

## EDUCATION

# Changes in Grim, Gray Halls

Profound changes are taking place in our national museums. The museum that displayed stuffed creatures in cases now presents the living history of animals and man.

By BENITA TALL

THESE HOT, summer days thousands of persons in hundreds of cities, large and small, across the nation will enter museums to escape the heat and "sight-see."

They will enter anticipating an hour-long stroll through cool, grim, gray halls filled with cases of stuffed birds and animals, pottery whole and pottery broken, arrow heads, and, depending on the museum, walls covered with time-darkened oil paintings.

If this is what the museum visitor expects to see, he is going to be surprised. Museums "ain't what they used to be."

Instead of grim, gray halls there are bright rooms and halls with intriguing little alcoves to wander through. Instead of stuffed birds and animals there are lifelike tableaux consisting of birds, animals and plants in their natural surroundings.

The "human animal" is also shown in a realistic setting. Museums once displayed man and his things in glass cases—cases upon cases of ancient skulls, cloth fragments, belts of wampum, beads and skins. Occasionally a museum would have a small model showing tin-soldier-sized natives at work weaving, fishing or hunting. Now man and his tools are displayed together. Clothed in deerskin and "real" woven garments, the American Indian has his bow bent, the arrow shaft tipped with a "real" arrow head. The Eskimo paddles his kayak while the women on shore prepare seal skins. The Indian from the Amazon jungle stands in luxuriant tropical foliage as he aims and blows a poison dart at a bird.

In fact, the museum today is such an exciting place, the visitor may find it difficult, despite tired feet, not to wander through jungles, deserts, plains and Arctic ice for many hours looking at animals and peoples he may never meet.

This basic change in the theories of how museums can best display their wares, from glass cases to habitat groups, has been greatly helped by modern technology and materials. Even modern art and advertising have helped.

Lighting can be used to dramatize a display as never before dreamed possible by a curator. It can be diffused or pinpoint special items. Recorded music adds realism to a scene, contributing bird song or jungle sounds where they are required.

Color is being used creatively, not only to add to the beauty of a display but to help in the communication process. The maps, simple drawings, graphs and similar visual devices that now so often appear with specimens and museum material are another example of the contribution the

graphic arts make to our modern museums.

It is even pleasant to learn as well as look in museums today. This, too, represents a change in emphasis with respect to the purpose of museums, whether they are art museums or natural history museums.

One hundred years ago museums might have been described as curio shops. They were a reflection of the contemporary vogue for stuffed animals. If a wealthy man's home was incomplete without an arrangement of stuffed birds, a trophy room and a stuffed pheasant on his library mantle, so a museum served its purpose as a large display case for the curious, rare or unusual. Hunters, explorers, anthropologists and archaeologists could unload their findings at the museum. Then the public could gaze at the strange things and marvel.

Today's museums are not receptacles for curios. They welcome private collections, yet their function in the community today is much broader. Education might be the best single word to describe this function.

