INDUSTRIAL DESIGN

November 1957 $1.50 per copy

the international TRIENNALE exhibition

Top design students run their own show

Nation-wide guide to modelmaking services

...MBER, 1957 VOLUME 4 NUMBER

ID

INDUSTRIAL DESIGN

...monthly review of form and technique in ...signing for industry. Published for active in...strial designers and the executives throughout ...dustry who are concerned with product plan...ng, design, development and marketing.

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Coming

...DECEMBER — *ID's Annual Design Review issue, ...nding up the significant innovations of the year.*

...JANUARY — *the first comprehensive study of "pre-...sign" research, explaining how market and motivation ...search techniques serve the designer.*

COVER: Slim anodized aluminum tubes, part of lighting fixtures, c
with circular air vents in ceiling of geodesic dome which housed A
exhibit at Triennale. Photograph by Sergio Bersani, interior by Paul M

FRONTISPIECE: Electroplating, one of several processes described
article on Special Services to Modelmakers on pages 98-109, gives p
models a highly finished appearance. Matilde Lourie's photograph
cluster of components after they were dipped in a plating bath at
Nelkin, Inc., New York.

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CLIPS AND QUOTES

Donald H. Jensen, *Public relations director of* **Square D Company,** *Detroit, in an address at the Twelfth Annual Convention of State Planning and Development Agencies in Louisville, Ky., May 10, 1957:*

"Industry wants more than reliable labor supply, a good transportation system, adequate water and power, and a fair tax structure in bold, new concepts of industrial planning. State planning and development agencies should consider the following types of projects:

1. Industrial annexes to university campuses, where industry could establish engineering and administration facilities, to cope with increasingly complex research problems and the growth of management as a form of science.

2. Industrial parks offset along state turnpike systems, to which employees would drive safely from rural communities at better than a mile a minute, and super motor transports would bring freight and raw materials.

3. Industrial service hubs to help metropolitan centers hold and attract industry, which would rise on land cleared of factory slums and provide metered heat and power and various centralized employee services for companies building around the rim of the project." "

William Capitman, *president of the* **Center for Research in Package Marketing,** *in a statement, August 29, 1957:*

"High-toned symbols of social position are being over-used in modern marketing. It has become quite clear that building an upper level social status into a product has been wrong in at least two respects. In the first place the use of social position symbols which are too aristocratic tend to cut sales. Secondly, the use of these status symbols for products which should be much more mundane tends to destroy the value of the symbols for everything. For example, the Cadillac 'V' which has been so widely copied in various forms, as in the packaging of cigarettes, is becoming a virtually meaningless symbol for Cadillac. The use of this status symbol in a product which is essentially, in the mind of the consumer, down to earth, even in the pleasurable connotations, is destroying the value of the symbol as a whole.

Crowns, crests and rampant lions serve as trademarks for every type of product—from lingerie to beer, perfume to half-soles, margarine to soup. As a result, it appears that to convey quality and social position, the manufacturer must seek to break away from the 'crowd' by finding symbols which convey the true spirit of his product." "

Dr. Leslie K. Gulton, *president, Gulton Industries, Inc., in a statement issued in conjunction with the opening of the* **Western Electronics Show and Convention** (WESCON), *San Francisco, August 20, 1957:*

"The field of ultrasonics is not a scientific mystery. The use of inaudible sound to power scores of industrial and mechanical tools, consumer appliances and medical instruments, is on the threshold of becoming a major industry in the United States. Yet few technical people and fewer businessmen and industrialists have been given an opportunity to grasp any real concept of the science.

The science of ultrasound was discovered as long ago as the tuning fork. In 1883, a dog whistle was used which humans could not hear. Though it has taken a long time to turn this laboratory curiosity into commercially feasible instruments and applications, there is no excuse now for continued, self-imposed censorship of activities in the field.

The coming year may very likely see industry sales soar to record proportions. It is unheard of that a multi-million dollar industry—and it is just starting—should be so little known in industrial circles." "

Marshall Bartlett, *manager of product planning for the Household Refrigeration Department of General Electric, in a speech on product planning given to the* **Chicago Chapter, American Society of Industrial Designers,** *July 25, 1957:*

"While most industrial designers recognize the consumer need for product performance at both a functional and emotional level, many fail to relate these two needs to the product and consumer under consideration. All too often, designers appear only superficially to understand the problem, with the result that design recommendations frequently suit the designers' emotional and functional needs rather than those of the consumer. In most cases, there is little relationship between the two. One consequence is a product attractive to designers but not to the market, except by coincidence. This unsatisfactory situation and its occasional tolerance by business stems from the fact that both designer and businessman often become so insulated from their market that they have no real basis for either creating or judging alternative design solutions.

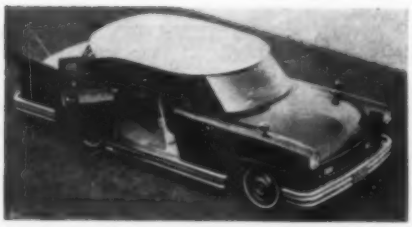
Better design solutions resulting in finished products which produce more profits for the business served are the stuff from which your success and individual incomes emanate. Following this line of reasoning leads to a conclusion that the product planner complements rather than conflicts with the industrial designer. He is the one who can lock the designer into the product planning process, and by so doing, increase the latter's contribution and resultant income. Since every business has a product planning process, but many have no product planner or reasonable substitute, the design firm that can first recognize the need for such a function and then help fill it when the occasion requires should hold a position of unusual strength. It is gratifying to see that some designers have already seized this opportunity." "

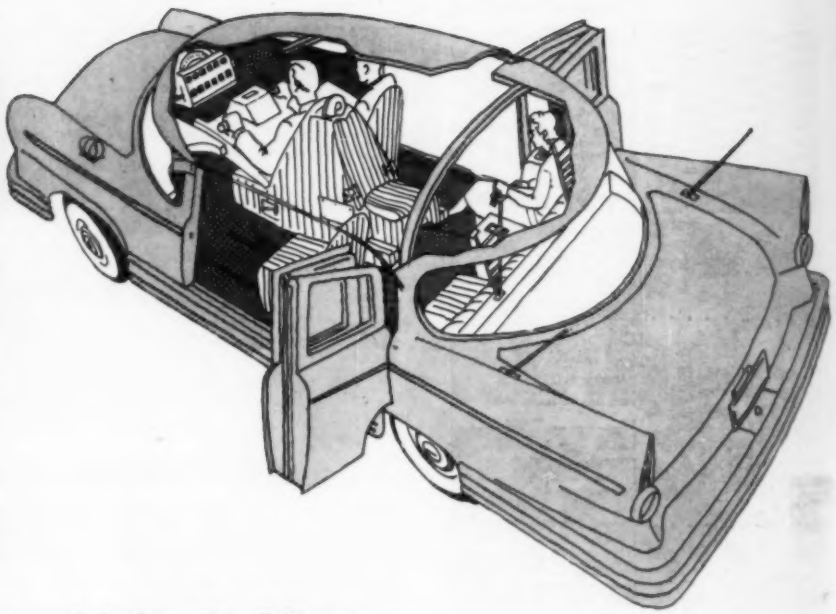
Henry F. Dever, *vice president of Minneapolis-Honeywell Regulator Company, in an address at the twelfth annual convention of the* **Instrument Society of America;** *August 23, 1957:*

"Once small business realizes the economy of instrumentation, it will be a big investor in automation. Automatic controls and similar cost-cutting tools can offset higher costs by increasing productivity and minimizing waste. Failure to recognize this fact can lead to business disaster.

With more and more firms experiencing a tightening squeeze on profits, and with no signs that we have reached the end of the annual round of wage increases, only those companies who look realistically ahead and take steps to improve productivity can hope to stay in business." "

NEWS





More than fifty design changes on interior of safety car

After five years of testing and research (ID, Dec., '56), the Cornell-Liberty Safety Car (above) was unveiled last month, and while the sponsors, Liberty Mutual Insurance Company, do not expect the car to be put into production, they hope that many of its features will be adapted widely by the automotive industry.

The principle behind development of the car is related to the industrial accident prevention techniques which have cut work fatalities almost in half in the last forty years, explains Bryan E. Smith, president of Liberty Mutual. As conventional approaches, such as lowering speed limits, failed to solve the traffic accident problem Liberty turned to the concept of "packaging" the passenger (in much the same way that an egg is packed into its crate). It was worked out by Frank J. Crandell, chief engineer for Liberty, and Edward R. Dye of the Safety Design Research Division, Cornell Aeronautical Laboratory, also sponsoring the car.

The interior of the car now embodies more than fifty new features directed toward passenger safety. Most radical innovations have been the elimination of the steering wheel in favor of a lever-controlled hydraulic system (above, left), and the relocation of the driver's seat in the center of the car. All seats are bucket type and are provided with safety belts. The three forward passengers are further "packed" into their seats by U-shaped webbing yokes supported by movable and adjustable panels. After entering the front compartment, one first adjusts the sliding seat to the desired position and then pulls the restraining panel down into the lap. The two steering control handles, which eliminate the potentially dangerous steering wheel, are mounted on the same panel. To steer the car, the driver grasps the two horizontal control handles and moves them as though steering a sled. Gear shifting is controlled by four buttons on the back right side of the panel. Light buttons are located in the same relative position on the left side.

A ventilating intake scoop above the windshield feeds fresh air into the car. Air leaves the car through louvers in the rear. Such a system tends to prevent infiltration of fumes.

Each door consists of two sections (sketch, above), hinged at the center and to the rear body post, which open and close like telephone booth doors. They are securely closed by three bolt bars which keep them shut in a collision, thus maintaining full structural support of the car body. Front and rear bumpers are designed to wrap around the sides of the car as far as the wheel openings in the fenders. Cellular plastic between bumpers and back-up plates absorbs some of the initial energy of shocks. Side bumpers are rigidly mounted to the frame.

The car will be on view in Boston during November, after which it will tour the country.

Ford makes new style policy

J. O. Wright, vice president of Ford Motor Company, announced at a news conference last month that Ford will now make major style changes yearly rather than every three years as has been the custom. The new policy is part of an effort to bring more customers into the market, spread the additional costs ($185 million on the 1958 Ford) over a larger number of vehicles, and thus beat the competition of companies who "face-lift" on a yearly basis and make major changes only every three years.

Among the changes in this year's Ford are new styling, a new engine, transmission, and gear ratio.

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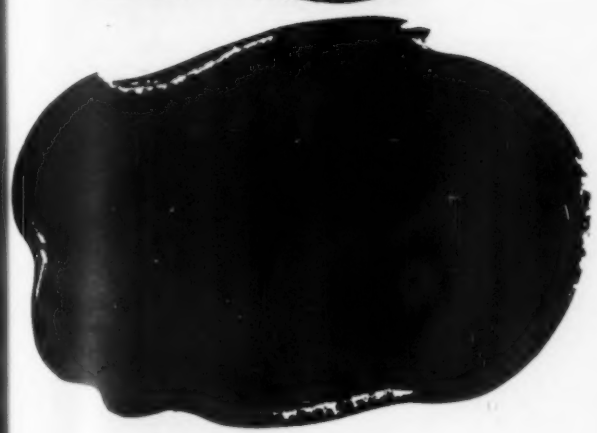

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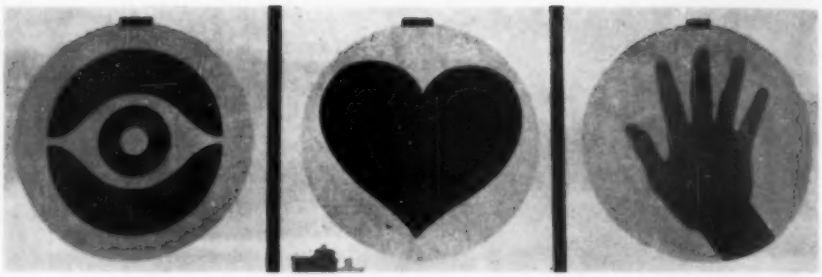
San Francisco IDI finds new approach to the "good design" show



The year-old San Francisco Chapter of the Industrial Designers Institute last month explained to citizens of the Bay Area the nature of industrial design, through an exhibit at the annual art festival in North Beach's Washington Square Park. During its eleven-year history, the festival, put on by the San Francisco Art Commission and headed by Harold L. Zellerbach, has come to include architecture, handicrafts, and photography, as well as the fine arts. The exhibit, which was limited to items in general use, marked industrial design's debut at the festival.

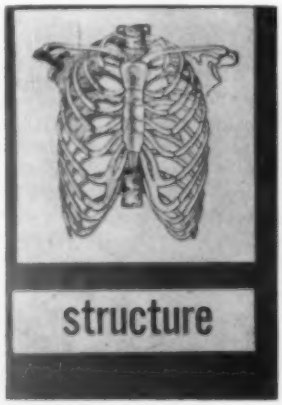
Especially stimulating to the San Francisco Chapter was the notion that consumer awareness of the importance of good design would soon work back to the manufacturer, the designer's client. With this in mind, the IDI exhibit committee decided upon a program called, "What's Good About It?", which would not merely present one group's choice of "good" products but would dramatize the importance of well conceived design in manufactured products and at the same time help the public develop an analytical approach toward viewing new and unfamiliar objects.

To all viewers who seemed interested, the exhibitors offered a checklist of printed questions concerning the products on display. Some of these were: "Is it inviting? Are the materials from which it is made suitable to the function? Is it so clearly stated that it will seem to improve with time? Are you glad you saw it even though you may not like it? Does it make a genuine contribution to civilization? Does the method of construction add interest and strength to the design? Does it make you aware that thought and care were given to every detail?"

To further help the audience, a series of placards (such as the ones below, right) by Douglas Nicholson, suggesting various design requirements, were placed throughout the exhibit. The observer was then encouraged to explore "what's good" about the items on display, and to subject each article to a critical examination based on the factors suggested by the placards and the questions. The exhibit was lighted by three fixtures whose translucent soffits in blue, red and yellow symbolized the eye, the heart, and the hand (right, above).

The result of the Chapter's work was a constantly crowded exhibit. Among the 100,000 attending the show were a number of clients, manufacturers, and advertising men whom the Chapter wanted to address, but might not otherwise have reached.

Originally housed in a plywood geodesic dome (left, above and below) constructed by George and Evelyn Kosmak, under license from Buckminster Fuller, the exhibit will travel to libraries and schools.



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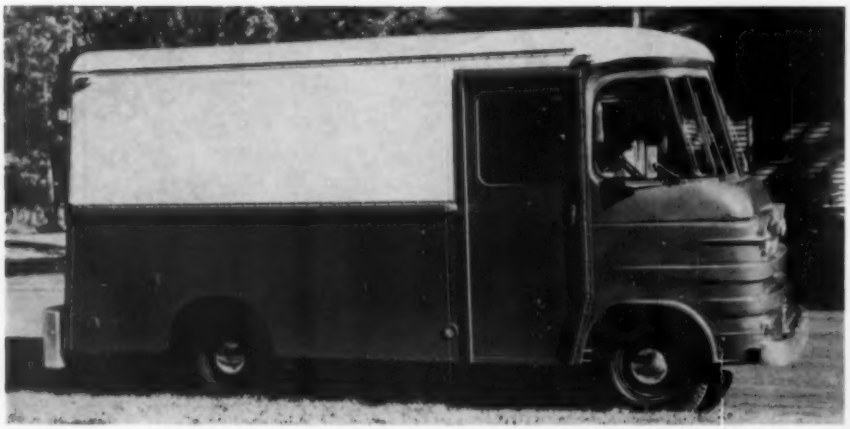

Plastic and metal truck produced

Lunn Laminates, Boyertown Auto Body, and Dow Chemical Company have combined to produce a plastic and metal delivery truck suitable for the bakery, dairy, dry cleaning and transportation fields.

Lunn Laminates, Inc., molded components for the forward-control cab of fiber glass laminates with polyester resins. Harry Douglas, executive vice president for production at Lunn, designed the cab. The body is made of a Dow Chemical magnesium alloy, one-third lighter than aluminum. Boyertown Auto Body actually produced and assembled the body, which fits a universal chassis. Called the Weight Saver Merchandiser, the new 10-foot truck has a 365 cubic foot capacity. A second model is available with a 12-foot body.

While Lunn Laminates has previously produced an all-plastic truck for United Parcel Company, this is one of the first trucks to use metal and plastic in combination. Advantages of the new truck are the light weight which allows for additional loading, fewer rattles, no painting, improved insulation, easy repairability (body dents may be easily filled in with a special dough which hardens in a few hours).

At present cost is often a prohibitive factor in producing plastic vehicles. But James S. Lunn, president of Lunn Laminates and developer of the Chevrolet Corvette sports car body, has predicted an "early price drop" for reinforced plastics. "The all-plastics body costs about $300 more per unit than the standard truck body," says Mr. Lunn. However, plastics have a good opportunity when trucks are custom-built in low volume, he believes. "If one million truck units were being fabricated, it would be cheaper to use steel. At 15,000 units the break-even point would be achieved; and at 10,000 units, molded bodies would become cheaper. But below 1,000 units costs once more would become prohibitive for plastic bodies."

The break-even point is arrived at by taking the tooling costs for steel, deducting the tooling costs for plastics, and dividing by the part price for plastics minus the part price for steel.

"A special piece of vandalism"

Since the first announcement that the Chicago Theological Seminary would demolish Frank Lloyd Wright's historically important Robie house (chosen by an *Architectural Record* panel last February as one of the two most significant buildings of the past fifty years) to make room for an apartment building, the furor has not abated. Opponents of the action have brought the issue of a "responsible university" into the discussion and point out that an architectural landmark is now joining racial and low-income groups as "undesirable."

The problem seems to have been agrivated at the outset by a total lack of understanding between the seminary and the "preservationists." Presented with its cultural responsibility as owner of the house, the seminary's business manager replied, "We are in business to educate ministers, not to support a national shrine." This attitude so infuriated one preservationist that she exclaimed, "I'd like to tear up a Bay Psalm book right in front of the seminary."

After harassment by private citizens, students, and interested groups, the school's attitude has now become more conciliatory. But at this writing no organization has been able to take definite responsibility for saving the house.

The seminary has said that "due to structural deterioration, the building requires an immediate expenditure of $65,000 to $75,000, according to an enginneering estimate." Mr. Wright has countered this with a proposal to put the house in condition himself for only $15,000. "I think this is a special piece of vandalism," he said. "To destroy it would be like destroying a great piece of sculpture or a great work of art."

Several deadlines for the start of demolition of the house have already passed, but unless there is a rapid agreement between university officials and preservationist forces, demolition will begin this fall.

Sterling Competition

The design of a four-piece coffee and tea service (above) brought Erwin Kalla of Pittsburgh first place and $500 in the first 1957 Sterling Today Design Competition, sponsored by the Sterling Silversmiths Guild of America, and held at New York's Museum of Contemporary Crafts.

Second prize of $250 went to Richard Hora of Stony Point, New York, who designed a three-piece coffee set and tray. Robert King of Newburyport, Mass., was awarded $150 for placing third with his centerpiece bowl.

Honorable mention and $50 each went to Edward Buchko of Meriden, Conn., who designed a water pitcher, and Burr Sebring of Rochester, N. Y., for his candelabrum. Also honored at the ceremonies was Mrs. Vanderbilt Webb, founder and president of the American Craftsman's Council.

The guild's first recipient of the award for cultural leadership, she was given a duplicate of Erwin Kalla's winning coffee and tea set and a medal designed by John Vassos.

Winning designs will be on exhibit through December 1 at the Museum of Contemporary Crafts—they will then be displayed by sterling dealers in twenty major cities.

Judging the silver designs were Olga Gueft, editor of *Interiors* magazine, Thomas S. Tibbs, director of the Museum of Contemporary Crafts, and John Vassos, fellow of the Industrial Designers Institute.

Awards were presented October 30 by Roger H. Hallowell, president of the guild. The purpose of the competition is to encourage imaginative design in sterling silver.

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New design group in Minnesota

A new professional group, the Minnesota Industrial Designers, with twenty-seven members representing forty companies, has been organized in the Minneapolis-St. Paul area.

Leaders of the group point to a strongly increased local demand for designers, which they hope to further increase through their new organization. Among future plans is a design show tentatively to be held at the Minneapolis Art Institute next spring.

Officers for the group include (above, left to right): Raymond J. Gormley, president; John Empie, vice president; Thomas G. Martinovich, secretary. John J. Schwarts (not shown) is treasurer.

Jim Nash elected new PDC president

The Package Designers Council, at its annual meeting last month at the Belmont-Plaza Hotel, elected Jim Nash, of Jim Nash Associates, president for the coming year. Mr. Nash had previously served as president of the PDC during its first two years of existence.

At the same meeting Karl Fink was elected executive vice president for a second term; Margery Markley, secretary; and Harry S. Lapow, treasurer. Elected to the board of directors for a three-year term were Robert Sidney Dickens, Frank Gianninoto, and Gerald Stahl.

In reviewing PDC events for the past year Francis E. Blod, retiring president, mentioned that over 3,000 packages were entered in the 1956 Package Design Awards Competition, a great increase over previous competitions. Mr. Blod said that a major part of the Package Designers Council's work was the sponsoring of conferences and seminars. The PDC concluded its year's activities with a conference last month on "The Role of Packaging in Integrated Marketing" at New York University Graduate School of Business.

Graphic Designers hold election

More than 125 members of the Association of Graphic Designers met in Los Angeles to elect officers for this year. Hy Farber, new president, replaces Murray Naidich, who will now serve as vice president. Other officers include: Bernard Safyan, recording secretary; Bert Angelus, treasurer; James Shade, corresponding secretary, and Jean LaCour, publicity.

The AGD plans three design exhibits during the coming year.

Brooklyn Museum furnishings show

Brooklyn Museum is now soliciting entries in its home furnishings and accessories exhibition, which will open on March 5. Photographs and drawings, listing manufacturer, designer, major retail outlets, and price, must be submitted by December 15. On the basis of these, the selection committee will request by January 20, submission of actual items from which a final selection will be made. Final choices will be installed on the museum's main floor and remain on view until April 27.

The purpose of the exhibition, says the museum's management, is to make the public more aware that, through everything that is purchased, art may be brought into the home and daily life.

New workshop in surface design

The National Society for Decorative Design is holding a series of eight workshop seminars in which designers will meet with leaders in the home furnishings industry. The series is being held at the Prince George Hotel in New York, and the fee is $8 for NSDD members and $20 for non-members.

The first meeting, on November 12, was devoted to designing for floor coverings. The second meeting, on December 10, and others following monthly thereafter, will consider designing for drapery and slip-cover fabrics, for synthetic fabrics, for wall coverings, for the bedroom, for the kitchen, for the table, and for the bathroom.

Registration is through the National Society for Decorative Design, Inc., 54 East 58 Street, N.Y.C.

Museum School receives grant

The Philadelphia Museum School of Art has been awarded grants by the Research and Development Center of Yale and Towne, Valley Forge, Pennsylvania, and by the Ford Motor Company.

The Yale and Towne grant, a renewal of one made last year, will go for a teaching fellowship in industrial design and for the school's general development funds.

The grant from the Ford Company, for this year and two succeeding years, was made "in recognition of the school's position as one of the outstanding educational institutions in the field of industrial design," according to George W. Walker, vice president and director of styling for Ford.

Government market for inventions

The National Inventors Council, with the cooperation of the Army, Navy and Air Force, has issued a list of more than 380 technical problems for which the government is seeking a solution now.

No special forms are required for submitting ideas, but the description should include principles underlying the invention, experimental work conducted, and the novelty of the invention compared with existing devices.

A complete list of the problems may be obtained from the National Inventors Council, U.S. Department of Commerce, Washington 25, D. C.

Student furniture design contest

A first prize of $200, a second prize of $75, and a third prize of $50 will be offered for new student furniture designs by Summer and Casual Furniture magazine in collaboration with the National Association of Summer Furniture Manufacturers.

Structural materials are limited to aluminum, wrought iron, steel, redwood and rattan; they may be used singly or in combination. Designs may be for any outdoor or casual furniture such as chairs, chaise lounges, settees, sofas, umbrellas, sun cots, hammocks, or cabanas.

Entries, due by May 31, should include a plan, elevations, and a sketch. Models may not be included, but photographs are acceptable. The contest is open to all students of accredited design schools, and further details may be obtained from Casual Furniture Magazine, 114 East 32 Street, New York 16, N. Y.

Design conference for management

"How management can use design more effectively" will be the theme of a three-day seminar sponsored by the Institute of Contemporary Art at the Sheraton-Plaza Hotel in Boston, December 10 to 12. The seminar will be specifically directed to management personnel with design responsibilities but without design training.

William V. Judson, Appearance Design Manager of the Clock and Timer Department for General Electric in Ashland, Massachusetts, will direct the discussion toward an exchange of company design philosophies, methods and procedures, the analyses of case histories, design experiences and problems.

Attendance will be limited to fifteen. Further information may be obtained from Theodore S. Jones, Institute of Contemporary Art, 230 The Fenway, Boston 15, Mass.

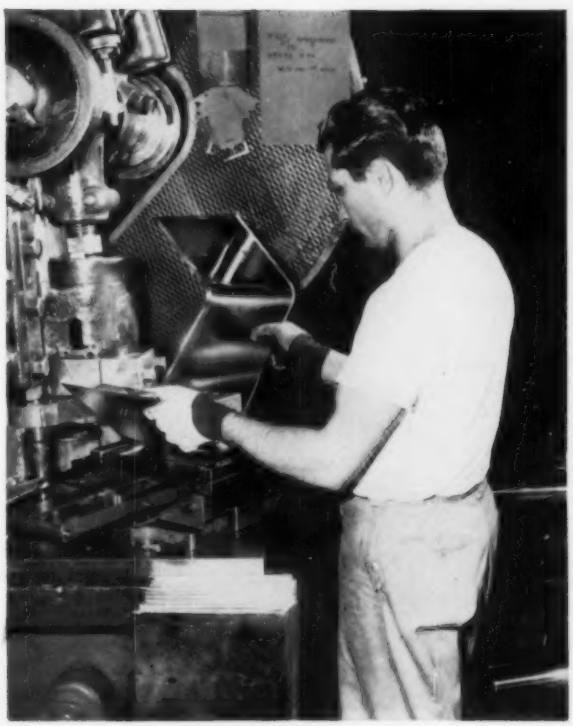
Production Takes A Short-Cut

With Pre-Plated NICKELOID METALS

Sheet of Nickeloid chrome-steel that will be used for breadbox is blanked, with punch-out perforations for ventilation and indented shelf supports. Uniform pre-plated finish reduces rejects.

Edges of Nickeloid chrome-steel sheet are turned up 1/2" in forming press. Nickeloid is easily worked with standard methods.

Breadbox body frame is spot welded to the preformed bottom and back pieces, with no visible oxidation. Parts then move to assembly.



Two bends are made on press to give the breadbox its rectangular shape. Operation causes no marring of surface or dulling of finish.

No Cleaning or Post-Plating — Easily Worked With Standard Production Methods

No cleaning solutions, plating tanks or polishing wheels on the production line at Lincoln Metal Products Co., Brooklyn, N.Y., manufacturer of fine pantryware. Lincoln eliminates these costly intermediate steps by using Nickeloid pre-plated chrome-steel and copper-steel. These versatile design materials speed trouble-free production, reduce rejects, prolong tool life. They are readily worked with standard production methods, as shown here. Parts move from fabrication — to assembly — to packing, with no dulling or marring of the pre-plated finish, since Mar-Not protective covering is used. No cleaning, plating, polishing is needed. Nickeloid Metals are available in pre-plated finishes of chrome, nickel, copper or brass on steel, zinc, copper, brass and aluminum. Sheets, strips, coils — a wide range of finishes and patterns.

Write For Free Literature

NICKELOID METALS SINCE 1919

AMERICAN NICKELOID COMPANY

Peru 7, Illinois

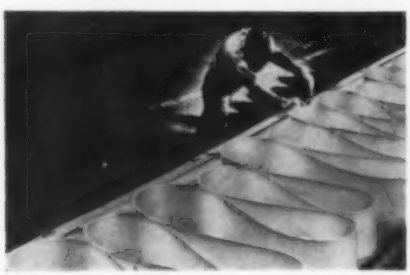
Company news and views

A product research and development department has been instituted at **Tranter Manufacturing, Inc.**, Lansing, Mich., under the direction of C. P. Yoder, former assistant general sales manager.

A new firm, **Auerbach Electronics Corporation**, has been organized in Narberth, Pa. The company will specialize in the application of data processing techniques in fields that include industrial process control, telemetering and numerical machine tool control. Issac L. Auerbach, formerly of Burroughs Corporation, will head the firm.

In dedicating the new Automatic Electric Company plant in Northlake, Ill., Oct. 17, Donald C. Power, president of **General Telephone System**, of which Automatic Electric is a member, said that General Telephone will invest "200 million in the coming year for expansion of facilities."

A documentary on the manufacture and use of such super alloy steels as titanium and stainless, has been produced by Industrial Information Institute and Arthur Schmidt and Assoc. for **Sharon Steel Corp.**



From Sharon Steel film.

Packaging and Product Development Institute Incorporated, a new industrial design organization, has established its offices at 1077 Celestial St., Mt. Adams, Cincinnati 2, Ohio. Charles Bosworth will act as president and treasurer, while Theodore E. Luderowski, former head of design at Cranbrook Academy of Art, is vice president and director of design.

Morton Goldsholl and James E. Logan of Morton Goldsholl/Design Associates have formed **Design Coordinates, Inc.**, for research, invention and development in applied design methods and materials usage.

Three of the subsidiaries of Burroughs Corporation have formed a new graphic systems group, with George L. Todd as vice president and group executive. **The Todd Company, Inc., Mittag & Volger, Inc.**, and **Acme Carbon and Ribbon Company, Ltd.** will comprise the group.

The one hundred-thousandth **General Electric** portable television set was presented last month to Carmen Basilio, new middleweight boxing champion of the world. Production began in the spring of 1955.

Princeton University and the Atomic Energy Commission have selected the **Allis-Chalmers Manufacturing Co.** and the **Radio Corporation of America** to design and fabricate the Model C Stellarator for research into thermonuclear reactions.

Safe and inexpensive power from the fundamental fusion process of the hydrogen bomb is the subject of a new research program at the **General Electric Research Laboratory.** Dr. Guy Suits, vice president and director of research, said that "even pilot-plant production of fusion power will not begin for twenty years."

Bruce-Babel Associates is designing, and **Atkins and Merrill, Inc.** manufacturing, an exhibit for Harvard University to show the freezing and crystallization of super-cooled liquid. The exhibit will be featured in the Hall of Science at the Brussels Fair next May.

A National Association of Food Chains survey of forty-three firms operating nearly 8,000 stores shows that there will be a more than 20% increase in the selling of housewares and hardware in supermarkets. Results of the survey were announced October 22 at the twenty-fourth annual convention of the NAFC in Washington, D. C.

Three companies, currently engaged in the production of titanium, zirconium and other light metals, plan integration to form a company with assets exceeding $55 million. The three are **P. R. Mallory & Co., Inc., Sharon Steel Corporation** and **National Distillers and Chemical Corporation.** Mallory-Sharon Metals Coropration will be the name of the new firm.

With the construction of a multi-million dollar production plant at its Bay City, Mich., division, **Dow Chemical Company** will enter the linear polyethylene field. Completion date is scheduled for October, 1958.

People

Newly-elected president of the midwest chapter of the American Society of Industrial Designers is **Richard S. Latham,** partner in the Chicago firm of Latham-Tyler-Jensen.

James Pilditch, vice president and packaging director of Orr Associates Ltd., Toronto, will be a principal speaker next April when the English Institute of Packaging gathers at Eastbourne, England.

The A. R. A. Manufacturing Company, Fort Worth, Texas, has retained the services of **Fred M. Gore,** industrial designer. The company makes air conditioning units.

Ernest Ehrman, industrial designer, was recently appointed to the faculty of the School of Visual Arts, New York. He will direct the newly organized package design department.

Supervising the American exhibit at the Twenty-first International Trade Fair at Bari, Italy, in September was **Don Waterman** of the Raymond Spillman office, which designed the exhibit. The display illustrated what modern methods mean to food processing and the part American investment can play in improving them abroad. Mr. Waterman also reports on Milan's Triennale in this issue (pages 37-67).

New appointments in the Industrial Products Division of Goodyear Tire & Rubber Company are **H. E. Morse,** director of industrial products development; **D. E. Harpfer,** manager of industrial products technical liaison; **John H. Gerstenmaier,** manager of industrial products development;

George E. Danforth

H. E. Morse

and **J. J. Hickey,** manager of industrial products development for international plants.

George Edson Danforth, chairman of the department of architecture at Western Reserve University, will act as architectural advisor to "Chicago Dynamic," the city's effort to solve some of its civic planning problems and focus national attention on Chicago's building renaissance.

Previously a member of the market research staff at The Toni Company, **William Blau** has been named director of market research for Harley Earl, Inc., Detroit industrial design firm. Former executive designer and manager of the Harley Earl west coast office **Paul Petlewski** has been promoted to assistant director of design.

John W. McGovern last month was elected president of United States Rubber Company. He was a former executive vice president.

Paul Petlewski

William Blau

Horace W. Thue is the new director of manufacturing planning for International Business Machines Corporation. He was formerly with Douglas Aircraft Corporation.

Providing graphic consultation and production service for industry is the new Profiles of Industry, headed by **Stanley Rice** and located at 41 West 96th Street, New York. Mr. Rice was previously art director of McGraw-Hill Book Company and Harcourt, Brace and Company.

Editorial

The continent across the street

"Common Market." These two little words, unfamiliar a couple of months ago, will soon become permanent entries in your working and thinking vocabulary. For in the last six months, there have been developments on the international scene that mean major changes in design and industry because they mean a revolution in world trade—one that will affect what America produces and how it markets and with whom it competes.

The two words describe something that has happened on a political and economic level; but, as is often the case, political and economic events influence the industrial designer in a direct way. When you turn this page and launch into our thirty-two-page summary of the Triennale of Milan, you will be viewing more than just a distant design exposition. As you look at the instruments from Holland or the equipment from Germany or the furnishings from Denmark, you are looking right in the eye of your new major competitors for a vast new market: Europe.

What is this Common Market? It is an agreement among six neighbors (France, Italy, Germany, Belgium, Holland and Luxembourg) who, in gradual stages, are going to eliminate all the customs and trade barriers that now chop them up into little markets, little producers, little units of world power. They will establish common tariff policies toward other countries, and abolish all obstacles to free circulation of people, services and capital; they will work out common social, agricultural and transport policies. The produce and markets of their colonial territories will also become part of this unit. Economically, this means virtually a new nation — a large one. Six once-competitive units will be amalgamated into one unit of 200 million consumers. This is a population comparable to those of the U.S.A. and U.S.S.R.

France-Italy-Germany-Benelux. The group, known as the European Economic Community, does not include Great Britain. Why? Britain has felt unable to make a total commitment because of trade agreements with the Commonwealth; yet, recognizing her crucial role in Europe's unity, she will participate in a peripheral agreement on a "Free Trade Zone." What of Scandinavia, Austria, Switzerland? They too are likely members of the fringe zone that will join EEC members in mutual tariff concessions, mainly in industrial goods. So, though the formal nucleus is only six countries, European industry can look forward to a market of nearly 300,000,000 people by 1970. They will have the potential purchasing power of the U.S.A. today.

Since July, the big three of the Six have ratified the treaty, and full acceptance by the end of the year is in the cards. The treaty will then be effective in 1958, tariff reductions will start in 1959, and within twelve to fifteen years (and very possibly sooner) we shall witness one of the greatest revolutions in Europe's history. With the Common Market, European protectionist prejudices of three centuries will be swept away and the dream of a united Europe will become a reality.

The flowering of the Common Market is in many ways a complicated process involving Europe's struggle for a postwar comeback. In other ways, it is a clear and simple process: a wider trade zone is a prerequisite inducing expansion for small nations whose markets are no longer assured by their colonies; industrialization is in turn essential to building a new stability out of colonial decay. But industry needs a big flowerpot to grow in. The EEC treaty will assure room for the expansion of production and research facilities, of know-how, output, and ultimately of purchasing power.

What does EEC mean on this side of the Atlantic? Surely a dramatic change in the patterns of our thought about Europe. And for American business, a lot of questions and answers that require some serious and imaginative thinking.

As internal trade barriers tumble, the first squeeze will be felt by U.S. business. Any tariff wall that begins to surround the Six will force U.S. prices up in some of those countries. American capital will be siphoned off, as export-dependent firms build up plants within those foreign walls, facilitating trade without tariffs. There will be stiffening competition for American goods, as European mass production is nourished and foreign price leads are pointed up by tariff differential.

But the expectations are by no means all in terms of readjustment downward for the U.S. Many firms here feel that handicaps will appear more readily on paper than in practice. Our exports have been limited not so much by price competition as by exchange restrictions, and by Europe's chronic lack of dollars to use in trading with us. If there

should be a drop in demand for finished industrial and consumer products, Europe may grow more dependent on the U.S. for components and parts. This, many observers believe, will be the pattern — not a drop, but a shift in the nature of our exports.

Whatever the short-term cost, the long-term benefits of European growth are vital, to the U.S. no less than Europe. For one thing, we can't afford to continue lending the rest of the world dollars to buy goods from us, even though there has been a good theoretical profit on each loaned dollar by the time it finds its way back to the national pocketbook. The U.S. is already heavily dependent on export markets in some areas, and there are plenty of signs that our need for foreign markets will increase in the future: 1) The geometric increase in U.S. productivity demands new marketing horizons; 2) economic interlocking strengthens our political influence in the non-communist sphere; 3) our dependence on foreign raw material supplies is growing. Half a century ago, the U.S. supplied its own raw materials and had 10% left to export; today we import 15%. If a balance is to be maintained, there will have to be continuing growth in foreign trade. Europe, although not a direct source of many materials, will be a vital link in the trade cycle.

It is one thing to approve the theoretical benefits of a market built on European industrialization. American industry may find it quite another thing to take all the consequences. The real challenge will begin to come when we are faced with the reality of a powerful new industrial competitor just as close as if he were next door. What will our answer be then, when this fellow is ready to sell to our customers in the world marketplace — and our consumers at home too — products made well, perhaps priced lower, and having the allure of the unfamiliar? Will we really adjust our thinking to the level of a new world situation, and act on the belief that trade is a two-way street? Or will we find ourselves retreating behind the tariff curtain?

