



The Walk-in Heart attracts all ages.

The Museum and the Community

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The Oregon Museum of Science and Industry grew out of the need of the people in the Northwest for an institution to encourage and help create an environment favorable for the learning of science and technology by students, teachers, and the lay public. It was felt that, in order to fill the needs of all the people, the science center must not be dependent upon school district, state, or federal financing. Thus, a nonprofit corporation was formed to plan and bring into existence the nation's first center of this type.

OMSI, as it is affectionately known by school children and adults of the Northwest, was built entirely by donations from labor, industry, and private individuals. The bricks for the entire building were laid in one day in one of the biggest "barn-raising" efforts of our time. The

phrase used when securing materials and services for the building was not "How much?" but "Can we get it for free?"

There was a reason for involving the community in the building of the science center. The Museum immediately found itself with a ready-made clientele whose enthusiasm and warm interest helped the program to get off to a flying start. In fact, our program and activities have ballooned so much that a new million dollar building addition, including a planetarium, classrooms, another auditorium, and a student research center, is opening this spring. This physical plant is solid testimony to the willingness of laymen to contribute time, money, and effort toward our common goal.

You can evaluate the effectiveness of such a nonprofit institution by examining the type of program cur-

rently and successfully sponsored by OMSI:

School Visitations. Youngsters from all over the Northwest, many of them in school groups, visit OMSI and take part in the many discovery and participation type of exhibits. Exhibits such as the transparent lady, the huge walk-in heart, and the popular harmograph make real the facts youngsters read about in books.

Science Summer Camps. The Museum sponsors youth camps in the fields of geology, paleontology, marine biology, and other areas of the natural sciences. Recently added to the roster are a language camp and a mountain camp specializing in alpine ecology and vulcanology. The marine biology camp on the coast also runs a family session.

Special Interest Classes. Hun-

dreds of children each year participate in numerous classes in the sciences, mathematics, and foreign languages. These classes are designed to let the student enter actively into the doing aspect of the subject rather than play the passive role of a listener. Many adult classes are also offered each year in a variety of fields such as ham radio, geology, calligraphy, lapidary, botany, etc.

Field Trips for Students & Teachers. OMSI schedules weekly field trips investigating the natural sciences, industries, and research laboratories of the area, involving all age levels. In the summer, a ten-day bus trip for teen-agers explores many of the natural science wonders of the West. The two OMSI busses are also available for science club use and special education programs.

Visual-Aid Library. Films, exhibits, collections, and various kits are available for loan through the visual-aid department. Parochial and private schools may also take advantage of many of OMSI's offerings because of the independent non-profit nature.

Teacher Workshops & In-Service Classes. Our department of education conducts science workshops for districts throughout the Northwest. In-service classes for teachers have also proved popular. In-service weekend field trips have introduced many teachers to the natural science features of our state, encouraging them to develop outdoor education programs for their own classes.

Science Youth Congress. OMSI sponsors all of the science competition programs in the Northwest. Each year over 100,000 take some part in the various programs which make up the Science Youth Congress. Materials for conducting science fairs are sent free to the schools of the area upon request.

Two handbooks filled with science project suggestions for elementary, junior and senior high school students have been published by OMSI and are available for 50 cents each.

Northwest Teachers of Science. OMSI has sponsored for five years an organization of classroom teachers who are interested in improving classroom instruction in the area of science at elementary and junior high levels. Among other benefits, members receive monthly packets containing free materials, a science magazine, and helpful suggestions for teaching science.

Visiting Scientist Seminars. In association with the Oregon Academy of Science, OMSI hosts a monthly seminar to which each high school in the area is invited to send delegates. College professors outstanding in their various fields conduct these seminars in depth in scientific fields of current interest.

Science Materials. OMSI supplies science equipment needs for a large number of schools in the Northwest. OMSI is able to operate on a narrow margin and stocks many items not conveniently available from other sources. Problem-solving kits in many scientific fields, developed by the staff, have proved popular to schools (and to parents at Christmas time).

Curriculum Materials. OMSI has worked closely with many school districts in the implementation of new curriculums. As an example, when Portland and other school districts in Oregon became interested in moving into the new elementary science program, "Science, A process Approach", OMSI worked as consultant to the districts and helped train teachers for the new program. When it became evident that these schools could not get the material necessary to teach the courses, OMSI contracted for and assembled thousands of grade level kits.

OMSI's reputation in this line is spreading, as an increasing number of school districts around the country are contracting for special kits of materials for their science programs.

Research Laboratory. In the new addition OMSI is providing a laboratory for high school students to work on original scientific studies. This laboratory will be equipped with all the latest scientific instrumentation which has been donated by local organizations. The lab will offer students a chance to prove their abilities, serving as a manpower pool from which some of the young scientists will move into regular research laboratories at the invitation of the professional scientists who will be acting as advisors or resource people for the operation. This lab will provide the link between science education and science as a discipline in preparation for a career.

Community Catalyst. Our science center is a meeting place for scientific organizations and the sponsor of their lectures, shows, and special programs. Staff members are unendingly busy with talks and demonstrations before PTAs, school assemblies, and civic organizations. Radio and television mediums we use constantly in communicating scientific knowledge to the general public. "THE OMSI SHOW" is a TV half-hour program which runs bi-weekly throughout the year.

These are only a few of the ways that the Oregon Museum of Science and Industry is repaying the faith and efforts put forth by the community that we serve.

(A catalog of material available, as well as a description of the curriculum program of the Oregon Museum of Science and Industry, will be furnished upon request from OMSI, 4015 S. W. Canyon Road, Portland, Oregon 97221.)

Kyselka—*continued from page 4*
are committed to research and do not feel a prime responsibility for educating the public. The museum, with its department of astronomy, has taken on that function.

How does the astronomer see? With his eyes, of course, but also with the help of instruments—the finest of which is encased within his skull. He translates a jagged line drawn on graph paper by the mechanism of a radio telescope as a star exploding far out in space, another one as a pair of colliding galaxies. A star continually broadcasts what it is made up of. The astronomer translates the series of lines on photographic film into the elements of which the star is made. He deals with only pin-points of light and wrests from them the size and nature of the universe.

Where else but the museum is such knowledge available in the community. Where but the museum is their a chance to see the instruments and look through big telescopes? Now that man is making timid though quite certain steps to leave the earth and explore space around, the role of the museum in the education of the public in this science is more important than ever.

So the eyes of the child take in the museum. Dr. Haertig, a Honolulu psychiatrist, regrets this limited experience that is a person's at the museum. Thus a museum takes on some of the characteristics of a strip tease—the appetite is whetted but not satisfied. Frustration ensues. Poi-pounders should not merely be seen; they should be hefted, balanced, their texture felt. We experience through the eyes but also with the hands. The museum is for the mitts but you have to keep your hands off! Perceptions without participation, he cries, is like taxation without representation.

In this issue, then, we look into

the experiencing and learning that goes on in a museum, particularly related to science education. We concentrate on the response for it is here that the effectiveness of the museum in science education is evident. We suggest how the museum experience could be more complete for young students and, by extension, to the adult audience. We have seen that the museum has assumed the role of science education in the community that no other organization has done or can do so effectively. Our purpose is not to delineate the fields of science for education by the museum (there is a concentration in this issue in the field of astronomy, we agree) but to emphasize that the good museum is an experiencing place, a happening place, a learning place if it takes its commitment seriously.

Haertig—*continued from page 15*
hinge in the Hawaiian fish hook was necessary so that I can go back mentally and, using the same materials, solve the same problems in the same way? Or maybe in another way.

In elementary school a perceptive teacher remarked that I studied the multiplication tables as though I were going to invent them. Years later he said that this approach had worked in teaching the tables to others. Even kids do it. How much may creativity be fostered by re-creating?

Perhaps this is just an attempt to play God or Thomas Edison. I have tried that, and had my ears pinned. This feels different. There is no sense of being on a precarious pedestal, only growing awe for our ancestors. I do not feel drained with the effort of pretense, only recharged with inspiration. Somehow the world widens and deepens in retracing the creations of others. I know that creators better, and their

creations. Additional facets of myself are illuminated. It feels good. What I wish for is a museum which shows more clearly how and why the mitts of others did it.

Much is made here of experiencing, of vividness, of "living it". This is the heart, not of the education I have had, but of that portion of it which has lived through the years. I am deeply grateful for this residue. There could have been more of it from many sources—including museums. There could be more of it now.

Why not go to museums oftener, since interest is real? Too frequently it has been a partial experience, hence somewhat frustrating. The appetite is whetted, but not satisfied. It is like being teased. And the greater the interest the more the teasing approaches torment. Perhaps it can be no other way.

Maybe this is some of why most museums seem stuffy, and why visitors seem to become stuffy as they enter, only to resume their customary personalities as they leave. Except that they leave looking tired, not exhilarated. Partial experiences can be fatiguing. Completed experiences are more often energizing.

For me, a complete experience can be provided only by the interplay of all of the receptors, effectors, "cerebrators", and "emotors" which are relevant.

This account is entirely subjective. My training allows no alternative. Perhaps it is merely an airing of private idiosyncracies upon which to rest some flimsy theory. I hesitate to pride myself on being so unique—even uniquely strange.

If these wants are wholly impractical for cramped museum budgets, is it due to my acknowledged inexperience. Serious objections to a piece by an inexpert should be lodged with the editor of this issue.

He asked for it.