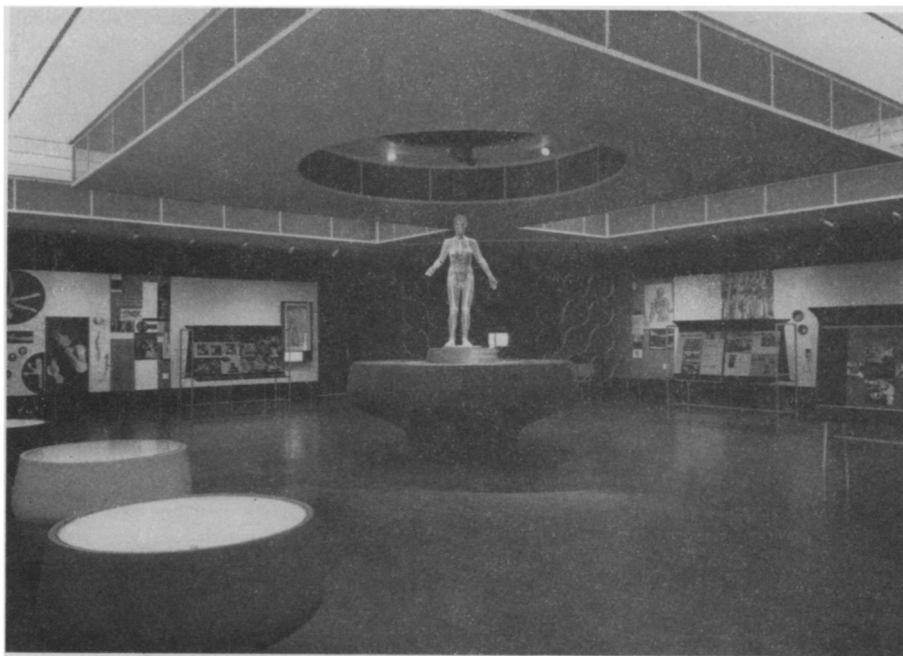
Beginning with its school program, the museum's efforts at teaching include college students, scientists, housewives, and amateurs in many fields from bird watching to telescope making. Sometimes the museum merely provides room and equip-

ment. Or a staff member may join the group. Currently many museums are adding to their teaching capabilities with the help of electronics and radio. Displays are wired for sound so that a museum visitor can look at his own speed and, when he chooses, he can "plug into" an exhibit and learn more about what he sees.

Museums even go out. Exhibits of particular interest to schools are often sent to them for brief periods of time. One Florida museum has a school program in which the classes borrow suitable exhibits on a regular schedule that fits in with the students' studies.

Basic and applied research are also carried on by many museum staff members. These scientists, experts in fields ranging from mineralogy to ecology to ornithology to "plain" biology, often conduct their own research studies supported by museum funds. Sometimes the study is directly related to a museum problem. However, just as often it concerns a basic problem such as one in bird physiology. Results of these researches have contributed to human medicine, plant breeding and psychology. Even crime detection has been helped!

The scientific crime detection laboratory in Chicago regularly obtains assistance from the Chicago Natural History Museum in identifying evidence. Museum botanists can often tell what kind of plant a bit of pollen came from. With the botanists' knowledge of the plant and its growing habits, sites where the plant is found might be sug-



**HALL OF HEALTH**—This new exhibit at the Smithsonian Institution takes the museum visitor on a tour of the human body and the problems of maintaining good health. The Hall features many of the modern devices in lighting and display being practiced by museums throughout the country.

gested, thus enabling the police to begin a search for the scene of a crime. Or, X-ray diffraction methods and X-ray spectrography may provide the essential evidence.

Another example is the cooperative project in which Dr. Herbert Friedman of the Smithsonian Institution is working with biochemists and others on the physiology of the honey guide bird. This may result in a method for breaking down the protective waxy coating of some bacteria.

Collecting new specimens continues to be an important museum activity. Museum-supported expeditions explore many of the exotic regions of the world, bringing back some of it for the stay-at-homes.

Today no one can criticize our museums as mere curio shops. They are dynamic institutions, actively seeking knowledge and better ways to communicate their findings to us on those days when we wander through their gay, bright halls.

Science News Letter, August 8, 1959

#### ENGINEERING

### Pills for Rockets May Mean More Thrust

PILLS for rocket engines could help cure a costly "disease": corrosion.

Untimely chemical reactions in both liquid and solid rocket fuels could be avoided by putting special fuel additives in capsules. Proposed additives include oxidizers, to give more power to the engine, and "dampers," to control the rate of fuelburn. Some reactive chemicals are now avoided because they will eat out the insides of rockets.

By putting them in capsules, the Southwest Research Institute, San Antonio, Texas, reported, the disease of corrosion might be overcome. To achieve this goal, SRI scientists have developed two ways to make pills. Some as small as pinheads, the capsules use magnesium, aluminum, glass and paraffin for "skins." (Gelatin is used for medical pills.)

