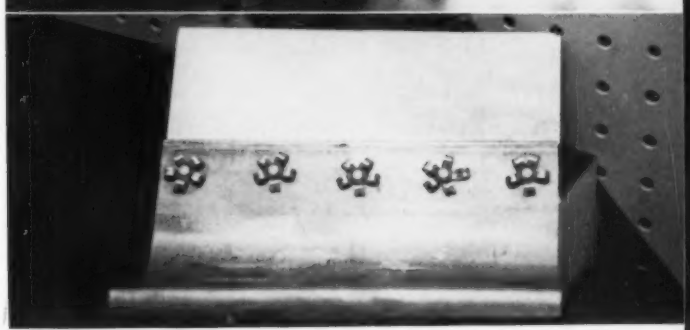


Hinge-Lock, *a new industrial fastener by Simmons Fastener Corp., Albany, New York, is designed particularly for commercial containers that require heavy pull-down pressure to insure a pressure-tight seal where gasketing is used. It locks with a half-turn of the wing nut.*

Rivets, *with heads on the blind or inaccessible side of the workpiece are set with a hydraulic-pneumatic hand gun developed by United Shoe Machinery Corp., Boston, Mass. "POP" rivets clinch when the retracting jaws of the gun pull the mandrel into the rivet.*

Self-locking bolts *have no washers yet resist loosening under vibration, shock or impact. Made by Buffalo Bolt Company, North Tonawanda, New York, one uses a nylon pellet inserted into the thread, while other are designed to tighten under vibration.*

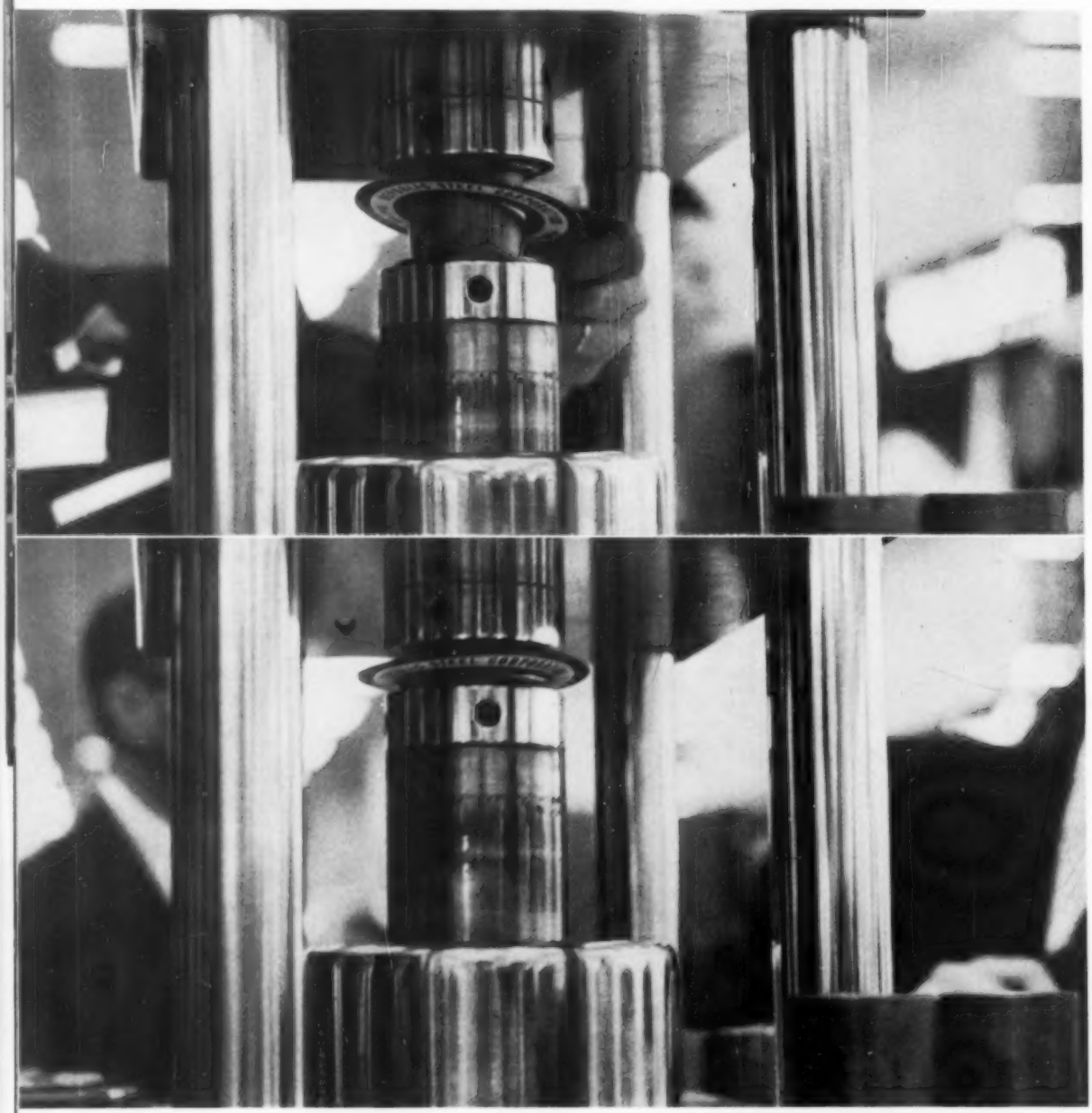




Daisy Rivet, *a split-sleeve, blind fastener, developed by Huck Manufacturing Company, Detroit, Michigan, has a wide grip range and pulls sheets tightly together with a wide supporting grip. The rivets can be installed with either pneumatic or mechanical tools.*

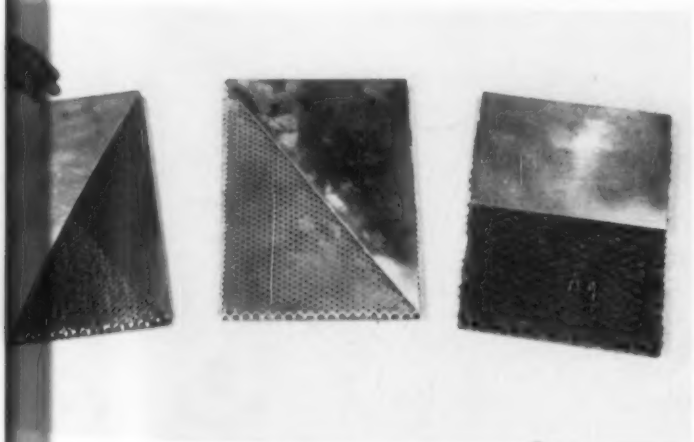
Metal stitching machine *that joins two or more sheets of similar or dissimilar materials which cannot be welded, is rapid and economical. Made by Acme Steel Company, Chicago, Ill., the machines eliminate drilling, punching and tapping.*

Metals reach new heights in strength, corrosion resistance



Welded steel tubing *made of Electrunite by Republic Steel Corp. is given a severe manipulation crush test to demonstrate the ductility of the tube and the strength of the weld. Republic developed Electrunite to give fabricators of industrial, household and agricultural equipment a steel that retains its uniformity under a variety of fabrication processes.*

Titanium carbide, *produced by Kennametal Inc., Latrobe, Pa., resists heat of 2150°F while a bar of nickel-chrome-cobalt alloy fails (top). Typical applications for Kennametal include seal rings for handling fuming nitric acid, bushings, nozzles, and valve components.*

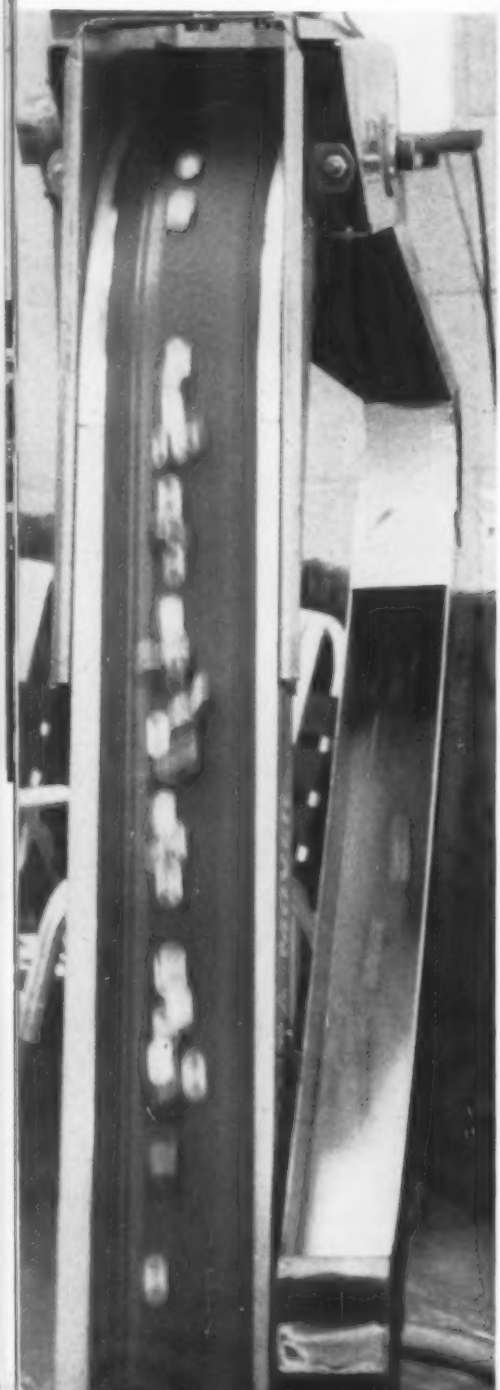


Sandwich panels *illustrate the bonding strength of Minnesota Mining & Mfg. Company's new epoxy adhesives. The honeycomb cores have facings bonded to them with the new high-strength, thermosetting "dry bonding" adhesives.*

Titanium's corrosion resistance, *which gives it a great potential in the chemical, food processing, atomic, and paper industries. Mallory-Sharon Titanium Corp., Niles, Ohio.*

Although new products and new processes claimed the lion's share of attention at the 1957 Design Engineering Show, familiar and established methods and materials were boosted by the introduction of new and improved applications. The importance of using the proper material, whether old or new, for a specific job became obvious by contrasting such materials as Du Pont's Zytel, used for self-lubricating components, with ancient Lignum-Vitae (below), the hardest of all woods which has similar lubricating characteristics since natural oils and gums make up 30 percent of its volume.

Exhibitors, whether they boasted an innovation or something that has withstood the trial of years of application, conveyed the common message that their field is moving ahead technologically both through their own research and imagination and through the stimulation and interchange of ideas with others not as intimately concerned.



