

the naked eye some 20,000,000 miles away.

However, the light bounced from the moon and returned back to the moon is expected to be only about 30 photons, which can be counted one by one using a sensitive photomultiplier. No return has been detected as yet, but bad weather conditions have hampered completing the experiment, Dr. Franken said.

The beam upon reaching the moon is so narrow that it covers only one-sixtieth of the lunar surface, about the size of some craters. It is aimed at Aristarchus because that crater has a high reflectivity, about equal to that of white sand.

Dr. Franken said that the laser beam could easily be seen by an astronaut if sent in his direction. However, an astronaut could also easily spot the flash lamp used to prime the maser.

Neither flash would be likely to blind the astronaut, although the ruby red laser light might have a temporary effect. Dr. Franken said he doubted that lasers would be used as anti-personnel weapons, or so-called death rays, noting that there are

more efficient ways of killing persons. Use of the sun instead of flash lamps to prime a laser is under development at American Optical Company, Southbridge, Mass., George R. Simpson reported to the meeting. The aim is to develop a maser that could be operated continuously by focusing the sun's light rays from a parabolic mirror 44 inches across through glass and sapphire lenses to concentrate them to one-eighth of an inch before introducing them into the maser.

The system would eventually be used to communicate between earth satellites, or between satellites and earth or the moon and earth if weather permitted. Mr. Simpson noted that the maser theoretically has a capacity to carry a million times more information than radio waves.

However, the problem of how to code the information so that it can be carried by light waves is under only preliminary studies, and some scientists are pessimistic that this can ever be done.

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But the temple and its many treasures have been repeatedly "measured, drawn, surveyed, painted, described, photographed, copied, illustrated, published, and published again," Dr. Johnson pointed out.

"It is not possible to learn from further study of it any nugget of information not now known," he states in the New York University Alumni News.

The money being spent to rescue the temple, Dr. Johnson said, should be used for other archaeological excavations. With the interest on the money "it would be possible to finance . . . 100 new excavations, at 100 new archaeological sites, each one yielding new historical materials."

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Novas Del Mense in Interlingua will appear in next issue of SCIENCE NEWS LETTER.

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PHYSIOLOGY

A-Bomb Injuries Imitated

➤ AN OPTICAL DEVICE that gives off a very intense beam of extremely pure, ruby red light is being used to simulate in the laboratory the kinds of eye burns received when looking at A-bomb or hydrogen bomb explosions.

The flash blindness resulting from directly viewing such bomb bursts can also be caused by the intense light beam from a laser, or optical maser. One reason for studying the damage caused by the tight light beam from an optical maser is to find some way to help protect the many researchers now experimenting with lasers.

Experiments performed up to now, mostly with animals, indicate the two flash sources cause the same kind of damage. However, because the laser light is concentrated at one wavelength whereas the light from bomb bursts spreads out over the entire visible spectrum, some differences may be discovered in the future.

Two research physicists have already suffered minor eye damage when they accidentally exposed themselves to a laser beam, Dr. Milton M. Zaret of New York University Medical Center, New York, said. But when properly controlled, the intense light source has many possible healing applications in medicine, he reported to the Optical Society of America meeting in Washington, D. C.

With his co-workers, Drs. Harris Ripps, Irwin M. Siegel and Goodwin M. Breinin, he has been studying the biological effects of optical masers. The scientists have found that the biological effects, as with other forms of light radiation, are proportional to the amount of energy absorbed. When sufficient amounts are absorbed, the tissue is burned or coagulated.

Potential medical applications of this effect include burning out lesions, re-attach-

ing retinas and obliterating abnormal blood vessels in the eye to prevent damage. Xenon light from a steady arc is now used to produce photocoagulation. Laser light considerably reduces the amount of time required to produce a coagulation and considerably increases the accuracy of focusing.

When laser light is combined with fiber optics, then body cavities not easily reached now can be examined and treated. Ulcers, for instance, could be vulcanized away. The combination should also prove valuable for diagnosis of many kinds of diseases of inner organs.

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ARCHAEOLOGY

Let Abu Simbel Drown, NYU Professor Says

➤ A FAMED, ancient Egyptian temple threatened with inundation by the Nile when the Aswan dam is completed should be left alone, a university professor believes.

The 24-century-old temple of Ramses II at Abu Simbel is now the subject of a multi-million-dollar drive to preserve the temple by jacking it above the waters backed up by the high dam.

"Let the Nile have it, . . . another sacrifice on the altar of progress," Dr. Jotham Johnson, head of the Department of Classics of New York University, states. Abu Simbel has no secrets of the past left to be probed by the scholars of the future.

The temple was built by Ramses II, a king of Egypt, who, like most important people, wanted to leave a record of his claim. It was cut into the red sandstone cliff, with a great opening leading to nine engraved and painted chambers. Four huge figures, 67 feet high, guard the entrance.