A gravity feed apparatus is the basis for the first manufacturing technique. The film, or encapsulating material, and the filler flow into a chamber where the film material spreads across an opening. The film deforms under the weight of the filler and finally falls through the hole. Surface tension of the film shapes the capsule into the proper form.

A nozzle device makes smaller capsules. Here, the combined film and filler material is flung against the hardening bath which covers a rotating wall. Changes in the size of the nozzle opening and the speed of rotation make it possible to vary the size of the capsules.

Science News Letter, August 8, 1959

#### CHEMISTRY

### Molten Salts Suggested For Reactor Fuel

A BETTER FUEL for high temperature nuclear reactors than the uranium metal rods now in use may be uranium salts which are mixed with other molten salts.

So says Dr. Haakon Flood of Norway, an authority on molten salt chemistry, basic also in metallurgy and ceramics.

He is visiting professor of engineering at the University of California, Los Angeles, and also serving as adviser to American atomic installations on chemical problems of fueling reactors with uranium salts.

He explains that uranium metal rods have two major disadvantages. They lose their shape when exposed to radiation from the fission process. And they do not work continuously, since the rods have to be taken out of the reactor to remove impurities caused by fission products.

Reactors using molten uranium salts may overcome these disadvantages. The salts, in liquid form, do not change shape, and can be continuously purified by a cycling process, in which the liquid is pumped out, purified and returned to the reactor.

On the other hand, the use of molten salts raises some new problems, such as finding the proper material for the salt containers. Important investigations along these lines have been reported by the Oak Ridge laboratories.

During the fall semester, Dr. Flood will teach a special UCLA course in high temperature salt chemistry. In his own country, he is professor of inorganic chemistry at the Norwegian Institute of Technology, and head of the Institute of Silicate Science.

Science News Letter, August 8, 1959

#### MEDICINE

### Non-Drinking Moslems Develop Liver Cirrhosis

MOSLEM MEN and women of the Sahara desert develop cirrhosis of the liver at an early age despite the fact that these people do not use alcohol.

These persons also had more than their share of liver cancer, a team of investigators report in the University of Chicago Press's *Cancer Research* (July).

A total of 238 Negroes from French West Africa were found to have cirrhosis of the liver. Cancer of the liver was found in 104 of these individuals.

The average age of the cirrhotic group studied, the majority of whom were Moslem, was 34.6 years. Females appeared to be less prone to the disease, but this may be due to the fact that females are less likely to go to a hospital than males. Curiously enough, those patients with both cirrhosis and cancer of the liver lived longer than did those with cirrhosis alone, Dr. Paul E. Steiner of the University of Pennsylvania points out.

He reasoned that the person whose liver ceases to function will die soon, while the person with a healthier liver may live longer, during which time the liver may also develop cancer.

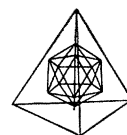
An additional 238 cases were studied for cancer of the liver. Some of these had cirrhosis. But the scientists found cirrhosis did not aid the development of cancer. Malignancies occurred as early, if not earlier, in the noncirrhotic liver, they emphasize.

The average of the victim of cancer of the liver was 36 years. They offered no reason for the development of cirrhosis in these Africans.

Drs. Robert Camain of the Institut Pasteur, Dakar, and J. Netik of the Hopital le Dantec, Dakar, French West Africa, assisted Dr. Steiner.

Science News Letter, August 8, 1959

## OPTICAL BARGAINS



### D-STIX CONSTRUCTION KITS

#### Visualize Ideas Fast!

Newest, handiest visualizing and demonstration tool for teachers—elementary, high school or college. Colored wood sticks  $\frac{1}{8}$ " thick and "easy-on" rubber joints approx.  $\frac{3}{16}$ " diam. fit together quickly to form all kinds of simple or complex shapes, structures. Ideal for teaching mathematics, chemistry, physics, design, engineering, architecture, abstract art—or for developing children's interest in form and structure. Work out geometric figures, molecular structures, structural members, configurations and perspectives, models of many types. 3-dimensional visualization adds interest—speeds understanding. Used by professional planners, designers, architects. Money-back guarantee.