Lignum-Vitae *self-lubricating wood, fabricated by Lignum-Vitae Products Corp., Jersey City.*

Particle board, *used as corestock for veneered furniture, doors and plastic overlaid material, produced by National Starch Products, New York, is enjoying a rapidly expanding market.*

Magnetic conveyor *that moves and elevates nails, bolts, nuts, wire products, small parts and other metal components, has a bank of permanent non-electric magnets to hold traveling material on the belt. It is made by Erie Manufacturing Co., Erie, Pa.*

Ancient objects

Artists often look to ancient objects for satisfying impressions of pure, free, abstract form; anthropologists for historical facts and religious expressions; but the man who made this stone yoke was neither a sculptor nor a priest but the designer of a thoroughly practical implement of daily life. What does today's designer — the *industrial* designer — look for in the "primitive" handicraft of an unknown time, a distant place?

Dore Ashton, author of a new book, "Abstract Art Before Columbus" (based on a recent exhibit at Andre Emmerich Gallery) — from which these photos by Lee Boltin are drawn—makes a point for the artist that the designer too can heed: "It was not the crude, primitive production that attracted the modern artist (to ancient art), but rather the sophisticated objects in which could be felt an *interpretation* of life." Because it is the job of today's industrial designer to mend the breach between art and function that began with the machine age—to create goods that serve equally the hand and the eye—it is helpful to look back to a time when civilization itself made no separation, when everything made expressed the unity.

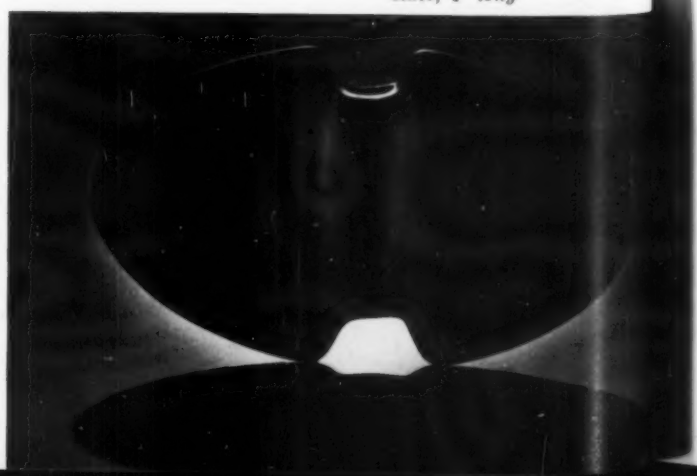
The products shown here were made by American designers, from the Ohio Valley to Central America, between 1000 B. C. and 900 A. D. They knew no concept of "art" separated from objects that served a purpose, nor did they, as a result, design objects without appropriate and pleasing form.

Yoke
Veracruz, Mexico, 500-900 A. D.
Polished green stone, 15" deep

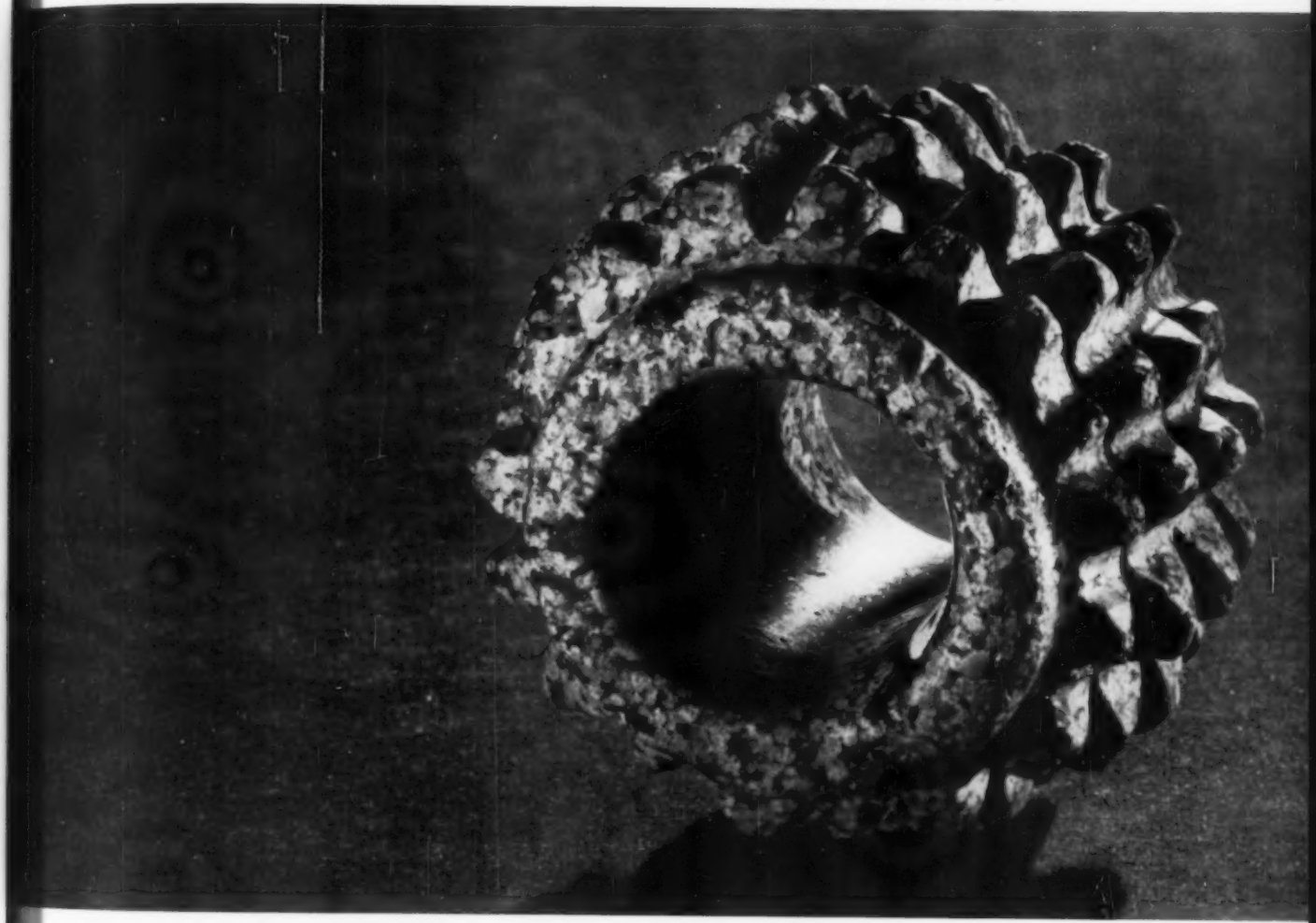
Bannerstone
Ohio River Valley,
100-500 *A. D. Banded green stone, 3¼" high*

Bannerstone
Ohio River Valley,
100-500 *A. D. Fossilized stone, 4½" high*

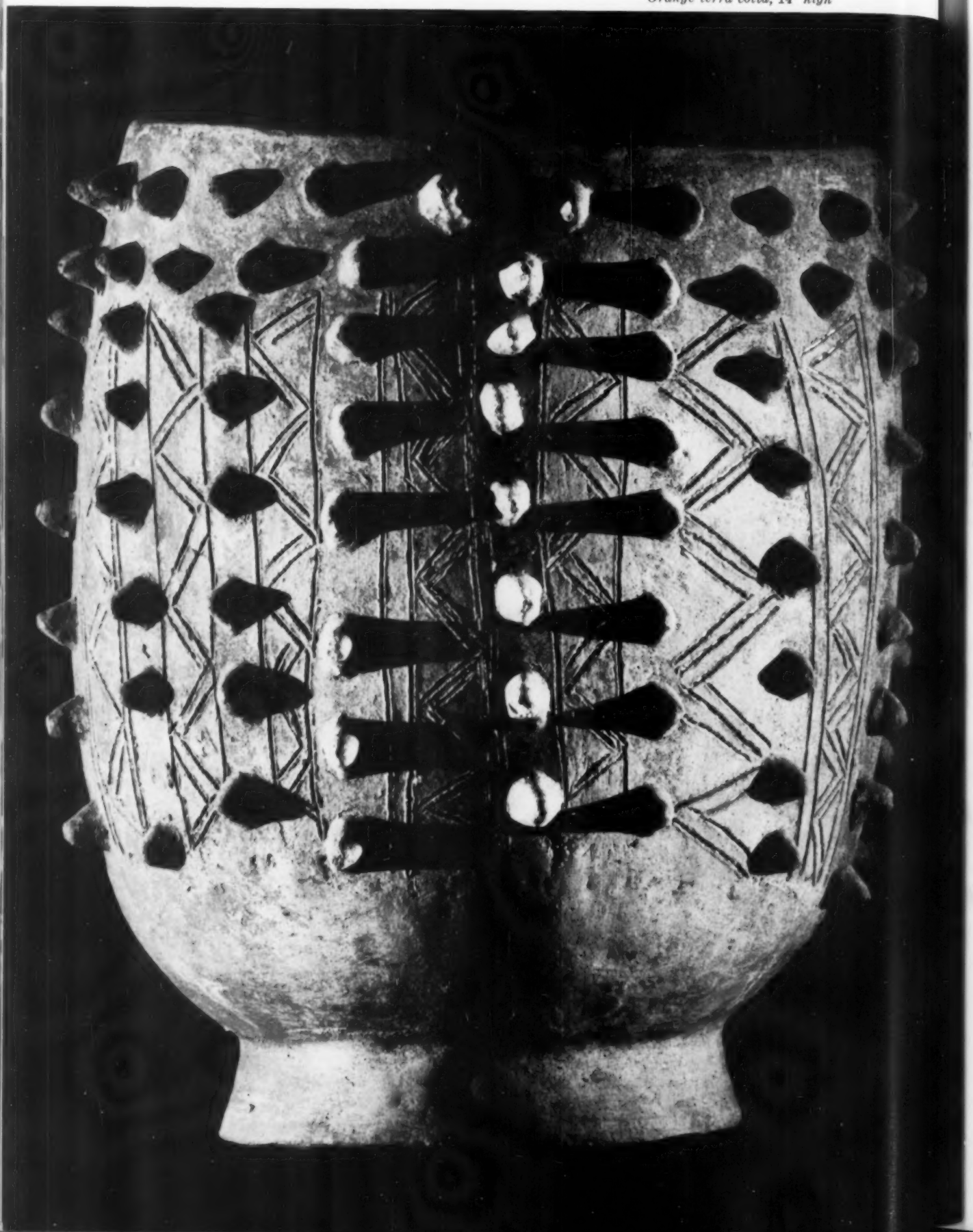
Bannerstone
Ohio River Valley,
100-500 *A. D. Black slate, 4" long*