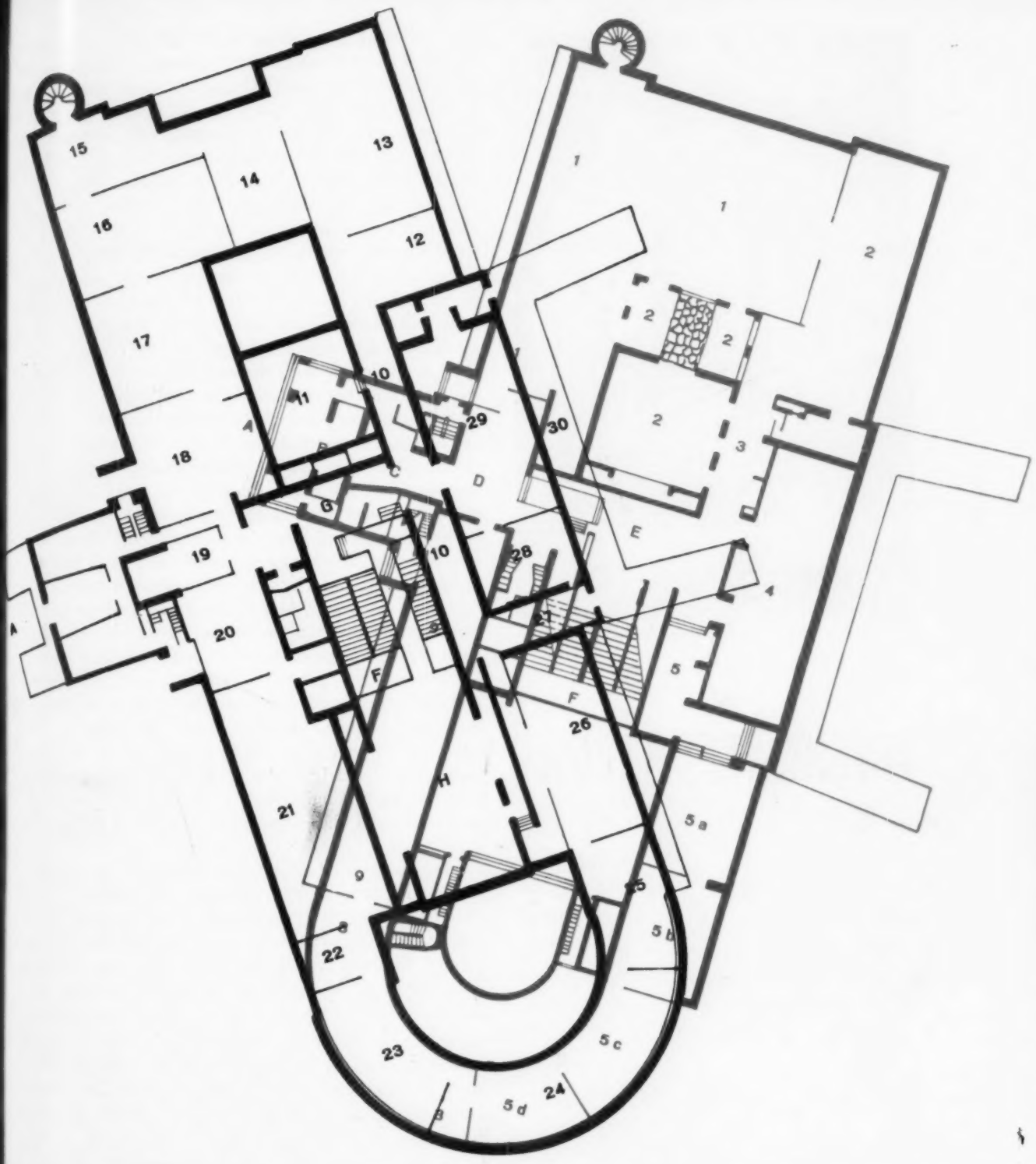
In the first flush of high fever, we may reach for tariffs as though they were aspirin tablets. If the U.S.A. should take defensive steps to prevent the invasion of our market, it would invite a war of tariff retaliation that could set us back politically and commercially all over the world. Yet in the light of this country's historic support of multilateral trade, and our encouragement of the Common Market so far, we can be expected to reciprocate, although in this case on a scale we have never envisioned before.

But let's look beyond the readjustment period and ask what kind of fresh thinking will be required of us.

Common Market implies a new kind of consumership for U.S. industry. The change will not immediately blot out national characteristics, or differences. Since it will not, we may question whether in Europe, where tastes are shaped by class distinctions, and even more by national boundaries, consumers will readily accept the kind of standardization in products that is the basis of productivity here? Will they continue to prefer products because they are American (as is often the case now), or will enthusiasm for their own development lead to favoritism, for home-made goods? And, in fact, will American products suit European needs? We can anticipate that foreign industries, rooted in fresh ground, will be in a position to indulge in innovation and novelty; they will be free to break out of established patterns to create new products for local needs. The U.S. competitor may find himself tailoring products to a new pattern too.

But, if he does, will that manufacturer be able to grasp the spirit of a remote market, its subtle ways and its basic attitudes? It will not be easy. Paradoxically, an industrialist in Brussels or Frankfurt, raised in the intra-national atmosphere of the continent, is geared to think in terms of inter-national products; he is more likely to design products and packages that will travel, that will comunicate through the barrier of half a dozen languages. As a British magazine commented recently about lagging auto exports, the British fail because they offer an essentially English car with a few adaptive gew-gaws; the Volkswagen, they felt, succeeded by being not a German car but an international one that fits a range of tastes in myriad places.

All of these concerns point to one central question for readers of this magazine: How does one design products that are universal as well as American, that will fit a sophisticated range of tastes around the globe? Will industry have to turn to foreign designers? Perish the thought. The American industrial designer should be its chief ally in this new exploit. But he will, of course, have to broaden his design concepts, so that our products are not foreign to foreigners and theirs are not alien to us. He will have to regard the continent across the street as his bailiwick, and feel as sympathetic to problems there as he does in Memphis or Minneapolis. He will, literally and figuratively, have to learn to speak a new language.—*J. M. McC.*



THE ELEVENTH TRIENNALE OF MILAN: AN APPRAISAL

Among the thousands of Americans and Europeans who visited the 11th Triennale, which closed this month, were numerous designers carrying home impressions of what they saw. In this third and final installment on the international exhibition of decorative and industrial arts, therefore, we shall present not only the product display techniques of more than twenty nations (including the U.S.A.) and new developments in furniture, prefabrication, and industrial design—but also how visiting professionals appraise the show and speculate on its implications for the world of industrial design.

Metal forms adorning Palazzo dell 'Arte glitter in sun.

TRIENNALE REPORT

As a backdrop to the exhibition, a designer explains its organization and purpose at the right. On subsequent pages, interlaced with photographs of displays, products, and architecture, are other visitors' comments—public and professional, American and Italian.

The elliptical floor plans on the previous page mark the focal point of the eleventh Triennale: the enormous and somewhat unwieldy Palazzo dell, 'Arte. Built for the Fifth Triennale many years ago, it remains the central exhibition hall, with the surrounding park as the secondary display area for full-scale architecture and large exhibits. Nineteen nations have installed displays in the Palazzo, with the USA in its geodesic dome, the lone national exhibitor in the park. Keeping us company out-of-doors is the International Home Exhibit (with individual room set-ups), a textile exhibit prepared by Italy, a demonstration prefab structure by the Feal Company, a concrete sphere encompassing a model of Italy's new ship, *Leonardo da Vinci.*

Each edition of the Triennale, of course, approaches the task of reviewing decorative arts, industrial design and contemporary architecture with a somewhat different theme. This year, under the direction of Ivan Lombardi, there were three themes developed with equal emphasis: 1) the relationship of the arts; 2) contemporary architecture; 3) art production and industrial design. But beyond these formally stated themes, there was one that unofficially seemed to dominate the total exposition: the relationship of the ideas of individuals. One very important idea became clear in the overall picture. The response to similar problems and materials, the exchange of ideas through publications and exhibitions, the inherent limitations of production methods, are giving designers everywhere a common language — almost without their trying for it. The grammar of this langauge is certainly apparent this year — particularly in the area of furniture design — and yet, interestingly enough, the common tongue has not smothered the expression of the individual personalities.

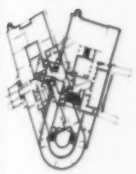
The problems of developing unique displays in harmony with the exhibits material and national spirit have been solved with varying degrees of success. Probably the most successful from this standpoint are Japan, Sweden and Germany, with many visitors charmed by Finn Juhl's Danish installation. In addition to what American designers can see and learn in the areas of imaginative exhibitions, I believe that the Triennale has a special message to Americans. Obviously a large number of buyers from USA are eyeing goods for the home market, so this serves, in an extreme way, as a kind of market preview, too.

But in addition to the practical lessons, it is possible simply to wander through the exhibits for days on end, each time finding delight in discovering unnoticed structures, colors, and forms.

There is a richness and subtlety in what is shown and how it is shown that warrants continued study. Despite the fact that much of the design is technically simple and not equivalent to the problems we face at home, it makes the total impression refreshing and stimulating.

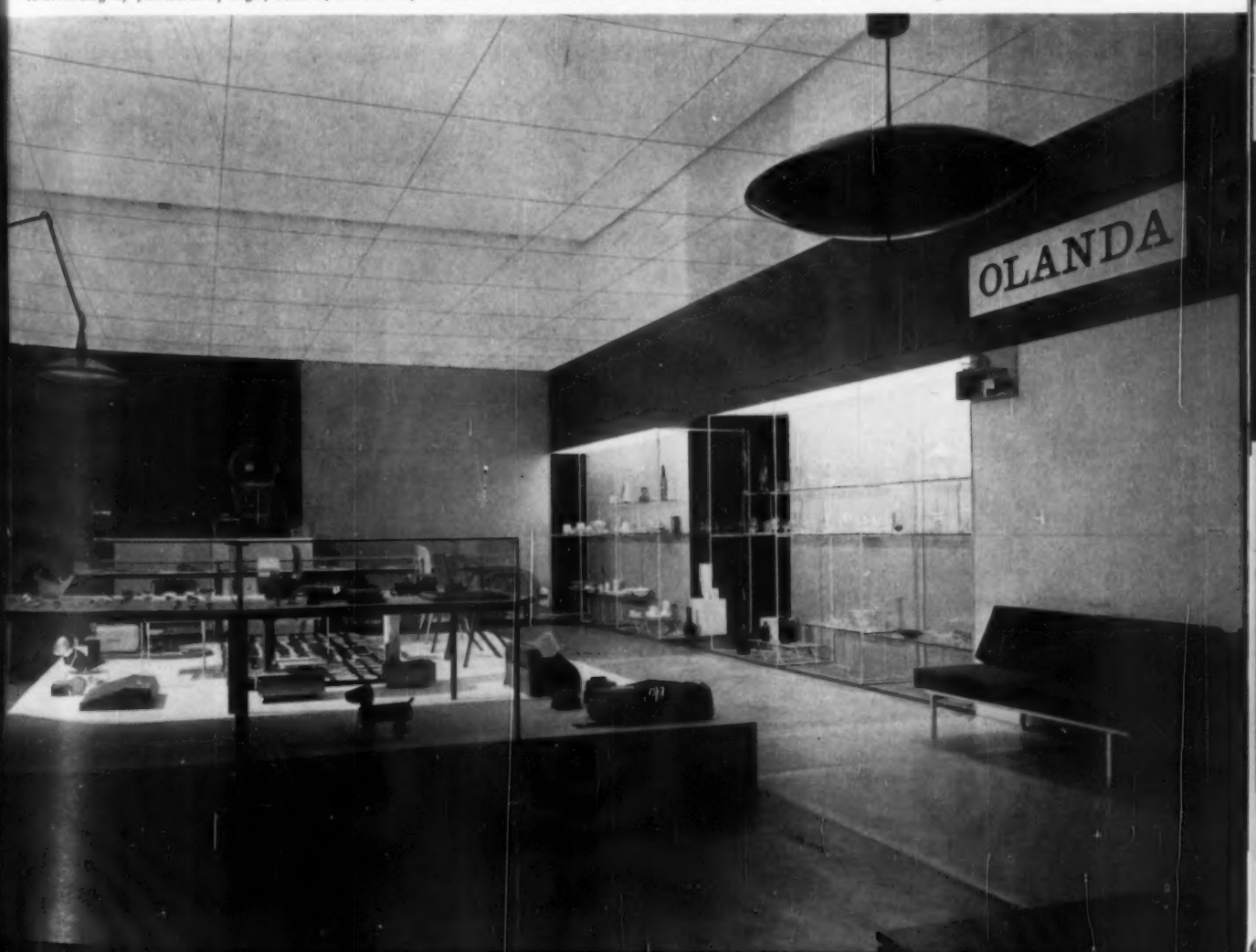
DONALD C. WATERMAN

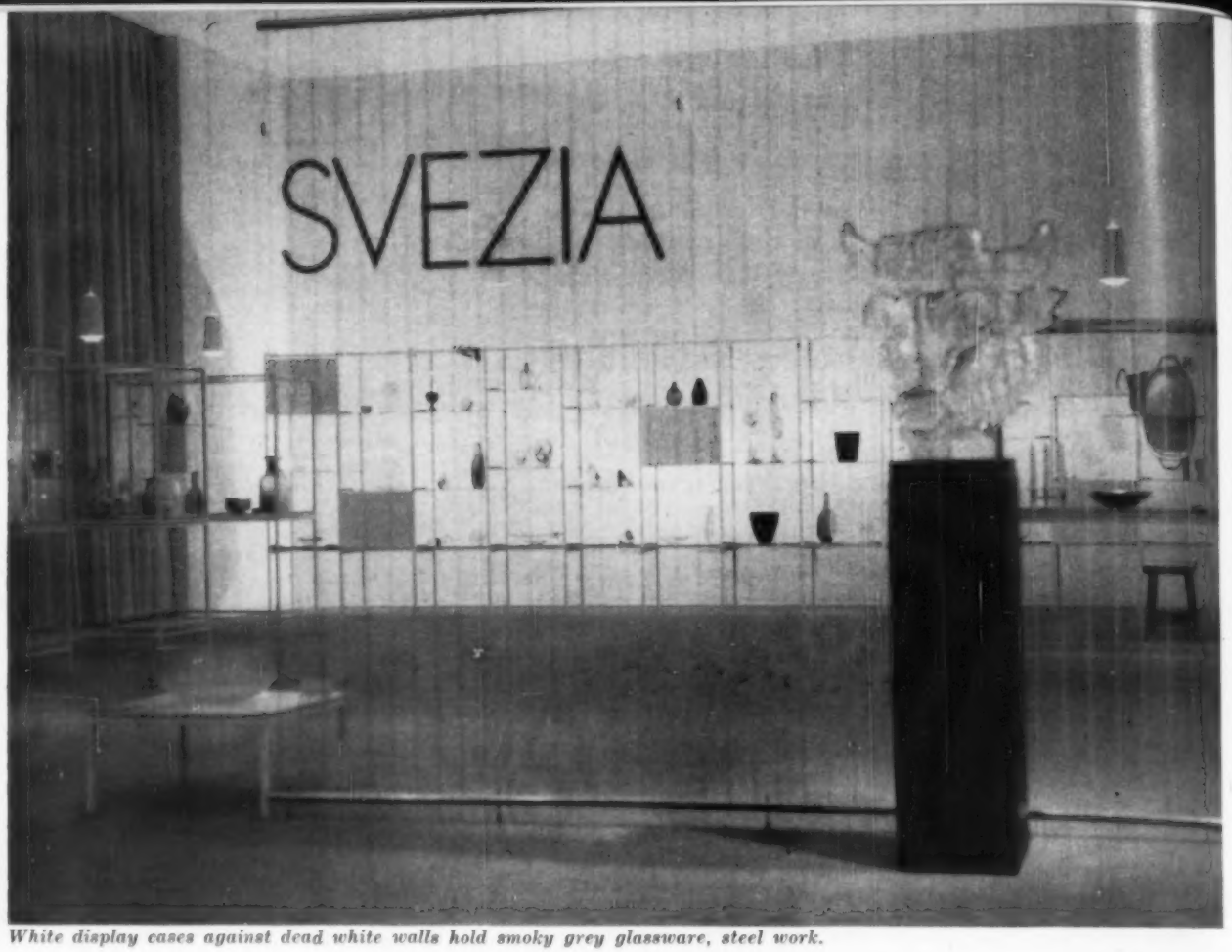
Among the points of interest are the **EXHIBITION** *techniques that nineteen nations employed to show myriad industrial and craft objects in the Palazzo. Devices included a dazzling Roumanian light fixture, and a dramatic Janpanese garden, but on the whole techniques were more subtle than has been the tradition at the Triennale.*



HOLLAND: *office furniture and business machines stand out in Dutch work*

A diversity of furniture, toys, scales, ceramics, and textiles almost creates a clutter in the Dutch section. By William Rietveld.



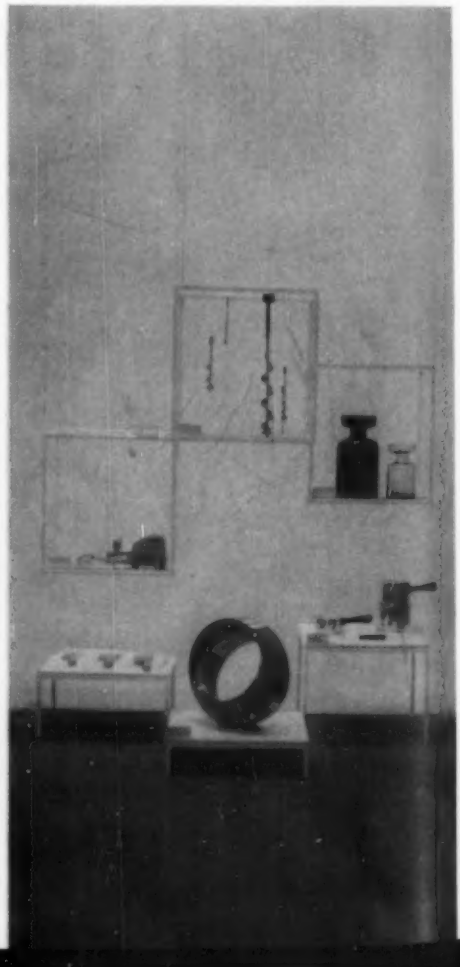


White display cases against dead white walls hold smoky grey glassware, steel work.

SWEDEN: *the elegant simplicity of this exhibition has made it a favorite with Triennale visitors*

A roller bearing is the center of these products of steel and glass, to which Sweden limited herself.

Below: Glass from Boda, Bruks, Kosta, Reimyre, and other companies combines artistry with industrial precision. By Ake Huldt, Gustaf Rosenberg, Susanne Tucker.

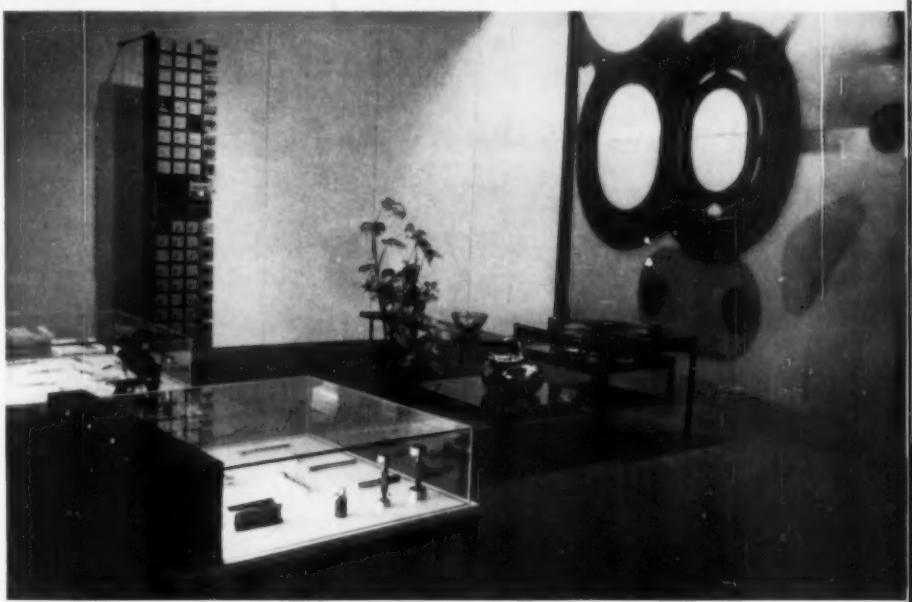


Photos this page by Paul McCobb

Paul McCobb

A photomural and large placard of worker bring rugged quality of Kitimat area into exhibit. By Robin Bush Associates.

CANADA: *new ideas in furnishings are reflected in workers' housing development in Kitimat, B.C.*



Plastic covered honey-comb panels break curved room into separate areas. By Lucien Kroll and Charles Vandenhove.

BELGIUM: *precision instruments, glass, dairy, electronic equipment are mixed with complete freedom*

Textiles, ceramics, and furniture are featured here. Exhibit is by Junzo Sakakura, Kiyoshi Seike.

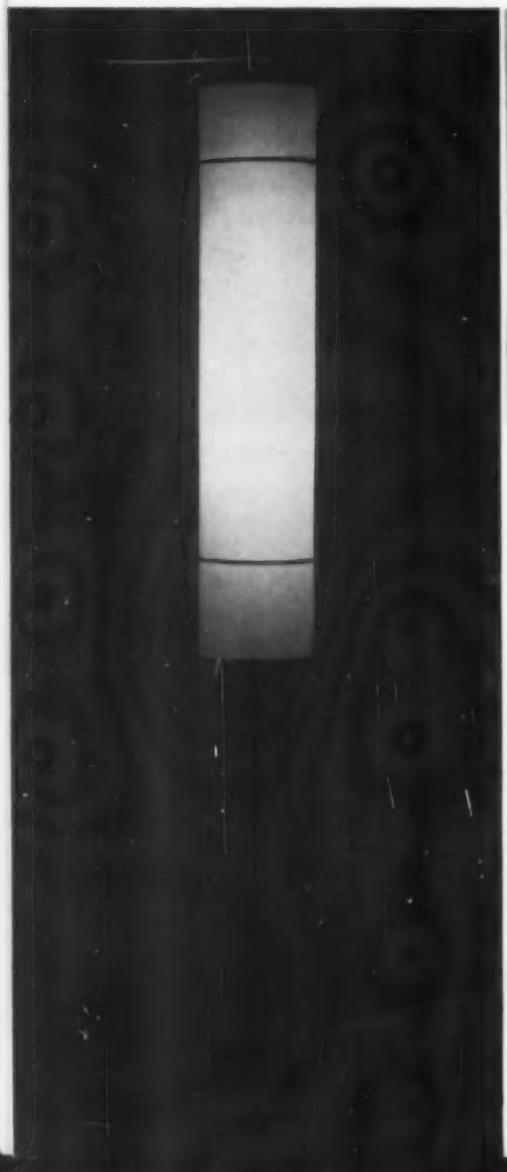
POLAND: *rustic design approach contrasts sharply with international style of other exhibitions*

Photos this page by Paul McCobb

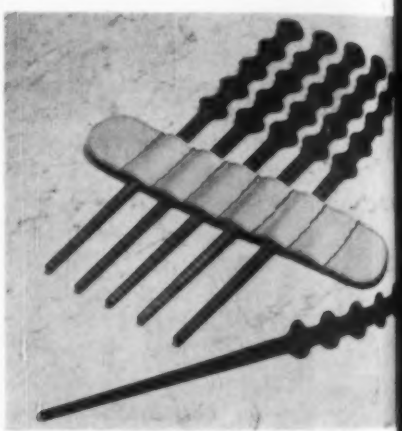
Left: ceramics are displayed in built-in shelves. Plastic display cases arranged in open plan hold glass and porcelain. By Ceno Kosak.

Right: A number of designs by Carl Aubock, such as this salad fork and spoon of chrome, nickel, and steel, were outstanding in this display.

AUSTRIA *features delicate glass and porcelain products in addition to furniture, accessories*



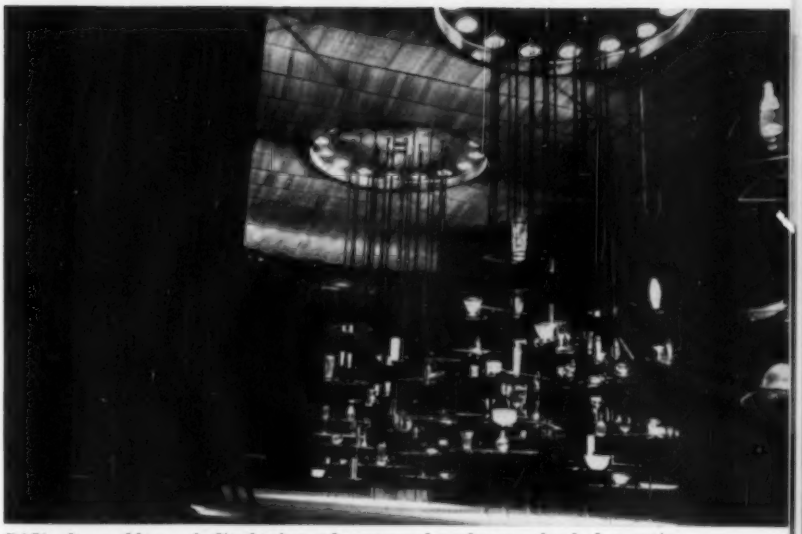
Wooden oil and vinegar containers. Steel and paper lamp. By Aubock.



Wooden lemonade swizzles by Aubock.

Ludwig Redl has designed an open-mouthed pitcher of steel finished in enamel.

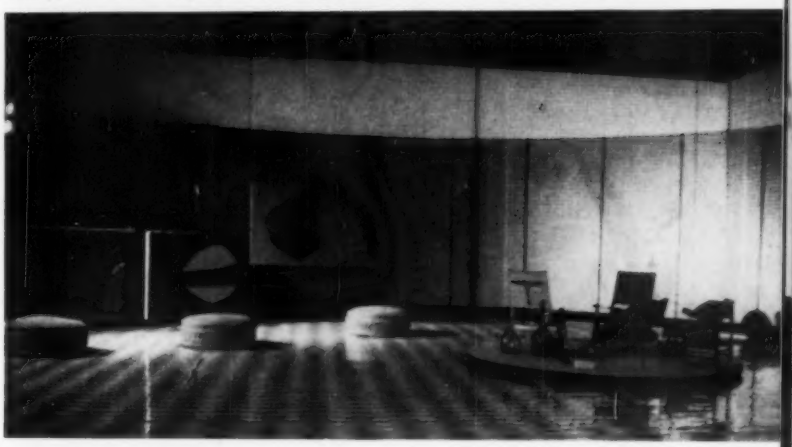
CZECHOSLOVAKIA *uses groups of black pipes to support wedge-shaped shelves holding Czech glass*



Difficult problem of displaying glassware has been solved dramatically here. Spots throw shadows cast by clear glass onto circular sheets of white plastic foam on floor. Exhibit by Frantisek Troster.

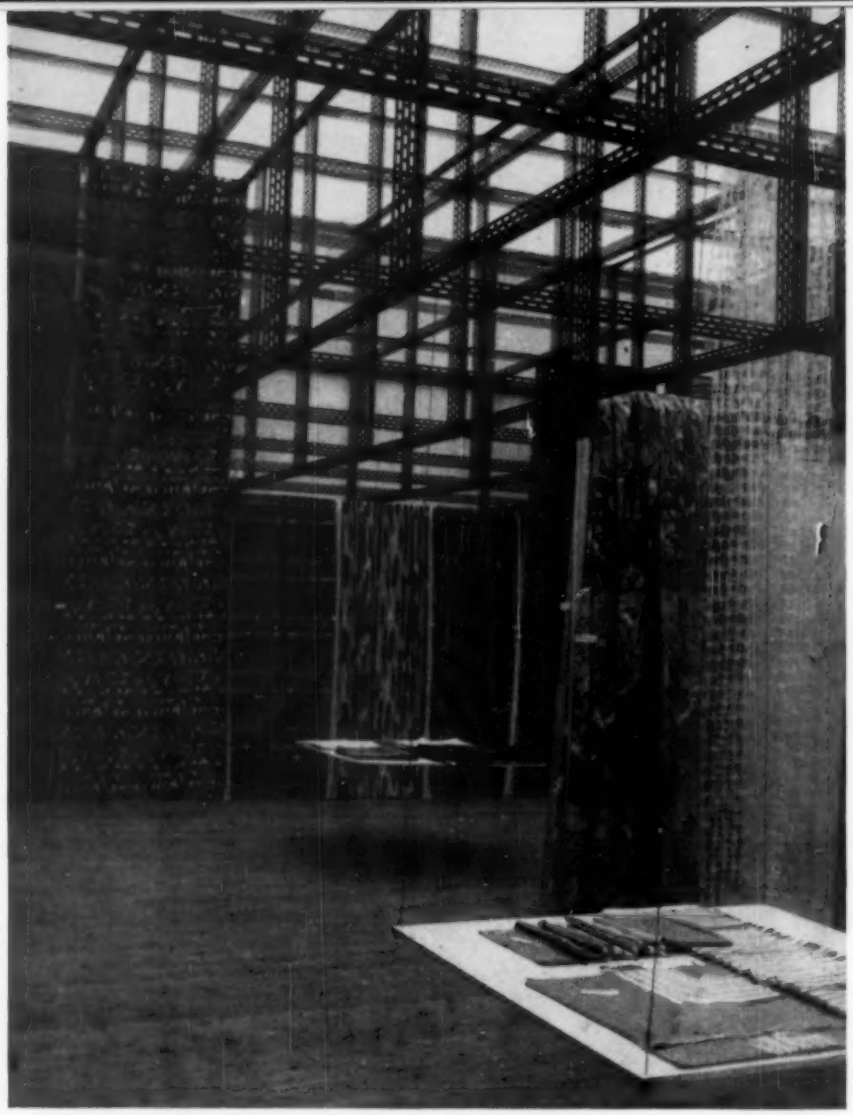
A wide-mesh iron screen makes a circular area of a square room in which the major lighting is reflected from white walls. Screen is both frame and hanging device. By Francisco Ferrer, Jose de Paredes.

SPAIN *has a starkly simple and open exhibit which features ceramics, textiles, leather goods*



Rectangular, double-tier tables hold ceramics, glassware, and silver, and suggest an interesting way of displaying a large number of small objects without confusion. Exhibit designed by Timeo Sarpaneva.

FINLAND *presents an orderly, almost spare exhibit using glass and natural wood. Low, frame ceiling makes pleasant contrast to other areas.*

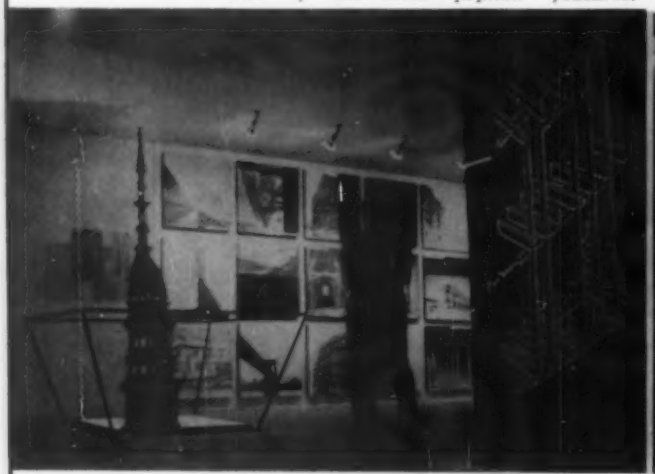


A textile exhibit forms part of the overall exhibition of art production, which includes sections on jewelry, leather, wood, straw. Most of these shows are limited to the work of Italian craftsmen. Exhibit here has been designed to be demounted easily.

ITALY, *as host, scatters her participation throughout a number of special exhibitions*

A carefully detailed wooden model, sunk in well to give close up of elongation, which greeted visitors at the entrance to the International Architecture Exhibit, is one of its most popular features.

History of architecture was shown through text, pictures and models (as in entrance hall, below), in architecture exhibit that included studies of town planning and church architecture.



Symptoms of a new condition facing the world of design

by ROBERTO MANGO
architect and industrial designer

"If the Triennale disappoints trend-seekers," an Italian architect candidly points out, "it is because we have not yet admitted that the revolution is over."

It is hard enough to size up a mammoth exhibition like the Triennale when you are an observer, but it is doubly hard, as one of the individuals involved in bringing it into being, to remove oneself enough to appraise the dynamic results. What is the purpose of such an event? Is it instructive or inspirational, and what does it tell of the current world of design? In my position, I can only detect certain symptoms that arise—confusingly—here and there and seem to bind together as a very important reflection of what the industrial designer faces today.

Symptom One: A general satisfaction on the part of those who worked for the Triennale, in participating in such a vital cultural venture.

Symptom Two: A general disillusionment among visitors, especially Americans, who came here seeking front page news, latent trends, fantastic new things to be exported as ideas or as merchandise.

The disappointment of outsiders probably originates from still another deep-rooted problem: the three-year lapses between editions of the Triennale. The administration has tried to achieve continuity with so-called "Centro Studi," but this has not yet solved the problem. Perhaps three years is too short a period for a retrospective survey of accomplishments, and too long to ignore the time element completely. It certainly has a negative effect on public anticipation: it lets people forget completely the existence of an exhibition, and when it arises again one is mentally prepared to see what kind of miracles the future will bring.

Symptom Three: Time lapse is compounded by still another problem, which is at the core of the designer's problem in our sensation-seeking world of today.

The time of reaction is over. Instead of major upheavals, we have only secondary problems to deal with, and all of them arise within a universally accepted scheme — namely that of modern architecture, product design and furniture. As proof of this, it turns out to be very hard, in an international collection of this sort, to identify the origins of individual pieces. Of course there are still vestiges of "national style" in a few places, notably Scandinavia, but in general it tells us very little to know whether a chair is French or German, Canadian or Austrian. I would say this is because designers have a universal wish to consider a table with a top and four legs as a building with a sound structure, and to make it as simple and efficient as possible.

We see this, for instance, in the diminished application of our famous slogan, "the Italian fantasy." With a few exceptions, everything done by this country seems more consistent, more cautious, less superficial. Perhaps we have finally understood that the lighthearted bluff of shapes and colors couldn't last forever.

Perhaps the time has come for all of us to *accept* the change that has occurred in the condition of design, so that we can make the most of the fruits of the antitraditionalist fight. The main points are, of course, obvious: no one in the world can object to using the word "beauty" for a well-designed car or a good tv set. We have found the common denominator of form and order that underlies full industrialization. Are we discontent with this new order of things? It is what we were fighting for, and what we have achieved: all tv sets look alike, all furniture is virtually standardized. Now our habit of reacting and protesting should be turned at last to a positive purpose — to putting facts and techniques into a more meaningful order.

The kind of meaning that is still needed is summed up, it seems to me, in the Industrial Design section of the Triennale. I note, as one example, a general misconception about product design: a misunderstanding

Publifoto

Mia Seeger, an organizer of the German exhibit, tours Triennale with President Gronchi of Italy.

of the relatedness of mechanism and body. Many new products are just an exterior embellishment of a poor mechanism. As designers, we should feel it our first duty to investigate the core of a product, to understand it, reinterpret its functions — and, if it is already adequate, why not just for a change leave it as it is!

And we are falling into another misunderstanding: that of the outside look as something completely detached from the inherent value of the machine. If we must use machines and fill our lives with them — and this seems our destiny so far — we must learn how to love them. Love may come only from understanding. A woman should not be dressed like Monroe, or she scares you; neither should she be overdressed like an Egyptian. We have to find a common design language that permits easy and unstrained communication with our products, as we have with our shoes. Or, if you prefer a less humble analogy, let's say with our sun glasses.

Symptom four: There were enormous problems in organizing the Triennale: many big names reacted against the whole institution. Their criticisms were based on purely cultural and professional principles — which could not be expected to have much effect on the traditions of such a government institution, however valid their points. To a government beset by real political problems, the little quarrels over design, architecture and culture must seem like no problems at all.

Among the other physical obstacles, there is the palazzo itself — a most difficult exhibition space; and there was the usual impediment of committee operation, in which the best ideas of a vociferous group are left to one or two people to execute, retaining as much as possible the original goals. I am among the many collaborators who hope that a new system may be found for administering this important event, built around several factors: continuity from year to year; a broader view of international participation; limitation of purpose to those ideas that can realistically be achieved by this intermittent and sudden event.

These are the negative aspects. Certainly many of them are normal in such an ambitious creative collaboration. I do not mean to imply that they add up to a negative result, but only that the *cons* must be measured in order to get a valid picture of the *pros*. What are the positive symptoms?

1. *Consistency.* Within the exhibits and within the show as a whole, there is more of a thread of meaning and of evenness than in the past.

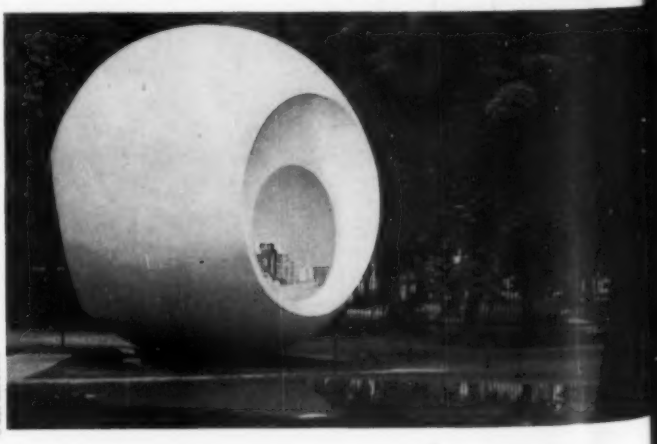
2. *Relative limitation of programs.* Fewer countries and collaborators have been tempted to attempt big statements. And one realization has come forth spontaneously: it is useless to provide big, complicated installations as was done in the past. Objects have to predominate here — and to do so they need an anonymous, clear, empty space, good lighting, simple means of presentation, and humane proportions in their surroundings.

3. *Clarification of common denominators.* From seeing such a variety of material side by side, there comes a greater perception of attitudes and problems that are not limited to a single nation.

4. *Predominance of mass-produced goods,* for the first time this year, in contrast to the earlier predilection for individually-made pieces.

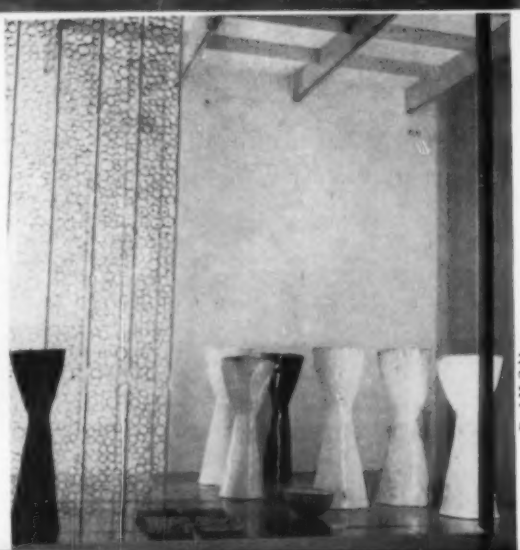
5. *Absence of such questions* as, "What is our future? Where are we going?" Over twenty years of work have answered these questions, and we no longer expect an abrupt change of direction from year to year. World economy has made a *tabula rasa* of many dreams, but has left something substantial in the possibilities we have today.

6. *Participation of the U.S.A.*, the first victory after a long struggle by U.S. designers. The exhibit, however incomplete and difficult to arrange, is an accomplishment that should not be regarded as an end to a struggle but only a start: for by resuming action immediately, American designers can perhaps hope to participate on an equal footing in 1960.



Paul McCobb

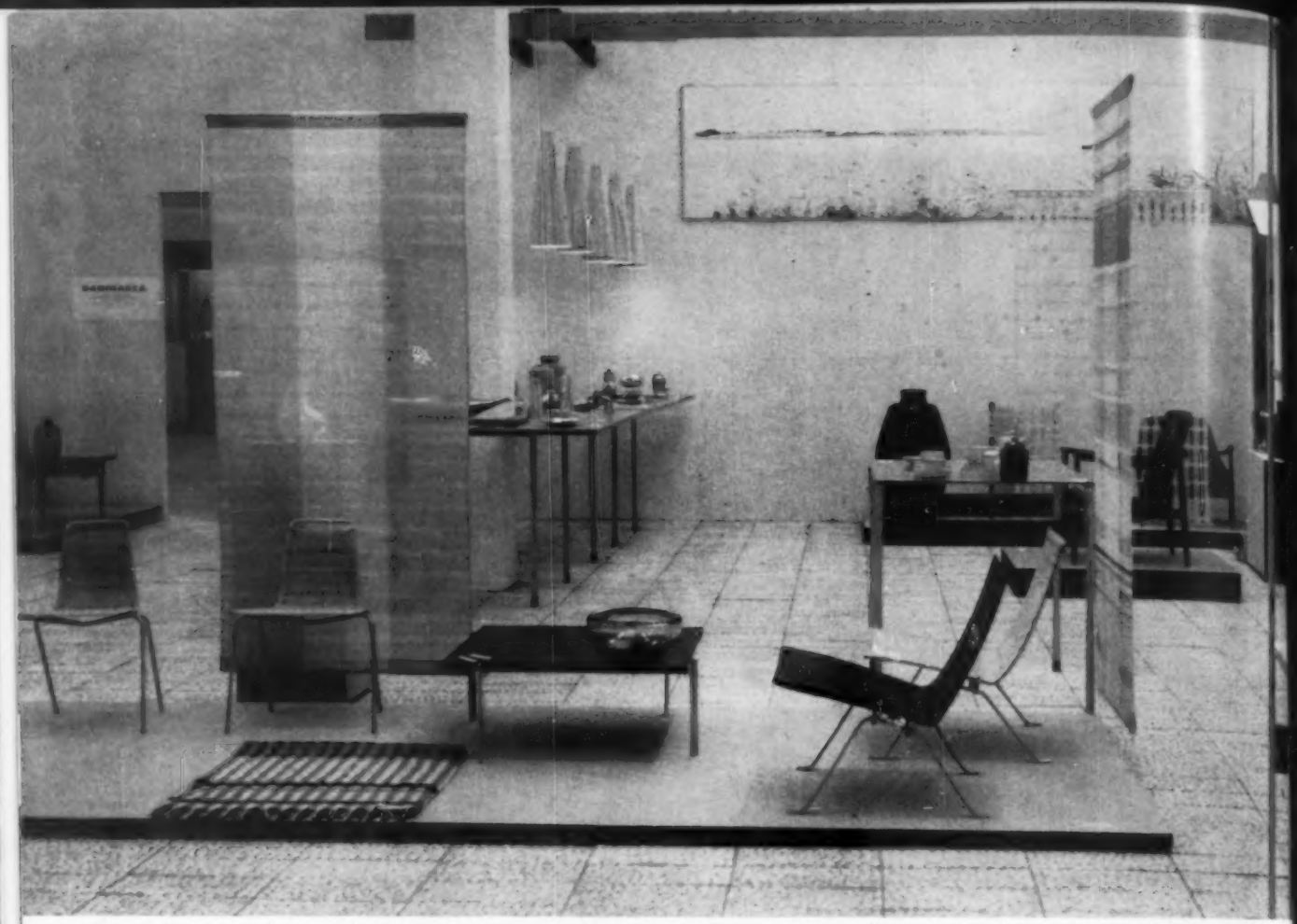
An accordion-like ceiling in white plaster creates an unusual effect in the semi-circular corridor which houses the Exhibition of Printing. Black and white screens display graphics.



