

ASTRONOMY

National Observatory Site

► THE NATION'S FIRST truly national astronomical observatory will be located in southwestern United States, Dr. Aden B. Meinel of Yerkes Observatory, Williams Bay, Wis., has reported.

He told the American Astronomical Society meeting in Berkeley, Calif., that "seeing" towers to check atmospheric conditions will be erected at four sites in Arizona and one in California. Special permission has been granted by the Papago Indians to use one location, 6,800-foot high Kitt Peak in southern Arizona, which is sacred to the tribe.

The other sites are the Sierra Ancha region at 7,500 feet in central Arizona, Chelvelon Butte at 6,900 feet in northern Arizona, the Hualpai region at 7,400 feet in northwestern Arizona and Juniper Sierra in California.

Because climatic and atmospheric conditions there are most favorable, and the light and dust generated by cities at a minimum, the site search was narrowed to southwestern U. S. The "seeing" towers are triple-shelled, steel structures, 60 feet high, equipped with a telescope that continually

measures atmospheric turbulence by recording size of the image of the pole star, or Polaris.

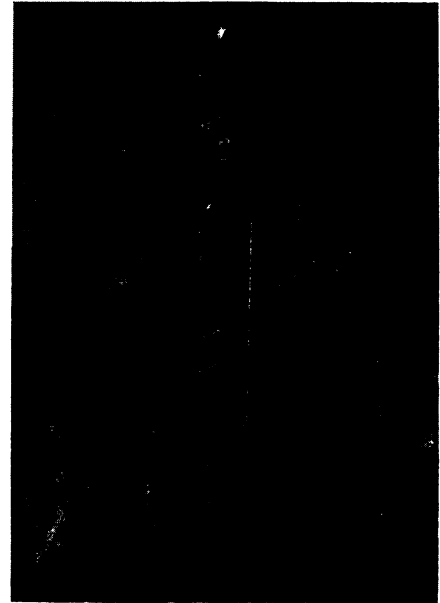
At least 18 months of automatic recordings of Polaris as well as wind and temperature information will be gathered before astronomers finally select the site where an observatory can be operated with maximum efficiency, Dr. Meinel said.

The studies leading to the establishment of a national optical observatory are sponsored by the National Science Foundation by grants to the University of Michigan. A \$545,000 grant for continuing the studies was recently announced.

A 36-inch telescope, whose lens is now nearing completion at Yerkes Observatory, and an 80-in telescope will be set up initially at the selected location.

Both instruments are being designed to use electronic techniques, now under development, which are expected to increase the light-gathering power of telescopes about ten times, making a 20-inch mirror the equivalent of the giant 200-inch Hale telescope atop Mt. Palomar in California.

Science News Letter, September 8, 1956



TOTEM POLE—Just erected at Victoria, British Columbia, is a contender for the record as the world's tallest totem pole. It is 125 feet high. Here, Mungo Martin, 75, last of the famous Pacific Coast Indian wood carvers, is delivering a dedication address. Making totem poles is a dying art the British Columbian Government is attempting to revive.

PSYCHOLOGY

Toothaches Psychosomatic

► PERSONALITY is linked with tooth decay, Dr. John H. Manhold Jr., director of the department of oral pathology, Seton Hall College of Medicine and Dentistry, Jersey City, N. J., told the American Psychological Association meeting in Chicago.

Tooth decay, dental cavities and the resulting toothache are psychosomatic ills, Dr. Manhold concluded on the basis of a study of naval cadets and naval retrainees made while he was in Pensacola, Fla.

Ratings of the men's decayed, missing or filled teeth were compared with personality scores of a new "Pensacola Z Scale."

However, the mechanism producing the toothache is not in accord with the commonly accepted conversion-from-neurosis theory of psychosomatic illness. Instead, the link with personality is through development of what a dentist would regard as "bad habits." A certain type of personality favors development of such bad dental habits.

It is the responsible, intellectual type of person who is especially vulnerable to tooth trouble, Dr. Manhold reported.

The "absent-minded-professor" type of person has trouble with his teeth just because his interests are almost exclusively intellectual and he disregards everything else in his pursuit of them.

This person forgets dental appointments or forgets to make them. He forgets to brush his teeth and to look after his health. He can not be bothered looking after his

mouth or giving anyone else an opportunity to do so. He may even forget to eat.

It is small wonder that dento-bacterial plaques form in his mouth, that cavities form, and he finally loses teeth.

This individual has what Dr. Manhold calls the "autonomous personality."

At the other end of the scale is the "heteronomous personality." This is the person who is anxious, hostile and rigid. He is dependent rather than responsible.

This type of person worries about his health. He must get his regular exercise and feels very uncomfortable if he cannot. He is very careful to have regular medical and dental check-ups and takes care immediately of any defects disclosed.

This over-careful, anxious, heteronomous person has much less tooth trouble than has the responsible, intellectual, autonomous person just because he takes good care of himself.

However, when he studied the anxious group by themselves, Dr. Manhold found that the more extremely anxious, the more rigid, the more hostile they were, the greater was their incidence of dental caries.

Thus the link between personality and tooth trouble is a two-headed one.

Science News Letter, September 8, 1956

The camel population of Asia and Africa rose from 7,800,000 before World War II to 9,700,000 in 1953-54, which is an increase of 24%.

HEMATOLOGY

Irradiated Blood Gives Radiation Immunity

► AN ACCIDENTAL DISCOVERY that might lead to a means of protection against nuclear and other radiation through blood was reported by a team of French scientists at the meeting of the International Society of Hematology in Boston.

The scientists are L. Revol, J. Cier, J. Papillon, J. J. Montbarbon and G. Faure-Marguerit.

The discovery came from a study of leukosis, a pre-leukemia condition. When blood from leukosis patients is drawn, irradiated and reinjected, there is always a noticeable effect, which is sometimes helpful and sometimes harmful.

To learn more about this, the French scientists injected dogs with the dogs' own blood after it had been irradiated. To their surprise, the scientists found that the animals prepared by a series of such irradiations were much better able to resist total body irradiation in lethal doses than animals not given the treatment.

Some of the animals survived four total body irradiations with lethal doses of radiation.

"It seems," the scientists reported, "that previous fractional irradiation of the blood immunizes the animals against later total irradiation."

Science News Letter, September 8, 1956