Mace head
Western Mexico, 200-600 A. D.
Mottled green stone, 1¾" high



Bannerstone
Ohio River Valley,
100-500 A. D. Banded
green stone, 2¾" high



Urn
Western Mexico, 200 B. C.-300 A. D.
Orange terra cotta, 14" high

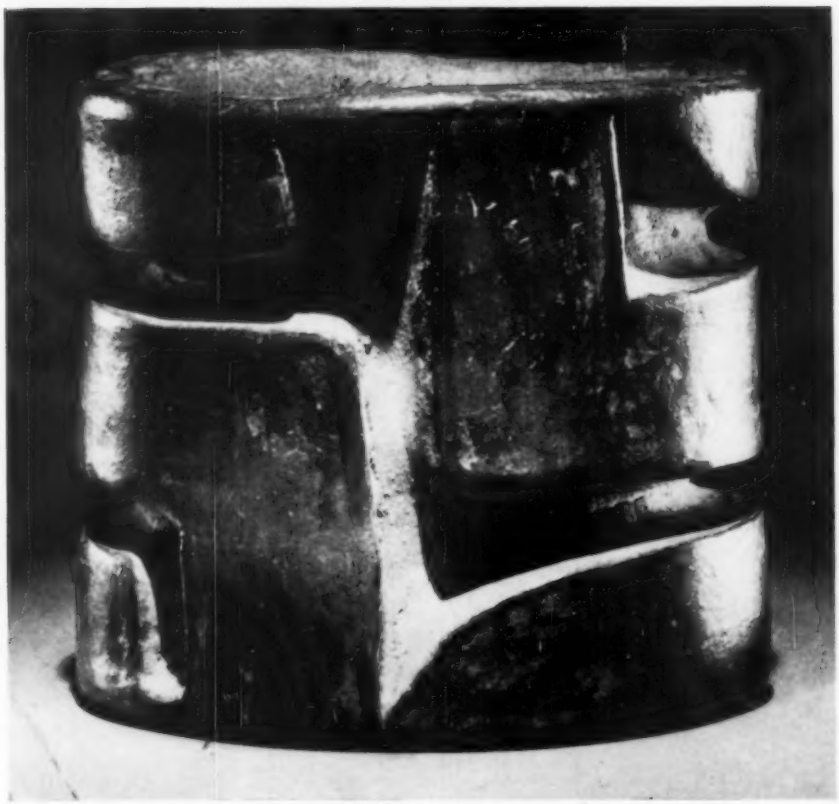
Hatchet-form vessel
Western Mexico, 500-900 A. D.
Red and black terra cotta, 13" high

Urn
Monte Alban, Mexico, 600-900 A. D.
Gunmetal-grey terra cotta, 7" high

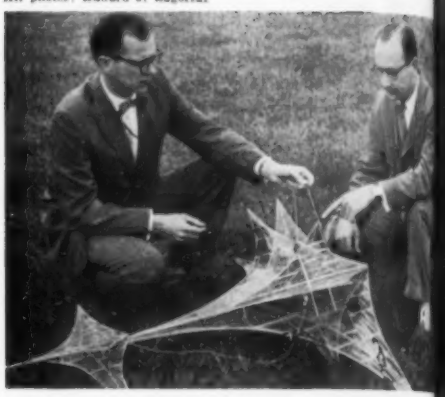
Tripod urn
Western Mexico, 500-900 A. D.
Red terra cotta, 10½" high

Offering bowl
Guerrero, Mexico, 200 B. C.-600 A. D.
White Mexican onyx, 6½" high

Cylindrical seal
Tlatilco, Mexico, 1,000-500 B. C.
Polished brown terra cotta, 3" high



All photos: Edward J. Zagorski



School: *University of Illinois*

Instructors: *Edward J. Zagorski, Leonard Price (above).*

Participants: *sophomores enrolled in the industrial design option*

Student Project

AS THE STUDENT'S KITE FLIES ON DERBY DAY, SO GOES HIS MARK AT ILLINOIS

From time to time, designers have been known to go on kite-flying kicks, but to most nostalgic adults, kites are remembered as a children's pastime. Yet, surprisingly enough, very few toy stores today stock them and it's rare to see kites in the hands of kids. The kite today — in this country at least — belongs primarily to the scientific world. The U. S. Weather Bureau uses their soaring power to raise aloft their instruments. At the University of Illinois, Assistant Professor Edward J. Zagorski has found a new use—as a design workshop problem for students of industrial design.

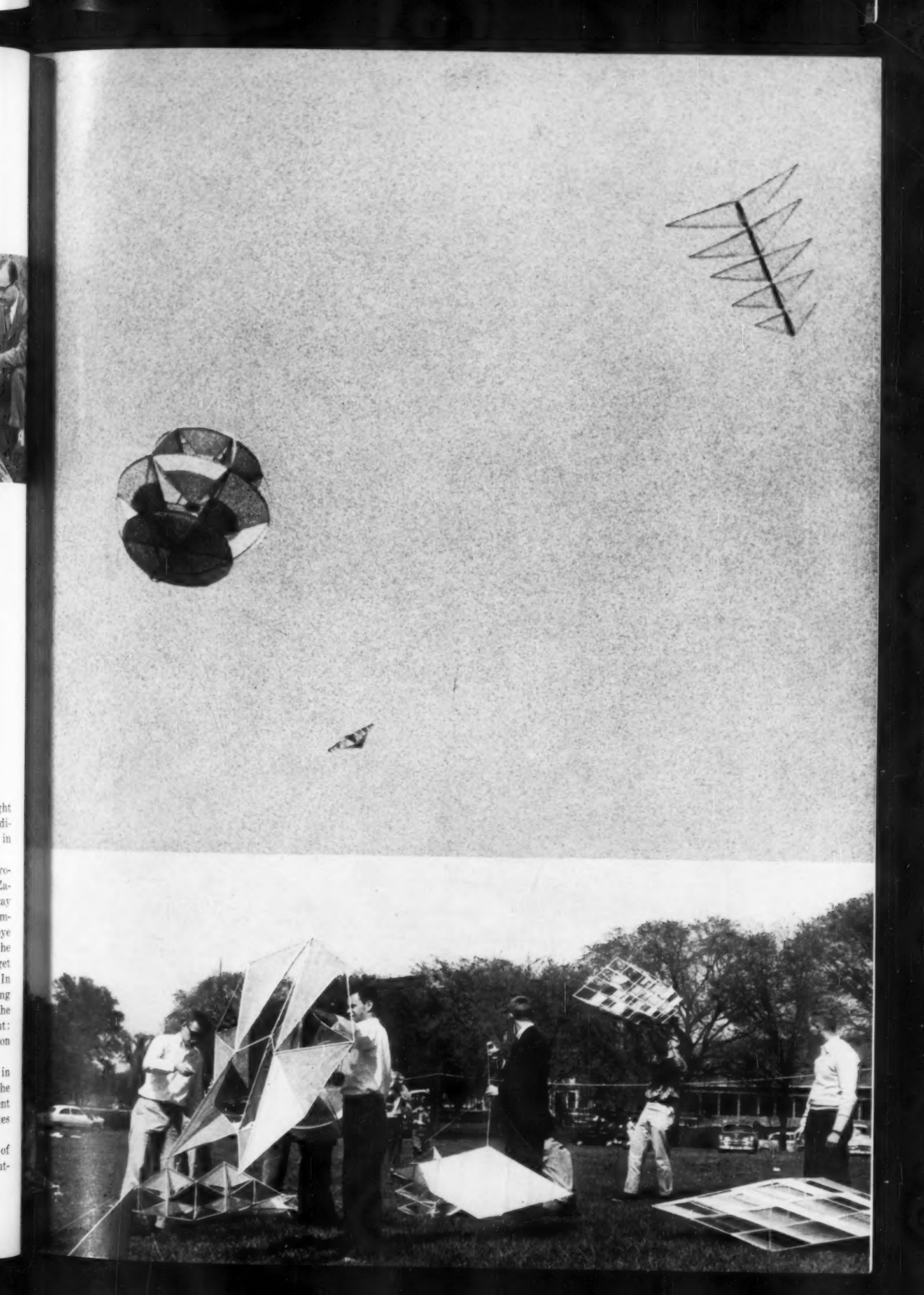
Kite Derby Day at Illinois is test day and also an occasion for fun, folly, and fiascos, as the photos show. It started this year one morning in early May. The students arrived with an assortment of weird and vari-colored kites—some suggesting flying insects, some interplanetary missiles, others based on geometric shapes repeated and reiterated in fantastic combinations. The question that faced each student was: Will it fly? Although they had made test models of tissue paper and balsa before going into full production, and had mathematically balanced weight of kite against size, the results would only be verified by a full-scale trial against the chaotic and eccentric wind—a fearful opponent. Although the laws of aerodynamics had been committed to memory, and built into the contours of the kite, one unanticipated gust could ruin months of hard work.

Professor Zagorski and instructor Leonard Price checked each kite on three points: flight, construction and design. Every kite had not only to get off the ground but soar at a minimum height of 200 feet. After its flight, it was inspected to see if it had withstood the rough landings, strong winds, and other mishaps encountered. Both on the ground and in the air its design was contemplated. On the wing the kite is a volatile and vivid creature: sunlight plays through its coverings and modifies its colors as it darts and dips in antic flight.

This dramatic test of a design project particularly pleases Professor Zagorski. No student can explain away his product's shortcomings by mumbling that the instructor doesn't see eye to eye with his point of view. With the kite, the student has one problem—get it into the air so everyone can see it. In a very real sense the kite is a teaching project; while it offers free play for the imagination, it presses home a point: design is inseparable from function and structure.

The answer to *the* question was in most cases in the affirmative; in the years the industrial design department has given the problem, 90% of the kites have flown.

Professor Zagorski's analysis of problems in designing a kite is presented overleaf.—*i.w.*



The intricacies of kite design and construction

by Assistant Professor Edward J. Zagorski

The first impulse the student has in designing a kite is to build the biggest one, but he soon finds that the extra stiffening needed makes the kite's weight greater in proportion to its size until a point is reached where the weight increases faster than the lifting power. A length of 20 to 48 inches is usually satisfactory, although much larger kites have been built and flown. To gain greater lift, two or more kites can be tied in tandem.

A kite having a single plane surface will normally require a tail to maintain flight. Since students almost invariably are interested in three-dimensional kites, tails have been bobbed almost out of existence. Three-dimensional kites fall roughly into three categories: compound, box, and tetrahedral. There are always some kites, at times combining elements of all three.

The basic unit for a simple box kite consists of a cell, a vent and another cell, with the vent normally as large or larger than the cell. Its shape usually follows some geometric pattern — square, rectangle, triangle—or combinations of these or repetitive extensions in any direction.