Italian liner, Leonardo Da Vinci, left, is displayed in reinforced concrete dome near reflecting pool. Planted on small column a few inches off the ground, the dome has a startling floating effect.

An all-ceramic screen, right, made up of rings in varying pastel shades, gives an effect of iridescent soap bubbles. Made by designer Fausto Melotti, it is part of Italian ceramic exhibit.

Paul McCobb



Finn Juhl uses platforms and counters at varying levels to create order out of many chairs, tables, interior furnishings.

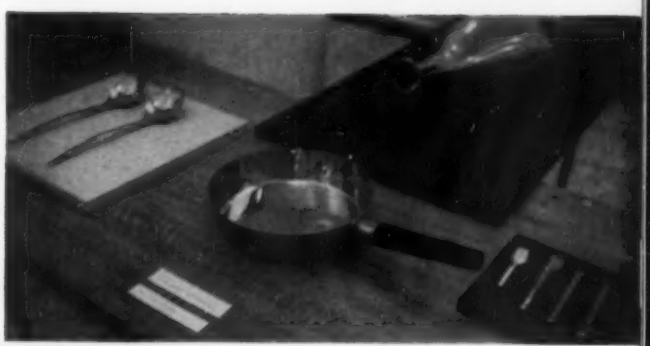
DENMARK *shows large collection of furniture and accessories in a crisp, airy space*

Denmark's large exhibit was probably most interesting from the standpoint of furniture. Among the items to excite special attention were a Hans Wegner office chair with curved wood back and a sixteen-layer plywood table and chair grouping. Similarity between Danish and American taste made this a popular exhibit with U. S. visitors. The display itself, by Finn Juhl, was notable in the way products shown in the exhibit were used in the exhibit. For instance, chairs and tables were used to hold such products as these highly glazed ceramic forms (left). Exhibited lamps, (like those shown above), were also put to work.

All photos this spread by Paul McCobb

Large wheel form creates decorative highlight for group of natural wood chairs.

Poul Kjaerholm's chair offers a new concept in combining wicker and steel.

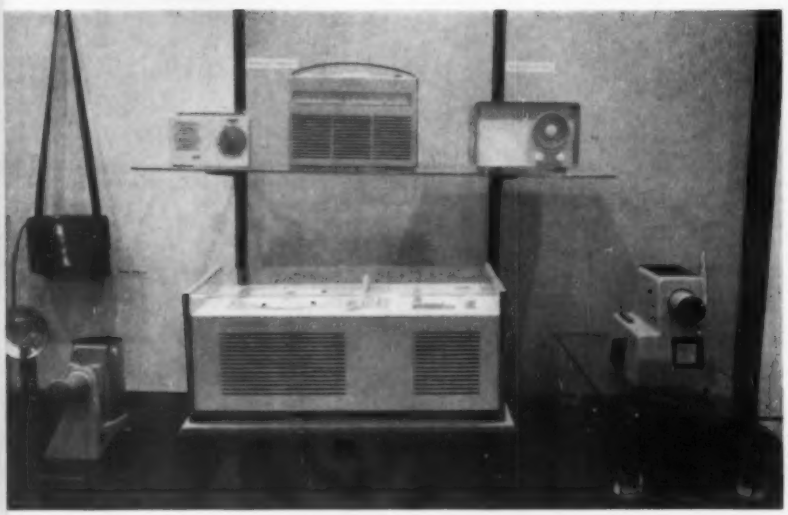


Stainless flatware, other items are displayed on tables which (like rugs below) are part of exhibit.

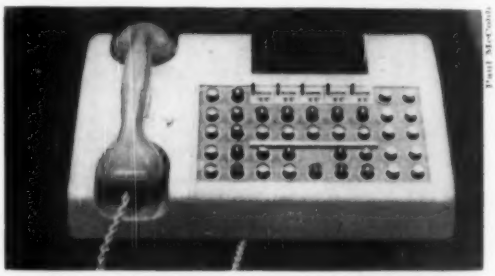
Paul McCobb

Arnold Bode isolates many items into product-type areas for continuity. Black pipes, colored backgrounds, platforms give accent.

GERMANY *presents a large show, refined design*



Paul McCobb

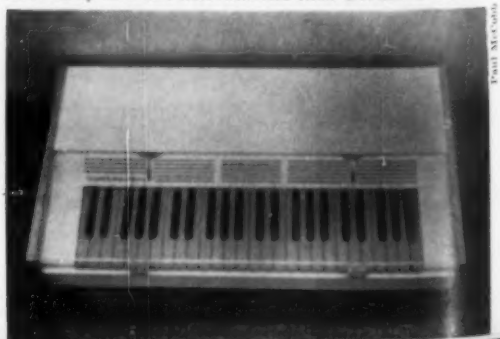


Paul McCobb

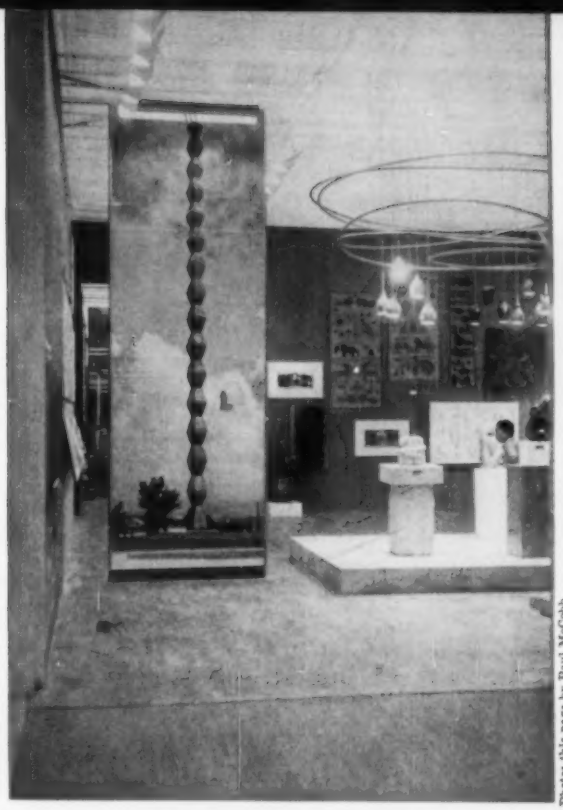
Carefully designed intercommunication switchboard suggests Siemen's and Halske's interest in exporting.

Mixer, blender (above, left), and audio equipment show characteristic sharp, thoughtful Braun touch.

An electric piano keyboard is one of many devices in area of musical instruments that Germans showed.



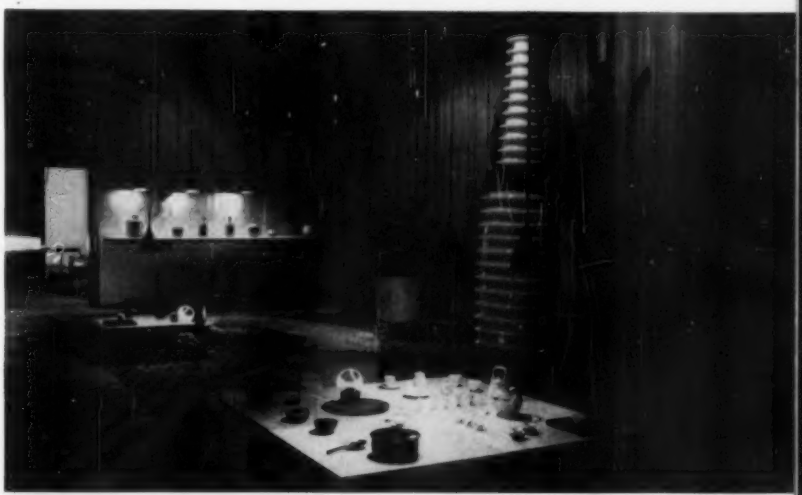
Paul McCobb



Photos this page by Paul McCobb

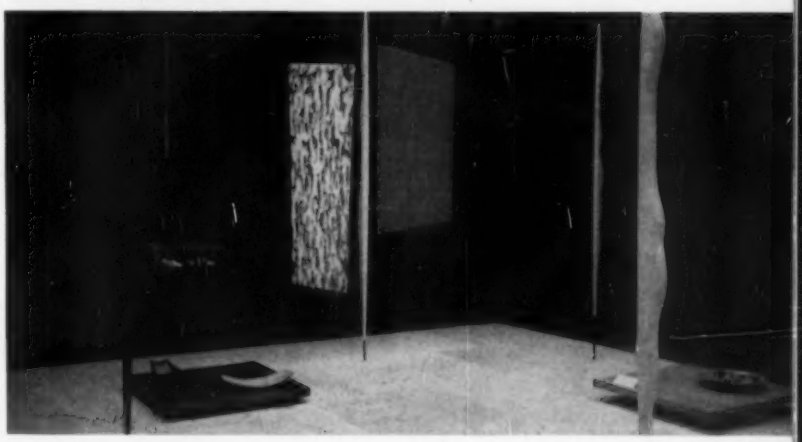
Dramatic lighting fixture by Edward Markovitch is made of black iron tubing from which colored anodized aluminum bullets hang. Bookbindings, tapestry, and graphics are featured.

RUMANIA'S *exhibit, which emphasizes the sculpture of Brancusi, indicates little industrial influence*



A ceramic insulator contrasts strikingly with delicate porcelain tea sets on low display tables. Japan's cultural background reflects in exhibit by Junzo Sakakura, Kiyoshi Seike.

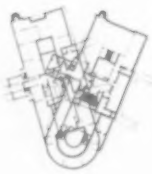
JAPAN'S *versatility in ceramic work is emphasized by rock-strewn garden setting*



Molded poles in red, blue, green which run from floor to ceiling support fabrics backed by stiff boards. Ceramics also are shown. Exhibit by Ivo Penic.

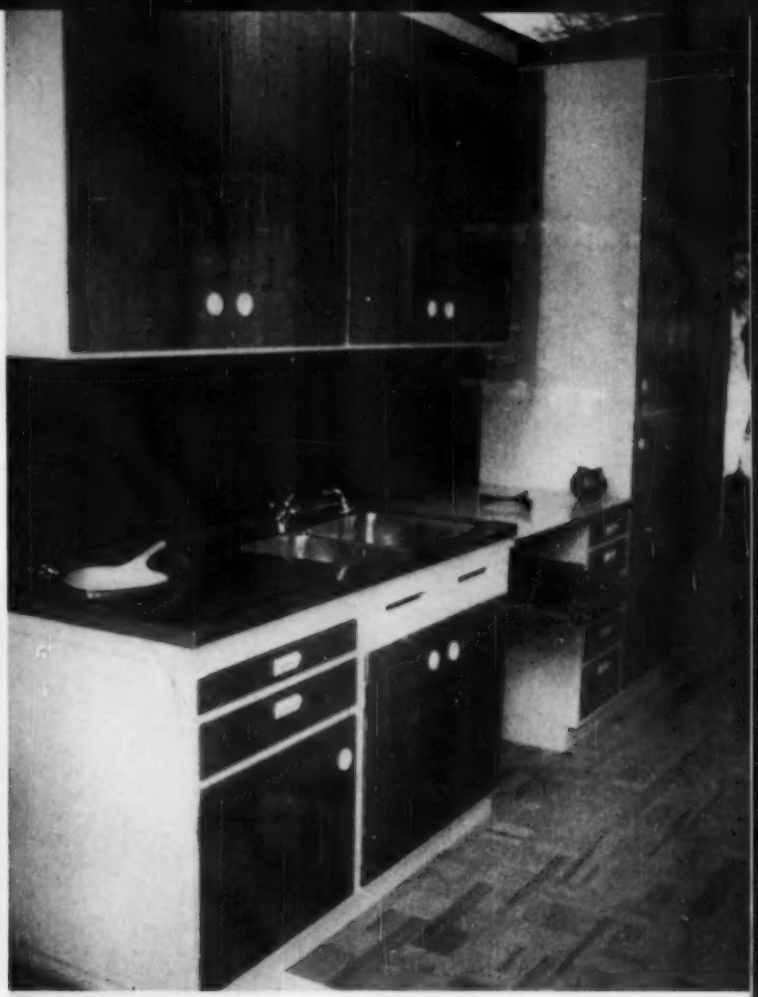
YUGOSLAVIA *limits display to fabrics and ceramics, concentrates on International Home Exhibit*

The International **HOME** *Exhibition, located in the park surrounding the Palazzo, was among the most popular at the Triennale. Each country presented a room, or series of rooms, characteristic of its current production in home furnishings. In this area, as in the industrial design exhibits, the displays were perhaps as noteworthy for their similarities as for their differences.*



The display rooms, separated by gardens, are joined by covered walkways, creating a sense of unity for the entire area.

The living room, children's bedroom and kitchen shown here give a sampling of Norway's current approach to furnishings and interiors. Many of these items are already on the U.S. market; others soon will be.

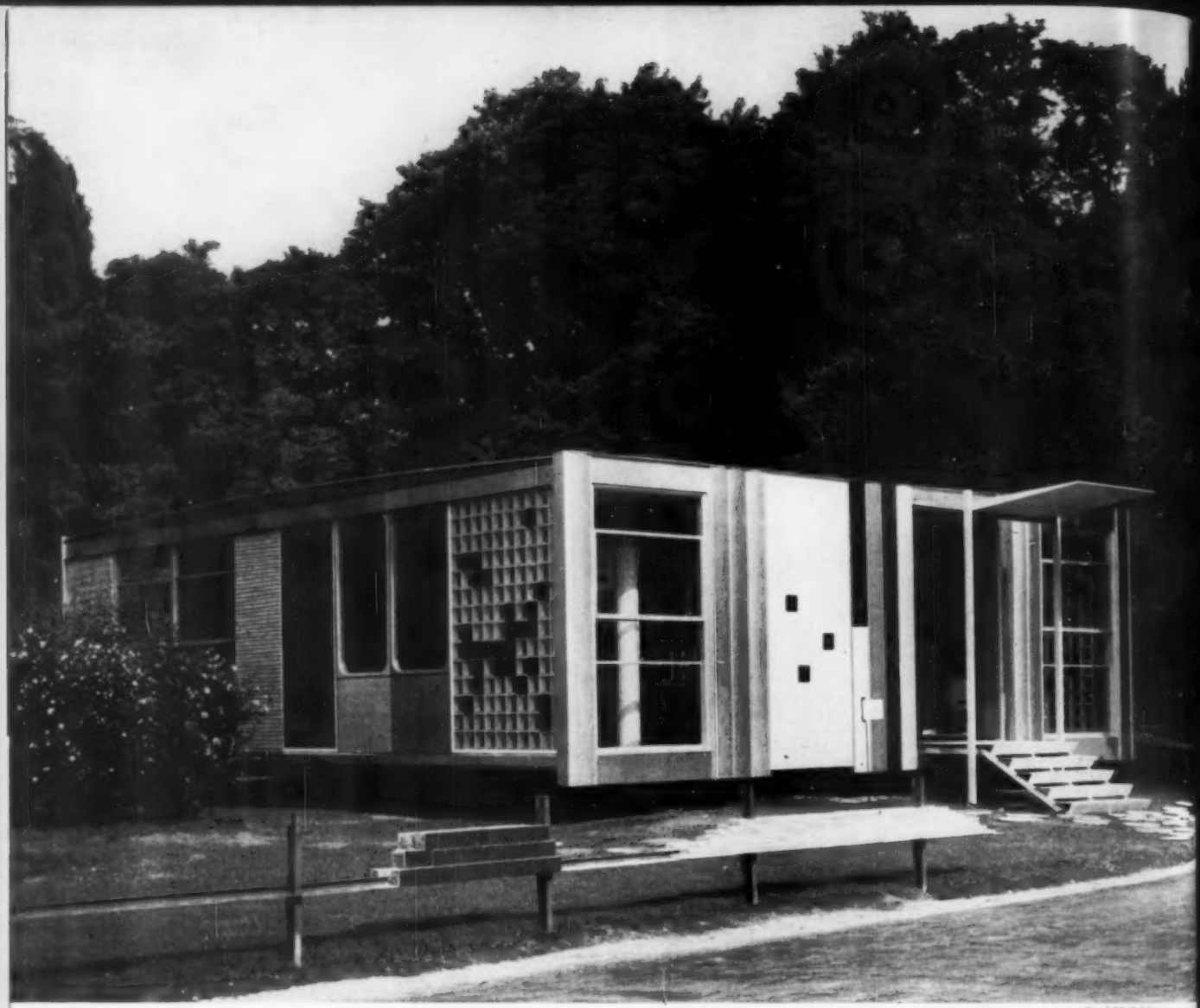


Don Waterman photographs on these pages, and elsewhere except where otherwise noted.

Modern dining table from Yugoslavia.

German table with chromium-legged chairs.

Kitchen: Norwegian Group Industrial Designers.

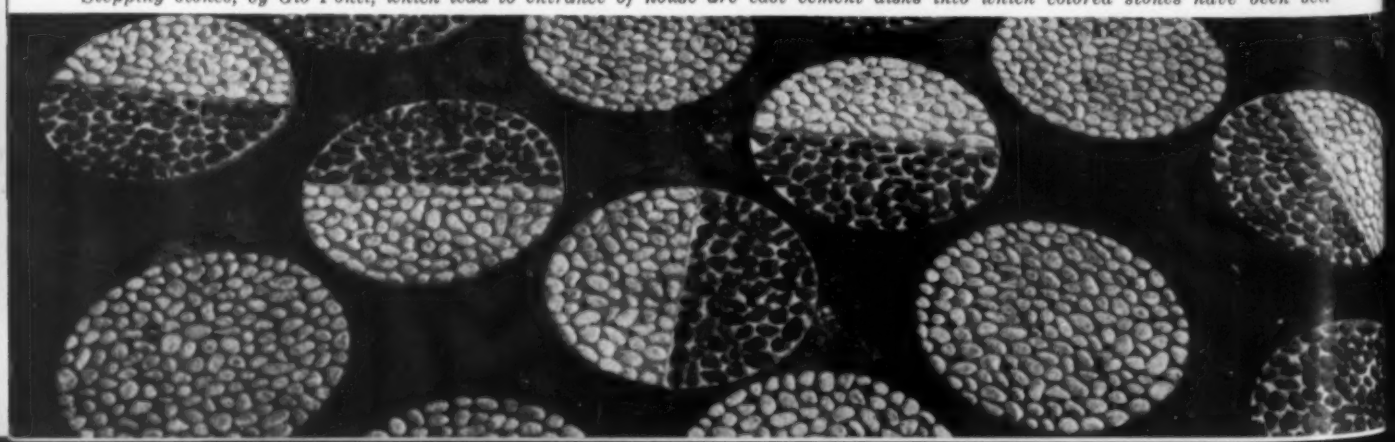


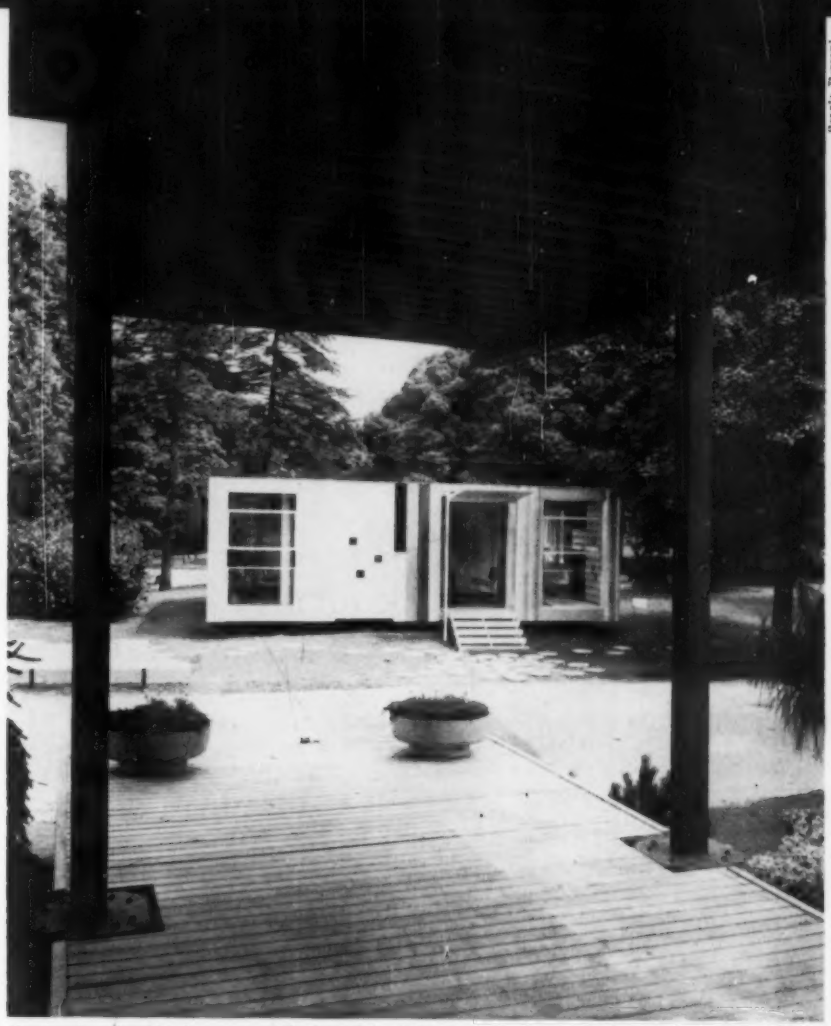
Paul McCobb

Among the materials of which Ponti has composed the structure are (left wall, above): translucent colored glass brick, tinted aluminum panels, ceramic tile, dimensional tile. Elevated wall in foreground shows how ceramic tiles face into cement on steel beam.

GIO PONTI *has created here, not a house, but a prefabricated demonstration structure, in order to illustrate the variety of ways prefabricated panels may be used in designing a dwelling. Half of the interior has models and descriptions of prefabrication. The other half is furnished interior.*

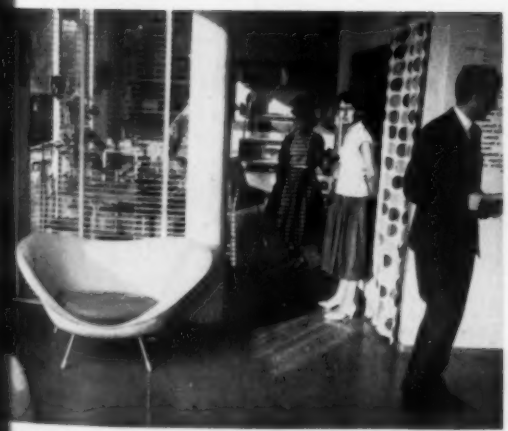
Stepping stones, by Gio Ponti, which lead to entrance of house are cast cement disks into which colored stones have been set.

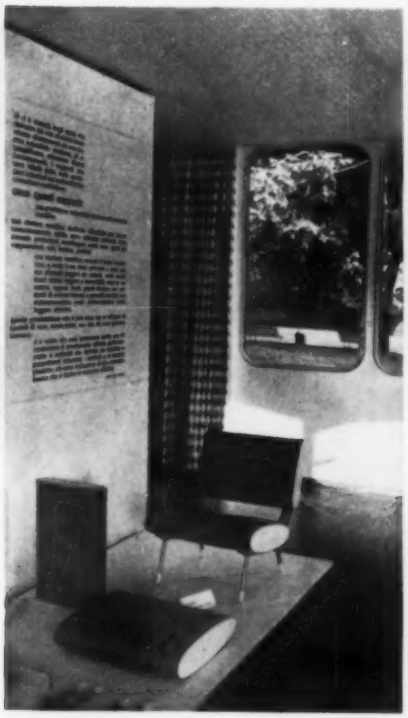


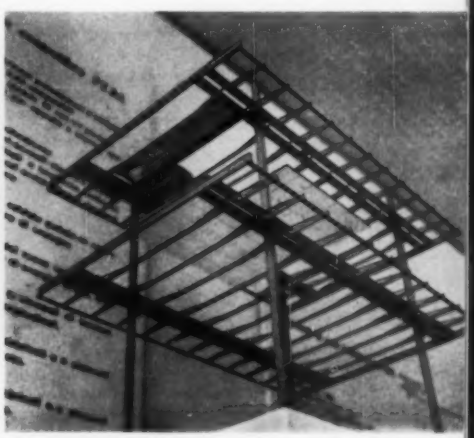


Sergio Bernani

Basic plan for the house was designed by Giovanni Varlonga. Below, left, is Ponti living room and chair; center, a new way of covering foam rubber with fabric; right, demonstration of Feal building method. While most of the prefab methods demonstrated are familiar in the U. S., the exploration of new decorative possibilities is original.

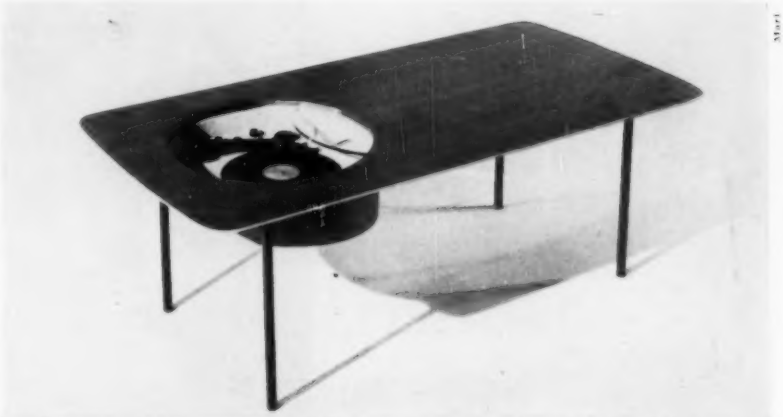




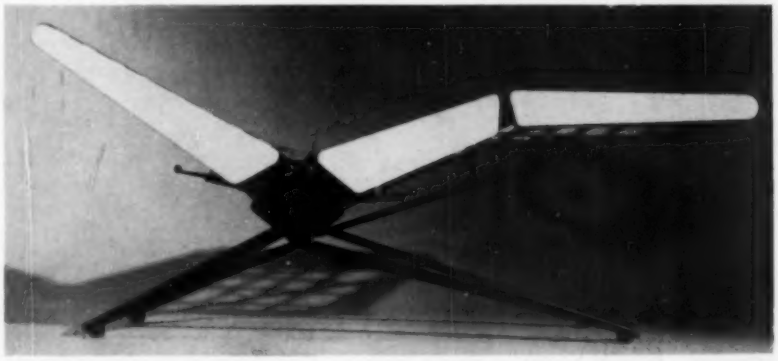


FURNITURE *as always, turned up in all exhibits, in all shapes and sizes*

Chairs sleek, chairs fat, chairs in metal, wood, plastic wicker—in whatever material or form —found their way to the Triennale this summer. Certainly there was no lack of new ideas, new techniques. But interesting point is that without a program, it was very difficult to tell the national origin of a chair. The significant variation seemed to be from designer to designer rather than from country to country. A random selection of chairs (below) from several countries suggests that an international point of view is now prevalent.



Mori



Mori

The Italian Osvaldo Borsani developed two new ideas for Tecno of Milan. Above, a cocktail table with inset phonograph by Phonola. Below, an adjustable bed which may be raised either at the foot, or at the head for a variety of reclining positions.

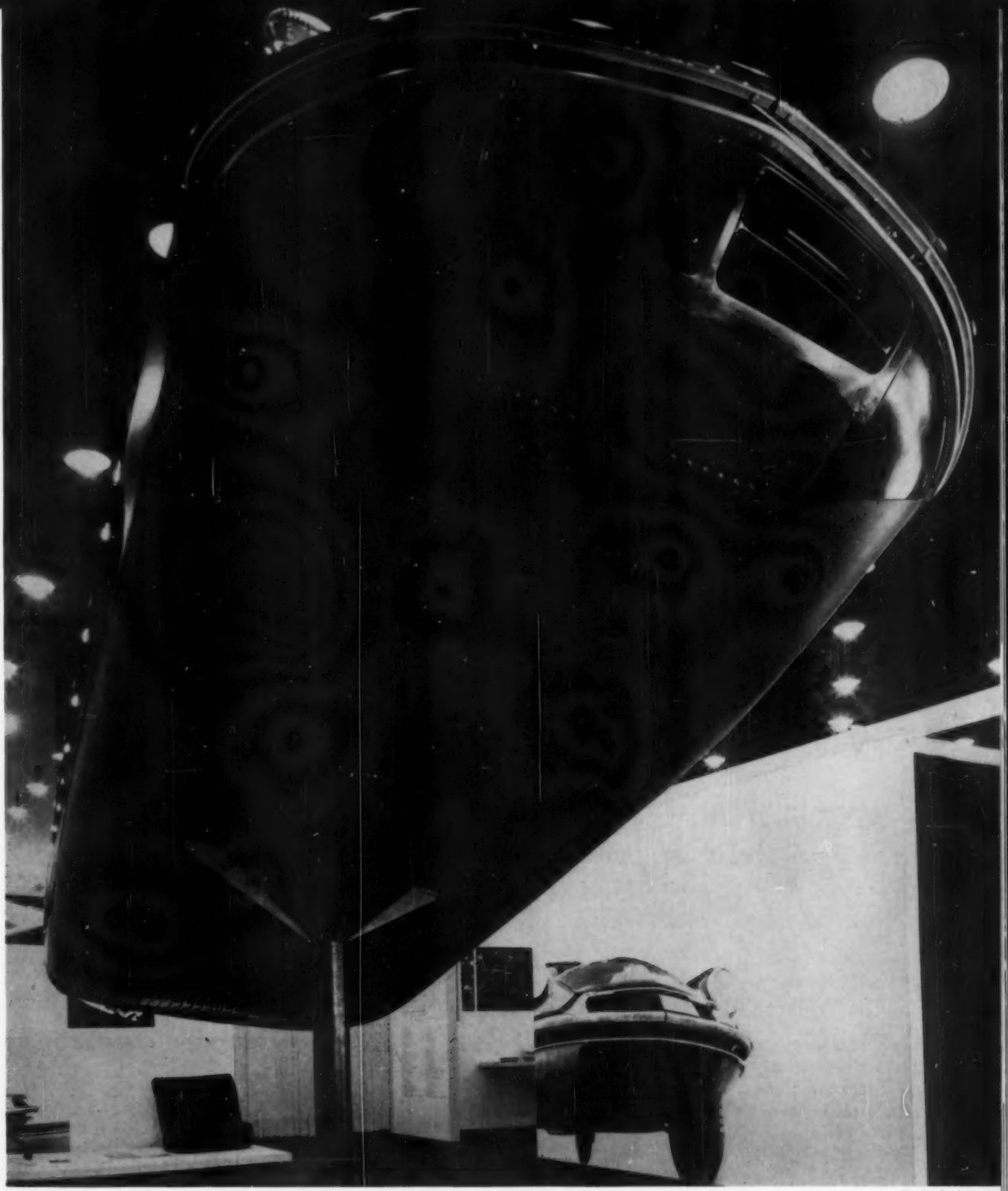
Italy: Borsani

Italy: DeCarli

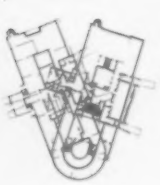
France: Abraham and Janrol

Holland: Rietveld

France: Buffet, Debaig



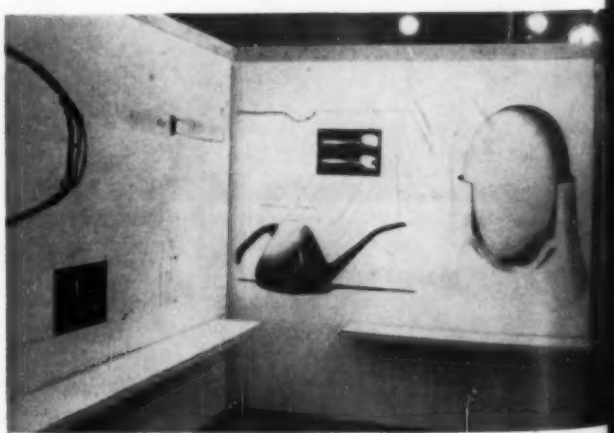
Sergio Besant



The central exhibition of **INDUSTRIAL DESIGN** *gets its main impact from a close look at the work of individuals. In a maze of small exhibit cubicles, the work of some twenty-five internationally known designers and firms, including six Americans, was shown in case studies—for example, the dramatic display by Citroen, above. The maze led to an exhibition hall where a potpourri of industrial products were posed on barrel-like stands.*

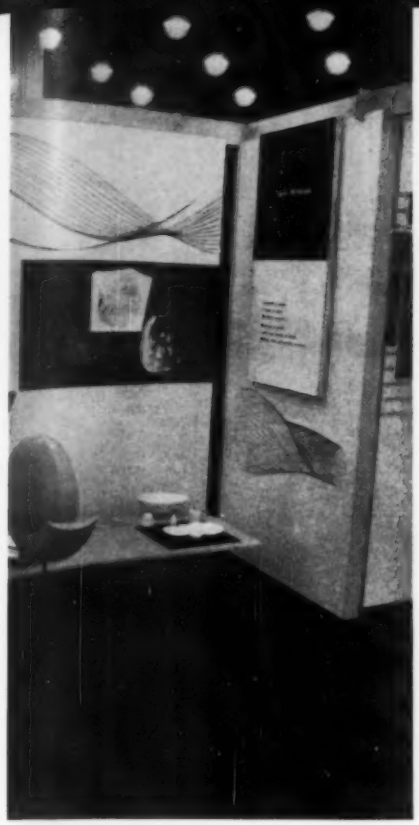
EUROPEAN *case studies, like the American ones, are located in a labyrinth of small cubicles. In each the designer acts as a stage director, integrating the many technical and style elements which go into producing any product.*

At the entrance to the case study section is a plaque which explains: "Industrial design is a completely planned design for an object in common use and mass produced. It is up to the industrial designer to bring the object in common use back to a function representative of the habits of the civilization which first produced it." With this introduction, the viewer leaps into a maze of design problems as presented by men from all over Europe. The solutions which they have found are often unique, but the finished items are strikingly international rather than representative of a specific country.



TABLEWARE

Wilhelm Wagenfeld of Germany presents, along with many products, unusual blow-ups of shakers, trays, an egg cup.

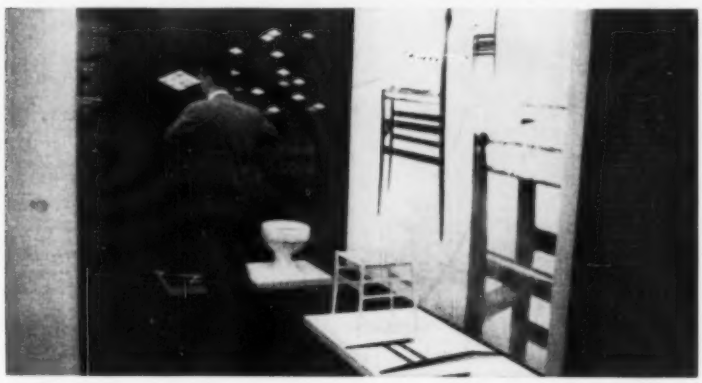


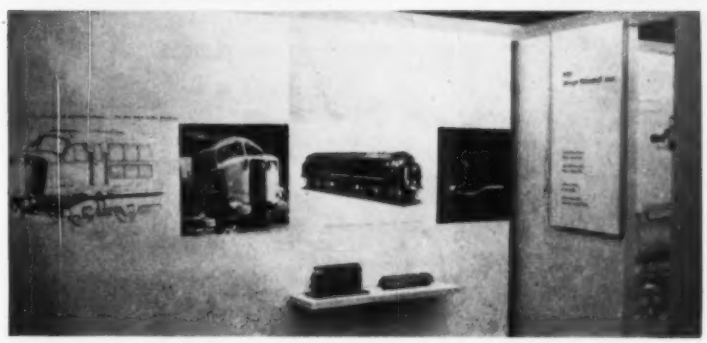
SURFACES

Words and pictures explain how Sweden's Tapio Wirkkala exploits the natural grain of wood to achieve fine surfaces for such wooden products as knives and forks. Stainless steel flatware is also included.

CHAIRS

Gio Ponti's case study features a knock-down chair; the disassembled parts are displayed on low shelf, foreground. Tiles, flatware also shown.



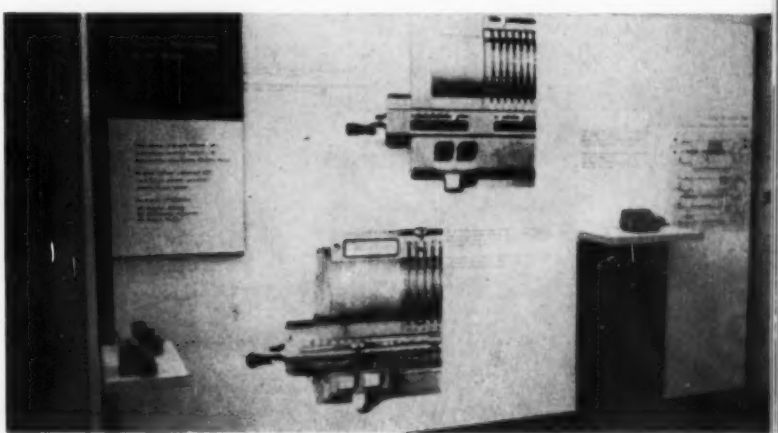


TRAINS

Britain's Design Research Unit presents the development of the diesel locomotive in Britain by utilizing small models, photos, diagrams, text.

CONSUMER GOODS

Italy's Marcello Nizzoli features studies of typewriters and sewing machines. Lexicon-casting model also shown.

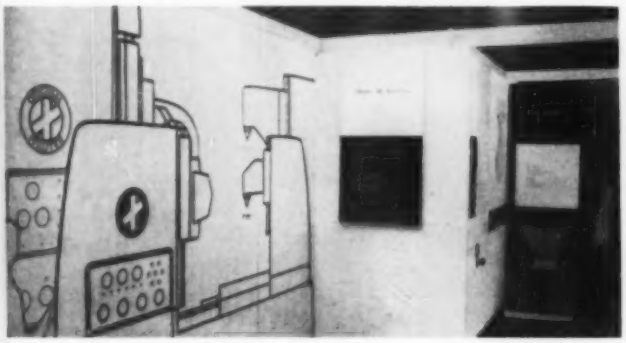


MACHINES

Facit electric calculator and a Helios electric heater are outstanding in the case study cubicle prepared by Sigvard Bernadotte and Acton Bjorn.

PLYWOOD

Arne Jacobsen's effective exhibit features methods of using moulded plywood for furniture. Loudspeaker was also shown.



FABRICATION

Elaborate case study by designer Walter Kersting shows making of sewing machines.