Stock No. 70,209-Q (230 pcs).....\$3.00 ppd.  
Stock No. 70,210-Q (370 pcs).....\$5.00 ppd.

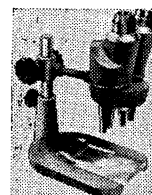
### BARGAIN-PRICED STETHOSCOPE



#### For Hobbyists, Schools

A real stethoscope at half the usual cost! Ideal for home craftsmen, hobbyists, schools, children. Listen to running machinery. Check on hard-to-hear motor noises, leakage of gas, air or fluid. Pick up heart beats of animals, insect noises, other "unhearable" sounds. Splendid for experiments, classroom use, animal husbandry. Hours of educational fun for adults, students and children. Excellent for auto repair, do-it-yourself projects. Sensitive yet sturdily made to stand hard use. Money-back guarantee.

Stock No. 50,223-Q.....\$2.95 postpaid  
Order by Stock Number. Send Check or M.O.



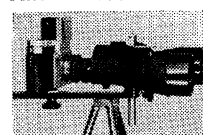
#### STEREO MICROSCOPE

Over 50% Saving. Up to 3" Working Distance—Erect Image—Wide 3 Dimensional Field. Used for inspections, counting, checking, assembling, dissecting. 2 sets of objectives on rotating turret. Standard pair of wide field 10X Kellner Eyepieces give you 23 power and 40 power. Helical rack and pinion focusing. TEN-DAY TRIAL!

Order Stock No. 85-056-Q

Full price.....\$99.50 f.o.b. Barrington, N. J.

### NEW BINOCULAR-TO-CAMERA HOLDER

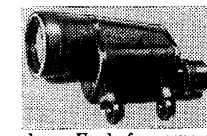


#### For Exciting Telephoto Pictures

Bring distant objects 7 times nearer with a 35 mm. camera. 7x50 binocular and our NEW BINOCULAR-TO-CAMERA HOLDER. Ideal for long-range shots of wild life, ships, planes, people, etc. Camera and binoculars attach easily. Use any binocular or monocular—any camera, still or movie. Take color or black and white. Full directions for taking telephotos.

Stock No. 70,223-Q.....\$11.50 postpaid

#### Take Telephoto Shots Thru 7x50 MONOCULAR



This is fine quality, American made instrument—war surplus! Actually  $\frac{1}{2}$  of U.S. Govt. 7x50 Binocular. Used for general observation both day and night and to take fascinating telephoto shots with your camera. Brand new, \$95 value. Due to Japanese competition we close these out at a bargain price. Directions and mounting hints included.

Stock No. 50,003-Q.....\$15.00 Postpaid



#### TWO-STAGE ROCKET TOY—

Simple, safe—demonstrates principles of jet rockets. Uses water and air as fuel. First stage soars up 200 to 300 ft., then 2nd stage is automatically released, going still higher. A 2nd stage satellite is also included and may be substituted. Made of Butyrate plastic. Set includes fuel supply tank and air injection pump.

Stock No. 70,157-Q.....\$2.98 pstpd.

### FREE CATALOG-Q

100 Pages! Over 1000 Bargains!

America's No. 1 source of supply for science experimenters, hobbyists. Complete line of Astronomical Telescope parts and assembled Telescopes. Also huge selection of lenses, prisms, war surplus optical instruments, parts and accessories. Telescopes, microscopes, satellite scopes, binoculars, infrared night vision scopes, items for making "Science Fair" projects, math learning and teaching aids. Request Catalog Q. Order by Stock No.—Send Check—Satisfaction Guaranteed.



**EDMUND SCIENTIFIC CO.**  
BARRINGTON, NEW JERSEY