Compound kites consist of a keel plus plane surfaces or wings. The plane surface must be equal to or less than the surfaces in the other planes or the kite acts as a single plane and a tail is needed to maintain flight.

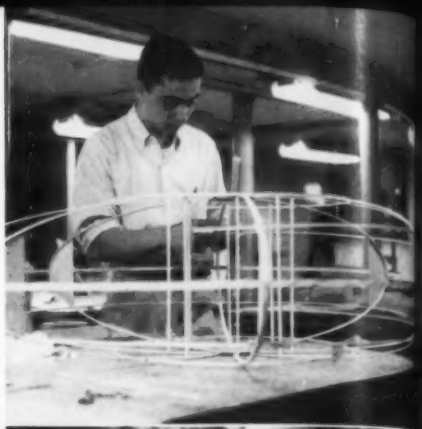
The celebrated tetrahedral kite, invented by Alexander Graham Bell, can be increased in size beyond that of any other type. The name is derived from tetrahedron—a solid bounded by four surfaces. Two of these are papered to form the tetrahedral cell and a surprising number of innovations have been designed by students.

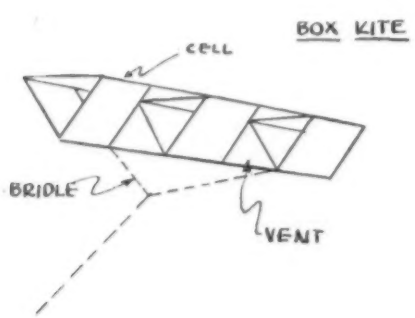
The coverings chosen will affect both the kite's final appearance and performance. For strength, silk span, wrapping paper and silk are frequently used. For color and pattern, cellophane, tissue paper and crepe paper are used separately or combined. Thin papers or crepe paper make for quiet flying; glazed papers add to a kite's antics.

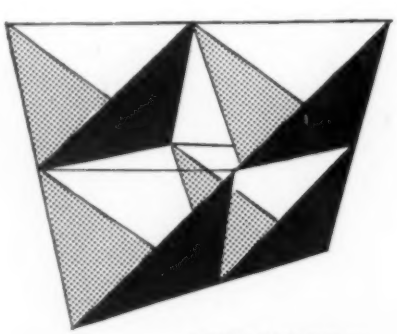
An important aspect of kite construction is the arrangement of the bridle—a short loop or loops of string attached to the midsection of the kite. The line which holds the kite is attached to this bridle. If the line intersection is too high, the kite will lie too flat; if too low, the kite, being top heavy, will dart violently.

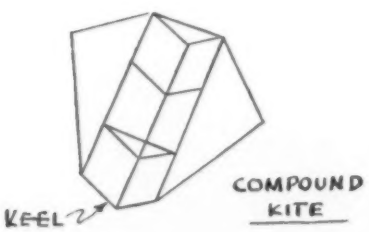
About 90% of all kites brought to the field on Derby Day have flown. Of these, a few will have a single flight life, since the hazards of trees, buildings, and wires exact their toll. A sudden gust of wind or a hard landing can deal a kite a mortal blow. Frequently a good kite is lost when after soaring several hundred feet high, it snaps its line to ascend higher and higher.

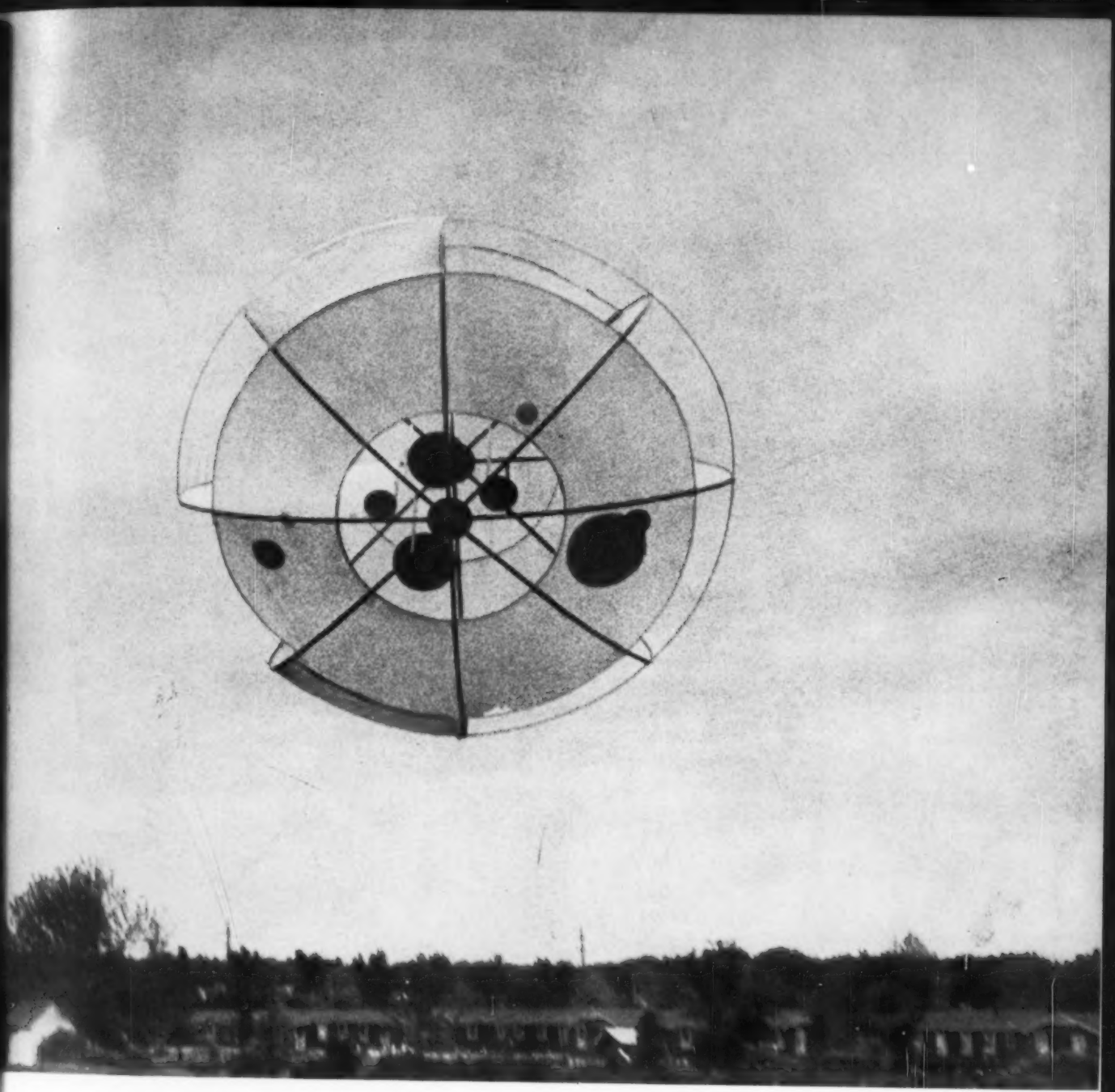
Each year after Derby Day we are reminded that besides the obvious lessons learned in construction and function, coupled with aesthetics, we have still another reason for giving the kite problem — all of us thoroughly enjoy the experience.





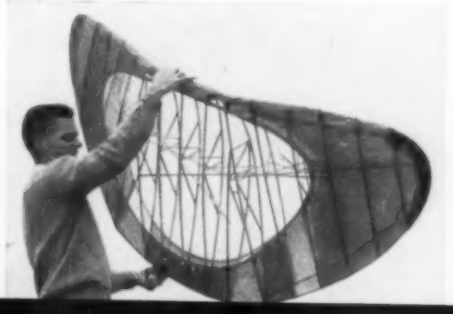






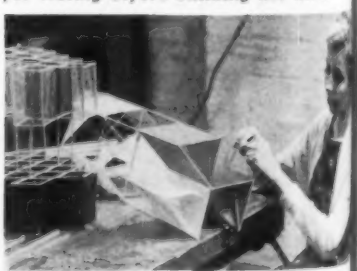
The flying pizza pie, as Jerome Caruso's circular box kite was dubbed by fellow students, cuts a carnival figure as it goes through its paces in the air. Sunlight playing around and through its coverings is a calculated part of its design. But more important, it flew "admirably," in the words of Professor Zagorski. The work that went into this happy result is pictured on the opposite page. The basic frame, an elliptical extension of the rectangular cell which is at the center of all box kites, was made of wooden strips reinforced at the curved outer edges (top); the covering of silk span was applied in sections (middle). Before take-off (bottom) the kite is ready, Caruso anxious. It is graded both on the ground and in the air.

John Call's single plane kite needed a tail to fly.



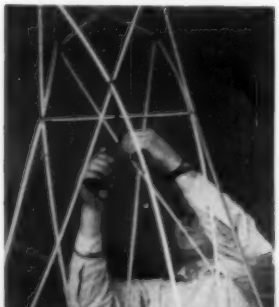
In flight, Henry Hosman's spherical kite is colored with light and shadow.

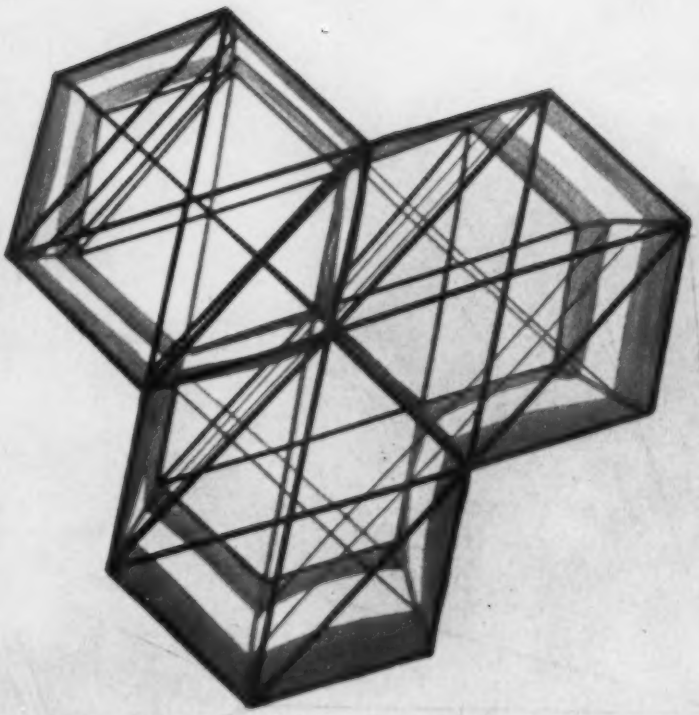
Susan Brands makes a pilot model for testing before building her kite.



William Elzaurdia works on the fine rib keel construction of his kite.