HOUSEWARES

Kaj Frank's exhibit shows how his designs, on the basis of such points as space-saving and economy, aid the housewife.

PANS

Stig Lindberg shows how wide-handled pan increases heat emission, eliminates pot holder.

IDEAS

Sigurd Persson emphasizes necessity of close collaboration of designer, client, and technician in series on development of stainless steel pots, shown on the shelf in the foreground.

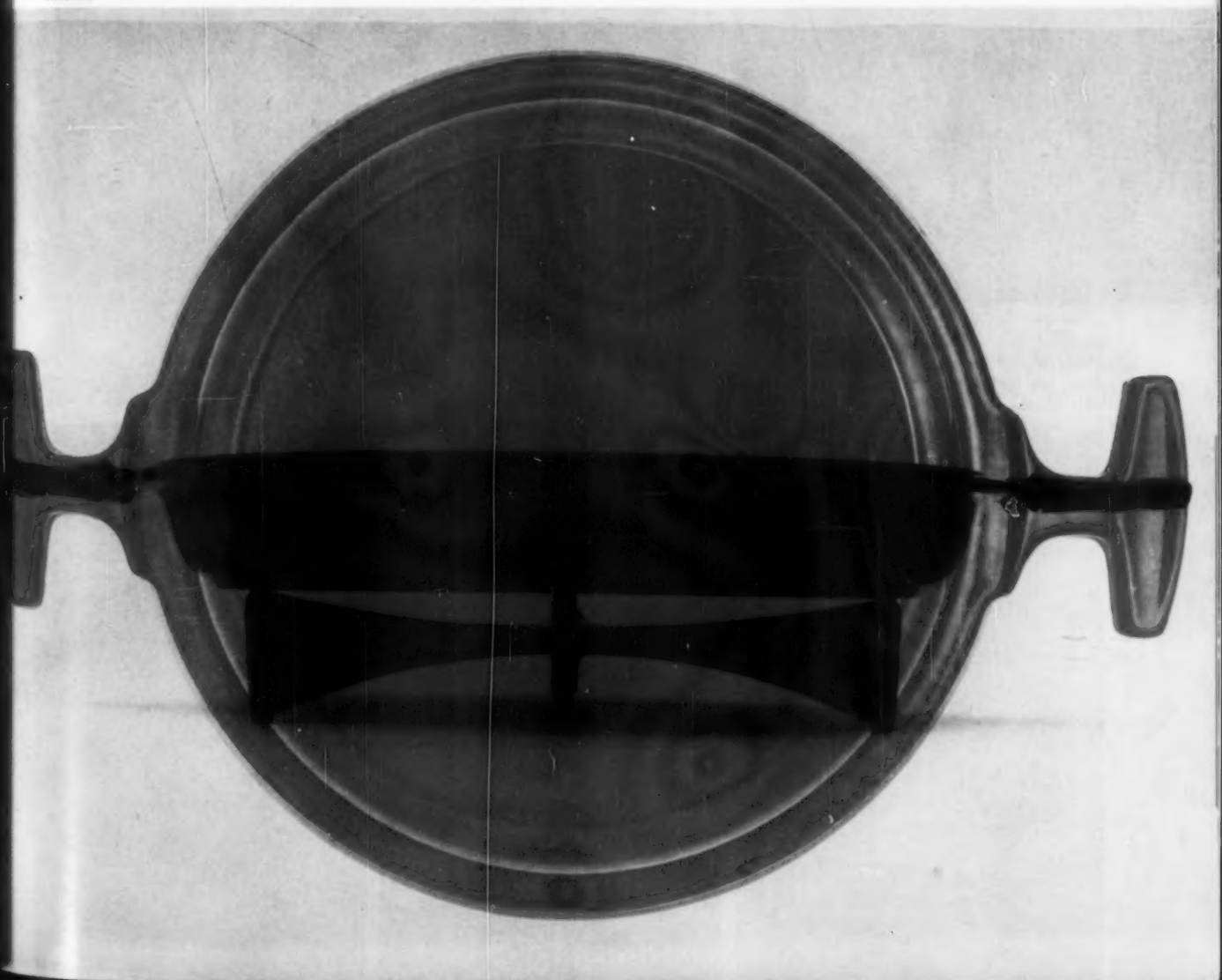
Erick Herlow, with collaboration of Tormod Olesen, makes effective use of his own trademark and one he has designed for A. S. Ribe.

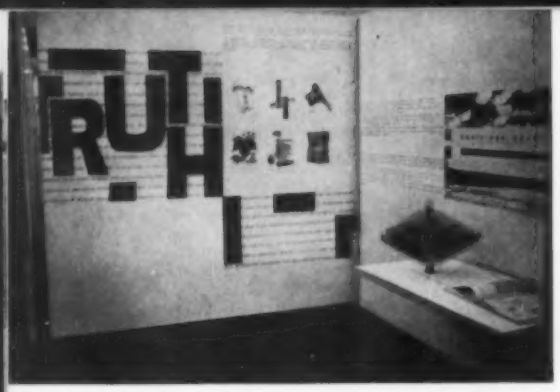
PROPORTION *is emphasized by Swedish designer*

Nellemose

Casserole dish is made of cast iron enamel. Herlow has aimed for utility and a design of balanced proportion from every angle (below).

Nellemose





Container Corporation offers posters illustrative of the philosophy of a design-minded corporation. By Herbert Bayer.

AMERICAN *case studies range from a composite image of the work of an individual office to a detailed record, such as Henry Dreyfuss presents, of how a product comes about, information especially interesting to European observers.*

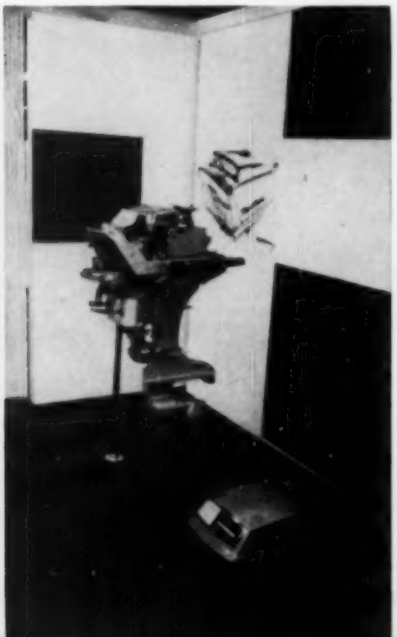
Arthur BecVar's study for G. E. gives historical survey of kitchen fashions, ends with fashionable 1957 G. E. look in refrigerators.

Henry Dreyfuss details evolution of Bell telephone form. New colored phones contrast with black and white walls.

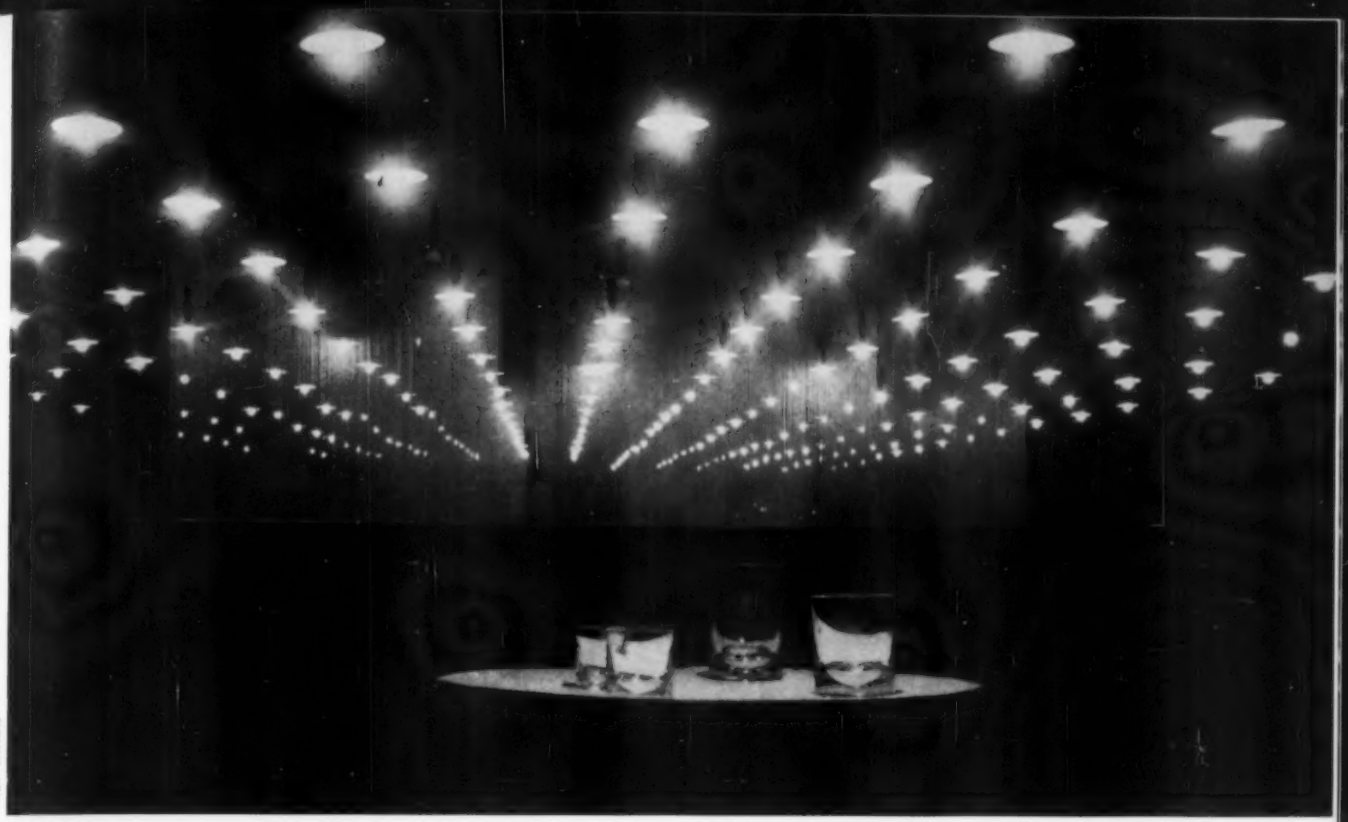
Peter Muller-Munk sketches production process for refrigerator (background), and also shows microfilm recorder-reader.

Sergio Bernard

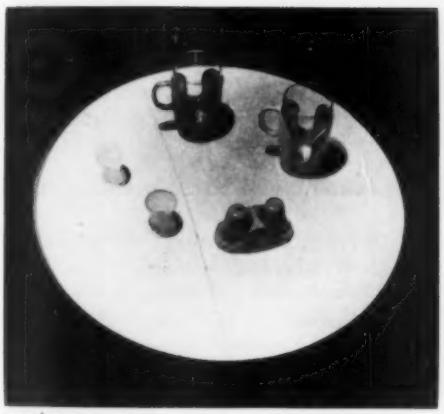
Europeans were surprised at large size of 40 h.p. Scott Atwater outboard motor in Raymond Loewy Associates' booth.



Similar in approach to Loewy display, the Walter Dorwin Teague case study highlights Ritter x-ray machine.



Sergio Bersani



Industrial Design exhibition features assorted products of twenty-two design organizations, six of which represent the United States.

MAIN HALL *of the Industrial Design section reveals products, few of them unknown to ID readers, from many countries. The strong display theme dominated: pendant lights over white-topped tanks of varied heights.*

Four green drums with white tops stand out like stumps in a brown forest, make a typical group on balcony over first floor of Palazzo.

Vacuum cleaner designed by Achille and Pier Ciacomo Castiglioni for Rem of Italy gets its own display drum located in entrance hall.

Sergio Bersani

Scale designed by Van Westrensen is typical in its careful detailing of current Dutch work.

FOUR AMERICANS *who were on-the-scene at the* TRIENNALE *discuss and*

Participation of the U.S.A., as previously reported on these pages, was a last-minute decision, which the A.S.I.D. carried out in the face of extreme difficulty. Our exhibit proved to be one of the conversation pieces of the Triennale, and what visitors saw and said is reported overleaf. On this page are the comments of four American designers, two of whom helped create it.

Dave Chapman

There was a vitality to the entire Triennale which reflected the eager and aggressive reactions of designers throughout the world to the current renaissance in design. Twenty-seven countries, I believe, presented exhibits and the pieces themselves were of a high quality of design and were, as well, very handsomely presented.

I felt, however, that the Triennale was essentially an art show. A sub-

Walter Dorwin Teague
U. S. Commissioner

The United States exhibit at the Triennale was voted second in interest among over twenty national exhibits by visitors attending during the first four weeks of the show. It was outranked only by Germany, and by only sixty-nine votes. The U.S. exhibit was not completed during the first four days of this period and the Triennale management believes that its failure to take first place is due to this fact.

Comments by visitors, from Europe

Henry Dreyfuss

If I had to summarize the message of the Triennale in one word, it would be, "Relax!" We are trying too hard. We have learned the lesson that "Form follows function" so well that we are straight-jacketed by it, American and foreign designers alike. Although there were more well-designed products at the Triennale than I had ever before seen in one place, there was a disturbing

Paul McCobb
Exhibit designer, U. S. pavilion

Among all the factors attendant upon American participation at the Eleventh Triennale, one element stands out in importance: *we were there*, for the first official participation of an American display contained in its own pavilion. And we were there, displaying products not as design projects of the future, but products that are in use throughout the United States as a result of mass-production techniques and achievements.

This end result was a major factor behind the choice, by the official committee, of the area of "Communications" as the theme for the official

evaluate some of the pros and cons surrounding the **AMERICAN EXHIBIT**

stantial number of units were what we in America would call craft items; i.e., glassware, ceramics, tableware, fabrics. Relatively few of our foreign colleagues offered what we would call highly industrialized, mass-produced items. Another faintly disturbing factor relates to the preoccupation of exhibitor with exhibit techniques, *per se*. In many cases the techniques of exhibit seemed more effective than the things which the exhibits were built to show.

One of the liveliest discussions I had with our colleagues in Italy relates to what I would call the internationalism of the show. The similarity and parallel of designers' concepts was quite pointed in all exhibits. This could be construed as a tribute to the common criteria in use among designers of perception throughout the world. Nonetheless, I felt regret at the loss of indigenous values in products offered in the overall exhibit. I personally felt that our selection of material from the field of communication was unnecessarily limited. I do not think it represented fairly a cross section of the best that America has produced in design. The exhibit, however, was perhaps as strategically and effectively placed as we could hope for—in the major axis of traffic outside the main exhibition building.

and elsewhere, were almost unamimously flattering. Some expressed regret that the American exhibit was not more comprehensive and did not include American appliances and dwellings. With this we heartily agree.

All the exhibits were commercial products, to be found in the homes and offices of Americans throughout our country. They were all selected for excellence of design, but we do not claim they are perfect. We hope they at least typified the union of science and art that prevails in all our industrial complex. And we hope they represented the spirit of a nation that likes to be gay as well as efficient, both in the office and in the home.

We hope that, in the Twelfth Triennale, our design activities will be more adequately covered, that the United States will not only show a segment of its industrial design, but also its characteristic architecture.

Sergio Bersani

sameness from one pavilion to another. If I may make a prediction, or air a hope, I believe we may find ourselves leaning toward a new interest in a rather refined decoration. What type of decoration remains an open question —not cupids and rosebuds, certainly— but something that comes with a freer approach to design than we have now.

Specifically, the German exhibit impressed me deeply—I admire the courage and ingenuity of their craftsmen. The Norwegians produced a fine exhibit although it was traditionally stark. I felt there was little to see from Japan, and the work of the iron curtain countries was heavy and quite dull. I wish the American exhibit could have included examples of Americana that would tell others of our great variety.

American pavilion. Once the products had been selected, it was my endeavor to evolve a method of display which would, in itself, be an example of creative design.

The choice of the Buckminster-Fuller geodesic dome to house the entire American exhibit was dictated by the intrinsic design interest of the dome itself, and by the fact that, while it was not new to this country, it was the first opportunity many Europeans would have to view a full-scale structure of this type. It was set off by itself in a quiet, attractive corner of the park, and initial effect was most pleasing to the eye, and created an atmosphere of unusual appeal which we attempted to continue throughout the entire pavilion.

Rather than using customary series of exhibition cases, we laid out the triangular and conical displays in a manner which I hoped would set a pattern for the viewer, without a regimented effect. Color was vital in getting attention for the exhibit as a whole, without making this the primary focus of the pavilion. The viewer, in order to see the products, was placed in an active rather than passive position; he had to look into each housing, rather than follow a continuous, crowded line, which customarily makes it impossible for him to linger at those displays which interest him most.

On my departure from Milan, I felt that the American "Communications" exhibit had accomplished its objectives. First, it succeeeded in proving that good design itself is a means of communication between nations. And, since the Triennale is, above all, a cultural exhibit rather than a trade fair, it showed that we understand human needs beyond the atmosphere of trade.

What the public saw in the **U.S.** *pavilion, which, unlike the other national exhibits, stood alone in the park, was a luminous spherical space within which* 200 *American products related to "Communication in Business and at Home" were located. Europeans responded to all this with fascination, curiosity, and some confusion.*

The reactions of an exhibit's viewers, impossible to anticipate, are the most important indication of how effectively it communicates. The public's views of the USA exhibit are of great value in America's continuing efforts to reach foreign people, and in planning future cultural exhibits. Here are some comments by observers on the spot:

"The U.S. counts heavily on the drawing power of the dome. Guards report that people admire its portability and method of joining the aluminum rods. Several have asked, 'Where can we get it?' . . ."

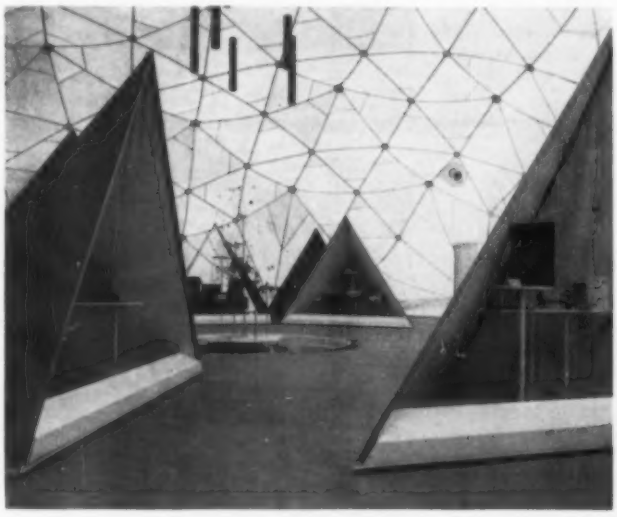
"Alone in the park, the U.S. dome has an enormous build-up that encourages misinterpretation by those who take our restriction of theme for a restriction of interest to industrial arts alone . . ."

"While there are two entrances to the dome, the explanatory plaque (on which the title is mistranslated into 'Communications in Commerce and Industry') is placed on only one of them. More than one person has missed it entirely and commented, 'Oh, it's only TV and office machines.' . . ."

"Even the confusion does not detract from McCobb's interior. The gay fountain, blue lamps and pyramids in primary colors all come off with a sense of fun and efficiency. The arrangement of products is less effective. Within the display cases, small objects are minimized often to invisibility during daylight; though night lighting is dramatic."

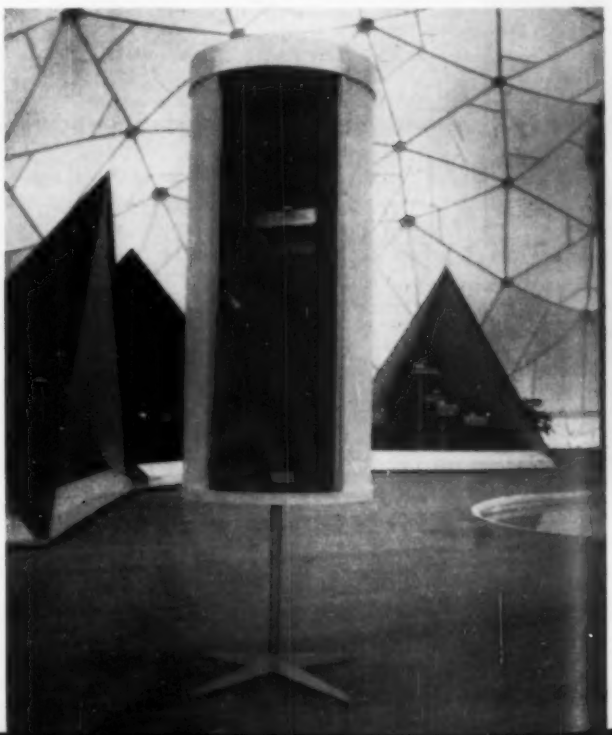
"The exhibit has elicited much interest from Europeans: the average man likes to see what the average man can buy in the U.S.; the industrialist likes to see what industry is doing; designers like to see what American colleagues have to say. Americans ask, 'Where is the art? Why no hobbies or musical instruments?' Few are aware of the story behind this exhibition, and view it as a complete national statement. The professionals, and the administration, however, fully appreciate what it means that we are there . . ."

Brightly colored triangular displays of communications products were especially effective when fully illuminated at night.



Sergio Bertani

These, tall, yellow cylindrical cases are open on one side to display smaller communications products in the American exhibition.



Sergio Borsani

end

THE CONSUMER AT IDI

Design symposium at Silvermine not only talks about the American housewife, but listens to her report on what she looks for, and what she finds, in the American marketplace.

SPEAKERS

FREDERIC H. RAHR
President, Rahr Color Clinic and Customer Preference Clinics, Inc.
"Consumer Research"
MORRIS KETCHUM, JR.
Partner, Ketchum, Gina & Sharp
"Our New Shopping Environment"
LAWRENCE d'ALOISE
Vice President and Creative Director, Dancer-Fitzgerald-Sample
"The Simplification of Complexity"
VANCE PACKARD
Author, The Hidden Persuaders
"The Hidden Persuaders"

PANEL OF HOUSEWIVES

MISS BONNIE HOLT, Norwalk, Conn.
MRS. ANITA SCANLON, Norwalk, Conn.
MRS. GENEVIEVE WHEELER, Conn.
MRS. WILLIAM HILL, New York City
MRS. HUDSON WALKER, Forest Hills, New York

Left—Bonnie Holt, housewife, explains choice of flat iron.

Below, left to right—John S. Griswold, Chairman 4th Annual SNE Chapter Symposium; Tucker Madawick, symposium moderator; John Vassos, President, Silvermine Guild of Artists.

All photos by Fedor Benham Associates.

When the Southern New England Chapter of IDI entitled its 4th Annual Symposium, "Ultimate: the Consumer," it was not idle talk. For although the symposium, held October 5th at the Silvermine (Conn.) Guild of Artists, featured such authorities on consumer preference as color research expert Frederic H. Rahr, architect Morris Ketchum, advertising executive Lawrence d'Aloise, and author Vance Packard, the consumer herself was much in evidence. She was there not only as subject, but as participant, and her participation may turn out to have been the most valuable contribution to the conference. Five women were appointed as a panel of consumers, and each was assigned a specific product to shop for. In an age when so much of management takes for granted that consumers can be manipulated as if they were marionettes with strings labeled "design," "motivational research," "advertising," "price," etc., the panel vigorously reasserted such old-fashioned values as performance and durability. And it was refreshing to many listeners to find the humanity of the American shopper reaffirmed by the intelligent and articulate women who made up the panel of housewives.

This was no accident. The program had been built around the consumer, and the panelists had been carefully and imaginatively chosen. Neither seeking, nor pretending to seek, "typical housewives," the committee selected the five panelists on the basis of their ability to give serious thought and attention to shopping, and to present their findings in a way that might be useful to designers. The results are presented overleaf.

What did the panel prove? For one thing, it demonstrated how very hard it is for a consumer to obtain honest, accurate information about the relative merits of her prospective purchases. It demonstrated too, however, that if a woman really wants to find out what's good and what isn't, she can and she does. And it suggested that now that so many of the hidden persuaders have been flushed out of hiding, the American consumer will take time to depend on her own resources in buying carefully and sensibly. Conferences like the one at Silvermine suggest that the designer is on her side.—*r.s.c.*

SHOPPERS' REPORT

There were ladies present at Silvermine, each eager to discuss the results of her own do-it-yourself market research project. Here's what they said.

Miss Holt: *Irons*

My first step in shopping for an iron was to go to a local department store in the fond hope that a clerk would explain various features of the irons on display. This was a complete waste of time, as she seemed to know even less about them than I did—and when I asked her why the new General Electric was four dollars more than the Sunbeam, she advised me she thought it was because the control switches were made of *colored* plastic!

Finally I learned through my own research that I would have to choose between a dry iron, a combination iron, or a steam iron of the drip or boiler type. So I thought about it.

After carefully analyzing the ironing done in my home every week, I decided I liked and required the versatility of the combination steam-dry iron and, now that I knew the type of iron I wanted, again I went to shop for one—this time to an appliance store. I found they had General Electric, Sunbeam, Westinghouse, Hoover and Universal in a steam-dry combination. I decided against the Universal and Hoover, because the adjustment dials seemed inconvenient to set. The open handle on the Westinghouse made me vaguely uneasy. I was most impressed with the Sunbeam and really liked it a little better than the General Electric steam-dry iron because it had a larger water capacity, and would probably, therefore, have to be filled less frequently.

That was until I saw the new General Electric combination steam-dry-*spray* which enables one to eliminate completely the process of sprinkling clothes for ironing. This, along with the fact of its light weight (3¼ pounds), built-in lift to keep cord out of the way (handy when you are trying to iron and look at TV simultaneously), and large soleplate, completely sold me.

Mrs. Scanlon: *Washing machines*

When I was asked to select what in my opinion is the best washing machine on the market today, I was told to approach it from the angle of "an intelligent, discerning housewife with an average family"— I have three children —"who does her own laundry and who is out to buy the best she can for the job involved." Variables such as price, trade-in and mechanical servicing were to be ignored.

On my first trip to the appliance stores I was vividly confronted with a fourth variable—"salesmanship." I would have to beware of being unduly influenced by the enthusiasm (or lack of it) of the man showing me the machines. I could not help wondering whether differences in the margin of profit might not account for differences in the degree of his enthusiasm.

The salesman's personality was also influencing me. For example, in a store carrying only Hotpoint appliances, the salesman was completely indifferent and even slightly annoyed at my questions. He seemed to think his statement that "almost everyone around here, especially in the most expensive houses, has Hotpoint" should preclude any further questioning on my part or demonstrating on his. Yet the Sears, Roebuck salesman was so personable, so enthusiastic, and took such pains to point out all the features of the Kenmore, that I actually felt guilty about having led him to believe that I was a potential customer.

It shortly became clear to me that I would have to change my strategy. After careful thought, reading, questioning of engineers, listening to the experiences of other women and their washing machine problems, and sifting through my own experiences, I solidified my thinking and finally decided on the features that I thought were most important to me before I went to look at machines. These features I listed according to their importance to me. Since there were 14 features, I assigned a 14 point value to the first feature, 13 points to the next, etc. In all, I have graded 15 different makes. I then examined each machine and assigned to it the point values commensurate with whether or not it satisfied the qualifications listed below.

1. Washing effectiveness—Since I personally had no way of conducting controlled comparisons, I was dependent on Consumer's Reports, Consumer's Research Bulletin, and Kiplinger's Changing Times, and testimony of friends.
2. Scale for weighing clothes load—There is only one machine on the market that has this feature—Westinghouse—and in my opinion the other manufacturers would be smart to consider adding it. No matter how many new features are added to an automatic machine, the average housewife will not trade in her old one unless it needs major repair. If it has given years of faithful service and the new model of the same make has kept up with the latest feature additions, it becomes almost impossible to make her change brands. In other words, it is smarter in the long run for the designer to build not only for obsolescence, but for durability.
3. Overflow rinsing.
4. Spin-drying effectiveness.
5. Automatic water level control.
6. Safety feature — Stop action when door is opened—Small children in the family makes this essential.
7. More than two water temperature selections.
8. Amount of hot water used.
9. Total amount of water used.
10. Lint filter—It is claimed that machines using the overflow rinsing method do away with the lint problem, but it would be more reassuring if I could see the accumulated lint.
11. All-over chip proof porcelain.
12. Ultra-violet light.
13. Top loading—A "variable." Since I do not need the top surface for working space or storage, and since I do not have to consider the height of the space where my machine stands, from a front opening, I prefer the convenience of top loading. It eliminates bending.
14. Panel light—A "nicety."

If I were a designer as well as a housewife, I would be terribly discouraged to know that no matter how conscientious and thorough I might be, the success or failure of my product might depend on a great many factors over which I had no control. For example, there was the salesman who condemned Norge, even though at the time

he had had experience with it, Consumer's Research gave it top rating. "Got one for a customer at his insistence, and it kept breaking down." I later discovered that a subcontracting company had done a faulty job manufacturing the timing mechanism for Norge. This situation has been remedied, but the damage to good public relations has been done.

Although Frigidaire came out at the top of my list, and Speed Queen second, I have come to the conclusion that there is no "inadequate" washing machine on the market today. No matter which machine a housewife buys, she will get one that does a satisfactory job. In other words, my final selection is merely relative, based on degree, and in every instance it was a case of "good, better, best" without the word "poor" entering into the picture at all. You may rightly question whether every woman out to buy a new machine will go through the trouble of analysing all the various features as I did but, personally, I have a feeling that this is becoming the trend. We housewives are being told in the latest books and articles to be wary of advertising techniques, and to recognize such things as emotional and prestige buying. Many of us are asking not only is this purchase necessary, but will it *last?* Also, when it comes to a washing machine, which is no longer considered a luxury but a necessity, I seriously doubt whether the average housewife will knowingly substitute top performance for economy.

Mrs. Wheeler: *Foreign cars*

In shopping for a foreign car, I was most pleased with the Volkswagen, which is relatively low in cost and provides extra savings because of low-cost handling. Outstanding features are hydraulic brakes, excellent gas mileage, engine in the rear (this distribution of weight gives good traction), air-cooled engine, ease of parking and more luggage space. The low, sloping hood improves visibility for us shorter women. This attractive car is a real buy!

Mrs. Hill: *Vacuum cleaners*

When Mr. Griswold invited me to be a member of this panel, I felt highly honored to be selected as an American housewife and shopper at a time when running a household is considered a highly developed science.

According to the January, 1957, issue of Consumer Reports upright vacuum cleaners are slightly better for rug cleaning efficiency than tank-type. On the other hand, the tank-type cleaner was found best for general overall cleaning including furniture, wooden floors, draperies, woodwork and rugs. There are five leading tank-types: Electrolux "Automatic F" ($99.75), Electrolux "E" ($77.50), Hoover "Constellation" #84 ($97.50), Apex "Strato" #5555 ($150.00) and Sears "Kenmore" Cat No. 20C-075-7L ($74.95).

I feel that the first of these tank-type cleaners, the Electrolux "Automatic F," priced at $99.75, is by far the best for general cleaning. It weighs fourteen pounds, is easy to use, has good thread pick-up, good suction of dust and dirt on all surfaces, two attachments, and can be set down on a stair to clean a staircase. The Electrolux is the only vacuum cleaner I found with a good self-sealing bag. When the bag is full, the cleaner stops and the cover opens.

In discussing the various vacuum cleaner features with my friends, I have found that some were more interested in the storage possibilities, while others wished a machine to be as decorative as possible and, therefore, were interested in color and styling. This indicates that various consumers may want various and contrasting product features. With our rapidly changing city and country living habits, I do hope you designers will employ the factual techniques of market research to determine our present and future cleaning requirements.

If you can only find out what we want, I am sure you can advise your clients on the best designs, and you will have the satisfaction of giving us homemakers what we need.

Mrs. Walker: *Ranges*

The first question in buying a range is: gas or electricity? I'm strictly a gas woman, myself. (I've had power lines fail.)

Since I live in a house, I skipped the small apartment models — and they should be skipped. In conserving space, the manufacturers have turned out a box with burners too close together, and an oven too small. Adequate for a bachelor perhaps, but hardly practical for a family. (I cook for five.)

I'm afraid that one old complaint is still valid: the "Lo-Broiler" (Caloric, Tappan, Chambers, etc.) is so low you have to crawl on the floor to find out if your steak is burning. True, there are high broilers, but they are in the luxury market.

The next personal complaint I checked up on is the drip-pan, or lack of one. Nowadays if the designer gives you a drip-pan it is very small and narrow, fitting only under the immediate burners. This may be very neat and trim, but grease has a way of spilling over, and there you are trying to clean up the pipes.

Being tall and thinking of my back, I looked at the built-in wall ovens, and was very disappointed to see them so small. Electric wall ovens are larger.

There are two items I consider waste space. One is the top griddle. In this day when we have so many electric appliances it seems to me it would be better to utilize this top space by separating the burners and alternating the sizes, kitty-corner front and back, so you can use two large pans, should the occasion arise—and it often does. The other item is the storage space below the burners. Better to have a second oven, or put your broiler there and have just a little storage for lids or griddles underneath.

Of the products I looked at in the standard bracket, I like the Roper Supermatic the best. The four burners are separated. The oven is large, with a glass window and a light, so you can see what you are baking. The broiler is adjustable for height and flame.

VOICE OF THE EXPERTS

The feminine voice of the housewife was not the only voice heard at Silvermine. Four specialists, each from a slightly different point of view, spoke to the problem of clarifying lines of communication between the marketer and the "ultimate: the consumer."

Mr. Ketchum:

Today, American shoppers shop by car and shop in ways that are very different from yesterday's. In cities and suburbs a new world of shopping is being created to properly serve them. It is a greener and better world and it offers a much wider horizon to merchants and consumers alike. Tomorrow, when the new federal highway program comes into being, linking our cities and states and consolidating our transcontinental motor traffic routes, the automobile will take an even firmer grip on our shopping habits and our ways of living. And the new type of shopping center can bring back the personal contact that used to be over-the-counter selling.

Mr. d'Aloise

We have too much sensitivity, too much pride — not enough objectivity. The mind that creates places a tremendous premium on *expression*. This is natural, desirable and healthy. But it can also lead to becoming overwhelmed and overfond of form and technique. We get bewitched by the device or the design, by displaying *our* individual creativity rather than displaying the *product's* advantages. And where the primary purpose is to sell a product or service, it is deadly to let technical excellence overwhelm *selling* experience.

We must simplify. Simplication has its place everywhere, in anything we do. It stops *nowhere* to reach the clearest, cleanest expression possible.

It had its place, for instance, during the 3-dimensional craze. Cheerios wanted to offer a 3-D comic book in the package but also faced the necessity of offering a pair of 3-D glasses for reading the comic book. Impractical and too costly to pack both.

Somebody simplified—and the glasses were made out of the package itself, actually built into the front of it.

That exemplifies simplification in packaging. A small matter? A detail? It eliminated the extra cost of providing the glasses as well as inserting an extra item—extra expense that would have actually *doubled* the cost of the promotion. With more than 10 million packages involved — well, need I say more? To simplify your presentation, simplify your material and thoughts.

Mr. Packard

Research indicates that not much serious deliberation precedes the purchase of a product. One study showed that half the people who buy houses look at only two before making their choice. The average housewife puts appearance at the top of the list. A University of Michigan study of sixty-six families showed that in the effort to decide which product to buy, tension builds up and must be relieved. This, rather than a formulated reason, appears to be the basis for the final decision.

This is part of a very perplexing problem. We have a dynamic economy that, in order to thrive, must maintain high productivity and therefore high sales. What techniques should be used to sell products? Responsibility of practitioners in the market and serious thinking by the consumers themselves are essential.

Mr. Rahr

In the fields, of women's apparel and home furnishings where fashion has created so much fluidity, and where there are so many conflicts of promotional influences, it is today possible to report, with remarkable accuracy, what *will* and what *will not* be acceptable to the consumers.

It has been repeatedly proven that where designers and manufacturers combine these most wanted details into a series of seasonal products, those products outsell all others. Conversely, it has repeatedly been shown that where, in the interest of establishing a new fashion idea too quickly, these reports are ignored, the product generally fails to capture enough profitable sales to justify its introduction.

As the creators of new products for industry, it is important for you to know your markets, and to do so you must let the consumer communicate to you his needs and wants.

IDI members and visitors enjoy a buffet lunch under the trees at Silvermine.

GRAPHICS FOR SUBTLE SIGNS

United Van Lines makes a move . . . .

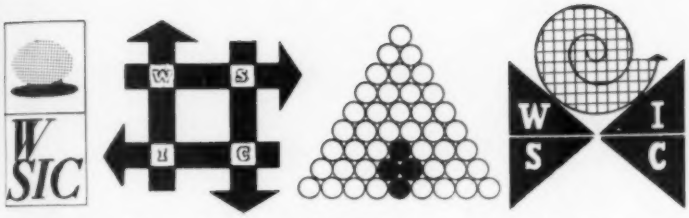
United Van Lines of St. Louis is the latest U. S. company — and the first of the nation's long-distance moving firms—to institute a full corporate identity program. Last summer the first group of six hundred trucks bearing the new trademark designed by Lippincott and Margulies went out on the highways. Within the next few years, United plans to have all its twelve hundred vans in service as a vast caravan of moving billboards. Not only the trucks but all visual media, including driver's uniforms, bear the new stamp of service and reliability.

The designers aimed to express the intangible "cleanliness and care" qualities of moving service in the white and ochre color scheme, and to create an active interest in the company's nationwide operations by means of a symbol with many references. They started with the bullseye as a traditional eye-catching device, and added arrows to indicate movement, which is the company's essence. These arrows are shaped like safety signs on highways, to tie the trucks in with their surroundings. The map of the United States placed at the center acts as a picture-symbol for the name "United," indicates the national scope of the company, and ties the movement theme down to its specific meaning — moving everywhere in the States. Further focus is obtained by shaping the bullseye and arrows into an eye motif.

Since a moving company's services are only infrequently used by its customers, the designers tried for distinctiveness and memory value. But with the growing mobility of the American population, the redesign was intended to have strong selling and re-selling powers whenever the public eye is focused on it.

Symbol is repeated on vans for registration from every angle; colors are gold ochre and dove white, form swept-back line for forward look.

Trademark appears on all company printed matter: stationery, brochures, order forms. Even drivers' uniforms bear it as shoulder patch (top).



Stages of symbol development: golden egg, arrows, pyramid, curve.

.... *while Wall Street Investing Corp. draws a curve*

Wall Street Investing Corporation, a mutual fund for diversified ownership of common stocks, sought out Gyorgy Kepes to design a symbol that would express the subtler values of investment banking. Kepes went through a gradual refining process (see above), starting with the tired images of saving, and ending up with a recondite figure drawn from the mathematics of finance.

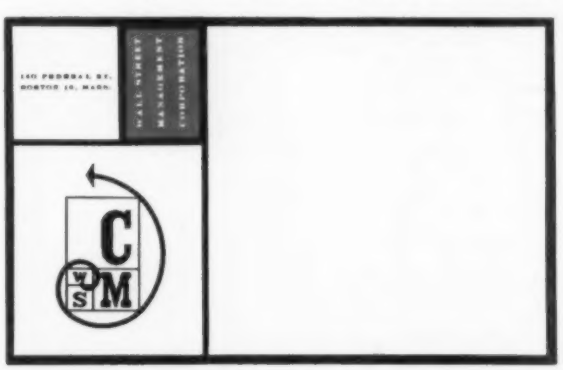
Kepes' initial sketches were variations on the "golden egg" theme, but the client found that the association of the golden egg suggested a quick bonanza rather than predictable growth. These initial trials served to clarify the Corporation's thinking, and the element of growth emerged as most important.

Kepes' second group of sketches was a set of variations on the growth theme, moving from the obvious to the suggestive. The acorn (not pictured) was ruled out as too common a symbol, while the variations on the arrow did not pin down the company's patient approach.

Kepes began experimenting with a mathematical curve — the "spiral of growth," based on a logarithmic equation for gradual increase. This implied the firm's careful statistical way of doing business, and hinted at wider prospects even to non-mathematicians.

As a final refinement, Kepes placed the growth spiral on a group of rectangles that, appearing graphically modish at first glance, are actually a mathematical expression of the "Fibonacci series"—a formula for well-balanced structures. This abstruse symbolism was not only considered expressive of the fund's four-square solidity, but also allowed other divisions of the firm, Wall Street Management Corp. and Wall Street Planning Corp., to use the symbol for a widespread corporate identification.

