compelled to postpone my search for further trace of the bantam dinosaur I discovered in Montana last year.

"I do plan, however, to make a survey by airplane of the fossil beds in northwestern and southwestern regions during the latter part of August or in September."

*Science News Letter, August 18, 1934*

PALEONTOLOGY

## Rhino With "Schnozzle" Found In Oregon Fossil Bed

EQUIPPED with a pronounced "schnozzle," the skull of a unique species of extinct rhinoceros has been discovered by a party of scientists from the California Institute of Technology, working in the fossil-rich John Day Beds in Oregon. The specimen, which is the most complete rhinoceros skull found in this region for many years, shows by its outline that the animal had an extended proboscis, instead of the bluntly rounded nose of modern rhino species.

The skull found while Dr. Chester A. Stock, paleontologist, and Eustace L. Furlong, curator, were scouting for new beds to explore, contains a full upper set of teeth, including the front teeth that form the "schnozzle."

The lower jaw was in fragments, most of which had disappeared. The fossil was removed from Miocene geologic strata, giving the animal an age of at least 10,000,000 years.

*Science News Letter, August 18, 1934*

PSYCHOLOGY

## Sleep Preferences Not Set by "Handedness"

WHETHER you are right-handed or left-handed does not determine the side on which you prefer to go to sleep, Drs. Richard Stradling and Donald A. Laird of the Psychological Laboratory, Hamilton, N. Y., report in an article soon to appear in the *Journal of Abnormal and Social Psychology.*

A questionnaire filled out by persons listed in Who's Who revealed that the majority of both right- and left-handed persons prefer the right side for sleep, but the proportion preferring the left side is somewhat larger among the left-handed. Another investigation by the same authors indicated that sleep comes more quickly, and is more restful when attempted on the preferred side.

*Science News Letter, August 18, 1934*

ASTRONOMY

# Shooting Star Light Tells Speed of Meteors

SHOOTING stars seen a few nights ago, when the Perseid swarm of meteors intercepted the orbit of the earth, gave off brilliant light, but they were probably not much larger than an eighth of an inch across—just about twice the size of the head of a pin. Even the larger ones probably weighed only about one-fifth of an ounce. Most of the bright streaks of light visible came from about 70 miles above the surface of the earth, far higher than man can now hope to rise in the stratosphere.

Prof. C. C. Wylie of the University of Iowa tells how it is possible for scientists to sit in their observatories on the earth and predict how large and how heavy a shooting star will be, as it streaks across the sky above their heads.

The light from shooting stars, Prof. Wylie indicates, is visible evidence that the tiny specks of cosmic matter have energy due to their motion. It seems reasonable, he adds, to assume that the same fraction of this motion energy is converted into light in the case of the small shooting stars as it is for the large meteors which have survived their journey through the earth's atmosphere and reached the globe's surface, there to become known as meteorites.

Some meteorites which have fallen in different parts of the world weigh about 800 pounds. From the intensity of the light they emitted in falling (some were said to have turned night into day), Dr. Wylie estimates that their mass when high above the earth could have been as much as 10,000 pounds. The approximate velocity of these great meteors is known (probably it is fifty-five miles per second), while the mass is the five tons indicated. By estimates on the comparative light emitted by a great meteor and the tiny shooting stars astronomers calculate that the relative masses are 40,000,000 to one. Or the mass of the shooting star is 114 milligrams, just about one three-hundredth part of an ounce.

It is generally said that the light from the shooting stars is caused by their combustion as they strike the air of the earth. It is now agreed that much of the light from a shooting star is caused by the compression of the gas ahead of the meteor which makes it glow and give off radiation. Later, if the meteor is large enough to survive to reach lower levels, it becomes heated up to incandescence and then emits the thermal radiation. For the tiny shooting stars, however, this last kind of light may very well be the exception. For the great meteors surviving to reach the earth the reverse situation is probably true.

*Science News Letter, August 18, 1934*

ASTRONOMY

## Atmosphere of Venus Thick With Carbon Dioxide

VENUS, the planet perpetually enshrouded in a fog-like atmosphere, has great quantities of carbon dioxide in the air above it.

Investigation by Drs. Walter S. Adams and Theodore Dunham, Jr., of Carnegie Institution's Mt. Wilson Observatory, demonstrated the existence of carbon dioxide on Venus in 1932, but an estimate of the quantity present was virtually impossible because it was not known how much the gas absorbed light passing through it.

Dr. Arthur Adel of the University of Michigan reports in a letter to the editor of the *Physical Review* that he has succeeded in obtaining the same carbon dioxide absorption bands in the laboratory as the Mt. Wilson astronomers found in the light from Venus. Dr. Adel's measurements make it possible to form an estimate of the quantity of carbon dioxide present in the planet.

"In the upper strata alone," he says, "Venus possesses 10,000 times as much carbon dioxide as is present in the entire atmosphere of the earth."

Dr. Adel, as a physicist, does not speculate on what such a vast quantity of carbon dioxide on Venus means in terms of possible life on the vapor-obscured surface of the planet. The presence of carbon dioxide is so closely connected, however, with life of some sort, either animal or plant, that one can wonder what the surface conditions of the planet would disclose if science ever finds some way of piercing through the fogs which now shut out the view.

*Science News Letter, August 18, 1934*