Wally Herbst attaches the bridle to his box kite.

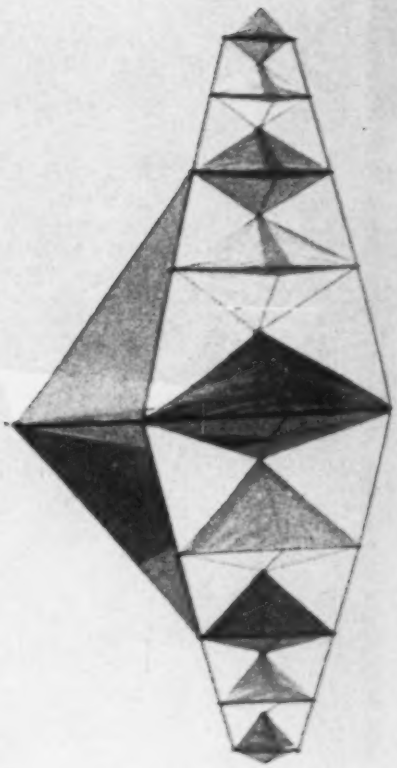




Seen from the end, Sara Balbach's box kite is a study in purposeful symmetry.

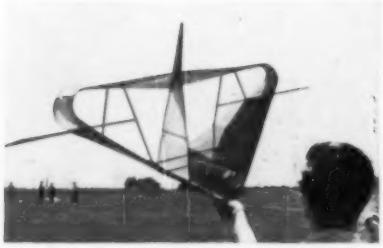
Edward Sipowicz covers his box kite; gets it into the air on a windless day by a running start.

Bug-like compound kite by Berwyn Shane was almost 96" long.



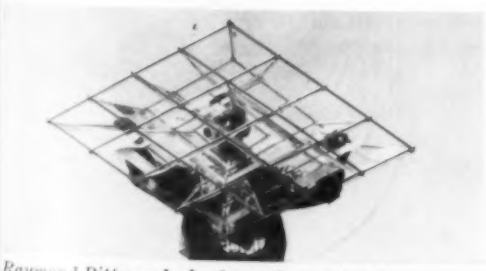
Antic wind turns Donald Chong's tetrahedral kite on its side. Below, as it was readied for flight.

Adjustable center sections of Keats Carleton's kite could be individually set for maximum lift.



Kite based on tetrahedral and stabilizer is readied for launching by Thomas Hassett.

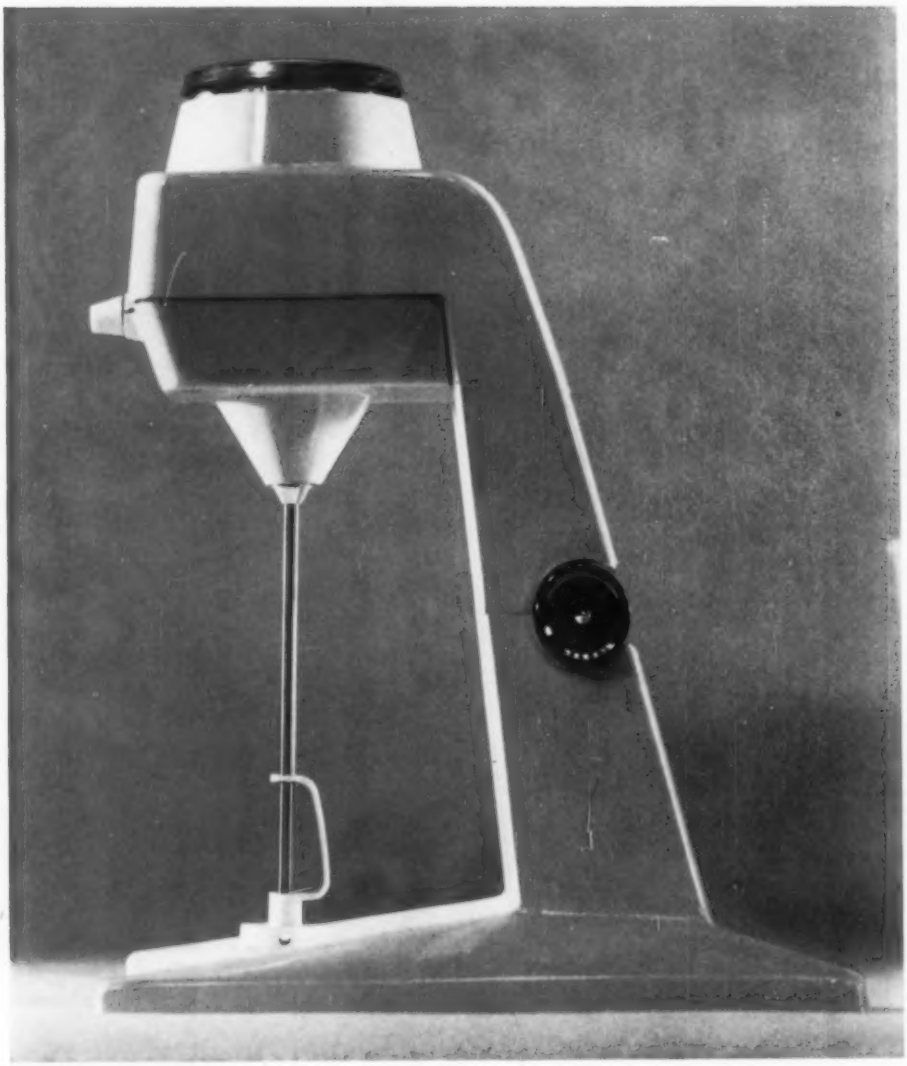
With swept back wings Kenneth Newstrom's compound kite takes to the air.



Raymond Pittman looks down the center of his diamond-shaped kite.

Design review

Burgess drink aerator: Chapman cuts corners to fit new blender to market



Engineer's model

Dave Chapman Industrial Design has created a new product for Burgess Vibrocrafters, Inc.—a low cost, low speed mixer for the giftware market that gives a luxury taste to juices and cocktails. Selling at a suggested list price of $22.50, the BVI drink aerator is being marketed for its flavor value, but the design story indicates a thorough detailing of Burgess' unique product idea.

The company came to the design team of Dave Chapman, Kim Yanasaki and Doug Anderson with a patented mechanism for beating and aerating liquids at the same time; a concept of creating its own place in the small appliance market; and a working engineer's model of the mechanism (bottom). But the engineering prototype had no specific direction in styling or function.

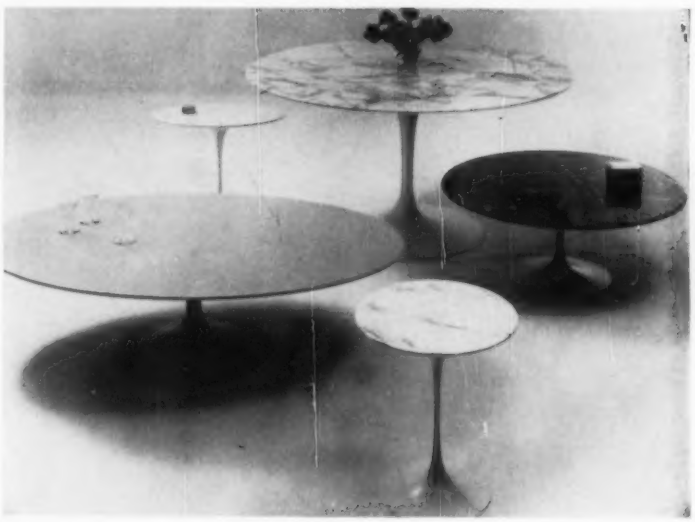
The Chapman team specified a three-piece die-casting for the housing, which answered several problems. The base was heavy enough to balance the weight of the hinged motor unit in the head. This made it possible to insert or withdraw the mixing shaft without tilting the container or extending the unit to an awkward height. (Thus a full quart container can be used, a unique feature on the home market.) The die-casting also allowed a double-post support which gives greater strength to the hinge, and creates visual distinction from other mixers.

The aerator operates on a principle of channeling air into the liquid as well as beating it in. By locating air ducts at the top and rear of the head, instead of the top and sides, the unit is easier to clean and the motor is protected from spatter.

Turning to the container, use-tests showed that the vortex action of the turning liquid makes it climb up the sides of a round container. Square shapes, on the other hand, collect sediment in the corners. Solution: a trapezoidal shape with rounded corners that defeats both problems. (Polyethylene container by Blackhawk Molding Co.)

Crisp styling in keeping with the home furnishings trend, pastel appliance colors, and a motor housing that looks like a motor shape were finishing touches to the design job.

Knoll furniture: Saarinen eliminates legs to simplify subscape

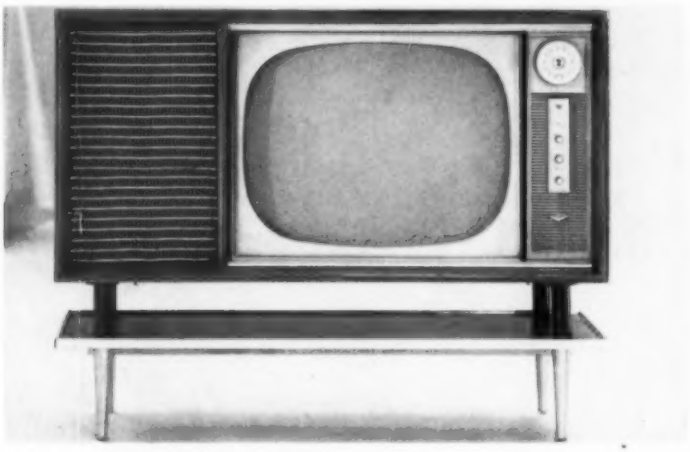


In Eero Saarinen's prototypes for a new Knoll furniture line, molded plastic chair shells and rounded table tops grow from slender, tapered bases in a continuing flowing line akin to stem wine glasses. The innovation stems from the architect-designer's search for a harmonious, organic and restful whole. "Legs have become a sort of metal plumbing," Saarinen says. "I wanted to make the chair all one thing again."

The idea began about four years ago, and the design proceeded from drawings, to quarter-scale models set up in scale-model rooms, to full-scale clay models—in which sculptor Saarinen was assisted by Donald Pettit. With a Knoll research team, they subjected the furniture to strenuous tests: for example, a 267 pound load was placed on the seat of the side chair, pushed back with 100 pounds pressure 41,000 times until the front edge of the pedestal left the floor. No evident damage.