Symbol appears in firm's stationery, brochures, mailing sticker (below)—layout by C. F. Zahn. Four rectangles allow W. S. Management and Planning Corps. to use mark.



addo-x

• • • swedish adding machine

European business machines firm flashes its style at America

On a busy street in the East Forties, hurrying New Yorkers are being stopped in their tracks by a startling new building facade. The new offices of *addo-x, inc.*, are a carefully placed—and lavishly backed—attempt to bring this sales company for West European business machines to wide notoriety in the U. S. But in a hitherto staid market, a firm committed to a sales approach that emphasizes traditionally high quality has felt it necessary to have a house style that tempers flamboyance with refinement, appeal with tact.

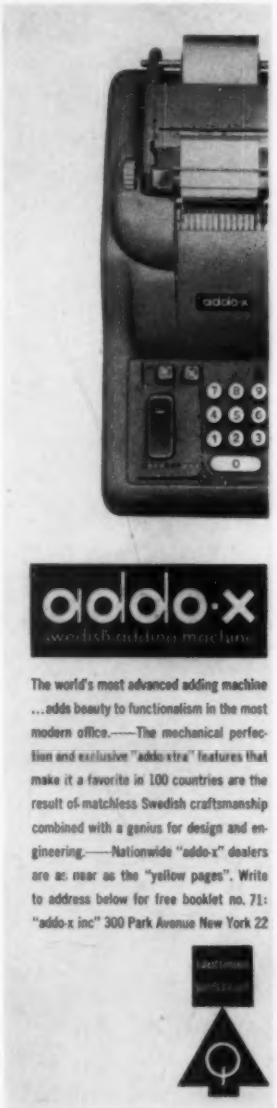
The house style is the result of a slow evolution that began when N. Gosta Arnheim, President of addo-x (distributor for A. B. Addo, Swedish calculating machine manufacturer, and other European firms) noticed five different logotypes in the parent company's identifications. Since his problem in setting up the American outlet was precisely one of recognition, Arnheim and Chairman of the Board George Agrell hired graphic designer Ladislav Sutnar to design a new logo. That began the gradual process of bringing order out of the chaos: Arnheim first had the logo applied to all company printed matter and advertising, then had architects Hans Lindblom and Oscar Nitzchke make it the outstanding visual feature of the new office building, and is now campaigning to have it applied to all "addo" nameplates on the machines. Arnheim eventually aims to have all packaging and housings redesigned to keep up with the fresh stylishness.

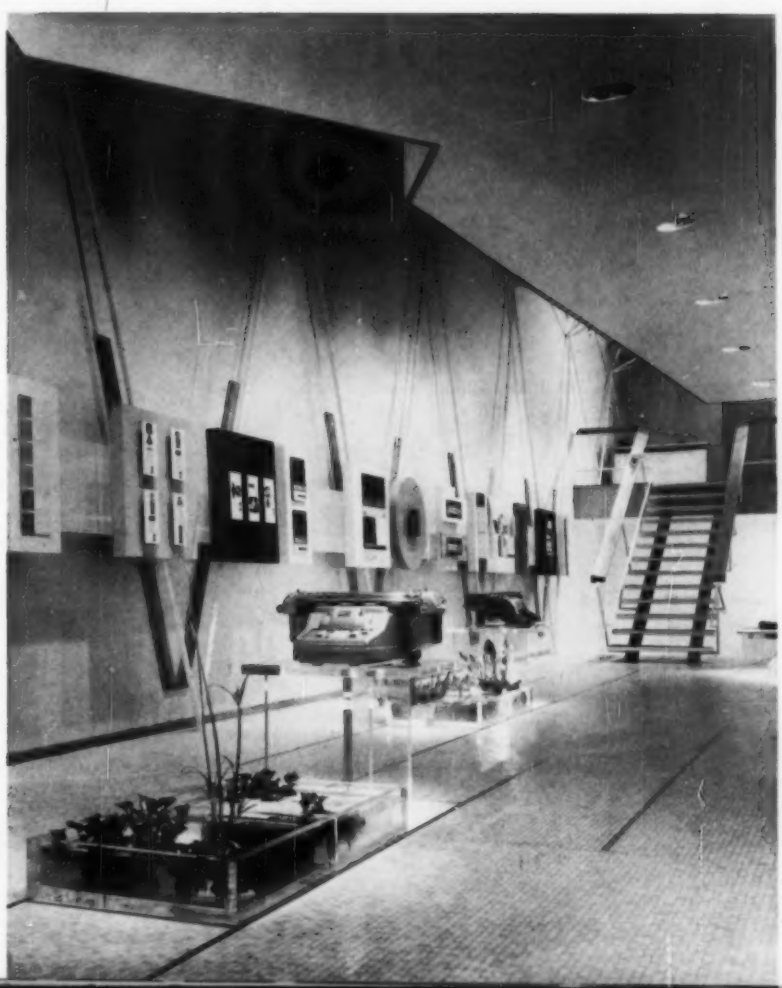
When he stated addo-x's house style goals to designer Sutnar, Arnheim emphasized that it had to be attention-getting, have strong memory-value, and reflect the fine craftsmanship and custom engineering of the products. Sutnar's proposal emerged as all that and more—it was also hard to read. But despite—or because of—that fact, Arnheim and Chairman Agrell stuck by their designer, hoping that once the entranced viewer figures out the name he will never forget it.

While American marketing experts might have decided that hard-sell through hard-see amounts to no sell, addo-x has put a very hard $100,000 into its new sales office as part of an energetic publicity campaign that includes advertising in national as well as trade magazines, and systematic promotion of its 1,000-outlet dealer network.

With styling, addo-x has achieved something more than its stated goals of quality, permanence, confidence and boldness in marketing. Its program also identifies the national character of its products and its business approach. The same intention that led to the striking artfulness of the nearby Olivetti sales center is developed here in a quite different North European idiom, to express the style of products from West Germany, Sweden and England. The rigid geometric principles of its trademark and the aggressively exposed structural elements of its building give addo-x a connotation of coming to America with something special—in marketing, in products, and in design style.

Trademark is employed in display sticker (left), advertising (below), stationery (right). Sutnar also designed quality seal for firm's West European products (bottom of ad).





Louis Reens

Showroom by Nitzchke and Lindblom sets products above pools in marble floor. Wall display invites public to study development of house style; other graphic exhibits are planned.

Top Students Run Their Own Show

A contract from the State Department's U.S. Information Service, awarded to the Institute of Design at Illinois Institute of Technology for a travelling exhibition on "Industrial Design Education U.S.A.," posed a real-life assignment for eight top students: to present the work of American schools, and explain our philosophy of design training, to viewers all over the world. The picture story on the next nine pages reveals how students of today go about tackling such a problem—devising a display system, jurying material, building their own show—what they learned from the summer-long job, and what U.S. education has to learn from them.

To Jay Doblin, director of IIT's Institute of Design, there is one educational theory of prime importance: learning means more to a student if it involves a *real* problem. The chance to put this theory to work, in a unique educational experiment conducted this past summer, developed from a conversation with Jack Masey, director of exhibitions for the U.S. Information Agency. Masey, who has engaged a number of designers to prepare exhibitions that will carry an image of American life to all corners of the earth, approached Doblin about IIT's doing an exhibition on industrial design education. Feeling that it was too heavy a load for his busy staff, Doblin was at first inclined to refuse; then he thought of getting students to help. It seemed extremely logical to express the calibre of U.S. design training by letting a group of design students present their work to the world at large—meanwhile learning the facts of design life, with pay. In April Doblin submitted this proposal to U.S.I.A., and was awarded a $39,000 contract for an exhibition ready to travel in early fall.

On June 16, eight students arrived at the Institute's headquarters in southeast Chicago. Representing eight schools with both university and art school curricula, they were all seniors or graduate students selected by their instructors as the best equipped to contribute to a serious and complicated group project. They were given rooms at the school and a salary of $90 a week for the summer; they were offered the facilities of the design department, the guidance of Warren Fitzgerald (IIT's head of industrial design) when they wanted it, and were told to go to it—to design and build a 3,000 square-foot exhibition within twelve weeks.

The task was "typical" in more than its time and money aspects. It brought together eight strangers, with different personal and school backgrounds and, inevitably, with widely varying points of view. It required that they cooperate without an appointed leader or director, and reach conclusions about a difficult subject in short order. How they organized the task is an interesting educational study in itself.

The students' first move was to agree on the aims of the exhibition: It was to (1) present the *existence* of industrial design education in the U.S.A., in itself news in many parts of the world; (2) convey the idea that this process is effective, allowing students to create in many convention-bound areas without giving prime consideration to fabrication problems; (3) to show that the design of the exhibition itself was an extension of the democratic process—the kind of unique experiment that our system allows.

Problems to be solved were those of building an exhibition that would be flexible and portable, suitable to any exhibit space and capable of being shown only in part if space limitations necessitated; one that could be properly assembled by unskilled foreign workmen; that would be vandal-proof, and capable of showing several hundred photographs and some models coherently with a minimum of verbal explanation; and that would stand up as a good piece of design in its own right.

A working schedule was put up on the blackboard: Research, 1 week; Idea sketches, 2 weeks; rough models, 2 weeks; Final choice after 5 weeks; construction, 7 weeks. The only real deviation from this came at the start: they found that abstract "research" into methods and materials was limiting, and of little use without a tangible objective, so they turned immediately to sketching, confident that they could build whatever they might invent. Each one independently produced numerous sketches, which were pinned up at the end of the day and reviewed. To foster interchange of ideas, part of the group would take the most promising of their colleagues' sketches for further refinement.

The sketch phase gave the eight students a chance to articulate their views and to get acquainted with the

Viewpoints came out in idea sketches . . .

Idea sketches were produced by each student as a basis of discussion, after the group had agreed on its goals.

Bull sessions about design philosophy, running into the night, helped students cooperate effectively on creative problem.

Teacher Warren Fitzgerald was available for advice, but staff made policy of leaving all decisions to students.

other schools of thought. A good deal of consideration was given to the detailing and construction of each display idea before it was presented, focussed on three approaches: (1) mobility and ease of crating; (2) mechanical features to facilitate construction; (3) the blue-sky approach. Cones, X's, suspension systems and boxes all turned up, but it soon was clear that planes—of some sort—would work best with photographs.

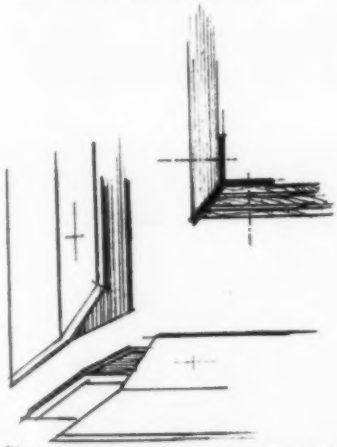
After three weeks, three hot contenders were tried out in model-form. "The final solution," one student comments, "turned up early in our search, and was popular. But we didn't want to stop until we were certain it was the best idea." On the last night of sketching, when the choice seemed inevitable, they forced one last investigation of another scheme, just to challenge their own assurance. After five weeks, with much nightwork, they decided on a system of "planes without panels" that offered a three-dimensional arrangement bordering on sculpture.

Procuring materials and revising details proved to the students' surprise to be much the hardest work, and also the most instructive. As they learned what was and was not available, ingenuity took over: to guard the mitred edges of glass cases, for example, Dave Workman thought of using an ingenious three-sided extrusion; when he could not locate it in any catalogs, he hunted around town, found a fabicator to make it.

It was at this point too, with the glamour over and the sweat ahead, that a major shift came in the group organization. It was decided that, to develop the concept coherently and to get construction done on schedule, group leaders were needed: Jim Mahoney was chosen to head scheduling of work and personnel; Dave Workman to supervise construction, and Walter Erlebacher to direct visual execution. With relatively little difficulty the group fell in with this plan, and it worked well.

All photographs on pages 78-83 by Ray Metzker

Rough models were made to visualize the most promising schemes (above). Once a design was picked, both visual and technical details required much refinement. A typical problem came up over the horizontal "daisy" platforms. Some favored tilting them for visibility, others wanted them level, so a rough mock-up was prepared to test out the alternatives (right). It was decided that when placed low, photos could be seen horizontally. Daisy stems were later placed on fitted bases to assure installation in the proper sequence.



Mitred fastening system, devised by Dave Workman, brings 3 forked extrusions together at each corner to form joint for 3 adjacent sides of a display case. (See plan view, above right.) Plexiglas or plywood panels, also mitred, are attached outside by corner bolts that also hold extrusions together.

. . . building the finished show proved arduous and instructive.

Judging entries meant discussing hundreds of photos, picking those unanimously approved.

Since design schools throughout the country had been invited to submit student work, the team faced a hard task in judging hundreds of entries. After considerable discussion, they set up criteria: originality, elegance, interest of construction or assembly; and the product's ability to portray the scope of training in U.S. design schools. Three long jurying sessions were held as material came in (left). It was gradually pared down to examples that were considered top caliber by a unanimous (and anonymous) vote.

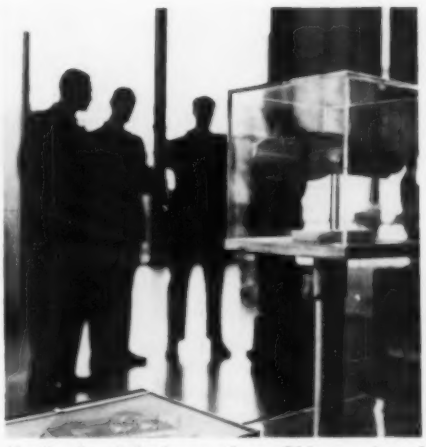
The selected products were then organized into groups: basic and advanced problems; furniture; communications and photographic equipment; small appliances; transportation, each with its own story sequence. To this they added the other part of the story: a pictorial record of the summer's project; photographs of education in process in various schools; and portraits of the design team. Around these visual groups, a graphic layout was made for each of the sections.

The remaining five weeks were a flurry in the workshop, where the team often worked twelve hours a day fabricating the finished exhibition, refinishing the models, testing the ease of assembly (estimate: a crew of four students could put it up in one day, a crew of six foreign workmen in one day). When, on October 1, the exhibition was installed for a preview in the Institute's main hall, the young designers were still completing and perfecting their product for its long and active life of foreign travel.

Construction of the full-scale exhibition was done entirely by students in Institute's shop.

the exhibition:

Viewers of the IIT premiere saw 220 young American designs, including thirty models, displayed in a three-dimensional composition made of separate rectangular sculptures: a "tree" of cubes, horizontal "daisies," slide and model boxes, blocks, a maze of squares, and large photo murals. Although the variety would suggest a fractured story sequence, this was in fact one of the major planning aims: to organize material without any fixed path, so the viewer might start anywhere and walk through and out again and get the complete message. Thus, composed like a gigantic circle, the story is told however the parts might be arranged—even if some of its linking sections have to be omitted when space is limited.—*J. F. McC.*



Professional designers from Chicago viewed finished product at October I.I.T. preview.

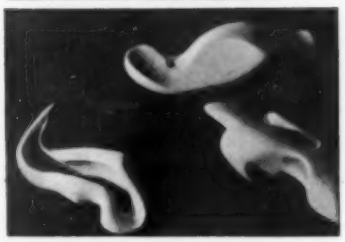
Student work on display

On these pages are some of the student products shown in the travelling exhibition, "Industrial Design, U.S.A." The abstract problems of Foundation year (right) are actually interwoven with the groups of finished products, indicating the relevance of early exercises in form and material to real design problems.

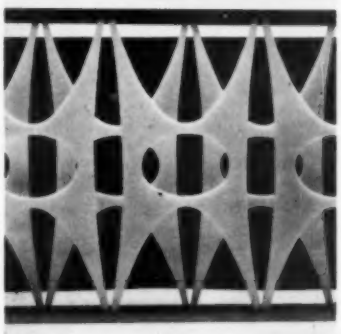
One of the professionals attending the preview, Dave Chapman of Chicago, commented about the products that "Since the students were not restricted by engineering and production considerations, we might have expected startling and impractical designs. Instead, the material is astonishingly realistic and gratifyingly mature."

Basic design forms

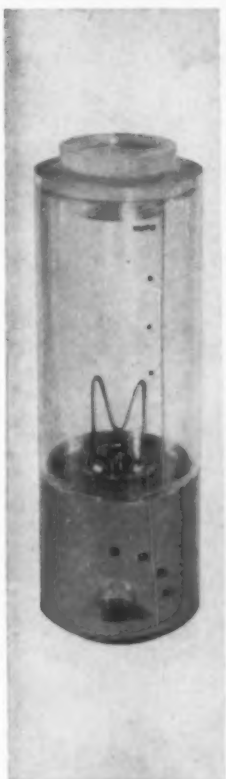
Metal sheet used as medium for basic forms at Pratt.



Free forms molded of plastic material at Bridgeport.

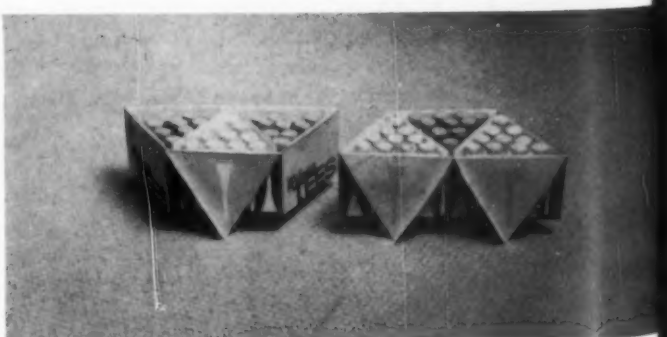


Shapes are cut out of sheet plastic by Pratt students.



Blender (Philadelphia) offers completely cylindrical shape; two-way mixer (Illinois) may be removed from base as hand mixer.

Small appliances and consumer products

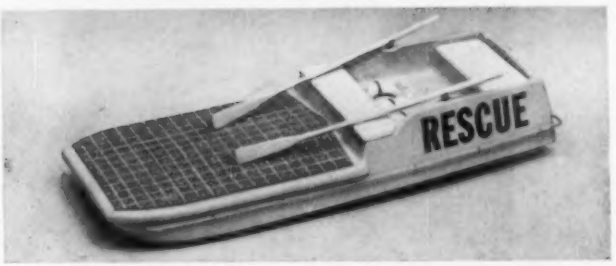


Golf tee package (Philadelphia) utilizes triangular motif for sections, box, and graphics.

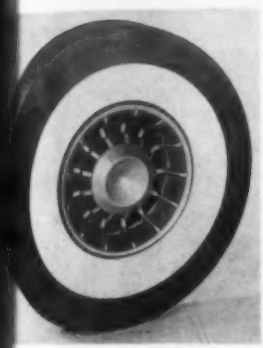
Transportation

Tractor (Pratt) has numerous attachments for front and back.

Small car (Pratt) is student's answer to Volkswagen, has large glassed areas, for visibility.

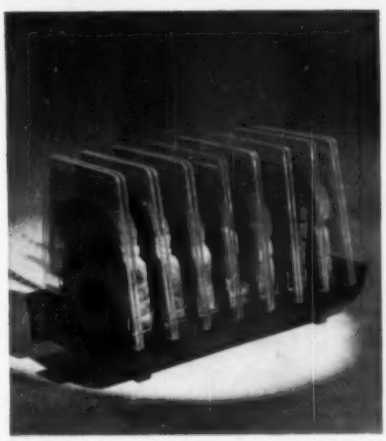


Rescue boat (IIT) has flat platform onto which victim may be dragged.



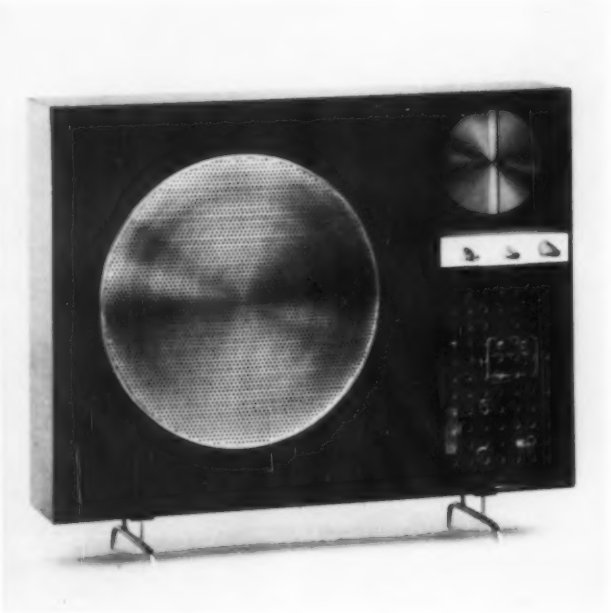
Wheel (Rhode Island) is one of series designed for axle ventilation.

Helicopter (Bridgeport) has forward plastic bubble, swept-back landing gear.



7-slice toaster (Bridgeport) uses radiant heat. Dust pans (Syracuse) are plastic. Bowls' bases and insides are usable separately (Pratt).

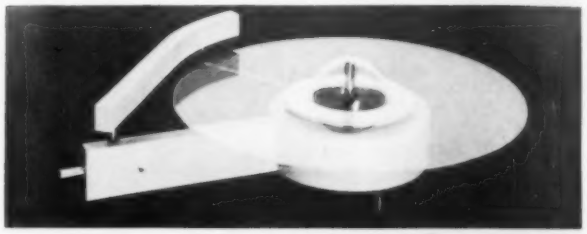
Fruit scale (Illinois) holds fruit on simple canvas sling, collapses neatly by folding legs and prongs.



Radio (IIT) was designed to display plated works of a Motorola transistor radio.

One-piece phone (Bridgeport) is more angular than commercial Swedish version.

Scheme for turntable (IIT) accommodates hypothetical 16 rpm records of rigid clear plastic.



Communications equipment

Dictaphone, right, (Pratt) is high style; compact tape recorder (Philadelphia) has tambour top on horizontal chassis.

Furniture

Desk (Pratt) utilizes extrusions and molded drawers for mass production.

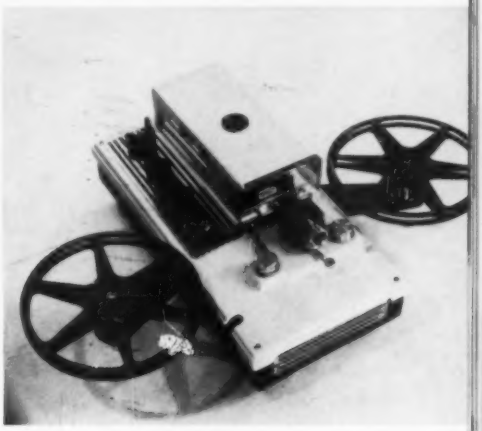
Glass top desk (Illinois) has plastic sheet to shield drawer.

Chairs (Rhode Island) with sectional foam-lined sling.

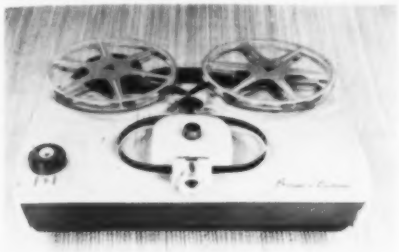
Photographic Equipment

Turret-lens movie camera (Philadelphia) has simplified diaphragm control.

Projector (Philadelphia) achieves angular body lines, has side reels.



Projector (Philadelphia) incorporates reels within body of machine.



Student designers comment on the experiment

Metzker

Jay Doblin's purpose in hiring eight students for the summer project, of course, was not only to get a good exhibition done but to further the educational process. In a conversation shortly before the preview, the participants made it clear that doing a job, meeting a deadline and solving a problem had produced many insights:

About design education today:

"There seem to be three types of schools: those that stress a merchandising approach; those that emphasize translating esthetics into workable products, those concerned with humanistic and functional problems. Few schools attack all three areas, which is alright, because there is room for individuality of approach today. But students have to be aware that they probably have missed some aspects of training that must be acquired later. . . ."

"The main difference in schools, from our experience here, is teaching of a *method* of approach. Some students are well prepared with a systematic approach and workmanlike habits, while others are not. . . ."

"I think by and large the schools prepared us well to face this kind of a problem. Our skills were different, so we complimented each other; what we didn't know we fast learned from those who did. . . ."

"To judge by the entries, I would say industrial designers need more *fine* art experience; two years of the history of art would make a critical difference in raising the esthetic level of design graduates. . . ."

About what they learned:

"We started with considerable opposition in viewpoint, and many of the basic differences were not resolved. Yet everyone changed to some degree; we all became willing to consider other viewpoints valid. There are no more fanatics among us now. . . ."

"The important thing about this problem, from a learning standpoint, is that the result is to be actually *used*. This fact, we found, made a big difference in our thinking from the usual classroom project; our mistakes and missteps were meaningful because they really had to be solved. . . ."

"What we gained was background—not only in useful ways but in the scope of our thinking about what is, and isn't, important in designing—and what we want to get out of the remainder of our education. . . ."

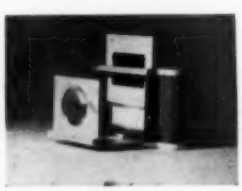
"The experience of working in an unknown group was wonderful and profitable. Not only did it show that opposites can work together constructively toward a common goal, (and the whole project was handled maturely by everyone) but that leaders do, and must emerge, for everybody's benefit. There should be more projects like this. . . ."

REdesign

ALUMINUM EXTRUSION MAKES COMPACT AND STURDY VEST-POCKET VIEWER

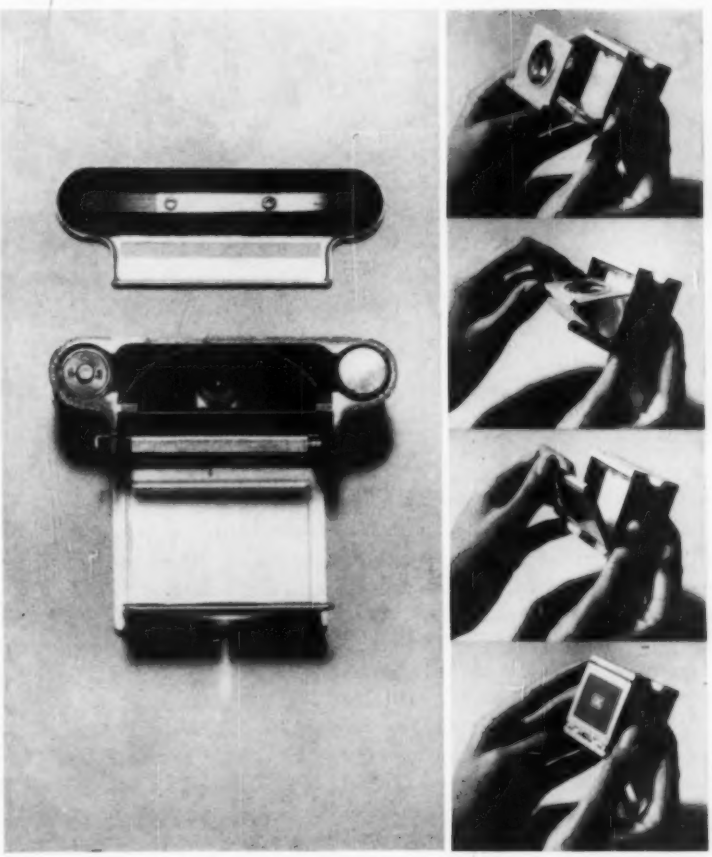
Of the many slide viewers that have recently reached the market, the GNC Model 101, made by the Grimes-Noden Corporation of Cheshire, Conn., has a rare combination of neatness, simplicity and handiness which, with its low retail price ($2.95), makes it stand out. The key to the simplicity of construction in this viewer is the utilization of an aluminum extrusion for the body section of the case. The extrusion itself is ingeniously designed to hold two pencil batteries, with flanges to which the other components can be attached with a minimum of fabrication operations. Grimes-Noden receives the aluminum extrusions in 12-foot sections which are cut into 2-inch lengths at a rate of 500 an hour. D. W. Grimes, the designer and company president, chose a metal extrusion over a casting or molded plastic part because it was less expensive and he felt the results were superior. Other parts, including the magnifier, latch, and end covers, were designed as simple metal stampings that require no welding or riveting: they simply snap in place and are held secure by friction or springs. The electrical circuits are all attached to paper insulation that is attached to the casing by strips of two-faced sticky tape. The problem of light diffusion at such a close range is accomplished with two sheets of white translucent vinyl, one flat and the other curved, around the centrally located bulb.

In operation, the GNC viewer is opened by a spring-operated latch that releases the front cover containing the magnifying lens, which snaps into position at the correct distance from the screen for sharp focus. Slight pressure on the slide after it has been inserted makes the necessary contact to light the bulb. By holding the slide in position, the light is kept on and the slide held firmly in the slot without moving around. To close the viewer, the lens is folded down and over and snapped shut to become the front cover. The combination of a gray finish and the natural metallic color of aluminum gives the Model 101 a terse efficient appearance. A bright red logotype on the front cover adds a splash of color. Grimes-Noden also produces a deluxe model of gold anodized aluminum. They claim that the gold model is the first small product to use pre-polished and anodized aluminum extrusions.



Slight pressure on the inserted slide turns on light. Lens is automatically at right distance from slide for proper focus when the GNC Model 101 viewer is opened. All-aluminum construction gives strength and lightness.

The Grimes-Noden slide viewer shown closed. Color scheme is gray and natural aluminum with red logotype to add color interest.



With top removed (right) design of extruded body is visible. Cavities for batteries are at either side, bulb is in the center at the bottom between two sheets of vinyl, one of which is curved to throw light evenly on flat screen. Closing operation (far right) is simple and fast. Closed viewer is compact, can be conveniently carried in pocket.

Photos: J. S. Ward

LE CORBUSIER RECONSIDERED

A new volume in the complete works of the French master reopens the question of his contribution to architecture, design, and the art of the machine age.

Review by PAUL J. MITARACHI architect

Le Corbusier: Oeuvre complete, 1952-57.
(Volume 6). Edited by W. Boesiger.
223 pages, fully illustrated. Editions
Girsberger, Zurich; distributed by George
Wittenborn, 1018 Madison Ave., New York. $13.50.

In a recent magazine article the reknown French architect Le Corbusier (who for several decades has borne the blame for all the evils of contemporary hyper-functionalism) again had his fingers rapped. This time the accuser was the venerable critic Lewis Mumford (The New Yorker, October 5th), who railed out at the architect's famous apartment house in Marseille, calling it "a folly" representing the "irrational, extravagant, the morbidly monumental and empty formalistic" characteristics of an age that the critic obviously no longer approves of. One might thing that by now enough had been said about the more important aspects of Le Corbusier's contribution to the development of this century's architecture and design to avert condemnation based on matters of secondary importance. But apparently not; there seems to be room for another look. And fortunately there has recently appeared another volume that helps Le Corbusier's work to speak in its own defense—and to excuse us from discussing the functional aspects of his work.

The point, we may suggest, is quite another meaning of "functionalism," formulated by an artist who considers utility only the first step in satisfying the emotional needs of man. It is a meaning that concerns everyone who creates objects of use for human beings.

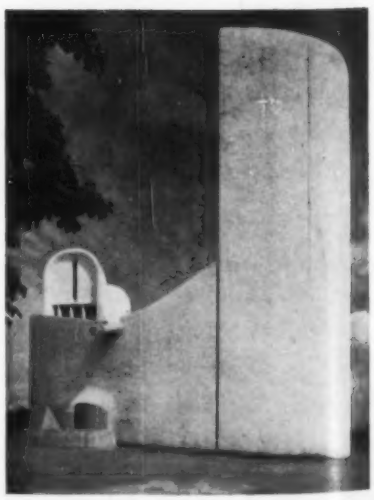
In 1929, Willy Boesiger and Oscar Stonorov, having worked for a year at the atelier of Le Corbusier, persuaded the Zurich publisher Girsberger to produce the first volume of what was to be a complete record of the modern master of form. Volume I covered the years 1910-29. Since then, always under the editorship of Boesiger, five additional volumes have appeared, the most recent of which covers the work produced in the Paris atelier at 25 Rue de Sevre from 1952-57. It was to that left bank address some thirty-five years ago that Le Corbusier, now 70, born Charles-Edouard Jeanneret, moved from his native Switzerland. And from that address, just a stone's throw from the *Academie des Beaux Arts* that he dedicated himself to defying, have emerged some of the most influential proposals for building and urban planning of our century—and occasionally the working drawings of a structure to be actually built. Until the postwar period, the most important of these were probably the Villa Savoie at Poissy-sur-Seine, the Swiss Pavilion and the Salvation Army building in Paris, all done between 1930 and 1934.

Almost every morning of his life Le Corbusier has spent investigating pure plastic expression by painting large canvases and murals, using the same hand, eye and mind that give form to buildings and cities in the afternoon. In the evenings, on boats or planes or in hotel rooms of the lands he has been asked to visit, he has written articles and books on architecture and planning. These, in the early days, made "Corbu" the most vociferous opponent of the academies, and

Roof of the much-discussed Marseille apartment house, Le Corbusier's first postwar commission, includes a nursery school, and a gymnasium-community room, shown here.

Paul J. Miranda

Chapel at Ronchamp stands as Le Corbusier's purest expression of plastic form and space. It has been criticized as a dangerous precedent which, if followed by lesser talents or imitated without understanding of its subtle inherent logic, may lead to chaos in our architecture and physical environment.

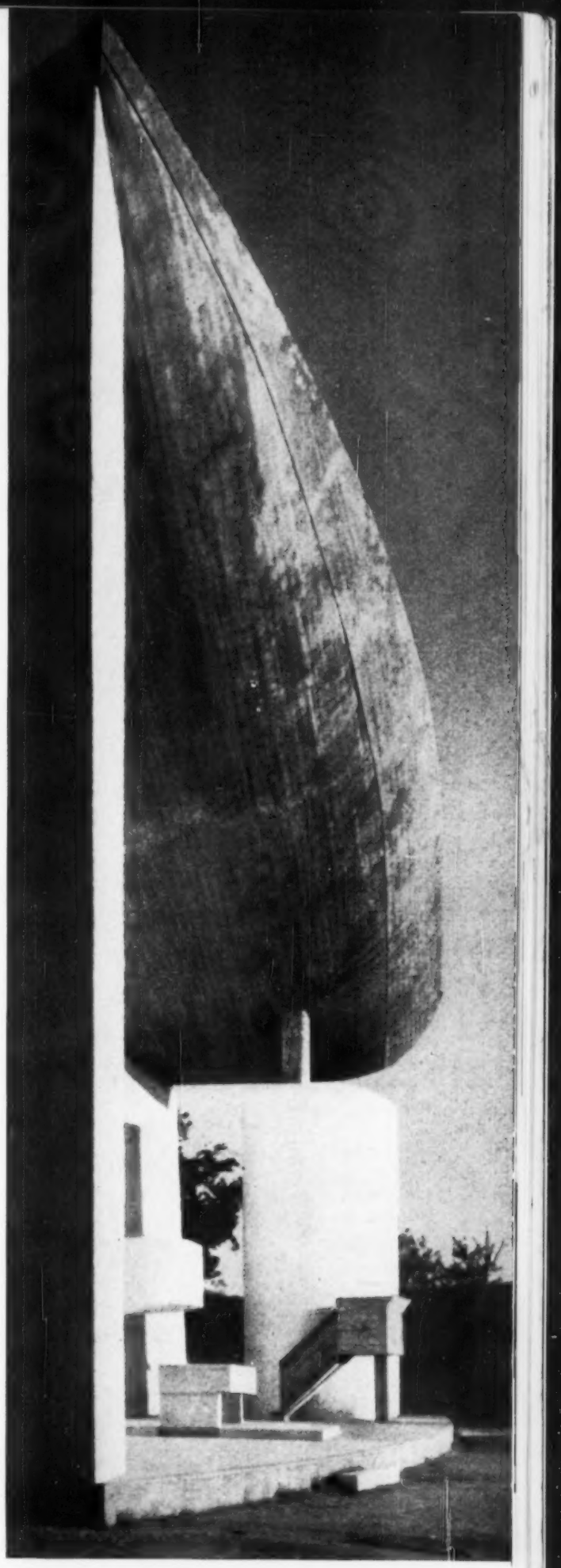


later spread his fame as an ardent pamphleteer on such subjects as the "synthesis of the arts" or the bright new life man must create for himself in the machine age. In the writings of these cobweb-sweeping days—often quoted out of context or just enough to confuse—he mentioned the "machine for living in" that now connotes "white," "cold," and "modern" to his many opponents.

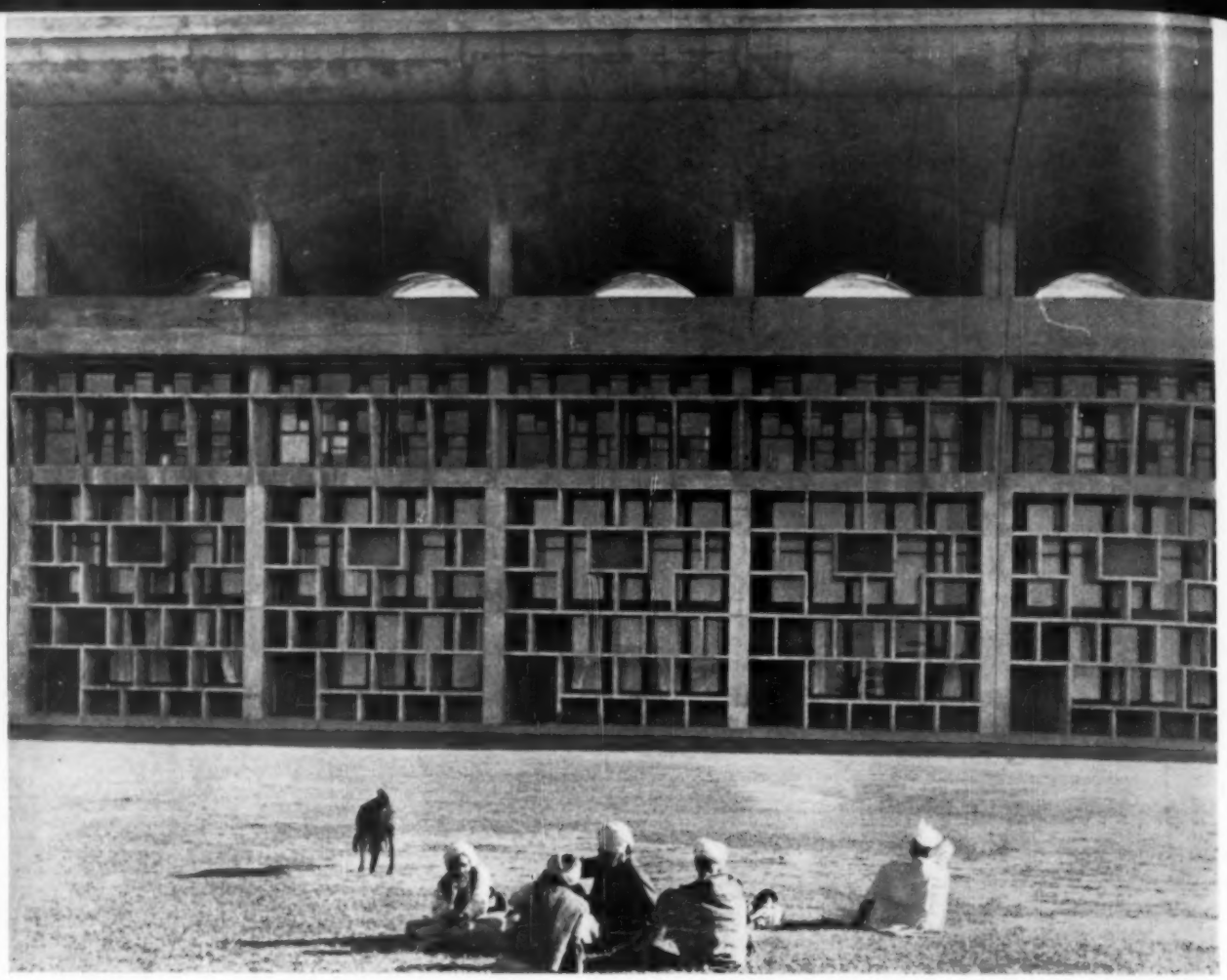
Behind this endless (and needless) harping is a real failure to recognize Le Corbusier's unceasing artistic growth. The result of this growth can be clearly seen in this new volume, yet is only the climax of a lifetime of work that consistently expresses his true purpose. In 1918-19, with the painter Ozenfant, Le Corbusier started the purist movement in painting—in so doing, rejecting the defeatist dead-end of Dada and announcing himself as the rightful heir of Cubism and the traditions that had led to it. In architecture, too, even at his most revoluionary, he considered himself not a renegade but a follower of the great traditions; he studiously evolved his own expression, having observed the meaningful periods of architecture, opposing the static approach of the classic-minded academies as much as the skip-and-jump of arbitrary innovators. As his painting evolved from the dispassionate representation of commonplace objects of the purist day to the tumultuous and sensuous forms and figures of today, so has his architecture burst out of the confines of the almost Cartesian system of Cubism into the lyricism of the work done in the last five years.

