

Third Hand Needed for Perfect Photos

Astronomy

Any details of heavenly objects that can be seen with modern astronomical telescopes can also be photographed, but the astronomer really should have three hands to do it with. However, since no race of three-handed astronomers has yet been evolved, he can use his lips in place of the extra appendage, suggests Prof. G. W. Ritchey, American astronomer, who has been working at the Paris Observatory for several years.

In a recent report to the Royal Astronomical Society of Canada, Prof. Ritchey described his recent work, which points the way to astronomical photographs magnified thousands of diameters. He began his work at the University of Chicago's Yerkes Observatory in Wisconsin, and was later connected with the Mt. Wilson Observatory in California, where he made the great 100-inch mirror of the world's largest telescope.

The difficulty in securing satisfactory photographs of fine details on heavenly bodies, like the moon, arises from the fact that we live at the bottom of an ocean of air. Even on top

of the highest mountain, there is a large mass of atmosphere, in continual turbulence, between the telescope and the sky. Even when relatively still, there are changing currents which bend a ray of light from the heavens first one way and then the other.

In the telescope, the motions are greatly magnified. Prof. Ritchey told of his observations of the moon with the 40-inch telescope at the Yerkes Observatory. On nights that were unusually favorable, he observed tiny lunar craters with very high powers. They were very sharply defined and appeared quite still, but when he put in a ring containing cross-hairs, so that a network of fine reference lines appeared in the eyepiece also, he saw that the craters were continually moving in every direction. Without the cross-hairs, the eye unconsciously followed the motions and they appeared still.

Besides the motion, however, the fineness of the detail constantly changed.

"At the best instants," said Prof. Ritchey, "the exquisitely small details come out sharp (*Turn to next page*)

Treasures Among Rubbish

Archæology

Clay tablets bearing writing more than 5400 years old, suggesting the probability of still older tablets yet to be found beneath them, were among the fruits of exploration of a "poor" tomb at Ur, in ancient Mesopotamia. The results have been announced by the University of Pennsylvania, which is conducting its expedition jointly with Oxford University.

The clay tablets, and a quantity of seal-impressed clay jar stoppers which were found with them, are very much older than the tomb at whose bottom they were found. The excavation had led through a "death pit" of the type customarily encountered in connection with a royal or aristocratic burial of the third millennium B. C., where row on row of courtiers and servants were laid out to wait upon their lord in the after-world. But in this particular "death pit" the skeletons were much more poorly clad than is usually the case in such burials, having only a few silver ornaments in place of the gold most frequently found.

Yet this relatively poor burial chamber proved to be one of the richest finds in Ur, from an archaeologist's point of view. For all the graves had been dug into a vast rubbish pit which (*Turn to next page*)

Europe to Save Beaver

Zoology

Beaver, once almost wiped out in the United States, but now becoming re-established through wise protective measures, are now the objects of similar care in certain of the countries of Northern Europe, according to Dr. Theodor G. Ahrens, a well-known naturalist residing in Berlin.

There is a "beaver oasis" between Torgau and Magdeburg on the Elbe. Before the war there were 188 animals in it, but during hostilities it suffered from the inroads of poachers. Now, however, it is returning to normalcy, and it is estimated that there are 150 animals in the colony. In Prussia and Anhalt there is a permanent closed season on beaver. The willows around their streams are not cut, and new ones are planted for their benefit. Human beings are kept out of their preserves as far as possible.

The beaver are receiving protection in Russia also, though during the war and the early days of the revolution the animals here were badly persecuted and the morale of the survivors shaken, making them very restless and prone to migrate. It is hoped that through strict protective measures and the creation of reserves the beaver may in- (*Turn to next page*)

World's Greatest Toothache

Paleontology

Texas has long been famous for the longest horned cattle, for the greatest oil wells, for its wealth of ancient animal life preserved in its extensive Red Beds and now it comes to the front as having produced an example of the greatest toothache known to man or animal.

A. H. Dosser found near Corsicana several molars of the large imperial elephant. This extinct beast stood nearly fourteen feet high at the shoulders. Among the bones was a much twisted, deformed tooth weighing about twenty pounds, which has been interpreted as an impacted lower molar, recalling in all essentials a badly impacted lower human molar.

This mammoth tooth had a hard time trying to come through, and had itself badly twisted as the thirteen thick dental plates which form the tooth had continued to grow, trying to erupt. A few of the enamel plates had succeeded in forming a circular crown, but the eight enamel plates are placed at right angles to the remaining unerupted plates.

Pain would be due to the pressure exerted by the growing tooth trying to come through the bone and gums. If the size of the pain is comparable to the size of the tooth, then great indeed most have been the pain.

This particular elephant was the largest of any of the different kinds of elephants which lived in North America during and for some time after the great Ice Age. The imperial elephant roamed all over the wide stretch of Southern United States, from Florida to Southern California.

Science News-Letter, March 16, 1929

Record for Bird Flight

Ornithology

The longest flight record ever reported to the Biological Survey for a banded bird was that of a fledgling Arctic tern, banded at Turnevick Bay, Labrador, on July 23 of last year by Oliver L. Austin, Jr. This bird was found dead on the beach at Margate, fifteen miles southwest of Port Shepstone, Natal, South Africa, on November 14. This is a remarkable record, not only for the distance covered, but for the time element, as the bird could have been only about three months old. It suggests the possibility that the birds, which are rarely or never seen on the South Atlantic Coast of the United States, may cross the ocean to Europe, and then proceed south.

The Arctic tern is well named, for it nests as far (*Turn to next page*)