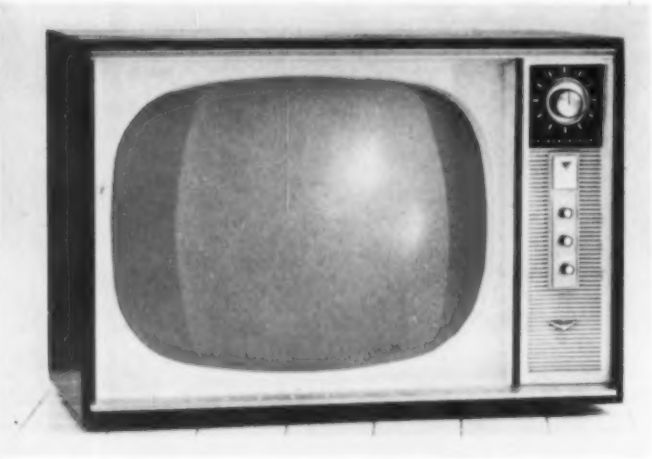
The unity and quietness of the organic forms are stressed by single neutral colors—white, grey, beige and black—with color variety made possible in the seat cushions. Low-cost, despite its elegant appearance, the line consists of side chairs, arm chairs, swivel chairs, a large dining table, coffee tables and side tables (in both round and oval shapes). An additional feature in the swivel chairs is a device that automatically returns the seat to its proper position for automatic orderliness of the room.

The great debate in TV between sets that look like furniture and those that look like instruments comes closer to resolution this year by way of invention: the advent of the shorter 110° picture tube. GE, Hotpoint and Philco have reduced the depth of receivers up to 7½", are promoting flushfit with furniture. Further simplification is made possible by Zenith's new dial antenna that eliminates rabbit-ears.



↑ **Hotpoint's** slender profile is seen in "lowboy" console at top of line. Other features: pre-setting for automatic tuning, three speakers, including 4" tweeter, remote control as standard equipment. $449.95-$465. 14" portable at right is only 13½" deep, weighs 24 lbs., has built-in pop-up antenna. 110° tube increases picture size to 108 sq. in., 12½% larger than 90° tube. $149.95.

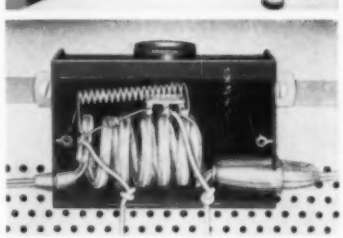
↓ **General Electric** 14" portable compares with Hotpoint in weight, picture area, depth of cabinet, telescoping antenna. $139.95. 21" console below with front placement of speakers on a tilted baffle permits flush fit, forward-directed sound. $249-$269.



↑ **Hotpoint** 21" table model, uses 110° tube for 15" depth, black ebony and white housing, straight sides with front speakers for flush fit with furniture. $229. Other features: automatic focus, automatic sight and sound tuner, horizontal speed control, aluminum voice coil.

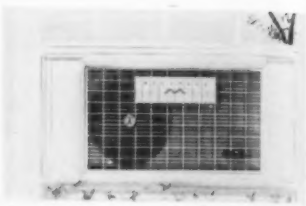
↑ **Philco** "Slender Seventeener" portable uses 110° picture tube for 155 square inches of viewing area, reduces depth of box to suitcase size. Aluminum cabinet has louvered side speaker grille; rotating handle houses antenna, can be turned to pick up strongest signal. Finished in red or gold, or covered in alligator leather; suggested list price $179.95.

↓ **Zenith** "Wavemagnet" antenna eliminates rabbit ears by means of impedance matched signal transformer. Using power cord of TV receiver as active antenna element, induction coil extracts signal electromagnetically and applies it to input terminals of receiver. Three-position dial selector attaches to set, adjusts coil (see spring in cutaway) to optimum sensitivity on both VHF and UHF. $14.95.

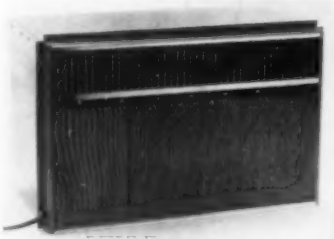


Air conditioners, while still expensive, are an increasingly popular home convenience — 1,750,000 room units were sold last year. To increase this, manufacturers have reduced power appetites without lessening cooling powers. The inevitable result: portables, shown by RCA Whirlpool and others. An inescapable part of a room's furnishings, conditioners with fabric panels, hidden controls look like furniture.

↑ **Portable** RCA Whirlpool Featherweight 75 weighs 90 lbs., can be plugged into any 115 volt household circuit. ¾ hp. motor delivers 6,000 BTU per hr. Aqua enamel on aluminum, it measures 21″ wide, 14″ high, 14″ deep.



↑ **Rotating fan,** moving a full 1[illegible] degrees in the Mitchell Roto Cone pushes air in all directions. Mounted on two ball bearing floats, the fan is self-propelled and may be locked in one position, adjusted to speed. ¾ hp. to 2 hp. models, $359.95 to $495.95.

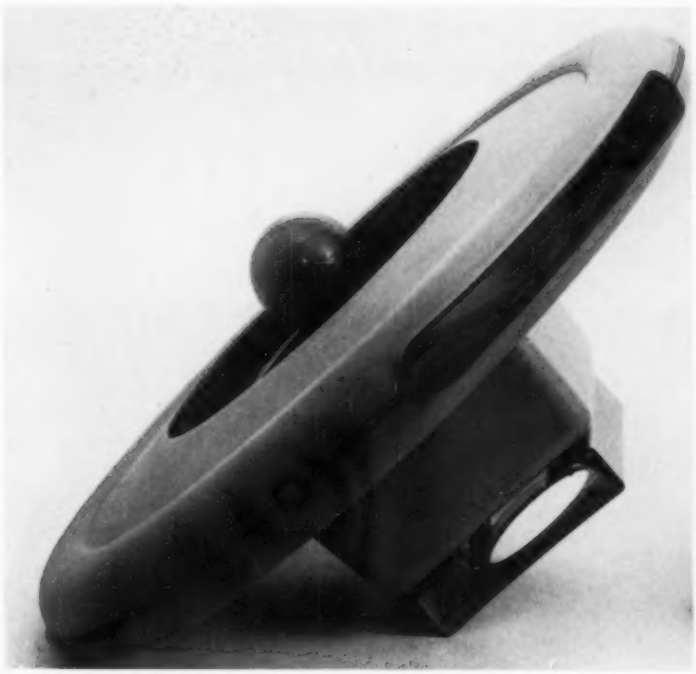


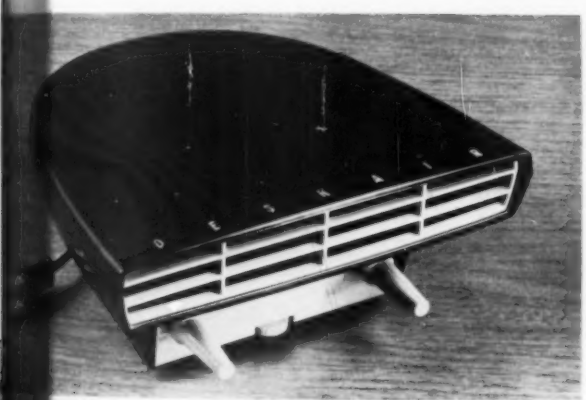
↑ **Fabric panel front** gives Amana Slim-Lo the look of radio console. To increase appeal for decorator conscious consumer, fabric may be changed. As its name implies it is slim—15½″ deep—and 18″ high. It also has charcoal filter, 2-speed fan.

↑ **Air purifying system** is new for two models in Philco air conditioner line. Called the Ionitron, it cleans air by ionizing dirt particles which increases their adherence to aluminum filter. Activated charcoal filter completes the cleaning. $379.95, $399.95.

↓ **Low power consumption** is claim of Fedders Super-Supreme, the first 1 hp. conditioner to use only 7.5 amps of 115 volt circuit to deliver 9,000 BTU per hr. It is done, says its maker, by an exclusive 2-cylinder hermetic compressor, an oversize evaporator and 3-row condenser. $369.95.

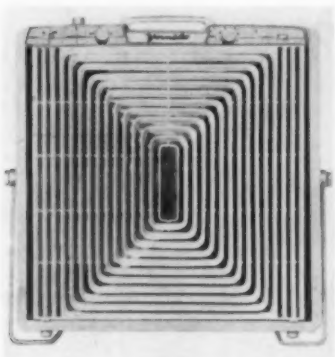
→ **Tumbler fan** is 21″-diameter version of model introduced last year by Chemex Corp., utilizing plasticized paper discs as fan blades. Weighing only 16 lbs., it works at any angle. Cowl and base are made of Royalite. Inventor: Dr. Peter Schlumbohm. $75.00.

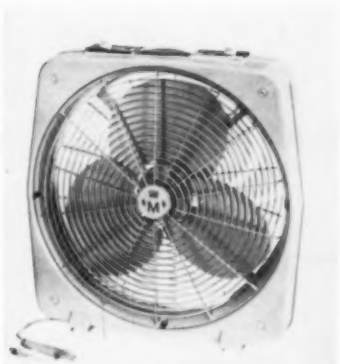




↑ **Personal Fan** for office desks is angled to prevent mussing papers. Air is circulated by centrifugal impeller, forced through narrow grill. Made of high-impact polystyrene, it was designed by John C. Wistrand for Brown & Bigelow.

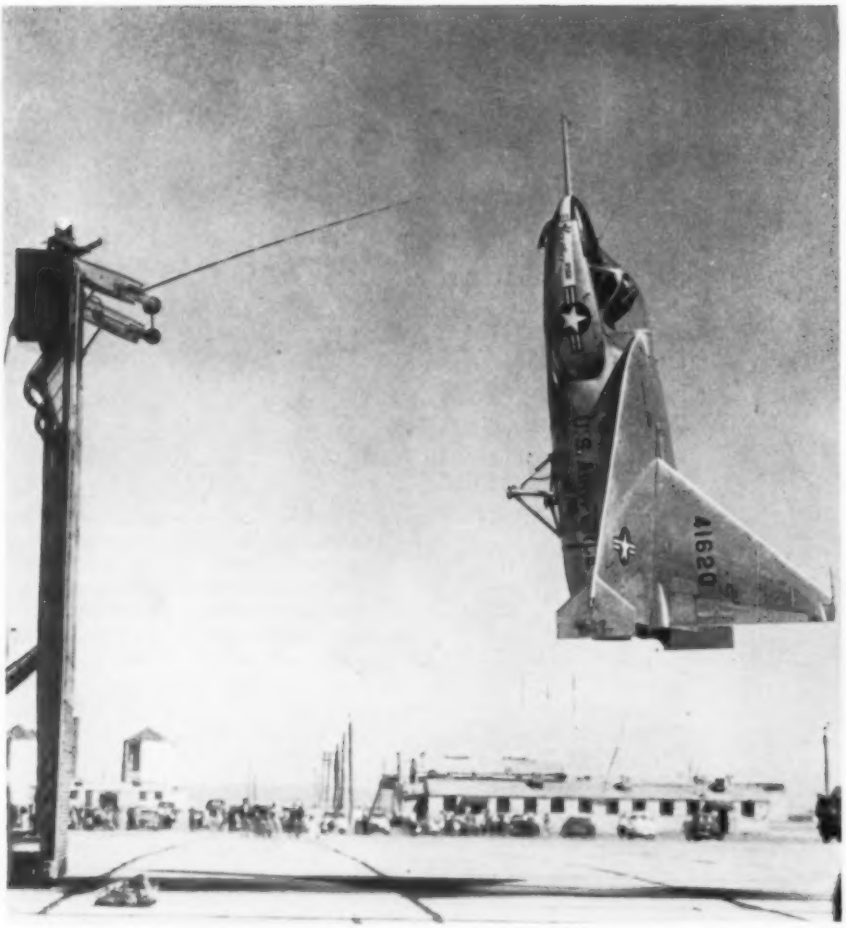
↓ **Aerodynamic grillework** of the Vornado Golden Sierra follows the lines of spreading air, masking the circular motion of the fan blades. As much controlled as a conditioner, it has a timer, air purifier, light to indicate when power is on. $79.95.