To anyone who has seen the preliminary sketches for this work or the roof of the Marseille apartment, all published in Volume 5, this comes as no surprise. The Unite d'Habitation, completed in 1952, was his first major building since the Swiss Pavilion of 1933. Visitors have seen and touched the rough concrete of the mammoth supporting *pilotis*: obviously these were not meant to carry a building in the most efficient manner, but to express boldly the function of lifting off the ground the tremendous load of the superstructure. And the roof (page 91) is not merely a practical assemblage of equipment, but a magic man-made landscape of rectangular and curving solids and voids, meeting or missing each other in a dance of forms, each justified by its purpose *and* its harmonious existence among all the others.

What Le Corbusier had termed in 1929 "the subtle, correct, and magnificent play of form under light" had finally come into being at Marseille, the unique creation of both



Outdoor altar at Ronchamp is shaded by a hovering roof of thin concrete shell construction. Built almost like the hull of a boat, it has been likened to a windblown nun's cap.

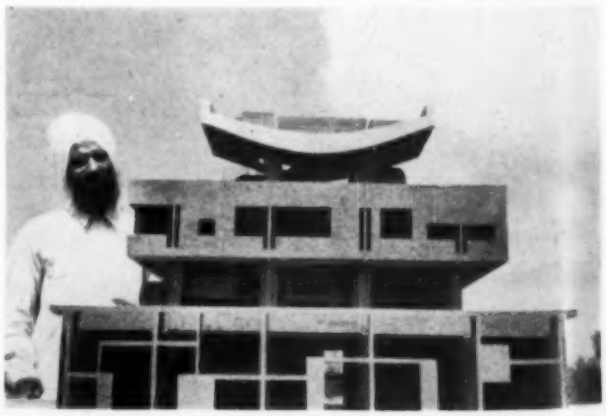


the mind of a rigid logician and the hand of a poet. The reasoning behind it had never strayed from the strict framework he set for himself when first formulating the problems of architecture in 1929: "Are we to limit those problems simply and solely to the satisfaction of utility? If so, we start by defining utility. Do poetry, beauty and harmony enter into the life of modern men and women? Or must we consider the scope of life as confined to the mechanical performance of the mechanical functions postulated by the machine for living in? To me, the quest for harmony seems the noblest of the human passions . . ."

And he continues in 1957: ". . . This collection of buildings could only have existed under one common denominator—the plastic event, the poetic incident . . . It remains only to decide whether occupying oneself with poetic phenomenon manifested by volume, color and rhythm is an act of unity or chaos—whether architecture, sculpture and painting (volume form and color) are incommeasurable or synchronous and symphonic. And whether life, admittedly not dedicated to the glorification of a W. C., a bidet, a faucet (the famous 'functionalism,' a word that was never invented here) can touch unknown beings along its path, by means that one commonly calls 'art'."

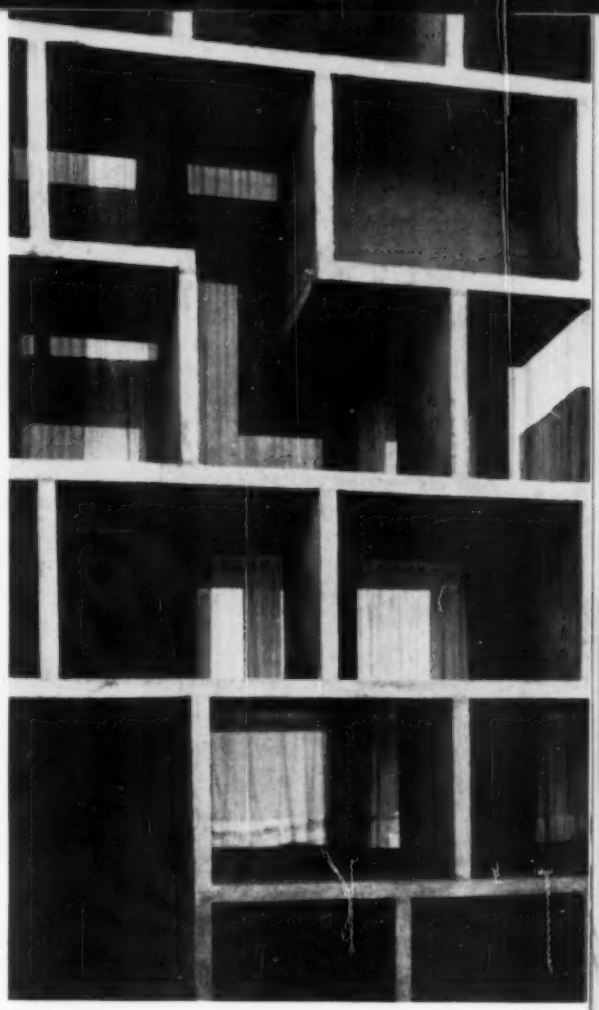
There is little change of mind evident in these two paragraphs, published 28 years apart. Le Corbusier has believed consistently that man has the supreme choice in the form that he gives to his life and the form of the objects around him—denying flatly the old axiom that form must follow

Chandigarh, new capital of the Punjab, India: the courts of justice shown above, the model for governor's palace, below, are reproduced (as are all photos here) from the book "Le Corbusier: Oeuvre Complete, 1952-57."



the dictates of function, and, in doing so, can only follow the line of least resistance.

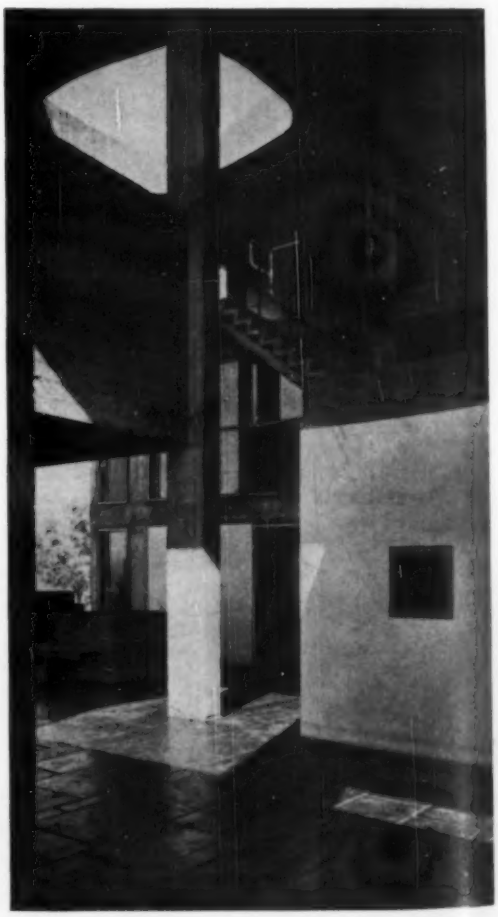
Yet there is a hazard of interpretation here: let no one misconstrue this faith in the mastery of man as flighty naughtiness or the arbitrary googie that so often takes the place of controlled design. "Good" or "bad" taste does not enter the problem Le Corbusier has set for himself: that of satisfying men's great emotional needs. The church of Ronchamp will touch its viewers not by correct and immediately comprehensible behavior but by the flight into that emotional realm where only the artist can take us. Here we cannot tell where the line between sculpture and architecture lies—nor do we need to. This is sculpture for praying in, and a building none the less. The problem was not to make the pilgrims comfortable, but elated. Yet not one decision in this building can be called arbitrary—everything is studied within a rigid system of harmonious proportions. In the case of



Secretariat building is under construction at Chandigarh, below; concrete sunbreaker, right, is used to keep the hot Indian sun off the glass facade.

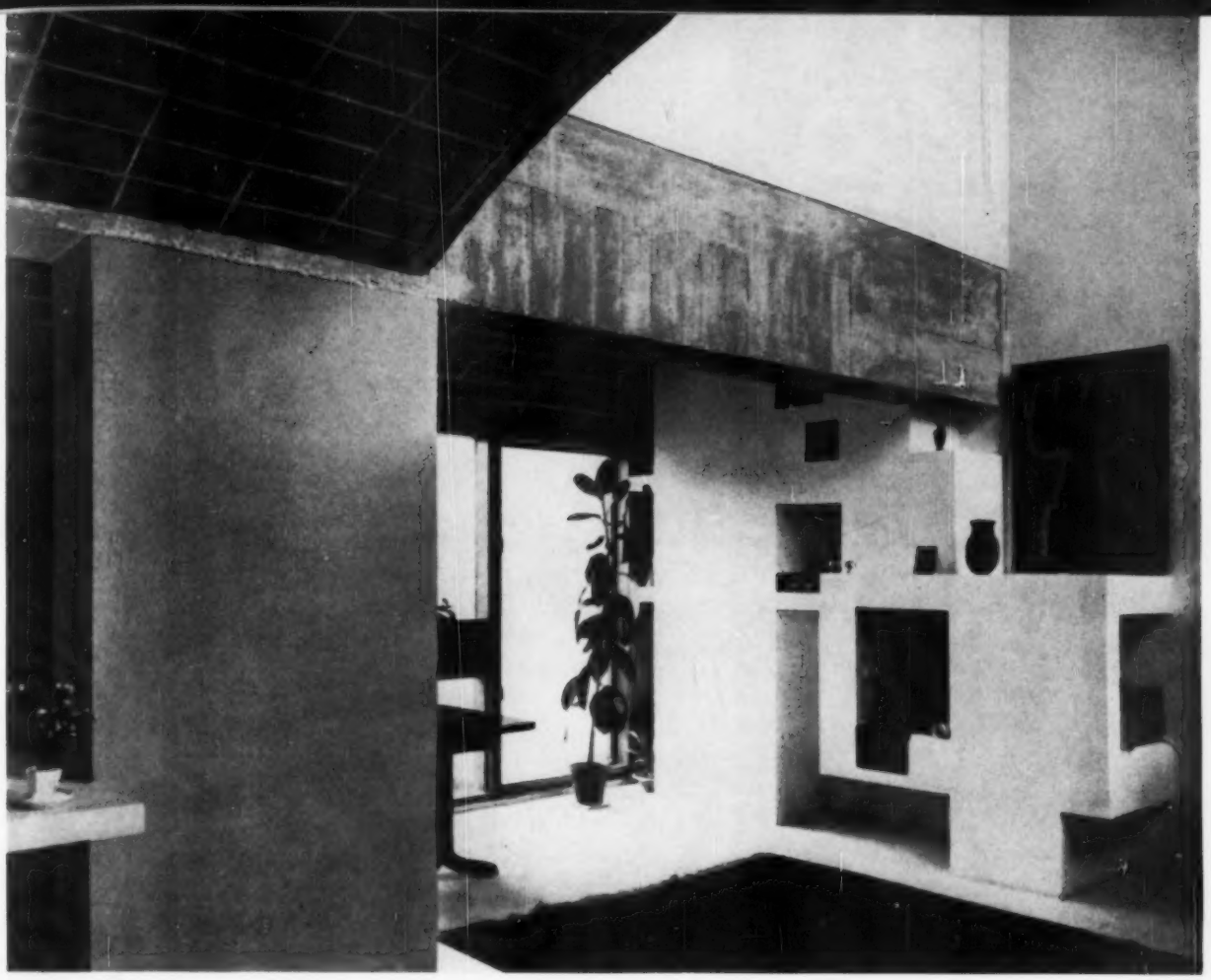
During the past five years, beside the project at Chandigarh, Le Corbusier has done other buildings in Ahmedabad: houses, a cultural center, and the Millowner's Association building shown here.

In the "hanging garden" of Shodhan house, in Ahmedabad, Le Corbusier has used a roof free of the building, with deep recesses to create shade.



Le Corbusier it is *Modulor*, a system of scaled proportions based on the Golden Mean that gives the pleasure of counterpoint, the surprise of new discovery around each bend and at each sucessive visit to the building. The other photographs in the book reveal the same subtle key, one that may at first appear to be arbitrary, even disorganized, but on study becomes reasoned and clear; and it is stronger for the presence of half-hidden truths, as are all myths or tales well told.

The complete scope of which the artist Le Corbusier is capable is best seen in the new capitol city of The Punjab in India. In the design of the buildings and in the breathtaking scale of the site plan for the civic center, opportunity was unlimited. Le Corbusier rose to it with an integrated system of planning and architecture that produce a monumental symbol — and instrument — for the government of a new nation. Here man's dignity is expressed in rough concrete, not decorated with the arbitrary symbols of government; it is art, all of a piece. Someone said many years ago that the generation of men who could live in Le Corbusier's buildings was not yet born; more recently, the Indians were said to be not ready for freedom. It is a lesson we should have learned in childhood, and now, as a generation of Indians enjoys the freedom of state and experiences its new monuments, we are again taught that we can't learn the taste of ice cream by watching our little neighbor lick his cone. It is because of his immense faith in humanity that Le Corbusier dares give men what he believes they are ready to live with; he thinks and designs with the conviction that the machine is ultimately the instrument with which to satisfy man's emotional and physical needs, yet always insists that the hands of the artist—not the machine itself—should control the decisions.



Interior of the Jaoul house, Paris,
clearly demonstrates Le Corbusier's pre-
occupation with what he calls
"the plastic incident," or "the poetic incident."

Sunbreaker and balcony pattern of the Nante apartment
house is, like the whole building, modeled after the
Marseille prototype. Use of rough concrete, heavily
textured by formwork, is characteristic of his postwar work.

Designers' Aids and Sources, Part VI

Special services and a guide to modelmakers

Some special shops offering techniques and talents, some unique, most of them standard, but all important to modelmakers and designers.

Designer's pattern was reproduced in c[illegible] on [illegible] of acetate by American Blueprint Co. [illegible].

Modelshops are not the only source designers or even modelmakers can rely on for turning a new design into an accurate finished model.

Without exception, modelmakers construct the major part of a new product in their own shops, if not all of it. They carry their work through by themselves, as far as their skill and equipment will permit. But some operations require special tools and machines, and for these the modelmakers turn to outside services. Spinning intricate round metal shapes, applying a metal spray to wood or plaster, chrome-plating aluminum—these are some of the operations for which most modelshops must rely on outside services. Compared to the kind of effort put in by the modelmakers on their models, the work contributed by these shops is usually of minor proportion. Nevertheless, it helps modelmakers to get their jobs done, and it is for that reason that we take up seven of these special services before concluding this series.

There are two among them which offer unique work to designers, modelmakers, and manufacturers. The first is a specialty sheet metal shop which has turned out product parts, as well as product models of unusual accuracy. The other is a blueprinting firm that has developed some unique methods for producing patterns on materials that range from acetate to glass. The rest of the shops are engaged in work methods that are standard, and have a specific place in the overall picture of modelmaking.

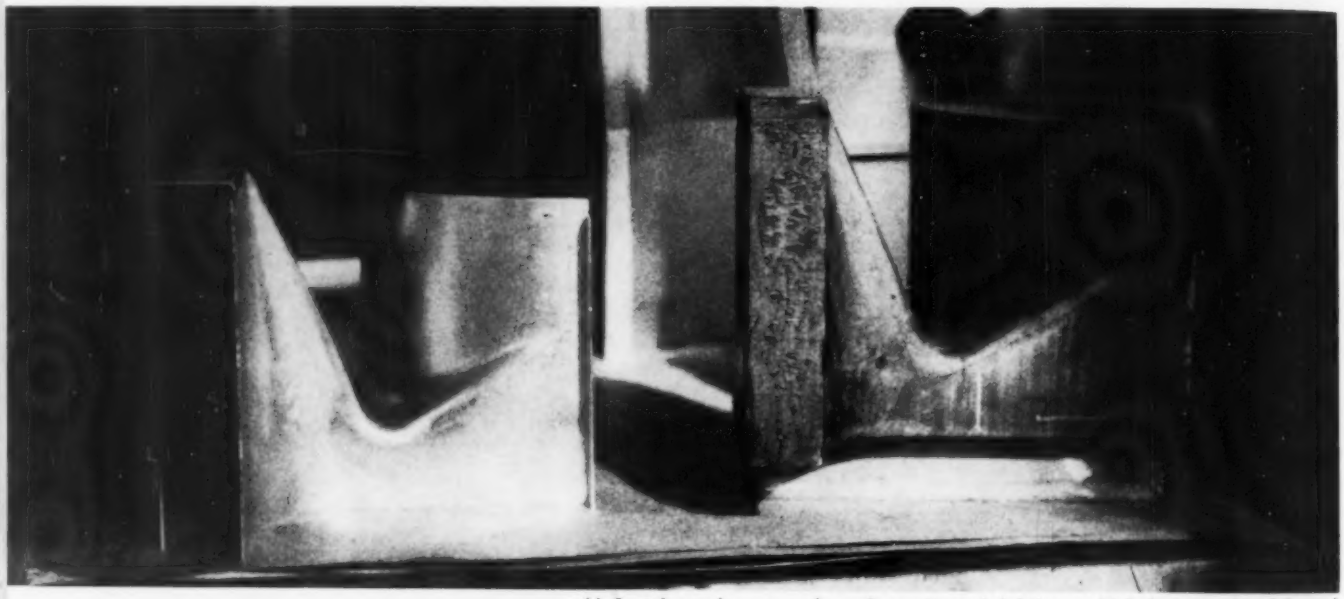
Each of the seven receives work from modelmakers only on occasion, and rarely in quantity. Their major business comes from manufacturers whose need for the type of work these shops perform is too infrequent to require operation set-ups of their own. The shops taken up here are all located in New York City but—with one or two exceptions—similar services can be found in most parts of the country. The work which most manufacturers as well as modelmakers turn over to these shops falls roughly into two groups; 1) special fabrication of *complete parts;* 2) *trim work and finishes.* Both these categories are illustrated and discussed on the next four pages.

The article concludes with a GUIDE TO MODELMAKERS across the country (pages 104-109).

All photos by Matilde Lourie unless otherwise noted.

Nickel silver poured into mold in centrifugal casting process at Advanced Jewelry Castings (page 101).

Complete parts of products—knobs, handles, small shapes used in architectural models, decorative metals—often present the problem of complex fabrication. Answering the designer's need for a very accurate, life-like model, certain manufacturing processes exist that can be applied to single-unit problems, and such parts can be handed out to special shops equipped in both skill and machinery to handle fine sheet metal work or the fabrication of intricate, solid metal parts. Although these shops usually work on low production runs, they do take in single jobs for model-makers, engineers and designers.

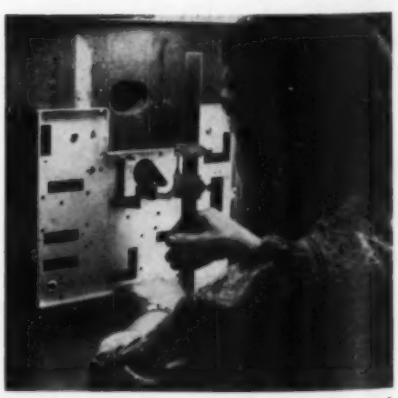


Airduct for radar use and wooden pattern (right) on which duct was hand-formed.

HAND-FORMED METAL PARTS

Unique among shops working on single or small quantity parts in sheet-metal to exact specification, is the New York firm TREITEL-GRATZ CO., INC., which has, since the war, specialized in fabricating precision parts with high tolerances and intricate shapes. The airduct (above) used in a radar installation is too complex a shape to be machine-made, nor are enough such ducts needed to justify the expensive tooling that mass producing them would require. The highly skilled craftsmen of Treitel-Gratz (the firm employs thirty) hand-formed this duct; all their fabrications are hand-formed. The airduct, made of aluminum, was shaped on a wooden pattern; the electronic chassis (checked by an inspector for exact dimensions at extreme right) might look as if it had been stamped out in one operation, but because the location of every cut-out in this chassis is critical, Treitel-Gratz craftsmen stamped out separately every single hole in the thirty chassis they made, to assure the required accuracy.

Treitel-Gratz have made many one-of-a-kind parts, often ordered not only by manufacturers but by firms holding contracts with the Armed Forces, by architects, tv studios, and industrial designers. They have done precision work on missile projects and computers, and have built consoles for tv studio equipment, cabinets for the transatlantic cable, architectural and decorative metals for luxury hotels and ships, the main structure of chairs built around metal frames. Although they work mostly in aluminum, brass and bronze, they do quite a bit in plastic, particularly in making product models for designers.



Each chassis cut-out location is inspected.

METAL CASTING

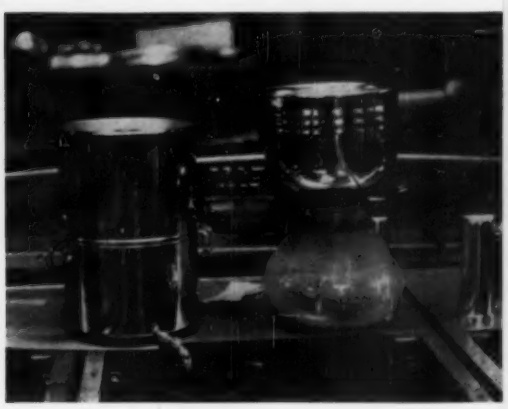
For solid metal parts needed to give some models a realistic look — cars, trees, people for architectural models, knobs, handles for product models — an old and standard process is still very much in use today, and it is available to modelmakers and designers, as well as to manufacturers. At ADVANCED JEWELRY CASTINGS, New York — one of many such services throughout the country — molten nickel silver is used to cast clarinet keys by the centrifugal casting process (above). A variety of steps are taken before a part can be cast. The plastic model of a part sent in by a client is first embedded in a plaster mold with which a wax model of the part is cast. This in turn is set within another mold specially prepared for the final casting, which is done in a revolving casting machine after the mold has been heated and the wax eliminated. Centrifugal casting is best used for novelty items and other small parts; to avoid porosity of the metal, vacuum casting is used for large components.

Molten nickel silver is lifted out of furnace for casting of clarinet keys (top); rubber molds (above) are used for white metal castings for architectural models.

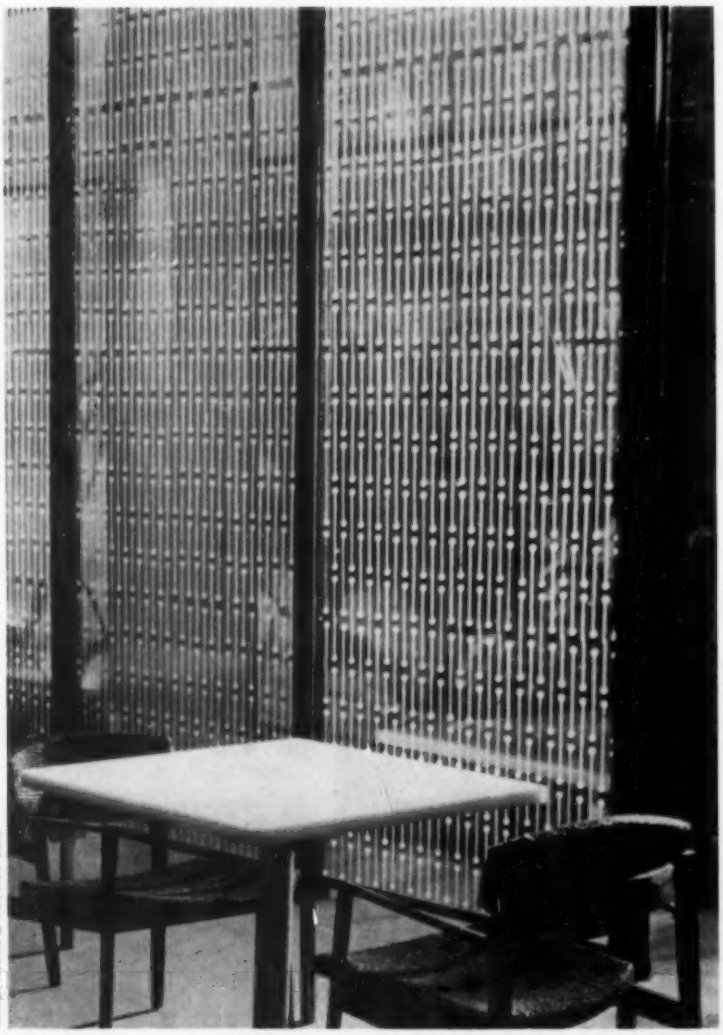
METAL SPINNING

Another way to form small numbers of metal parts, especially intricate round shapes, is still used in independent shops — the fabrication of individual items on a spinning lathe. Great skill is required to form shapes by spinning brass, aluminum, copper, gold, and even platinum, and modelmakers and designers who need round parts—plates, urns, sections of lamps and coffee makers — can turn them over to shops operated by men who are professionals in this trade. At one such shop, KLING METAL SPINNING, New York, a metal spinner (below) is forming sheet steel over a wooden chuck turning on a spinning lathe. The chuck, made from a parts drawing sent in by the customer, was made of wood because the quantity involved was small. For runs of about a thousand ordered by manufacturers, a steel chuck is made in the Kling shop; steel is used for larger runs to avoid shape distortions. The shape is formed by pressing shaping tools against the chuck spinning on a lathe.

Shaping tools are used (left) to form metal on chuck turning on lathe; round parts of coffee makers (below) were formed on wooden shapes by metal spinning.



Trim parts and finishes—dials, nameplates, printed patterns on a variety of materials, metal coating and polishing—are all accessories and processes which some manufacturers and nearly all modelmakers find more economical and convenient to have done by specialists outside their own shops. There is no great skill involved in metal finishing or photoprinting, but the equipment required in each case is elaborate and the set-ups costly. Most of these services are typical within their categories, and similar facilities exist in all industrial areas.



George Nelson & Co., New York

Pattern of plastic panel model (above) designed by George Nelson & Co., was printed on sheets of acetate by Ozachrome process; trademark (right) was printed on plywood used as photosensitive area in photographic process.

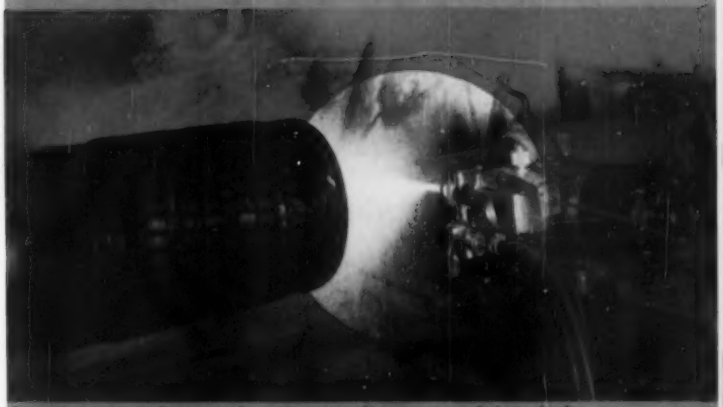
PHOTOPRINTING AND OZACHROME

For decorative effects, the AMERICAN BLUEPRINT CO. of New York is offering two unusual and helpful services to modelmakers and designers. One is photoprinting—the reproduction of decorative patterns and trademarks on surfaces of wood, metal, plastic, or fabrics; the other, called Ozachrome, is the reproduction of design patterns on acetate in one or two colors. The latter is done by treating both the acetate and the transparent original of the pattern in an Ozalid machine. The model of a patterned plastic panel (left) designed by George Nelson & Co., New York, for Georgia University, contained a sheet of acetate between two layers of plastic; American Blueprint had reproduced on the acetate in color the pattern designed in the Nelson office. A different method is used for photoprinting. To reproduce images on glass, plywood, paper, plastic, and aluminum, a photographic process is employed—the pattern is photographed on the material used as the photosensitive surface.

The American Blueprint Co., New York

METALLIZING

A standard process for protecting iron objects against corrosion is also a good way to achieve metallic surfaces that give life to a model. At EASTERN METALLIZING, New York, metal spraying of such parts as armatures and machine shafts is done by machines (right), but small objects (hardware, product models, etc.) or very large ones (wrought iron furniture, boiler tanks, even boats) are sprayed by hand with a spray gun. Copper, mild steel, and aluminum are commonly used for spraying metallic or non-metallic surfaces.



Eastern Metallizing, New York

Armature metal-sprayed automatically on revolving lathe.

ELECTROPLATING

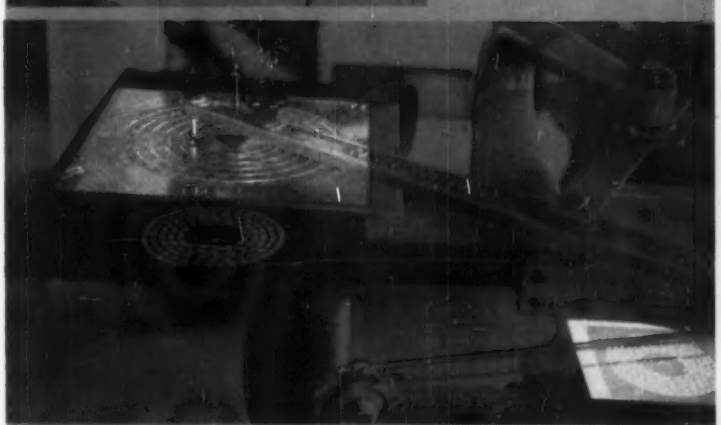
A finishing technique, the one most widely used to protect mechanical and electrical parts from corrosion or give mass-produced goods a shiny appearance—is also very popular with modelmakers. At HENRY NELKIN, INC., New York, an automatic electroplating set-up (right) can apply a metal coating—brass on aluminum, for example—thick enough to permit polishers to treat it as though it were made of solid brass. Since modelmakers prefer not to work in steel, it is electroplating that permits them to use a substitute material—aluminum or brass—which when chrome plated simulates a stainless steel finish perfectly. Finish is applied in specially treated "bath."

Automatic electroplating set-up applies thick metal coatings.

MECHANICAL ENGRAVING

Since it is often necessary to engrave numbers, dials, names, trademarks on product models directly or on separate plates, some modelshops have their own equipment with which trim parts can be made—the pantograph machine. But those who do not send their work to special engraving shops where a number of pantographs cut grooves, letters, numbers, a variety of patterns into metal or plastic, and even prepare certain kinds of molds. At NEW YORK MECHANICAL ENGRAVING a block of steel was used (right, top) as a mold for mass producing a tradename in plastic. The panotograph, which is set up to engrave patterns in accurate detail, can also cut deep enough into steel to prepare a steel mold for some applications; this is, of course, an inexpensive way of making a mold.

Steel mold (left) prepared on pantograph machine.



Pantograph cuts both enlarged master plate and true-size dials.

A GUIDE TO MODELMAKERS ACROSS THE COUNTRY

A listing of the country's modelshops in the industrial areas of the East, Midwest, South, Southwest, and West.

In concluding this series on Modelmaking, ID has compiled a comprehensive guide to modelmaking facilities —to aid designers and manufacturers throughout the country in locating skills that can help realize a three-dimensional presentation

To compile this list, we sent questionnaires to each shop listed in the major industrial areas, asking about the types of models it builds, the materials it uses, its equipment, and areas of specialization.

The guide on the next five pages lists 129 shops. Thirty-five of these make up the largest single category: modelshops of average size (up to twenty employees) equipped with the usual machine-shop equipment and hand tools. These shops report that they build models in all the major model-areas: architectural models, product models of consumer and industrial utilities, and engineering models (plant layouts, and engineering construction models). The shops in this group work in three materials—plastics, metals, wood —and all of them will construct clay and plaster models as well. A notable number fall into another category—shops that specialize in one model-area, or in one material. Precision Wax Models (Topanga, Calif.), for example, makes wax models only; six shops specialize in cardboard or plaster models. (Metal-sprayed, these can be used economically as appearance models in cases where transportation or durability are not factors.) In a third category, we find shops that build all types of models but have most experience in one particular type—dioramas, topographic models, ship and aircraft models. There are a few shops that offer a drafting service in addition to their modelmaking facilities, and there are the large shops—two or three of them—with several plants, a large staff of craftsmen and engineers, and with facilities to build identical multiple models and such complex models as nuclear reactors and other nuclear equipment.

In addition to specific data, the guide also provides a survey of the field that further amplifies the main points emerging from the earlier case studies in this series: models are essential to design communication and production investigation. That they fill a critical need in today's industrial picture is indicated by this guide—the field of industrial scale models has itself become an industry which will, no doubt, grow as industrial products become more complex and consumer goods more varied.

Forthcoming series in Designers' Aids and Sources

In 1958, ID will take up special production techniques. PRODUCTION SPECIALTIES will look in on manufacturers who offer unusual facilities and experience, whose special and often pioneering techniques can be critical to the achievement of new designs.

EAST

		Model type			Materials			Shop size	Specialization
		architectural	product	engineering	plastics	metals	wood		
Connecticut									
Bridgeport	**PLASTIC TOOLING AIDS LABORATORY** 475 *Madison Avenue*		●		▣			A	
Meriden	**C. F. DAHN CO.** 34 *Cambridge Street*		●			▣		A	*plaster models*
Milford	**BUTKIN TOOL & MFG. CORP.** 67 *Erna Street*		●			▣		A	
Stamford	**CAPPABIANCA DISPLAYS** 392 *S. Pacific Street*	●	●	●	▣	▣	▣	A	*mostly architectural*
Delaware									
Wilmington	**WILLIAM M. EICHBAUM SCALE MODELS** *Box* 1846		●	●	▣		▣	A	
	INDUSTRIAL MODELS INC. 2311 *Sconset Road*	●	●	●	▣		▣	L	*mostly piping design and industrial plant models*
Massachusetts									
Boston	**MORTON HOLLIS INDUSTRIAL DESIGNERS INC.** 669 *Boylston Street*		●		▣	▣	▣	A	
Cambridge	**THEODORE B. PITMAN STUDIO** 1384 *Massachusetts Avenue*				▣		▣	A	*dioramas, historical models for museums*
Everett	**MIDDLESEX PATTERN WORKS** 746 *Broadway*	●	●	●	▣	▣	▣	A	
South Sudbury	**ATKINS & MERRILL** *Boston Post Road*	●	●	●	▣	▣	▣	L	*models in nuclear field, multiple plastic models*
New Jersey									
Cliffside Park	**NEPTUNE PATTERN WORKS** 418 *Gorge Road*				▣		▣	A	*ship and aircraft models*
East Paterson	**P.D.D. CORPORATION** 379 *Market*	●	●	●	▣	▣	▣	A	
Hawthorne	**JAMES GRIER & SON** 430 *Lafayette Avenue*		●				▣	A	
Irvington	**BER-DESIGN ASSOCIATES** 41*Smith Street*	●	●		▣		▣	A	
Jersey City	**BAY PATTERN WORKS** 147-149 *Clarke Avenue*	●	●	●	▣	▣	▣	A	
	THEODORE CONRAD MODELS 250 *Ogden Avenue*	●		●	▣	▣	▣	A	*mostly architectural*
Little Ferry	**PROTOTYPES INCORPORATED** 75 *Industrial Avenue*	●		●	▣	▣	▣	A	
Merchantville	**HARRY L. SHAW** 811 *Longwood Avenue*	●	●		▣	▣	▣	A	
New York									
Hastings-on-Hudson	**LESTER ASSOCIATES, INC.** 24 *Aqueduct Lane*	●	●	●	▣	▣	▣	L	
Long Island									
	NORMAN S. BRISKMAN 31 *Franklin Avenue* *Hewlett*	●	●	●	▣	▣	▣	A	*mostly architectural*
	SIMPLEX MODELS 938 *Roosevelt Street* *Franklin Square*	●	●	●	▣	▣	▣	A	
Mt. Vernon	**H. ROY JAFFE** 235 *W. First Street*		●		▣	▣	▣	A	

* *A—average*
L—employs more than 20 craftsmen

		Model type			Material			Shop size	Specialization
		architectural	*product*	*engineering*	*plastics*	*metals*	*wood*		
New Hyde Park	**MODEL PLANNING CO.** 164 *Greenway West*		●	●	▣	▣		A	
New York City	**A. S. PLASTIC MODEL CO.** 252 *E. 40th Street*		●		▣			A	
	ACCURATE MODEL CO. 47-49 *35th Street* *Long Island City*		●		▣	▣	▣	A	*automobile and aircraft models*
	ACCURATE MODEL DEVELOPMENT LAB. 236 *East 4th Street* *Brooklyn*		●		▣	▣		A	
	ARNKURT ASSOCIATE ENGINEERS 31 *E. 27th Street*	●	●	●	▣	▣	▣	A	*drafting service*
	ASTORIA PRODUCTS CO. 67 *Fulton Street*		●		▣			A	
	ATKINS & MERRILL 67 *Duane Street*	●	●	●	▣	▣	▣	L	*models in nuclear field, multiple plastic models*
	BERTON PLASTICS, INC. 79 *Fifth Avenue*	●	●	●	▣	▣	▣	A	*mostly plastics*
	BOUCHER-LEWIS PRECISION MODELS INC. 36 *Elizabeth Street*		●	●	▣	▣	▣	A	*models of ships and aircraft engines*
	DEVON DENNETT MODELMAKERS 32-49 *56th Street* *Woodside*	●	●		▣	▣	▣	A	*topographical models*
	DIORAMA STUDIOS 148 *W. 4th Street*	●		●		▣		A	*dioramas*
	INDUSTRIAL MODELS, INC. 65 *Fulton Street*	●	●	●	▣		▣	L	*mostly piping design and industrial plant models*
	IVEL CONSTRUCTION CORP. *53rd and First Avenue* *Brooklyn*	●	●	●	▣	▣	▣	L	*trade show displays*
	MODEL MAKER ASSOCIATES 1947 *Broadway*	●	●		▣	▣	▣	A	
	MODEL MASTERS 125 *W. 45th Street*	●	●	●	▣	▣	▣	A	
	Y. MOGI 10 *E. 23rd Street*		●		▣			A	*hand carved plastic parts only*
	R. M. ENTERPRISE 316 *37th Street* *Brooklyn*	●	●	●	▣	▣		A	
	JOHN RUSSELL RIDGE 41-25 *58th Street* *Woodside*		●				▣	A	
	ROCHETTE AND PARZINI 218 *E. 25th Street*	●	●					A	*plaster models only*
	THOMAS W. SALMON & ASSOCIATES 30 *E. 21st Street*	●			▣	▣	▣	A	*graphic displays*
	SCIENTIFIC ENGINEERING CO. 653 *11th Avenue*	●	●	●	▣	▣	▣	A	*training aids*
	STRICKER-BRUNHUBER CORP. 19 *W. 24 Street*		●	●	▣			L	
	TREITEL-GRATZ CO. 142 *E. 32nd Street*		●		▣	▣	▣	L	*precision models in metal*
	WARREN DISPLAYS 10 *Jones Street*	●	●		▣	▣	▣	A	
Rochester	**V. I. PRODUCTS CORP.** 155 *Sanford Street*		●			▣		A	
White Plains	**WESTFAIR MACHINE SHOP** 500 *Lake Street*		●		▣	▣		A	*guided missile components*

