

year is about six million million miles. He suggests looking now in the optical region in a program similar to Project Ozma, during which radio astronomers listened for intelligent radio signals from space.

If masers could be made to generate real power, the resulting directed beam would be almost as good as a wire that conducts light and not electricity. Power might in this way be transferred from the ground to a satellite.

Light waves can also carry communications, and scientists at Bell Telephone Laboratories have used infrared light from an optical maser to do this. In one ten-thousandth of the frequency, the optical light band width can carry as much traffic as all previously available communication links.

In medicine, optical masers promise a wide range of applications. By passing the beam through a lens, it could be made to penetrate most body tissues, coming to a focus where needed for such tasks as delicate cutting, fine stitching, sterilization, cauterization or radiation treatment.

The intense heat spot produced by focusing the coherent light from optical masers could also be used for fabricating all sorts of electronic devices. It would even be possible

to weld a joint sealed in a glass envelope.

Other uses suggested for lasers include the highly selective control of chemical reactions. This is because laser radiation of the right frequency could be made strong enough to excite vibrations in a particular kind of molecule that would then react more vigorously than the others.

Since lasers are so new, the list of possible applications must be left unfinished. However, in laboratories here and abroad, scientists are intensively investigating the properties and limitations of coherent light generated by optical masers.

Although the search for the second harmonic of coherent ruby light is purely scientific at this point, it may lead to a new and precise method of determining crystal structure. Another purely scientific development at this point is the generation of giant light pulses from a ruby laser.

As Dr. Schawlow said, "With the advent of the optical maser, man's control of light has reached an entirely new level. Indeed, one of the most exciting prospects for workers in this field is that this new order of control will open up uses for light that are as yet undreamed of."

• Science News Letter, 81:42 January 20, 1962

GENERAL SCIENCE

News From Science Clubs

► **SUCCESSFUL** science and community activities continue to be reported to Science Clubs of America by its affiliated clubs.

BI-PHY-CHEM SCIENCE CLUB of Jordan Vocational High School, Columbus, Ga., stimulates interest among its members by presenting annually a Most Valuable Science Club Member Award. They help finance their activities by selling school book covers and sponsor their district science fair.

The members of the **SCIENCE AND MATH CLUB**, Booker T. Washington Jr. High, Mobile, Ala., present assembly programs, conduct a local science fair, have specialists give demonstrations to parents and students, sponsor science field trips. They are developing special projects concerned with holidays such as Christmas, Thanksgiving and Easter.

The **POST HIGH SCHOOL SCIENCE AND MATH CLUB**, Post, Texas, finds that

their most effective club programs are on careers in science, math and engineering presented by community speakers.

The successful activities of the **SCIENCE CLUB** at Brazil Sr. High School, Brazil, Ind., include an Indiana CAA licensed rocketry range, ham radio, electronics, field trips and project work days.

The **HENRY HUDSON EXPLORERS** at Junior High School 125, Bronx, N. Y., are raising mice for their genetic studies, mathematically solving science problems and making bacterial counts of the air.

The **PATH FINDERS** of East Dover Elementary School, Dover, N. J., are busy with experiments and debates on science.

Let Science Clubs of America know what your club is doing this year. Send reports to SCA, 1719 N Street, N.W., Washington 6, D. C.

• Science News Letter, 81:43 January 20, 1962

GENERAL SCIENCE

Ford Foundation Grants

► **THE FORD** Foundation granted \$48,922,372 for the betterment of education, science and engineering in 1961, the Foundation announced.

Out of the \$155,700,000 granted by the Foundation during the fiscal year ended Sept. 30, 1961, more than \$34,000,000 was directed for education in the United States. Grants for the Midwest Program on Airborne Television Instruction reached \$6,000,000 in 1961. Illinois, Indiana, Kentucky, Michigan, Ohio and Wisconsin schools participated in the program.

Case Institute of Technology received

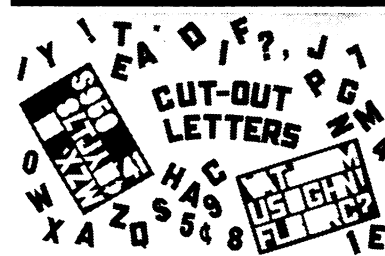
\$8,000,000 of the nearly \$15,000,000 granted for the furthering of science and engineering. Cornell University received a grant of more than \$4,000,000 to develop as a center of engineering education and research.

A five-year grant of \$240,000 was also made to the Marine Biological Laboratory, Woods Hole, Mass., to establish a program to train biologists in the classification of marine organisms.

The complete listing of grants from Ford Foundation during the 1961 fiscal year was presented in the annual report.

• Science News Letter, 81:43 January 20, 1962

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