↑ **High-impact polystyrene** is used for first time to house portable window fan. Weight of 24″ x 24″ x 6″ unit is reduced to 20 lbs. Fan has choice of three speeds. Designed for Meier Electric & Machine Company by Reinecke & Associates. $69.95.

TECHNICS *a catalog of new products, materials, processes and finishes*



Vertical ascending jet

The Air Forces' experimental jet plane, the X-13 Vertijet, shoots skyward in absolute vertical position, then quickly makes the transition to conventional horizontal flight. Takeoff, for this unusual plane, is from a horizontal cable from which the plane's nose is suspended. Because the plane can hover at zero air speed, landing can be accomplished by dropping earthward in vertical position to the landing cable and jockeying back into "hooked" position ready for the next takeoff. The hook on the plane's nose becomes the sum total of the landing gear, cutting 10% from the jet's weight. With its astonishing ability to rise and descend on a column of seething exhaust gas, the Vertijet eliminates the need for long runways that other jets require.

A major change in the design of jets is possible with the Vertijet because the wing shapes are not dictated by ordinary landing speed requirements but can be styled specifically for supersonic flight.

The Vertijet experimental models were built for speeds of 300 miles per hour. This is by no means the top speed attainable, but is all that was required for test purposes. By the time a conventional jet is 15,000 feet down a runway, the Vertijet is 15,000 feet in the air.

T. Claude Ryan, president of Ryan Aeronautical Co., says that the vertical takeoff principle is only practical for high supersonic speed use. Commercial aircraft need high weight carrying capacity for low fuel consumption. The Vertijets use engine power to get aloft while commercial craft make greater use of their wings for a gas saving.

Manufacturer: Ryan Aeronautical Co., San Diego 12, California.

Wireless neon signs

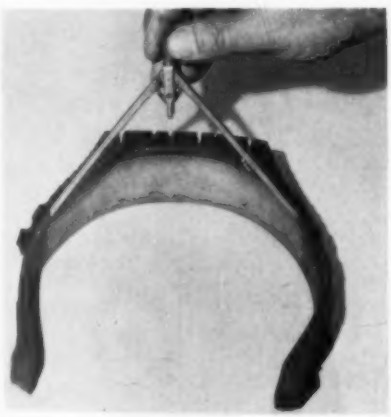
Neon light that needs no electrical connections for the lighted letters, and permits quick changes of text or color, has been put on the market by the Radalite Corporation. The new device marks the first commercial application of induction lighting: light is created by a radio beam emanating from a high frequency transmitter and picked up by an antenna molded within the racks on which the letters are displayed. Letters, numerals, and punctuation marks, are available in five colors (red, blue, green, gold and white.) They consist of glass tubes coated on the inside with a phosphur, and contain various inert gases such as argon, neon, helium, xenon, or krypton, in combination with mercury. When the letters are placed on the rack containing the antenna, they are activated by the radio beam, and the inert gas molecules are set in motion; this activity causes the phosphur inside the tube to glow, which creates light. The variety of colors is obtained by changing the combination of phosphur and gasses. The racks for the letter display are made

of high-impact polystyrene extrusions, are three feet long each, portable, and lend themselves to a variety of arrangements. It is expected that the new signs will find wide application in department stores, banks, markets, restaurants, gas stations, showrooms, hotel lobbies, and theatres.

Manufacturer: The Radalite Corporation, 41-18 38th Street, Long Island City, New York.

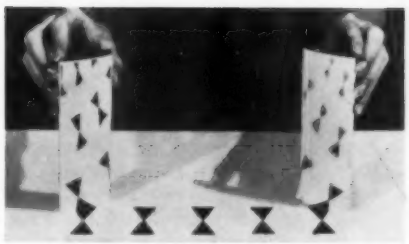
Car tire with built-in balance

A passenger tire with built-in balance is reported to produce easier steering, vibration-less rides even at high speeds and longer tread wear, has been developed by the Fisk Tires Division of U.S. Rubber Co. The tire called the Safti-Flight, represents an improvement that has been the goal of tire makers ever since autos came out with independent front wheel suspension in 1934. As auto suspension systems have been refined and auto performance increased, tire balance has been an important consideration in car developments. The balance



effect has been achieved on the Safti-Flight tire by including in its construction a thin, wide strip of dense rubber that runs completely around the inside of the tire. This strip, or balance band, is vulcanized to the lining of the tire when the tire is cured. The balance band is also said to give extra grip around an object in case of puncture, thereby helping to prevent sudden air loss. The Safti-Flight also has a new tread designed for high speed performance.

Manufacturer: United States Rubber Co., 1230 Avenue of the Americas, New York 20, N. Y.



Aluminum brightness increased

Anodized aluminum extruded shapes are being made available with an increased brightness that may mean wider use of aluminum extrusions in the automotive, architectural, and appliance fields. The new alloy, called Alloy X6463, is heat-treatable, and offers a bright finish when anodized. It it expected that the brightness of this treated metal will make it especially useful for such automotive applications as bumpers, grilles, trim panels, frames, emblems and lettering. Architectural applications will include store fronts, ornamental work, marquees, ventilators; the new extrusions can well be utilized for trim parts on refrigerators, washers, dryers, and air conditioners. Extrusions in the new alloy are now available for both commercial and developmental applications.

The mechanical properties of Alloy X6463 are similar to those of the more familiar Alloy 6063 of Alcoa.

Manufacturer: Aluminum Company of America, 796 Alcoa Building, Pittsburgh 19, Pa.

Truck levels to platform

Modern truck loading and unloading will take place without manual lifting or lowering if the Lo-Loader truck design of the Thompson Trailer Corporation prevails. The new Lo-Loader truck has a body that can be moved up and down like an elevator to come level with loading platform or curbside. The manufacturer makes the claim that street loading time is cut to a third. The Railway Express Agency is already testing the claim.

Three hydraulic cylinders operate independently, enabling the driver to tilt the truck body frontward, backward or to either side. This means that the truck can be jockeyed to conform to any loading dock regardless of whether it is resting on a level, irregular or sloped surface. The Lo-Loader has front-wheel drive and this makes it possible to eliminate the rear axle and conventional drive shaft. Mating channels, which connect the body and the chassis containing the front driving axle, engine and cab, act as the elevator guide.

The trailer rides at conventional height, resting on chassis springs attached to rear wheel hydraulic levers. When the trailer is lowered, the rear wheels retract into the wheel housing like an airplane landing gear. The trailer can be lowered from its normal driving position to ground level in 12 seconds. The Railway Express truck has a 5-ton capacity. No sale price has as yet been set.

Manufacturer: Thompson Trailer Corp., Pikesville, Maryland

Plastic floats reduce evaporation

Miniature foamed plastic floats with a new four-pointed shape for tight surface coverage, are said to reduce evaporation losses of volatile solutions by as much as 75%. Made of Eastman Tenite polyethylene, the floats contain thousands of tiny, closed air cells, have good buoyancy, strong chemical and solvent resistance and toughness. Tenite polyethylene floats can be used to reduce evaporation of liquids, since they are chemically inert and neither contaminate nor affect a solution.

Manufacturer: American Agile Corporation, P.O. Box 168, Bedford, Ohio

Magnet aids in tube assembly

Magnetic "fields" are being used as an assembly aid at General Electric's Owensboro, Ky., plant. A small U-shaped Alnico 5 permanent magnet attached to a small metal strip, worn as a ring by the assembly worker, facilitates assembly of tiny parts in precision manufacturing of high reliability electronic tubes for military and aircraft use. Small component parts can be stored all around the magnet where they are conveniently accessible to the assembler.

Manufacturer: General Electric Co., Owensboro, Ky.

Large corrugated Plexiglas sheets

Corrugated Plexiglas sheets in sizes up to 8½ x 10 feet in both colorless transparent and translucent colors for signs, architectural and decorative applications are now being manufactured by a Philadelphia plastics fabricator. The new sheets, made from Plexiglas RL sheets, are available in thicknesses of .187 and .250 inches, with ⅜ inch high corrugations occurring at every inch or with 1 inch corrugations every 2½ inches. It is expected that the new sheets will allow greater design flexibility in the fabrication of commercial signs and other products where large expanses are required. Manufacture of the sheets involves a 12 x 12 foot oven and a 12 x 16 foot corrugated press with extruded aluminum dies.

Manufacturer: Amplex Manufacturing Company, 2325-31 Fairmount Ave., Philadelphia 30, Pa.

Fast-curing paint resins

The American Cyanamid Company has announced two new fast-curing surface coating resins for paint which are said to give greater impact and chemical resistance than conventional finishes. The new resins, Cyzac 1006 and Cyzac 1007, are expected to find many applications in finishing metals. They are being marketed through the company's Plastics and Resins Division.

The resins can be used alone or, modified by Rexyl alkyds, to provide especially high impact resistance. Other properties that the resins are said to share are flexibility, high initial gloss and good gloss retention, unusually good enamel stability, and better adhesion than conventional finishes.

Cyzac 1006, used with a primer, is intended for application in washing machine and stove surfaces where initial color and color retention are important. It is hoped that the good hardness-impact relationship will make it equally useful in the auto enamel field.

Cyzac 1007 can be applied over unprimed steel making it applicable for refrigerator walls, other electric appliances, metal cabinets, furniture, hospital equipment and toys.

Manufacturer: American Cyanamid Company, 30 Rockefeller Plaza, New York 20, N. Y.