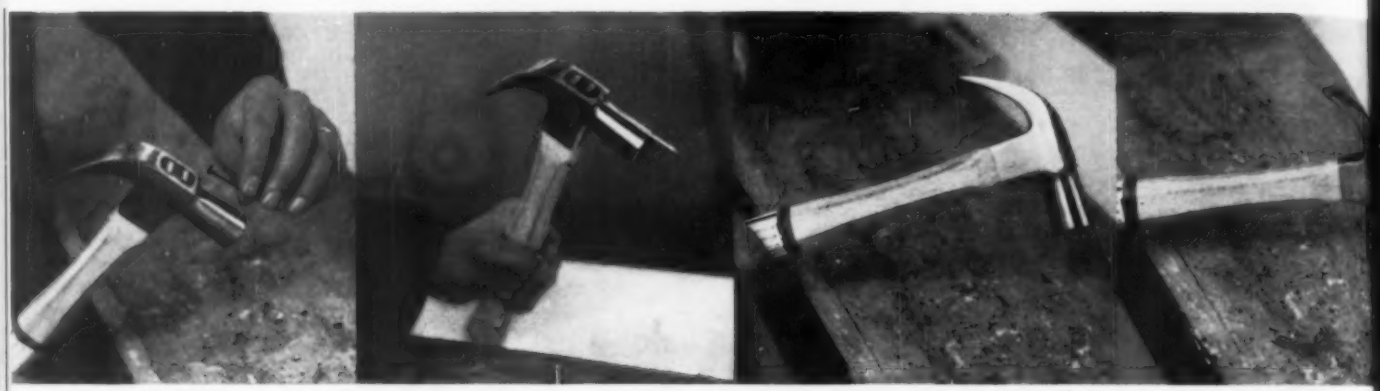
		Model type: architectural	Model type: product	Model type: engineering	Materials: plastics	Materials: metals	Materials: wood	Shop size	Specialization
Pennsylvania									
Hatboro	**JOE'S SHOP** 12 *N. York Road*	●		●	▣	▣	▣	A	*museum displays, dioramas*
Oakmont	**VISUAL PLANT LAYOUTS INC.** *Pennsylvania Avenue at River*	●		●	▣			L	*plant layout models*
Philadelphia	**HEARING & WEBER** 2351 *N. Reese Street*		●		▣	▣	▣	A	*display models*
	INDUSTRIAL PLANNING CO. 5522 *Baltimore Avenue*	●	●	●	▣			A	
	PANORAMIC STUDIOS 6122 *N. 21st Street*	●	●	●	▣		▣	A	*relief maps and globes*
Pittsburgh	**DISPLAY STUDIOS INC.** 5803 *Centre Avenue*	●	●	●	▣	▣	▣	L	
	GARDNER DISPLAYS 477 *Melwood Street*	●	●	●	▣		▣	L	*animated display models*
	WALTER PRZYBYLEK 1810 *Westmont Avenue*	●	●					A	*plaster models for glass industry*
Rosemont	**PHILIP A. DERHAM & ASSOC.**	●	●		▣	▣	▣	A	
Willow Grove	**H. M. S. ASSOCIATES** 1923 *Fairview Avenue*	●	●	●	▣	▣		A	
Yardley	**EDWIN P. ALEXANDER** *Box* 333	●	●	●	▣	▣	▣	A	
Rhode Island									
Cranston	**MALSCH BROTHERS INC.** 69 *Fenner Street*	●	●		▣		▣	A	
MIDWEST									
Illinois									
Chicago	**ACME TOOL & SPECIALTIES CO.** 224 *N. Loomis Street*		●		▣	▣		A	*models for aircraft, missile and electronic industries*
	AMERICAN SPECIAL MACHINE CO. 1401 *Webster Avenue*		●			▣		L	*special machine models*
	BACON & WEBER 1546 *W. Cortez Street*	●	●	●	▣	▣	▣	A	
	CERRO DESIGNER-CRAFTSMEN 4622 *N. Ravenswood*	●	●	●		▣	▣	A	*furniture models*
	THE DISPLAYCRAFTERS 29 *N. Wicker Drive*	●	●	●	▣	▣	▣	A	*diorama, topographic models*
	MARVIN GLASS & ASSOCIATES 57 *E. Ohio Street*		●		▣			A	*models of toys and simple mechanisms*
	H & H SPECIALTY CO. 4833 *W. Wilson Avenue*	●	●	●	▣		▣	A	
	DON IZARD STUDIO 3951 *N. Kostner*	●		●			▣	A	*cardboard models*
	KNIGHT MODELS, INC. 549 *W. Randolph Street*	●	●	●	▣			A	*dioramas*
	MODEL BUILDERS, INC. 5300 *W. 63rd Street*	●	●	●	▣	▣	▣	L	*display and working models*
	PENTAGON PATTERN & ENGINEERING 1616 *North Washtenaw Avenue*		●	●	▣	▣	▣	L	
	REINECKE AND ASSOCIATES MODEL SHOP 155 *E. Ohio Street*	●	●	●	▣	▣	▣	A	
	ROSS METAL SHAPES INC. 2860 *Lincoln Avenue*		●			▣		A	*special metal shapes*
	RICHARD RUSH STUDIO 168 *N. Clinton*	●			▣	▣	▣	A	*sculptural and topograpic models*
	SCHOLIN INDUSTRIES 3401 *Belmont*		●			▣		A	

		Model type			Materials			Shop size	Specialization
		architectural	*product*	*engineering*	*plastics*	*metals*	*wood*		
	VICTORY MODEL & ENGINEERING CO. 1415 *W. Altgelt Street*		●			▣		A	*small sheet metal parts*
	WIELGUS PRODUCT MODELS 161 *E. Grand Avenue*	●	●	●	▣	▣	▣	A	*full-scale product models mostly*
Skokie	**H. NEUMAN & CO.** 8136 *N. Lawndale Avenue*		●		▣	▣		A	*cameras, projectors*
Indiana									
Indianapolis	**ENGINEERED MODELS CORP.** 3145 *Martindale*		●			▣		L	*aircraft engine sheet metal parts*
Michigan									
Detroit	**BREITKREUZ CUSTOM MODELS** 6340 *Brush Street*	●	●	●	▣	▣	▣	A	
	DARUE ENGINEERING CO. 27045 *W. 7 Mile Road*	●	●	●	▣	▣	▣	A	
Ferndale	**MINICRAFT RESEARCH CO.** 451 *East 9 Mile Road*	●	●	●	▣	▣	▣	A	
Grand Rapids	**JOHN O. LOCKWOOD ASSOCIATES** 150 Fountain, N. E.		●		▣	▣	▣	A	
Hazel Park	**OAK PATTERN CO.** 1795 *E. 9 Mile Road*		●	●	▣		▣	A	
Madison Heights	**MASTER PRODUCTS INC.** 215 *E. 12 Mile Road*		●		▣		▣	L	*automotive and aircraft components*
Roseville	**WARREN PLASTICS & ENGR.** 27500 *Groesbeck Highway*		●		▣	▣	▣	L	
Warren City	**MERRITT MODEL CO.** 22820 *Sherwood*	●	●		▣	▣	▣	A	*display models*
Minnesota									
St. Paul	**PEHAMS PATTERN WORKS** 1263 *Donohue Avenue*		●			▣	▣	A	
Missouri									
Kansas City	**C. C. CRAVEN CO.** 1001 *East 17th Street*		●			▣		A	*sheet metal parts*
St. Louis	**ADVERTISERS DISPLAY & EXHIBITS, INC.** 2028 *Washington Avenue*	●	●	●	▣	▣	▣	L	*trade show displays, dioramas*
	R. A. BUSSEY MACHINE CO. 5756 *West Park Avenue*		●	●	▣	▣	▣	A	*working engineering models*
Ohio									
Akron	**MARCO MFG. CO.** 132 *E. Crosier Street*		●		▣	▣		A	*precision tooling*
	HARRISON MFG. CO. 1372 *Curtis Street*		●		▣	▣	▣	A	
	POPPENGER-HOWELL CO. 1342 *Aberth Drive*	●	●	●	▣	▣	▣	A	*atomic reactors, airplanes*
Cincinnati	**MODEL PRODUCTIONS** 425 *Ludlow Avenue*	●	●	●	▣	▣	▣	A	
	HUBER INDUSTRIES, INC. 4960 *Hillside Avenue*		●	●	▣	▣		A	
Cleveland	**INDUSTRIAL MODELS INC.** 1220 *W. 6th Street*	●	●	●	▣		▣	L	*mostly piping design and industrial plant models*
	RAPPAPORT STUDIOS, INC. 1618 *Walnut Avenue*	●	●	●	▣		▣	L	
Columbus	**VACUUM PLASTICS CORP.** 1096 *Scott Street*		●		▣	▣	▣	A	*vacuum formed parts*
	DEL, INCORPORATED 401 *Cleveland Avenue*	●	●	●	▣		▣	A	
Dayton	**DAYTON PATTERN INC.** 12 *N. Montgomery*	●	●	●			▣	A	
	LaCON PATTERN WORKS, INC. 1523 *Milburn Ave.*		●				▣	A	
Norwood	**HARTMAN TECHNICAL SERVICE** 4600 *Montgomery Road*	●	●	●	▣	▣	▣	L	*drafting service*

		Model type			Materials			
		architectural	product	engineering	plastics	metals	wood	Shop size
Wisconsin								
Cudahy	**SHERIDAN MOLD & ENGINEERING** 3383 *E. Layton Avenue*		●		▣	▣		A
South Milwaukee	**M & M INDUSTRIES** *P. O. Box* 91			●	▣	▣	▣	A
SOUTH								
Florida								
North Miami	**ALTON C. WOODRING, JR.** 1095 *NW* 191*st Street*	●	●	●	▣			A
Georgia								
Atlanta	**CUSTOM CREATIONS, INC.** 303 *Mayson Avenue, N.E.*	●	●	●	▣	▣	▣	A
Kentucky								
Louisville	**BARNEY BRIGHT MODEL SHOP** 2031 *Frankfort Avenue*	●	●			▣		A
Middletown	**PRODUCTION AID, INC.**		●	●	▣			A
SOUTHWEST								
Texas								
Ft. Worth	**CONSTRUCTION SERVICE CO.** 4907 *Ohio Garden Road*	●	●	●	▣	▣	▣	A
WEST								
California								
Alhambra	**PACIFIC MINIATURES** 817 *S. Palm Avenue*	●	●	●	▣	▣	▣	A
Bell	**H. A. BURROW PATTERN WORKS** 6811 *Salt Lake Avenue*		●	●	▣	▣	▣	A
Berkeley	**MODELS BUILT TO ORDER** 741 *Addison Street*	●		●	▣	▣	▣	A
Glendale	**PATTINSON MODELS** 531 *State Street*	●	●	●	▣	▣	▣	A
	PEARCE PLASTIC MODELS 911 *Air Way*	●	●		▣	▣	▣	A
Huntington Park	**PACO PLASTICS AND ENGINEERING** 6504 *Santa Fe Avenue*		●		▣			A
Los Angeles	**RICHARD C. DATIN JR.** 5104 *Melrose Avenue*	●	●	●	▣	▣	▣	A
	JACK EDDINGTON ARCHITECTURAL MODELS 2004 *S. Robertson Blvd.*	●			▣		▣	A
	QVALE & ASSOCIATES INC. 2525 *West 7th Street*	●			▣	▣	▣	A
Maywood	**A & M MODEL MAKERS** 5272 *Atlantic Blvd.*	●	●	●	▣	▣	▣	A
Oakland	**A.B.C. PATTERN WORKS** 516 23*rd Avenue*		●			▣	▣	A
	OAKLAND MODEL WORKS 4225 *Santa Rita Street*		●	●	▣	▣		A
San Diego	**MAGEE-BRALLA & ASSOCIATES** 3361 *National Avenue*	●	●	●	▣	▣	▣	A
San Francisco	**ARCHITECTURAL MODELS** 9 *Clement Street*	●	●		▣	▣	▣	A
	PRESTON SCALE MODELS 76 *Second Street*	●	●	●	▣	▣	▣	A
San Leandro	**HUGHES INDUSTRIAL ARTS SERVICE** 167 *W. Juana Avenue*	●	●	●	▣		▣	A
Topanga	**PRECISION WAX MODELS** 21948 *West Entrada Road*		●					A
Van Nuys	**HERBERT LA MERS & CO.** 7216 *Kester Avenue*		●		▣	▣	▣	A
	SIDNEY SMITH DESIGN 8514 *Bardwell Avenue*	●	●	●	▣	▣	▣	A

Specialization
instrument models
mostly architectural
sales kits
plaster models
display models
diorama aircraft displays
aircraft training models
topographic models
mostly architectural
electronic training aids
color duplication of renderings
sheetmetal parts
engineering study models
vacuum formed parts
clay, plaster models
wax models only
plaster, clay, paper models

NATIONAL HARDWARE SHOW REVEALS DIVERSITY



Magnet on pole of hammer holds nail in pitched position to allow starting nail with one hand. Magnetic attraction is confined by nylon shield around magnet. Made by Royal Line Products, Inc., for tight jobs where it is not feasible to use both hands.

Once only a dealer in nuts and bolts, the hardware store proprietor today runs what might be called the delicatessen of the hard goods field—a store equipped to satisfy a diversity of tastes and needs. Reflecting this new, and broad, lease on retail life, the National Hardware Show, held in New York in October, in an effort to cover all facets of the dealer's operation, was as big as all outdoors.

This may be accounted for in large measure by the nationwide trend toward comfortable outdoor living, which has given a new dimension to the hardware market: the top two floors of the show displayed only products for outdoor use. For the first time, an entire section of the show was given over to fishing equipment and, while there was less emphasis this year on barbecues, gracious living of a sort was still in evidence with an amazing array of power mowers, riding mowers, and power handles that propel an assortment of gardening tools. The sale of power lawn mowers has increased thirty-fold in the past ten years—from about 100,000 units a year to more than three million. During this period the rotary mower was born, and today it outsells reel mowers four to one. And 1958 (just about ten years after the appearance of the first power mower) is marked as a replacement year. Why the optimism? Possibly because the field is just now becoming aware of the ability of design to distinguish one manufacturer's product from another's. This awareness is evident in the review of mower progress on page 114.

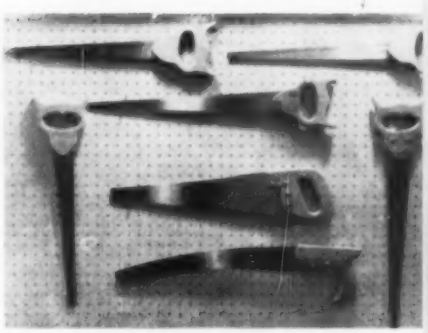
The next most interesting point of emphasis, from the point of view of sales potential, was the attention paid to home power tools. Since this too is tied to a trend in living, there is a genuine interest in styling to make what was formerly an industrial item attractive to, and safe for, an amateur; and the makers of power tools for home industry were the most style-conscious manufacturers to show their wares. They showed them in action: the major part of the first-floor exhibit was a buzzing whir of sanders, saws and drills demonstrated by white-coated handymen. A review of what's new appears overleaf.

Housewares and kitchen appliance manufacturers were present too, interested not so much in attracting attention with new products (that is traditionally done at the January and June Housewares Shows) as in becoming acquainted with hardware jobbers and establishing new outlets for their goods. Some, like Dormeyer and Oster, had the logical excuse of a power tool line geared for the hardware trade for coming to the show, then took adjoining space to display the products of their housewares divisions.

One special problem that has interested designers, and will interest more of them as time and hard goods go on, is the packaging of hardware. In recognition of a growing need for better packaging, the Packaging Institute has established a hardware packaging committee. The first sub-committee was organized to consider self-service packaging, and labeling is on the program for future discussion. Because most hardware manufacturers neither offer complete lines nor do volume business, and because the hardware store is so diversified a collection of items, packaging in the field has so far been chaotic. Many hardware items must be packed in specially reinforced boxes. This is often an expensive process that doesn't leave much money left over for package styling, but packages at this year's hardware show indicated that hardware people are beginning to get some advice on working their way out of the dilemma.

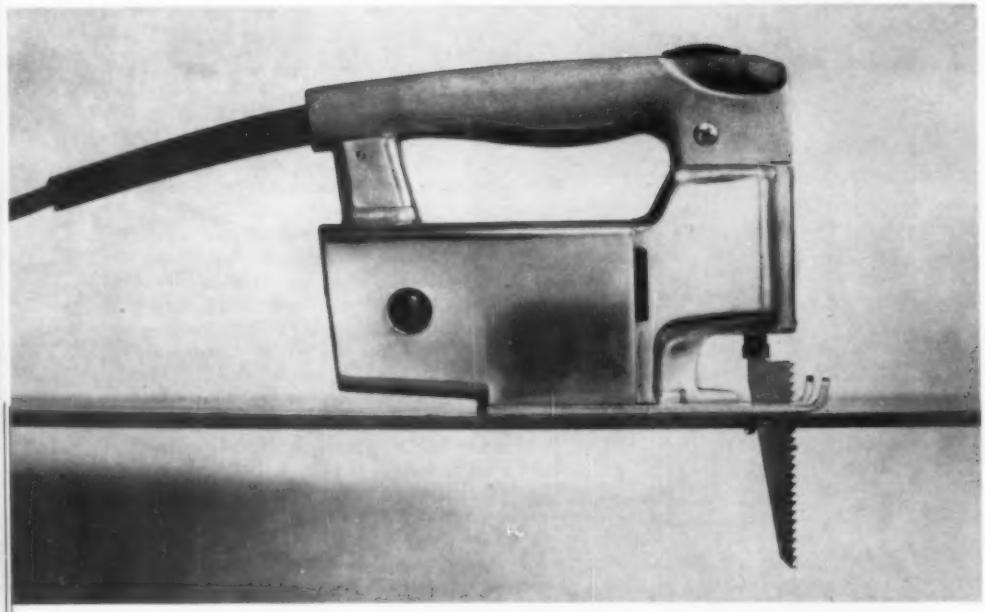
Wiss introduces new kitchen and household shears in sleeve package for easy self-service selection; gift package was designed by Lester Beall. To stimulate selling, Wiss designed the merchandising sleeve package so the shears can be easily removed by a customer and tried before purchase, an important element in selling scissors. The card on which each pair of shears is mounted tells the price, and gives full information on the variety of things they can be used for. This is, incidentally, the first time Wiss has pre-priced hardware for the retailer. But it is a practice they will follow in the future, since they have found that it gets the merchandise on the floor more quickly and keeps a ceiling on the price. The shears can be used for the usual purposes of cutting lettuce and vegetables, but are strong enough to cut thin gage wire. They also have bottle cap gripper for opening screw-type caps. Enameled handled shears are $2.95, chrome and copper plated models are $3.95.

Atkins Saw Division, Borg-Warner Corp., has a line of pruning saws that are both pleasant to look at and comfortable to use. A variety of handle designs, each for a particular sawing job, fit comfortably into the hand and, combined with a number of blade lengths and shapes, help solve tough pruning jobs. Striped pattern on blades (see top two saws), achieved by different degrees of polishing, adds a decorative and high quality touch.



(Photos: Arnold Saks)

Millers Falls Plane-'R-File has introduced a double-purpose plane-file with a unique reversible handle to facilitate using either position on wood or metal. The changeover is accomplished by loosening a screw and turning the handle around to proper position for the job. The tool has a steel, two-sided blade which can be reversed when one side is worn. The body is die cast aluminum with gray enamel finish, the handle and forward knob are red molded plastic. Garth Huxtable was consultant designer to Millers Falls engineers.



← **Stanley** sabre saw is an entirely new tool, engineered by James Godfrey and Thomas Cooley at Stanley, designed by Laird Covey. The saw has a movable base plate that will permit cutting right up to a wall. A new anti-vibration mechanism and chip blower are other features. Covey gave the saw a larger base plate than is usual, with more upsweep at its leading edge for easier starts into heavy wood. Normally, sabre saws are grasped and held by a high-positioned motor housing, but research revealed that users feared motor noise and sparks. Separate handle on Stanley saw is textured, equipped with thumb rests for safe and secure operation. Slide type switch on forepart of handle provides immediate control of sawing action. Long strain relief located in high position at rear of handle keeps cord at a maximum distance from work. $54.50.

Power tool manufacturers are beginning to take their styling and merchandising cues from kitchen appliance makers. What the housewife wants for her kitchen—colorful, stylish appliances that look and are safe, often wrapped in a self-service package—they intend to introduce into power tools.

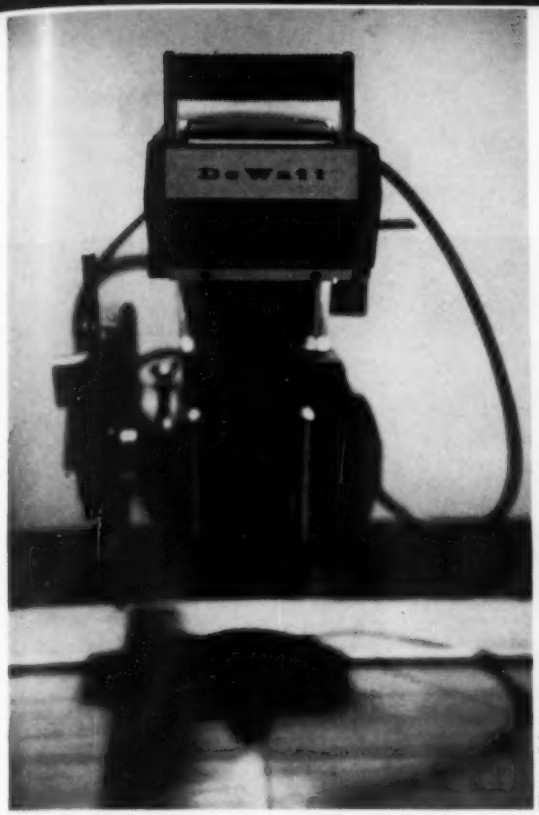
It might be argued that the wife doesn't use these tools, but the manufacturers are still heeding the polls that attest to woman's influence in buying decisions. They feel if a tool looks as safe as an appliance, she will endorse its purchase by her husband, even though its function is a mystery to her.

Still another trend in kitchen appliances is accelerating developments in power tools: more and more often a variety of kitchen jobs (and workbench jobs) are being done by one power source and a series of attachments. It is more economical for the consumer and pretty securely commits him to one manufacturer's line. This is, however, easier to accomplish with kitchen tools than carpentry tools. A sander and a drill are held at different angles and different hand pressure is needed to run each. Black and Decker, for instance, have attachments for a basic electric drill that include a jig saw, hedge trimmer, orbital sander, screw driver and circular saw. For the jig saw and sander, the drill is used upside down. The results of this kind of juggling are far from aesthetically pleasing. The sensitive housewife, luckily, never sees these strange marriages until after the tools are bought.

→ **Black and Decker** chain-saw attachment fits over heavy-duty saw for cutting logs, beams and planks. Only three pounds, it adds minimum weight to 13¼ pound saw which powers it. Cast aluminum shield protects left hand; rectangular shield effectively blocks flying chips. Guiding handle is a variation on the pistol design and said to be comfortable in all positions. Trigger switch is conveniently placed on back handle. Centrifugal fan maintains cool operating temperature. $49.50.

→ **Disston** sabre saw is first power tool from a traditional hand saw maker— a fact emphasized by the handle design. A fast moving machine, it cuts through wood, metal and plastic by "Orbite" action—the blade cuts on the up stroke, backs away on the down. It is rare among power tools in having a detachable cord. Among its many abilities is circular cutting with the aid of a rip fence (shown) and cutting at angles up to 45°. $98.50.

← **Porter-Cable** power plane is 16"-long model which cuts 2¼" swath, one of the widest cuts available, and delivers a finished surface that needs no further sanding. An uncommon tool, the power planer is ten times faster, more accurate than hand planing. It has polished aluminum frame and stainless steel shoe plates, patented chip disposal system, die cast handle and trigger-type switch. Motor unit is interchangeable with standard routers and shaper tables in the line.



(Photos: Sak)

DeWalt radial-arm saw on this page is a very remote relative of the hand tools opposite; its design and engineering aim to provide quick, sure control of a large, powerful and potentially dangerous machine. Logical grouping of controls and convenient placement are major factors in its safe and successful operation. Peter Muller-Munk Associates were design consultants to DeWalt, a subsidiary of American Machine and Foundry Company, on this completely redesigned machine.

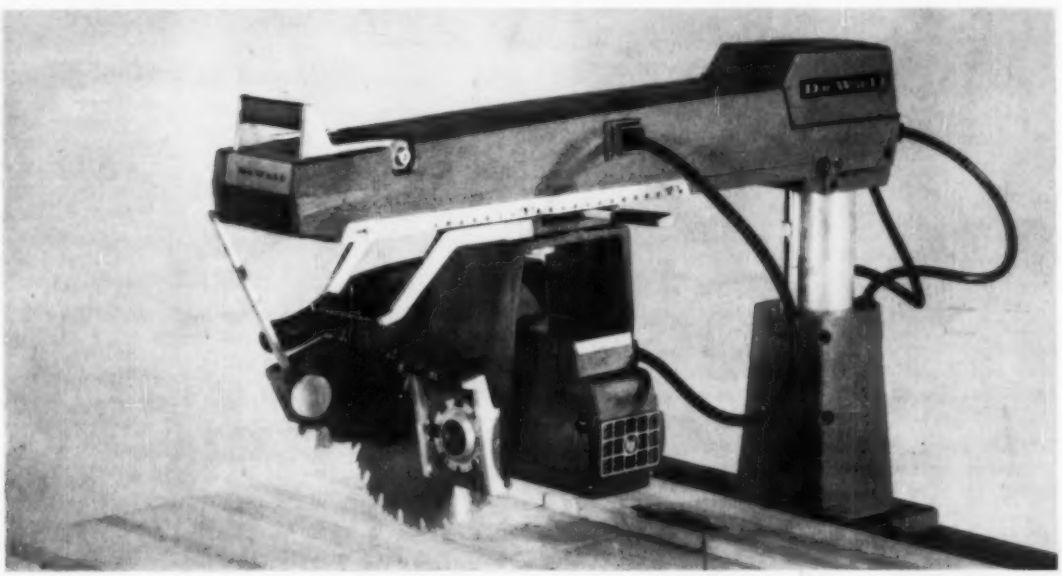
Essential operating controls have been brought forward and placed at the front end of the arm (above left), facing the operator. Buttons at right turn power on and off; emergency stop bar below can be put into action with pressure from any part of the body. Doing its bidding is dynamic electronic brake which stops blade in twenty to twenty-five seconds.

Buttons at left control elevation of saw, which is raised and lowered by electric power to lessen operator fatigue. Note diagram indicator, which conveys meanings quicker than words. (Maximum saw rise of 16⅞" is greater than on any other machine.)

Miter angle control is relocated above arm; below it is the operating handle, which does not swivel with the motor. At far end of the arm, miter protector, calibrated in single degrees, is backlighted and magnified so it can be read from front position.

Controls for changing angle of cut are collected on motor housing, just below essential controls (detail, above right). On either side of bevel protractor housing is cut out to accommodate handles. One indexes blade angle, the other clamps blade at setting.

Rip scales are attached along both sides of the machine arm for adjustment from either side. Here, one control, does both indexing and clamping. Rip lock clamps on separate plate to prevent track damage or distortion.

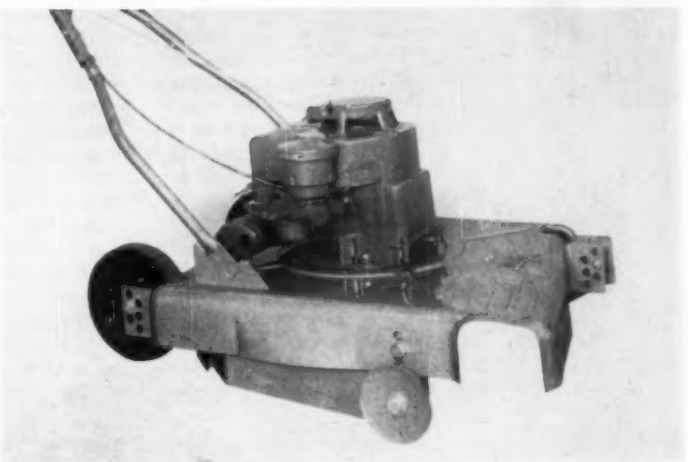


1958 mowers safer and shinier

Outdoor living is becoming more a chore than a pleasure, to judge by the preponderance of lawn care equipment at the show. The top two floors of the Hardware Show were a literal "Mowerama," as the sign over the Barnes Manufacturing Inc. line of mowers proclaimed. Barbecues, while still in abundance, were definitely in second place.

There were by honest count some eighty different manufacturers of lawn mowers displaying their wares. This, the eleventh year of power mower production, saw more advances toward the goal of a safe machine. No mistake about it, rotary power mowers are dangerous: the whirling blades can permanently injure the operator by direct contact, or by hurling stones and other loose objects at him or anyone else nearby. To overcome the dangers, many of this year's models have starter mechanisms on the handle rather than near the engine. With more controls on the handles, starting and running operations are easier and safer, since they allow the operator to keep away from the motor and blades. And blade housings are becoming more comprehensive to give greater protection. For quite a while motor housings were almost non-existent, but now manufacturers have realized that enclosures can and must serve as more than just a cover for the working parts of the machine. In addition to their value as safety and maintenance aids, they are logically being used to give mowers more individual character and identity.

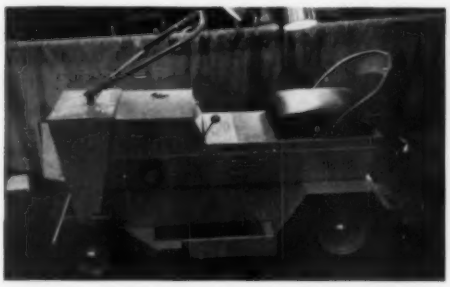
It is anticipated that many mowers this year will replace 1947 models, which were the first to sell in really large quantities. It is interesting that the look to the future has already come to this young industry in the form of super-streamlined models (below by Barnes and far right by Simplicity) that make the business of keeping the grass cut seem almost as demanding as breaking through the sound barrier.



Bolens 22" rotary mower (top) is one of the few to attempt an organized motor housing. Styling puts it in a recognizable home classification, and Bolens underlines the fact by picturing a woman using it. Engine is Briggs-Stratton, which is used on most mowers. It has foot-pedal starting, single-lever control mounted between handle grips for convenience and safety. Staggered wheel arrangement prevents lawn scalping.

Starbrand Sales Corp. has a snow-sweep attachment (above) which makes their mower a year-round appliance. Shroud fits over the firm's 21" mower and has steel cutting wheels for stubborn ice. Regular grass-cutting blades are replaced by paddle-type which sweep snow to the sides.

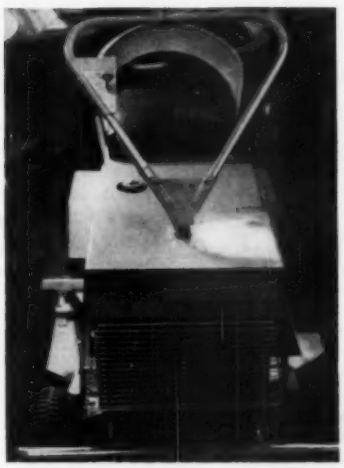
Ride - A - Mower Company introduced a machine that is a vehicle in itself; it has a 24″ cutting blade and can speed over large lawns at seven miles an hour. It is 52″ long, 34″ high, 28″ wide and weighs 239 pounds. New mechanical features are: remote "touch-a-matic" choke, throttle, and stop control; planetary gear differential; four-wheel design, with 12″ pneumatic rear tires. Anticipated retail price near $320. Rodriguez and Claus, design consultants.



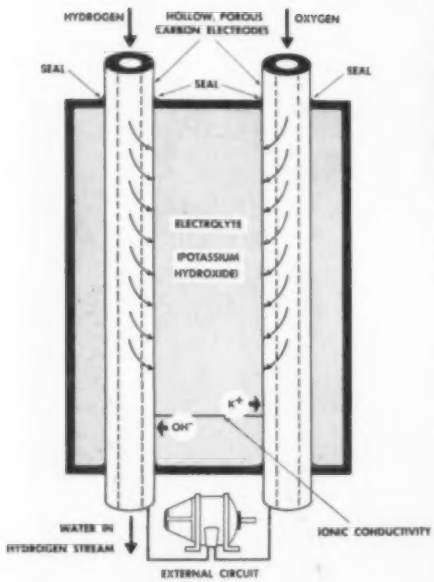
Arvin "Comanche" smoker has a motor-driven spit and is designed for proper circulation of heat and smoke around the food, adding smoked flavor to meals cooked out-of-doors. Price is $49.95.

Arvin "Cherokee," a deluxe barbecue, features split-level cooking with a two-piece grill for simultaneous cooking of rare and medium steaks. Spit is motor-driven and adjustable to three heights. $74.95.

(Photos: Saks)



Simplicity Wonder-Boy X-100 may look more like a helicopter than a lawn mower, but it is one manufacturer's idea of what homes of the future will need to keep up with the chores. A projected multi-purpose machine, the X-100 will mow the lawn, weed it, feed it, seed it, spray for insects, plow snow, and haul equipment. With a plastic bubble to protect the operator from all kinds of weather, the futuristic machine could be used as a glorified golf cart and will have a radio-telephone, air conditioning, and a cooling system to provide chilled drinks. Especially constructed for Simplicity by Wisconsin Display Studios (who built the circular boat for Evinrude, ID, May '57), the X-100 is the manufacturer's symbol of the importance of yard care.



New power source will affect design

A year ago, ID reported the existence of a laboratory curiosity: the direct conversion of the chemical energy of gases into electricity. That curiosity has now been developed, perfected and given practical form; a fuel cell which produces power for the silent operation of the U.S. Army Signal Corps portable radar surveillance set, the "Silent Sentry." The fuel cell should have a strong effect upon anything requiring, or improved by, portable and silent power. In the future, it opens up such possibilities as silent, economical propulsion of lawn mowers, outboard motors, and even small cars. Military communications systems, mobile power units, and standby power plants are all applications that can be expected in the immediate future. Possibly, the noisy internal combustion engine will eventually be altogether replaced by the new power source.

The production of electricity directly from hydrogen and oxygen in a fuel cell is inherently more efficient than its production in a conventional steam system in which the heat is supplied by burning these same gases. There are practical limitations in utilizing all of the heat produced which reduce the overall efficiency of a steam system to approximately thirty or thirty-five percent, while a fuel cell, which eliminates the intermediate heat step and converts directly from chemical to electrical energy, has a top efficiency of about twice that figure.

Dr. Karl Kordesch, who headed the research on the cells for the National Carbon Company, a division of Union Carbide, says, "Unlike conventional batteries, fuel cells remain essentially unchanged during their operating life and produce electrical energy from chemical fuels supplied as needed." A primary battery, such as is used in a flashlight, produces electrical energy by the consumption of its chemical elements. When the chemicals are used, the battery is 'dead'. A secondary battery, such as is used in an automobile, can be recharged during its life by passing electricity back into it, where it is stored for future use.

The fuel cell is merely a sealed jar into which hydrogen and oxygen are fed through special hollow electrodes. The electrochemical reaction of the gases at these electrodes produces an electric current, with only water as a byproduct. With the water disposed of by evaporation, the life of the fuel cell is theoretically unlimited. Cells have been operating at the National Carbon Laboratory (Parma, Ohio), eight hours a day, five days a week for the past year with no signs of deterioration.

Although pure oxygen is required for the higher current densities, the new fuel cell can be operated with hydrogen and air for producing smaller amounts of power. This makes it particularly advantageous for small, mobile units which can be operated simply on a tank of hydrogen and the surrounding air. The new design is also unique in that the cell can operate with hydrogen containing considerable impurities, which means that grades of standard commercial purity can be used.

Leading communications and electronics authorities from both military and industrial organizations previewed the "Silent Sentry" at a demonstration last month, in connection with the Association of the U.S. Army's Communications and Electronics Symposium in Arizonia.

Manufacturer: The National Carbon Company, Division of the Union Carbide Corporation, Parma, Ohio

Spray-on wood effects

Zolatone, a plastic coating spray process (see ID, September, "P.S. On Plastic Coatings") similar to the so-called "polka dot" paints, has extended the variety of surface effects possible with the system to include patterns that simulate wood finishes. The new series of coatings are being manufactured in a range of colors, giving tones of blonde, maple, mahogany, walnut and various special wood hues.

The special attraction of the Zolatone process is its ability to camouflage surface nicks and other irregularities. In effect, it bombards a surface with the equivalent of five or six coats of paint at a time. The result is a textured coating with good hid-

ing properties. This same camouflaging ability is also the result of the variety of colors used in the single mixture, i.e. camouflage through both mottled color effect and surface texture. Zolatone is grease resistant, washable, and said to be more resistant to scratches than ordinary paints and enamels. It is already available in a range of color combinations giving a polka dot effect.
Manufacturer: Zolatone Process, Inc., 5657 Wilshire Boulevard, Los Angeles 36, California

Economical gilding process

"Atomex", by Baker and Company, Inc., coats a gold film on a variety of metal substrates and does so, the makers claim, at less cost than the conventional electroplating now used to achieve the same effect. Lamp components, auto trim, clock assemblies, bottle caps, radio knobs are among the items that can be gold coated. The process has been successfully tested on copper and copper-base alloys, cadmium, zinc, nickel, iron, nickel-silver, steel, soft solder, pewter, Alumel, cobalt, and bismuth alloys. Coatings up to ten-millionths thick have been applied.

"Atomex" works by ionic displacement: attacked chemically, the base metal surface sheds atoms into the bath, and these are replaced by atoms of gold.

Baker feels that the process has these advantages over electroplating: 1) Since the coating is denser, the same appearance can be achieved with 35% less gold. 2) Since there is no electrical shielding, the coating is uniform: even blind recesses and the inside of tubing receive a uniform deposit. 3) The gold interlocks with the base metal, providing a firm bond. 4) Analytical control of the bath is unnecessary because there is none of the free cyanide or carbonate build-up that there is in electroplating. 5) All the gold in the bath is used and the spent solution can be thrown away instead of requiring a refining process by the manufacturer.

The coating rate varies with the nature of the substrate. On iron, die-cast metals, steel or soft solder, it takes about three minutes at 60°C to deposit 1mg/in^2.
Manufacturer: Baker and Company, 113 Astor St., Newark 2, New Jersey

Polyethylene uses extended

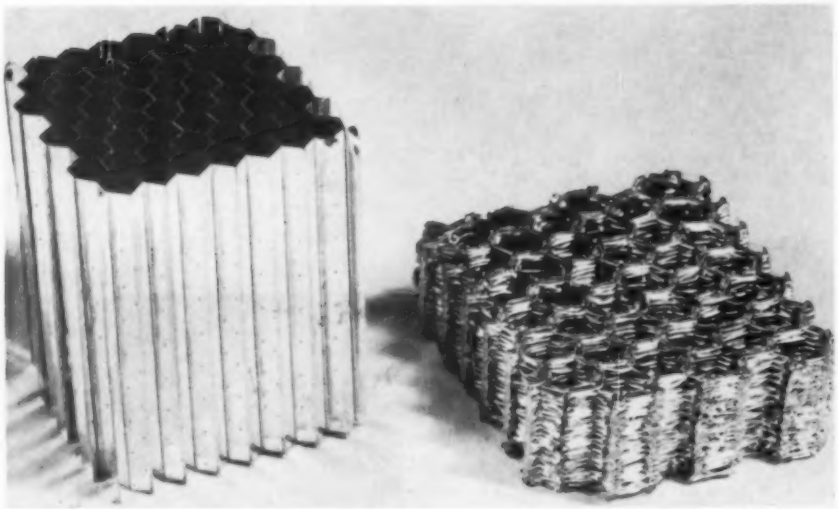
The variety of substrates to which polyethylene can be successfully cemented has been extended by a new adhesive, developed by Henry Peters of the Bell Telephone Laboratories, which is said to resist a pull of 1000 pounds a square inch in a laminate of polyethylene with rubber, brass, or brass-plated metals. It is expected that the process can be broadened to include plastics related to polyethylene. The result should be a significant extension of the applications of polyethylene, particularly where its weatherability can protect metal surfaces from corrosion.

Bell Laboratories' interest in the material is related to the manufacture of phone cables: to bond natural rubber to polyethylene in cables it has been necessary to use four intermediate layers of polyethylene and natural rubber mixtures. This complex bonding process can now be eliminated, since the new process requires only the adhesive to join rubber and polyethylene together.

The bond chemistry is somewhat obscure, even to its developers. Apparently hydrogenated polybutadiene adheres to the polyethylene because of its similar chemical structure and thermoplastic properties. The bond to vulcanized rubber is probably due to the formation of sulphur crosslinks at the interface. This occurs during the vulcanization process. Whatever the chemistry, the resulting bond has a peel strength up to 100 pounds per square inch. Presumably the design possibilities are broader than just cable constructions, polyethylene coatings on plating racks, and the other contemplated applications. Any rubber, brass, or brass-plated object whose surface drawbacks can be overcome by the strengths of a polyethylene covering, would seem to be a candidate for possible redesign utilizing the new bonding material.
Manufacturer: Bell Telephone Laboratories, 463 West St., New York 14, New York

Germ-killing duct unit

Westinghouse has developed an ultraviolet lamp, the Sterilamp GIOT5½, which is designed for insertion in heating and air conditioning ducts to set up a barrier against bacteria, virus and molds. The new lamp is claimed to be two and one-half times as potent as previous lamps of this kind. Edward Arnott, director of research for the Westinghouse lamp division says that the Sterilamp is particularly effective against the flu virus: eighty percent of airborne virus and bacteria can be destroyed by inserting a single ultraviolet lamp in a heating or air conditioning duct. Several furnace and air conditioning equipment manufacturers are planning to make an ultra-violet germ-killing unit available as optional equipment in their 1958 units.
Manufacturer: Westinghouse Electric Corporation, Bloomfield, New Jersey



Honeycomb collapses for safety

Aluminum honeycomb cores are being described as a near-perfect material for impact energy absorption. Hexcel Products, Incorporated, one of the principal manufacturers of honeycomb materials, reports that as Hexcel core collapses, accordian-fashion, it absorbs impact energy at a nearly constant rate.

This constant rate of collapse means that the honeycomb structure reduces impact damage. When an automobile hits a telephone pole, or a crate falls off the end of a truck, the amount of damage sustained is directly related to the deceleration rate. If the deceleration is too sudden, all of the kinetic energy of the moving body is converted into destructive action. On the other hand, if the deceleration takes place over a brief period of time—no matter how brief—allowing the mass of the body to slow to a stop, the destructive impact forces, or G load, is reduced to a fraction.

Shock absorbing materials lengthen the period of deceleration by allowing the projected object to shift slightly while it comes to a stop. Most padding materials deform in a non-linear fashion; the more deformation, the higher the resistance to further deformation. An ideal shock absorber, on the other hand, presents a constant resistance, or force, during its total deformation. In this way, the deceleration force can be held at a constant G load just below the damage level.

Hexcel research engineers have found that the density of the honeycomb core cells can be increased by adding a foamed plastic.

The honeycomb structures should prove useful in automobile safety panels, mounting panels for electronic hardware, crash helmets, industrial packaging cores, and other shock absorber usages.

Manufacturer: Hexcel Products, Inc., 951 61st St., Oakland 8, Cal.

Silicone improves syrup bottle

Dow Corning Co., major silicone producer, reports that a drop of silicone fluid wiped on the lip of a maple syrup bottle solves the old problem of syrup runs.

Manufacturer: Dow Corning Corp., Midland, Michigan

Large-scale plastic sheets

A cast acrylic sheet 144 inches long—claimed to be the longest in the world—is now being produced by Wasco Products, Inc., makers of the Wascolite Skydome. The sheets have a variety of applications in industrial and institutional construction, and in the outdoor display field. Wasco is currently using the sheets for exterior curtain walls.

The acrylic sheets are being made in either clear colorless or white transparent, in a standard size of 48 by 144 inches. Widths up to 100 inches can be obtained on special quotation. There are three thicknesses currently being produced: ⅛ inch, 3/16 inch, and ¼ inch.

Manufacturer: Wasco Products, Inc., Cambridge, Massachusetts

Lamp gives light with radioisotopes

Radioisotope excitation is the principle behind the operation of a new lamp, introduced by United States Radium Corp., that gives light for ten years or more without power or maintenance. A successor to a larger and heavier radioisotope-excited lamp, the new model casts light that is clearly visible at 500 yards and, because of its lower price ($35 to $75, depending on the quantity), may be the answer to lighting problems in mining, transportation, marine and other areas where little or no power for illumination is available or maintenance is difficult. Another possible use is in civil defense in the event of power failure during an emergency.

The radioisotope-excited lamp weighs about ten pounds, is six inches long, and has a luminous diameter of five inches. Its

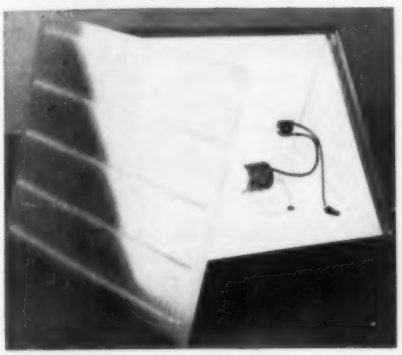
brightness is 1,000 microlamberts, and a newspaper held at arm's length can be read by its glow. By using a variety of phosphors, different colors can be emitted, including red, blue, green, yellow, and orange-red.

Manufacturer: United States Radium Corp., Morristown, New Jersey

Sharper tuning for tv

The problem of station "drift" in radio has been overcome to some extent by antidrift devices which "lock" a tuned station into place and, now, the Standard Coil Products Company has developed two television circuits which are said to accomplish the same "locking" effect for television channels by providing: 1) a more stable operation of the tuner's oscillator, which largely eliminates the need for manual fine tuning, 2) automatic fine tuning, an electronic device by which the picture is "locked" into its sharpest tuning on a channel.

Manufacturer: Standard Coil Products Company, 2085 North Hawthorne St., Melrose Park, Illinois



Multiple slide viewer

The Picture Slide Editor is a desk-top slide viewer on which up to twenty thirty-five mm. slides can be viewed simultaneously. With it, slides can be conveniently previewed and compared, eliminating the one-at-a-time procedure required with hand viewers and the need for projector and screen in a darkened room.

The desk top unit measures 8" high, 8" deep and 12" wide, and weighs 2½ pounds. The 8½" by 10½" screen is formed of translucent Plexiglas (Rohm and Haas) with a series of narrow shelves to hold slides or negatives. Bluish-white in color, the screen provides an even diffusion of light from a forty watt incandescent bulb and is said to maintain the true color values of slides being studied. It slides easily up and out of the cabinet for access to the bulb. The screen is said to be highly resistant to impact.

The Pictar Slide Editor is available from the manufacturer for $13.98.

Manufacturer: Mast Development Company, 2212 East 12th St., Davenport, Iowa

New applique film

The use of a new non-bleeding type of glue and a special backing paper is said to result in an applique material which can be stored for long periods of time without losing its ability to stick to drawing paper. The material, Aplika, is made of a translucent plastic with a fine grain surface that will take pencil, ink or printing. As the material makes contact with the drawing paper, it becomes transparent. Aplika sheets are available either plain or printed to any specifications in standard sizes of 6" by 9" and 8½ by 11". In unprinted form it can be offset using quick-drying ink.

Manufacturer: Transparent Products, Inc., 324 East 24th St., New York 10, New York

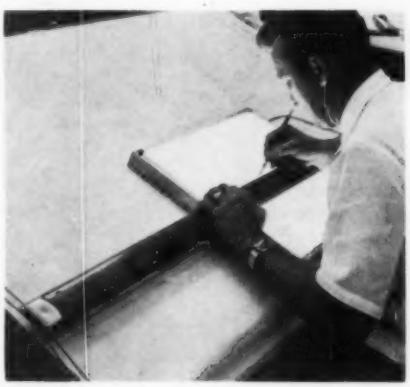
Tracing aid

The Porta-Trace, a lightweight, illuminated portable tracing unit, by the Ozalid Division of General Aniline and Film Corp., has been designed as a replacement for stationary tracing tables. For photographic work, it can be used for opaquing, retouching, stripping-in, and viewing transparencies. For reproduction, the Porta-Trace speeds the preparation of Bristol board originals, multilith paper originals, mimeographed stencils, color separations, and visual transparencies. In the drafting room, the Porta-Trace is thin enough to be slipped under a string style parallel rule on a standard size drafting board. The compact dimensions permit it to be used under a standard straight edge or drafting machine.

The Porta-Trace has a shatter-proof opal Plexiglas top which diffuses the light for a minimum of glare. The flush top permits use of drawings that are larger than the unit. The machine stores on end like a book when the drafting job is completed. The Porta-Trace is available with tracing surfaces ranging from 10 by 17½" to 23¼ by 35¼".

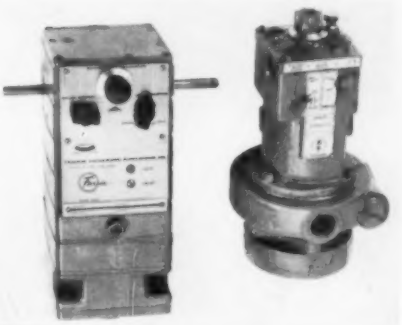
All of the component parts of the Porta-Trace are UL approved.

Manufacturer: Ozalid Division, General Aniline and Film Corp., 6 Corliss Lane, Johnson City, New York



Larger housing lower cost

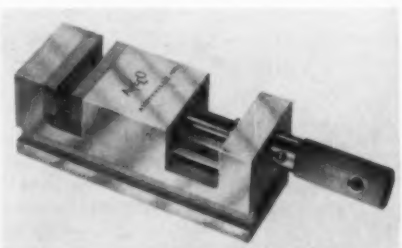
When the Farris Pickering Governor Company, Incorporated decided on a new housing for their Class 3300 governors, they wanted a design that would provide easy assembly and maintenance with no special tools required. The housing, designed for them by Peter Schladermundt Associates, is simpler, and therefore cheaper to cast than the old housing, and can be adapted to other Farris Pickering governors. The new unit is plain except for a series of horizontal recessed bands which conceal seams between cast sections. Controls, which, located on top and on two sides of



the old unit, seemed unduly complicated, appear in the new design on a face plate of stainless steel with a new logotype and symbol for more rapid identification.

Manufacturer: The Farris Pickering Governor Company, 400 Commercial Ave., Palisades Park, New Jersey

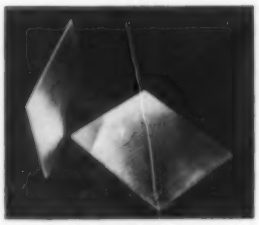
Neat lines distinguish vise



A clean-lined toolmaker's vise by the Air Transport Equipment, Inc., is precision ground on all external surfaces to an accuracy of .0004 inches per inch. A base groove provides a means of clamping it to machine tables. An adjustable dove-tailed slide gives rigidity and parallel location of jaws at all angles. It is available in three models, the smallest of which has a jaw width of 14", a depth of 7/16", and weighs 1¼ pounds. Except for a totally enclosed leadscrew, all parts are hardened. Prices start at $24.50.

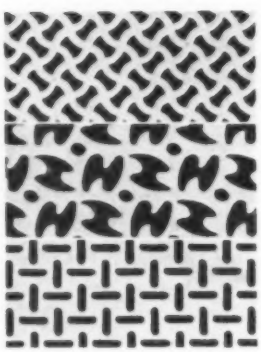
Manufacturer: Air Transport Equipment, Inc., Amityville, New York

Product and Manufacturer



Copper clad Teflon sheet is now being marketed for the electronics industry for printed circuits where low diaelectric constant, dissipation factor, and water absorption are required. Sheets are 18" x 36" and tapes 12" wide to 150" long. Fluorocarbon Products, Inc., Camden 1, N. J.

Silicone rubber strong enough to be used in place of organic rubber is now available in commercial quantities. Designated SE-555, it has low moisture absorption, good oil resistance and is especially suited for aircraft seals and gaskets. General Electric Co., Waterford, Conn.



Perforated metal in three new patterns, (top to bottom) Ripple, Fantasy, and Plaid, is available in light gauge steel, aluminum, brass, and copper, and can be ordered to specified shape or size or custom perforated with or without margins. Finishes include: color anodized or brushed and lacquer finished aluminum, painted, chrome plated or enameled steel. The Harrington & King Perforating Co., Inc., 5664 Fillmore St., Chicago 44, Ill., manufacturers.

Four-ply paper with high tensile strength can be manufactured with close dimensional uniformity with thickness accurate to within plus or minus .00055". Used in such applications as shot gun shells, where both strength and uniformity are important, it is checked by electronic Beta scanners (left). Knowlton Bros., Watertown, N.Y.

Protective coating, known as Mono-Seal, is available in twenty-two standard colors, has good bonding and surface hardness, and can be bent to a one-eighth mandrel without cracking or chipping. The new coating is a blend of silicones and epoxies; cures by solvent evaporation and internal polymerization. Mono-Seal Products, Everett 49, Mass.

Product and Manufacturer

Vinyl plastisols fused on metals, fabrics, or paper to produce tough finishes are finding new applications, such as on anchors and bicycle seats. Metals can be coated with them before forming. Monsanto Chemical Co., Plastics Div., Springfield 2, Mass.

Direct-writing magazine can be attached directly to standard oscillographs, provides developed and dried photographic records as fast as the instrument records data by "flash processing." Consolidated Electrodynamics Corp., 300 North Sierra Madre Villa, Pasadena, Cal.

Battery-operated voltmeter is portable, multi-range, a-c, and designed to measure voltages in balanced circuits such as telephone lines and communication carrier equipment. Consolidated Electrodynamics, 300 No. Sierra Madre Villa, Pasadena, Cal.

Flexible rubber grommet, the Grom-Lok, is pulled into place to hold a wire tightly and form a dust-proof, moisture-proof seal. For installation, a wire is passed through the Grom-Lok, which rolls on itself to form the seal. Argosy Industries, 67 May Court, Chagrin Falls, Ohio.

Compression-type fastener, for sealing doors against a gasket, has a sliding, pivoted latch which is tightened under the compression action of a thumb screw. They provide air-tight, light-proof, or vibration-resistant seals. Torit Mfgr. Co., Walnut at Exchange, St. Paul, Minn.

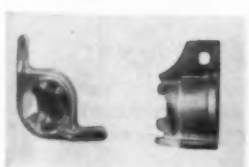
Quick-operating stud assemblies with handles that can be located firmly in one of three notched positions: vertical, horizontal left and right. Handles cannot be jarred loose by vibration or gravity. Camloc Fastener Corp., 22 Spring Valley, Paramus, N.J.

Product and Manufacturer

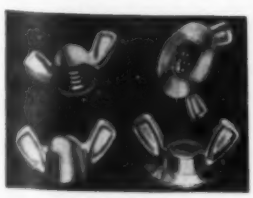
Night-time reflector which "lights up" from all directions is now available for parking lots, home driveways, boat docks, and unlighted airfields. The "Spark-L-Ite" is a hollow 3-inch "beehive" molded from Rohm & Haas Plexiglas with thousands of facets on the inner surface. Smooth outside surface promotes breakage and weather resistance. The head is molded in three parts joined vertically. Dynamic Specialties Corp., Box 184, Birmingham, Mich.

Electric heaters and heating units can now be constructed by a new method that consists of embedding specially insulated resistance wire in the body of a solid casting of heat conducting alloy such as aluminum. "Adaptatherm," as it is known, provides rapid heat transfer because of the special insulation, yet is completely flexible, and eliminates "hot spots." H. W. Tuttle & Co., Adrian, Mich.

New type of lock washer, the Nylogrip Dubo-Ring, is a double "V" shaped symmetrical ring. It has no threaded parts, making it impossible to fit it incorrectly. The cold flowing characteristics of nylon give sealing power. Nylogrip Products, 449 Watertown St., Newton, Mass.

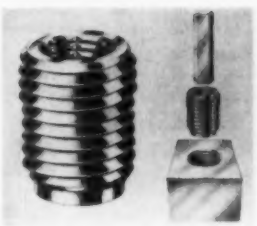


Receptacles for side and corner mounting with two instead of four holes are being produced for applications with light loads where quick operation is desirable. Camloc Fastener Corp., 22 Spring Valley, Paramus, N.J.



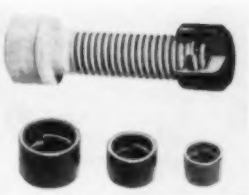
New types of wing nuts, die-cast of zinc: capped nut that seals and protects exposed threads, is tapped extra deep for bolt ends of varying lengths; has one-piece washer-base nut. Gries Reproducer Corp., 400 Beechwood Ave., New Rochelle, N.Y.

Product and Manufacturer



Threaded steel insert, "Inserto U-Tap," with external and internal threads, locks itself into the parent material at specified torque levels. A pilot is provided on the lower end of the insert to pre-align parts. Rosan Inc., 2901 West Coast Highway, Newport Beach, Cal., manufacturers.

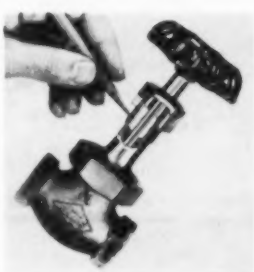
Steel tubing that is mill grooved and resistance welded is being produced for applications in mechanically coupled piping systems. Republic Steel Corp., 224 East 131 St., Cleveland 8, Ohio.



Swivel toggle shoe pads, known as "Screwzon," screw on any standard screw for use in any mechanical jaw where "push-pull" pressure is required. A spring insert holds the screw on, but permits the swivel pad to turn. Standard Parts Co., 1010 Broadway, Bedford, Ohio.

Alignment bolt designed to correct misalignments between wing panel skins, access doors and structure, and heavy stainless steel honeycomb panel. Hi-Shear Rivet Tool Co., 2600 W. 247th St., Torrance, Cal.

Dual-nozzled spray gun for spraying plastic coatings eliminates premixing and storage problems by mixing resins and chemicals in internal mixing caps on the gun itself. The system can be operated by an inexperienced operator since it makes the previously tricky job of spraying plastic coating simple. Sealzit Co. of America, 3640 Chicago Ave., Riverside, Cal.



New valve stem packing for medium temperature service consists of a molded packing ring made from copper wire inserted asbestos yarns which are braided and impregnated with Teflon. The packing offers increased strength, heat resistance, and takes advantage of the lubricating properties of Teflon. Garlock Packing Co., Rochester, N. Y.

Manufacturers' Literature

Adhesive Bonding. Modern Industrial Engineering Co., 14230 Birwood Ave., Detroit 38, Michigan. 6 pp. ill. A line of new machines for assembling parts of various materials by adhesive bonding is described. "Adhesive bonding" designates a method involving the controlled application of heat and pressure.

Aircraft Bolt. Aircraft Products Div., Standard Pressed Steel Co., Jenkintown, Pa. 4 pp. ill. The bulletin gives data on SPS 100-degree flush-head aircraft bolts with Torq-Set, a new wrenching recess.

Computers. General Electric Co., Computer Dept., 1103 No. Central Ave., Phoenix, Arizona. 12 pp. color ill. GE describes the facilities and services offered by its new Computer Research Center on the campus of Arizona State College.

Drafting Machine. Glideline Corp., 300 South Potomac St., Waynesboro, Pa. 2 pp. ill. The bulletin describes Glideline's complete line of drafting machines. A chart gives standard models for boards from 30" by 42" up to 48" by 96".

Electronics. H. H. Bugbie, Inc., Box 817, Toledo 1, Ohio. Company has announced a 4-page quarterly detailing their product developments and designs in electronic connectors and components. Available by request.

Foam and Sponge. Brown Rubber Co., Lafayette, Indiana. 12 pp. ill. Both plastic foam and rubber sponge are described in this color brochure. The relative merits of sponge rubber, vinyl, and urethane foams are described in relation to sealing, cushioning and dampening components.

Food Service Design. Integrated Design Associates, 400 So. Beverly Drive, Beverly Hills, California. 12 pp. ill. "People Who Care About People Who Eat," explains the services of the food service facilities consultant who designs facilities for architects, hotel and restaurant owners, industrial firms, schools and institutions.

Human Dimensions. Cleveland Designers and Consultants, Inc., P. O. Box 3989, Shaker Square Station, Cleveland 20, Ohio. 38 pp. Price: $1.00. The average dimensions of the human body are described in 48 charts with 1198 dimensions.

Laminates. Formica Corp., 4614 Spring Grove Ave., Cincinnati 32, Ohio. 2 pp. This stock list contains information on all copper-clad grades carried in stock by Formica Corp. Engraving and sheet stocks are also discussed in addition to CN end grain material.

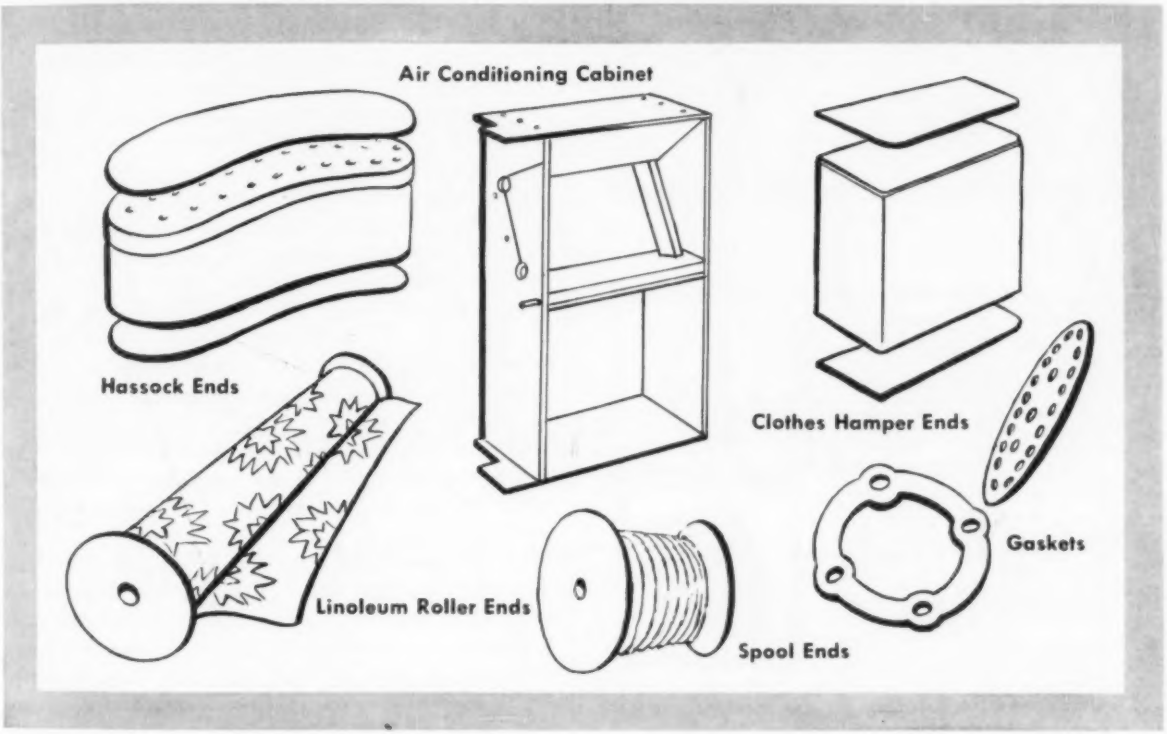
Laminates. North East Laminates, Inc., 51 Osgood St., Methuen, Mass. 4 pp. ill. Two laminates are discussed with actual samples: vinyl-to-board and vinyl-to-metals.

Lighting. Lightolier, Inc., Jersey City 5, N. J. This consumer-oriented handbook discusses decorating with light. One of its main purposes is to help consumers understand the professional service rendered by architects, interior designers and engineers. Forty typical illumination problems are covered.

Loudspeakers. University Loudspeakers, Inc., 80 South Kensico Ave., N. Y. 12 pp. ill. The catalog describes University's complete line of public address and high fidelity loudspeakers and their use in both consumer and industrial fields. Included are talk-back speakers, heavy-duty trumpets, portable systems, etc.

Upson engineered FIBERBOARD

at work cutting costs everywhere!



This amazing material plus Upson's superior cutting service for countless parts and cut-outs can bring undreamt of economies. Upson Engineered Fiberboard is an "in-between board" not a hard or soft insulation board. Composed of 94% wood fibers laminated for great strength, it's tough, resilient with superior finishing and sound deadening qualities. Our Fiberboard Engineering service includes manufacturing and precision cutting to specified shapes. We punch it, bevel it, die cut it, waterproof it and apply special finishes. *We deliver the finished part ready for production.* Choice of lengths, widths, thicknesses and surface textures. Our specialized engineers are always available for consultation. Let them help solve your problem. *Write, wire or send coupon for consultation service, free idea booklet and sample kit.*

UPSON

94% Wood Fibers Laminated for Great Strength

The Upson Company
1111 Upson Point, Lockport, N.Y.

Send me free booklet and sample kit ☐
I wish to consult with an Upson Engineer ☐

UPSON

NAME

POSITION

NAME OF COMPANY

STREET CITY STATE

Manufacturers' Literature, continued

Nylon Seals. Nylok-Detroit Corp., 1100 N. Woodward Ave., Birmingham, Michigan. 4 pp. ill. This folder describes the sealing and adjusting principle of Nylok threaded parts.

Plastics. United States Rubber, Naugatuck Chemical Div., Naugatuck, Conn. 12 pp. ill. This condensed catalog of Naugatuck Plastics gives a brief review of the company's range of plastics.

Plastics. Barrett Division, Allied Chemical and Dye Corp., 40 Rector St., New York 6, N. Y. 4 pp. ill. Products made of Plaskon Urea, Melamine, and Alkyd molding compounds, and of Plaskon Nylon molding and extrusion compounds, are described.

PVC Pipe. Engineering Service Dept., A. M. Byers Co., Clark Bldg., Pittsburgh, Pa. 30 pp. ill. Information on the general characteristics of PVC pipe has been prepared specifically for design engineers. The brochure describes properties, applications, and installation techniques.

Rubber. The Williams-Bowman Rubber Co., 1945 S. 54th Ave., Cicero 50, Ill. 12 pp. ill. The catalog describes and illustrates the company's facilities for manufacturing rubber parts to customer order.

Sheet Packing. Crane Packing Co., 6400 Oakton St., Morton Grove, Ill. 8 pp. ill. The bulletin gives detailed specifications, engineering, application and testing data on a line of industrial sheet packings.

Shelves. Acme Steel Co., 135th St. and Perry Ave., Chicago 27, Ill. 4 pp. ill. The booklet describes the Acme Steel Dexion Slotted Angle shelf framing system, a series of steel framing elements that can be assembled into a variety of shelves.

Spray Gun. SealZit Company of America, Riverside, Cal. 4 pp. ill. A spray gun for the application of plastic and other coatings is fully described. The gun requires no metering equipment.

Stainless Steel. American Iron and Steel Institute, 150 East 42nd St., New York 17, N. Y. 44 pp. ill. This handbook was prepared by the Institute's Committee of Stainless Steel Producers as a guide to stainless steel products for architects and builders. Included are components for store fronts, windows and doors, hardware, exterior walls, signs, trim, etc.

Steel Locknuts. Standard Pressed Steel Co., Jenkintown, Pa. 4 pp. ill. New self-locking nuts, said to be 49% lighter than standard ones, are reviewed in this folder.

Thermoplastic Sheet. Campco, Div. of Chicago Molded Products Corp., 2717 N. Normandy Ave., Chicago 35, Ill. 6 pp. ill. The folder describes the complete line of Campco thermoplastic sheet and film for use in displays, toys and novelties, and packaging applications.

Titanium Strip. American Silver Co., 36-07 Prince St., Flushing 54, N. Y. 1 pp. This data sheet covers the physical and chemical characteristics of titanium rolled to thicknesses as low as .0005" to tolerances as close as plus or minus .0001".

Zinc Die Casting. Henning Brothers and Smith, Inc., 91-127 Scott Ave., Brooklyn 37, N. Y. 31 pp. ill. A new revised edition of "Die Casting with Zinc Base Alloys" has been published by Henning Bros. and Smith.

Picture of a farmer (hooded for protection) and his oxen plowing a field amid a billion locusts. Locusts are found in many areas of the world including the United States.

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This is how it has been since Biblical times . . . more than 3000 years ago. Locusts swarm across the field . . . devour every living plant in sight . . . turning thriving farmland into desolate waste, leaving hunger and misery in their wake.

But the picture is changing. The Food and Agriculture Organization, one of several specialized agencies of the United Nations, has launched a systematic drive to exterminate the locust. Working with local governments, FAO teams seek out locust breeding grounds to destroy eggs and young locusts before they have time to develop. Adult locusts on the move are cut down by planes spraying high-potency insecticides from the air. This is one of history's most exciting wars; the front is large and the fight will be long. But the battle is being won. And as we eliminate the locust we eliminate much hunger and misery . . . two of the prime causes of the hatreds that can lead to war. In striking at the locust through its Food and Agriculture Organization, the United Nations is striking a big blow for peace . . . for all of us.

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ACCOUNT EXECUTIVE, *Eastern exhibits—graphics organization, wants to represent, work with top design talent. Mathematical-scientific-technological education, interests, plus solid experience in trade and consumer advertising, merchandising, freelance design-writing. Presently: sell, analyze at top level, brainstorm with staff, create programs, proposals, presentations. Unusually rounded design interests, high standards taste. Now, $10,000. Require about $15,000. Relocation considered. Box ID-152,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

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HELEN HUTCHINS PERSONNEL AGENCY—*Specialist Professional, Sales, Administrative Personnel for Industrial, Architectural, Interior Designers; Home Furnishings Manufacturers, Distributors, Stores, Publications, etc. Helen Hutchins' long association with a leading industrial design organization insures intelligent screening. 767 Lexington Avenue, New York. TE 8-3070. By appointment.*

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EXHIBIT DESIGNER—*Experienced. Excellent pay plus bonus. Good future with one of largest exhibit manufacturers. Our people know of this ad. Box ID-149,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

INDUSTRIAL DESIGNER OR STYLIST *wanted by expanding, firmly established manufacturer located in Central Wisconsin. The man we want has had 10 or more years experience in product styling and designing. Please send complete resume with first letter. All replies will be held in confidence. Write Box ID-151,* INDUSTRIAL DESIGN, *18 East 50th Stret, New York 22.*

Miscellaneous

NEW TOY IDEAS WANTED *for educational toy manufacturer. Excellent royalty and fixed fee arrangement. Any item produced will be intensively advertised. Box ID-150,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

NEW PRODUCTS AVAILABLE—*Successful design and development team is ready to work with manufacturers who wish to diversify their present line. Free brochure describing service will be sent upon request. Clevett Engineering Laboratory, 35 Waverly Street, Framingham, Mass.*

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CONSULTANT ENGINEER—*Creative designer of consumer and industrial products; extensive experience with mechanisms, tooling and production; strong on evaluation, analysis troubleshooting and corrective redesign. Project, retainer or hourly basis only. Box ID-154,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

Index to Advertisers

A Design Executive interprets the expanding role of design in industry . . . how form, technique, and appearance have emerged as major factors in volume manufacturing and marketing.

"America's economic health depends on the movement of goods. Design has become one of the most important factors in selling merchandise. However, the designer's job carries with it a greater responsibility than simply to stimulate mass sales. The enrichment and well-being of our society depends to a large extent on the designer's being able to relate products to people's needs, likes and dislikes. Actually, in the long run both continued sales and proper cultural relationships of products to their users are inseparable."

Jay Doblin
Jay Doblin Industrial Design
Chicago, Illinois

For Your Calendar

October 1-January 15. An exhibition of prints in the New York Public Library honors the fifth anniversary of the International Graphic Arts Society.

December 2-5. The American Society of Mechanical Engineers will gather for its annual meeting, the theme of which is "The Mechanical Engineer in Nuclear Industry," at the Hotel Statler, New York City.

December 3. National Home Fashions League, Inc., sponsors a Christmas bazaar at the Barbizon-Plaza, New York.

December 4-5. "Adhesives and Sealants in Building" will be the theme of a research conference, sponsored by the Building Research Institute, to be conducted in the Shoreham Hotel, Washington, D. C.

December 6. Frederic Hicks speaks on plastics, and Arno Scheiding discusses vinyl at the weekly design seminar, "The Big Picture of Design," sponsored by the Silvermine Guild School of Art, New Canaan, Connecticut.

December 9-13. Eastern Joint Computer Conference and Exhibit will be held at the Sheraton Park Hotel, in Washington, D. C.

December 10-January 5. A Smithsonian Institution exhibit, "Midwest Designer-Craftsmen," is scheduled for the Birmingham (Alabama) Museum of Art.

December 12-13. The Building Research Advisory Board Technical Studies Advisory Committee to FHA meets at the NAS-NRC Building, Washington, D. C.

December 15. Deadline date for submitting entries in the Brooklyn Museum's home furnishings and accessories exhibition, scheduled to open March 5.

January 6-17. International Home Furnishings Market will be held in the Merchandise Mart and the American Furniture Mart, Chicago.

January 10. Victor Christ-Janer will speak on architecture in the eleventh of the weekly lecture series at Silvermine Guild School of Art, New Canaan, Connecticut.

January 10-11. The American Society for Engineering Education (Cooperative Education Division) will meet at Northeastern University, Boston, Mass.

January 18-22. The Fifty-first Canning Machinery and Supplies Association Show and convention at Convention Hall, Atlantic City, New Jersey.

January 13-17 and February 24-28. Seminars on better ways to design and fabricate welded machinery, sponsored by The Lincoln Electric Company, will be held at the Lincoln Plant, Cleveland.

January 17. David Hays lectures on theatre design at the Silvermine Guild School of Art, New Canaan, Connecticut.

January 27-29. The Sixty-Fourth Annual Meeting of the American Society of Heating and Air-Conditioning Engineers will be held at the Penn-Sheraton Hotel, Pittsburgh, Pennsylvania.

January 27-30. Plant Maintenance and Engineering Show and conference scheduled for the International Amphitheatre and the Palmer House, Chicago.

January 28-31. For the Fourteenth Annual National Technical Conference of the Society of Plastics Engineers, Inc., "Progress Through Plastics Engineering" is the theme. Sheraton-Cadillac Hotel, Detroit, is the place.

January 30-31. The theme of the 1958 college-industry conference of the American Society for Engineering Education at the University of Michigan is "New Concepts in the Education and Development of Technical Manpower."

February 11-12. The Building Research Advisory Board for FHA has scheduled a "think session" for a thorough look at the building industry in Washington, D. C.

CYANAMID

PLASTICS NEWSFRONT

EYE-LURING COLOR CAPS BEST-SELLING PACKAGES

To compete for attention on crowded toiletry counters and shelves today, many best-selling products add a cap of colorful BEETLE® Urea Molding Compound. The beauty of color—any color—is permanently molded in. Closures of BEETLE Plastic are practical, too: they resist alcohol, acetone and other solvents, resist staining, and don't have an electrostatic affinity for dust, so stay clean longer on shelves.

NEW PIPE JACKET STOPS UNDERGROUND CORROSION

Strong jackets of spirally wrapped glass cloth and LAMINAC® Polyester Resin combat corrosion in new prefabricated insulated pipe conduit for underground steam and hot-water systems. Developed by Temploc, Inc., Baldwin Park, Calif., the protective two-ply shell is much lighter, less costly and more corrosion resistant than conventional steel or tar-protected conduit. Insulation is sealed and vapor-proofed at the ends by bonding the cloth-resin shell directly to the bare pipe. Field joints of insulation, cloth and resin are easily applied at the site.

IMPROVED HOUSING FOR NEW pH METERS

To make the housings for Pocket model and ZER O MATIC* bench model pH meters (shown) unusually strong, impervious to chemicals and resistant to scratching and chipping, Beckman Instruments, Inc., molds them of CYMEL® 1077 Melamine Molding Compound. This tough, break-resistant plastic protects the delicate mechanism and also provides the attraction of color without the added production steps required in finishing metal. Color is part of the housing itself; there is no coating to wear or chip off . . . no metal to corrode. *Trademark Beckman Instruments, Inc.

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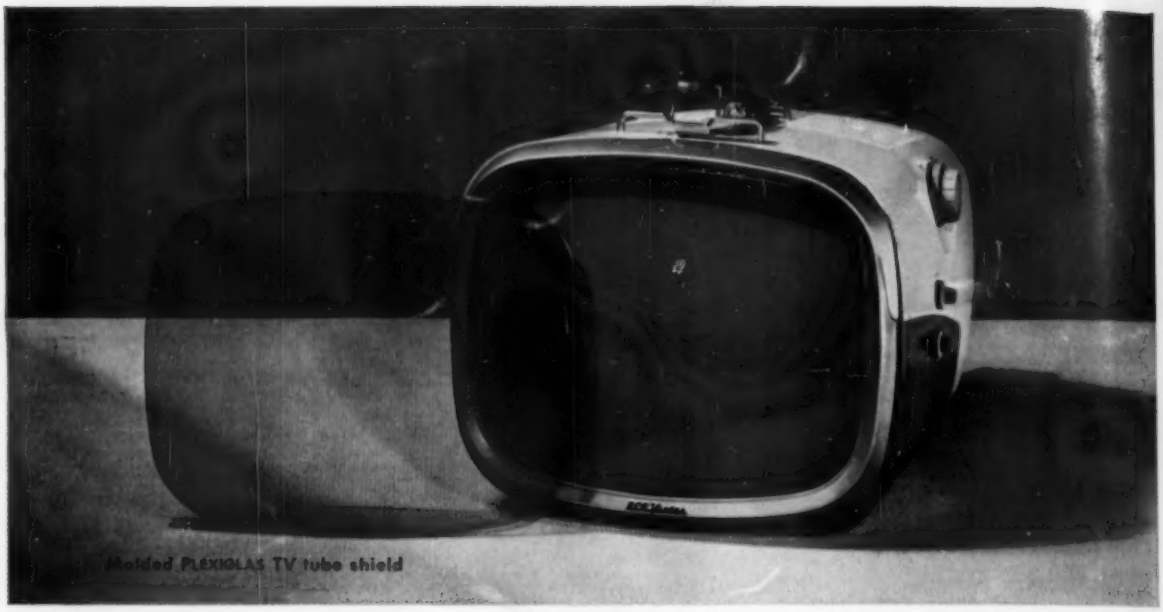

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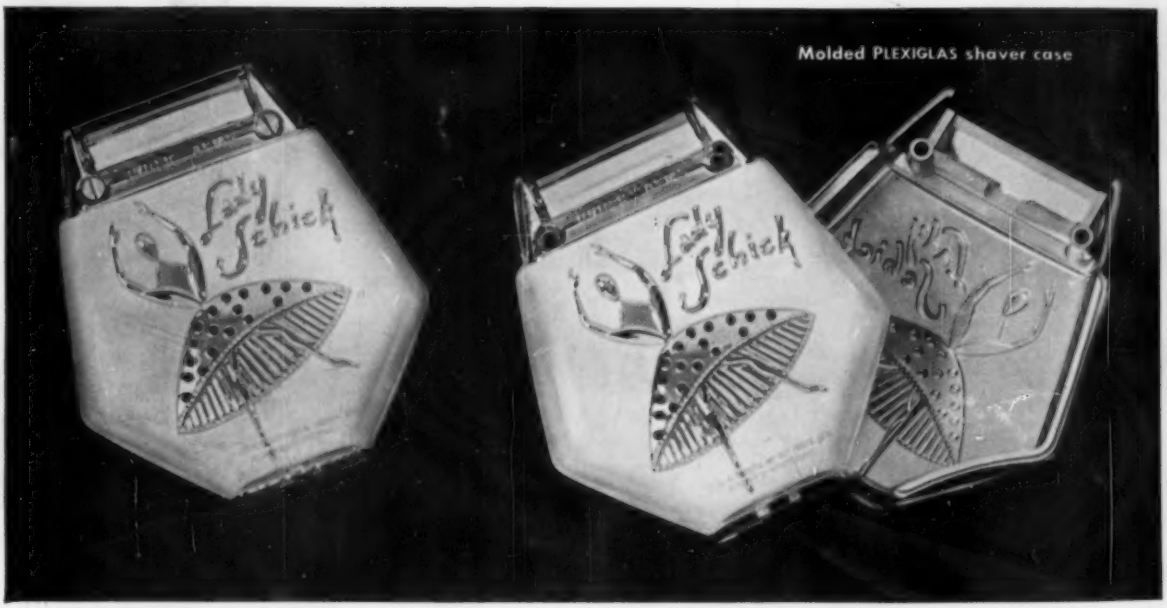

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