Mylar for product trim

Pressure-sensitive Mylar can now be applied to such products as air-conditioner control panels to produce a gleaming surface. Fasson Products Company has been able to treat Mylar to produce the gleaming quality when the specially treated Mylar is applied to trim parts. The Fasson Mylar, available in embossed patterns and a variety of colors, can be used to replace metal trim parts. It is easily applied: paper is peeled off the back of the wrapped Mylar, and the material is pressed into place. The high-tack, pressure-sensitive adhesive Mylar sticks to any clean, smooth surface.

Manufacturer: Fasson Products, 250 Chester St., Painesville, Ohio

New fire warning and locating unit

An automatic fire warning and locating system with a series of detectors installed in numerous zones, has been made available for use in small businesses, small factories and semi-commercial buildings. Called Zonalarm, the unit is particularly well suited to industrial installations where the use and storage of inflammable material presents constant fire danger. The unit goes into operation when fire starts or heat rises causing thermostatic detectors installed on the ceiling throughout the protected areas to be closed. The location of the fire appears on a central indicator panel and a self-contained bell sounds loud warning signals. The unit powering the fire alarm system consists of a transformer, relays, wiring terminals and a battery compartment, and may be mounted in any convenient location. Both indicator panel and power unit are prewired at the factory, which simplifies the installation; only an interconnecting cable is needed between the two units. Zonalarm systems cost approximately $200.

Manufacturer: The Edwards Company, Inc., 90 Connecticut Ave., Norwalk, Conn.

3rd in INDUSTRIAL DESIGN'S annual series on GREAT AREAS OF DESIGN OCTOBER 1957

In keeping with its interest in making major regional reports INDUSTRIAL DESIGN will devote more than 50 pages of its October 1957 issue to the story of the West Coast—one of America's great industrial frontiers.

The West Coast is the nation's newest and presently America's 3rd largest industrial area. An area where industries spring up overnight, where basement operations become big business, where innovation and invention and new ideas are what pay off.

Our editors will dig deep into the West Coast design situation. They will probe into the West Coast's biggest industries, as well as the significant smaller ones. This penetrating article will show how industrial designers can help give direction to the rapid growth of the area, and will look ahead to trends emerging from West Coast industries. Here are some of the industries to be singled out for review: aircraft, instruments, electronics, aluminum, missiles, office machines, solar energy. The West Coast is a design frontier in architecture, furniture, appliances, stone, clay, and glass products. Many national design trends have originated here since the war, and continue to spring up.

In its October report, INDUSTRIAL DESIGN will again develop a significant close-up of a region whose direction is affecting industry everywhere.

INDUSTRIAL DESIGN for October, featuring this significant close-up of "Design on the West Coast," will be essential reading for all active Industrial Designers and executives throughout industry who are concerned with product design, development, and marketing.

You and your associates will want to read INDUSTRIAL DESIGN in October. The subscription card at the back of this issue, mailed today, will start a subscription at once and assure delivery of the October issue.

Both won awards as the best single issue in Industrial Marketing's annual Editorial Achievement Competition

For Your Calendar

June 28-September 8. The Main and Mezzanine Galleries of the Museum of Contemporary Crafts will be given over to an exhibit of "Tools, Techniques and Materials." Museum of Contemporary Crafts, 29 West 53rd St., New York 19, New York.

July 6-28. Processes for Design Problem-Solving. Three-week summer program, Institute of Contemporary Art, Boston, Massachusetts.

July 27-November 4. The eleventh International Triennial Exhibition of Modern Decorative and Industrial Arts and Modern Architecture will base its program on the themes: 1) relationship of the arts, 2) contemporary architecture, 3) art production and industrial design. The address is, as always, Milan, Italy.

July 30-September 22. In recognition of the exceptionally high level that Swiss graphic art has reached since World War II, an exhibit of the work of 12 Swiss graphic designers will be shown at The Institute of Contemporary Art, 230 The Fenway, Boston 15, Massachusetts.

September 9-13. The Instrument Society of America, devoted to the technology of instrumentation and automatic controls, will convene for its 12th Annual Instrument Automation Conference and Exhibit, at the Cleveland Auditorium, Cleveland, Ohio. About 500 exhibits are scheduled and some 100 papers will be delivered.

September 12-22. The National Furniture and Home Furnishings Show will be held at the Coliseum, New York.

September 17-18. "Plastic Materials for Roof Construction" will be the topic for the fourth meeting of the Plastics Study Group of the Building Research Institute, the technical society of the building industry. The place is Geo. Washington University, St. Louis, Missouri.

September 18-24. An International Design Congress will be held in Darmstadt, Germany, under the sponsorship of the Frankfurt Industrial Design Organization. The theme of the Congress will be "The Creation of Good Design and its Acceptance by the Public."

October 14-18. The National Hardware Show will be held at the Coliseum, New York.

October 24-25. The Aircraft Electrical Society will conduct its annual display of the latest aviation electrical products in the Pacific Auditorium, Los Angeles, California.

October 28-31. The Third Trade Fair of the Atomic Industry will be held at the New York Coliseum, New York City.

October 28-November 1. The National Business Show will be held at the Coliseum, New York.

October 31-November 1. Third Annual Technical Conference of the Electron Devices Group, Institute of Radio Engineers, will be held at the Shoreham Hotel, Washington, D. C. Papers will cover developmental techniques and devices, including electron tubes and transistors.

November 1-4. Third Creativity Conference, sponsored by the Boston Institute of Contemporary Art, will be held at Arden House, Harriman, New York. Registration may be made at the Institute, 230 The Fenway, Boston 15, Mass.

December 1-6. There will be a design engineering conference held in conjunction with the annual meeting of the American Society of Mechanical Engineers, the Palmer House, Chicago, Illinois.

CYANAMID

PLASTICS NEWSFRONT

SOCKETS TO MATCH YOUR '57 CHRISTMAS TREE

A more colorful Christmas—1957 is in the making today. To match the trend to Christmas trees sprayed in a host of colors, Conart Co., Inc., is now molding light socket husks in a variety of colored BEETLE® Molding Compounds to be strung on matching wire strands. Sturdy, hard BEETLE is an excellent insulator, and its molded-in color resists heat and discoloration, can't chip off. Conart produces enough husks each month to stretch twice from coast to coast.

ANGELIQUE'S CYMEL® AEROSOL WINS CSMA AWARD

1956 saw the first successful all-plastic aerosol spray dispenser made of CYMEL Melamine Molding Compound. And it brought the top Chemical Specialties Manufacturing Association, Inc. award in the class of glass and plastic aerosols to Angelique's CYMEL dispenser for Black Satin Spray Cologne. Plastic aerosols are popular with the ladies, too—feel warm and pleasant in the hand, resist breakage and corrosion, eliminate evaporation. Their success points the way to many new packaging possibilities with CYMEL.

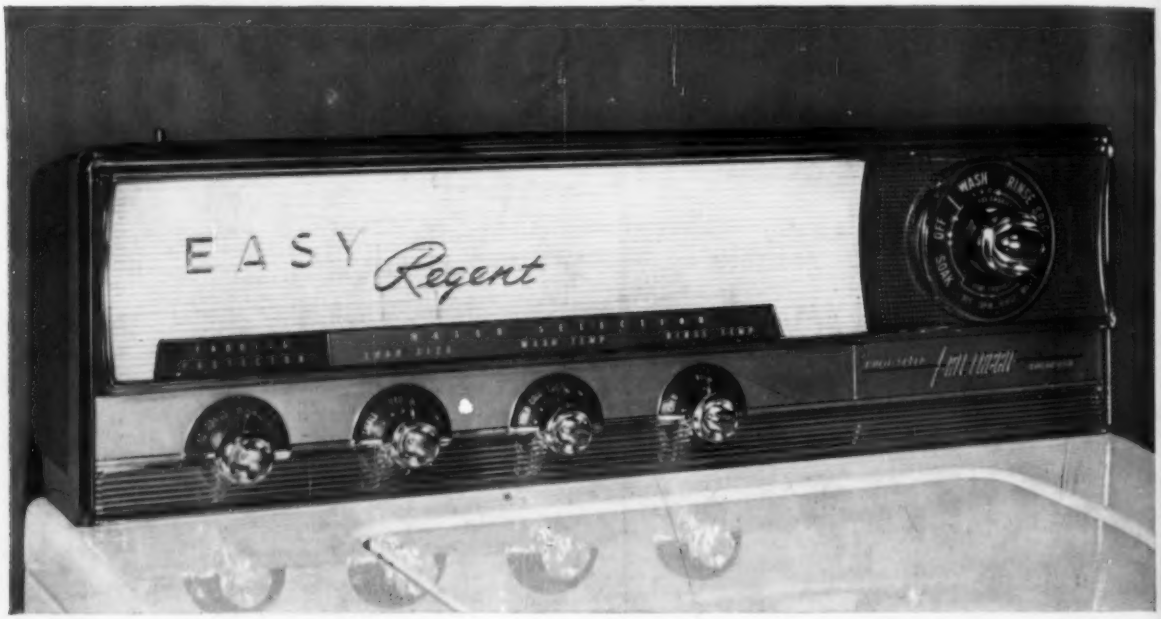
LAMINAC® SIGNS WARN OF "OPERATION ELECTROCUTION"

These LAMINAC signs point to a great experiment in sea lamprey control being conducted by U.S. Fish and Wildlife Service in the Great Lakes area. To kill these destructive eellike fish, electrically charged lines are stretched across areas where lampreys return from spawning. Passers-by are warned off by signs posted on land and in the water. To make them waterproof, with warnings that can't wash off, Perry Plastics, Inc., makes the signs of glass-reinforced LAMINAC Polyester Resin. Color is molded in, so signs never need painting and will never rot or rust away.

Designed with

PLEXIGLAS

in mind



From side to side and top to bottom, the handsome control panel of this automatic washer is a single unit, molded of transparent PLEXIGLAS® acrylic plastic. The panel is lighted by concealed fluorescent lamps. Metallic effects, colors, letters and dial markings are achieved by decorating the back surface of the crystal-clear molding.

The use of PLEXIGLAS resulted in these advantages:

- Distinctive product identification, illumination, and control dials are combined in one transparent material.
- The water-white clarity of the molding gives depth and sparkle to the decorative treatment.
- The smooth, integral surface of the panel is easy to keep clean and gleaming.
- The durability of PLEXIGLAS and its resistance to discoloration maintain the quality appearance of the panel throughout the life of the machine.
- Manufacturing costs and parts inventory are reduced because there are fewer parts to be assembled.

Our design staff and technical representatives will be glad to tell you what PLEXIGLAS *molding powder can do for your product.*

Canadian Distributor: *Crystal Glass & Plastics, Ltd., 130 Queen's Quay East, Toronto, Ontario, Canada*

Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries