

filtered "phage" on old type culture media Prof. Kendall obtained good growths of the germs they destroy. Bacteriophage therefore seems to be nothing but the invisible form of the germ it seems to delight in wiping out. Prof. Kendall could produce phage from germs by planting the germs in his new medium.

The behavior of germs in changing from visible to invisible is peculiar. They begin to lose sharpness of outline, growing fuzzy and dim under the microscope. At last nothing but tiny granules remain, which will pass through the fine filters, and grow back

into visible germs again. Other granules, too large to pass through the filter, appear none too anxious to resume full-fledged germ form, but in the new medium will do so.

This new knowledge of the changeability of germs can be found in patients in the early state of the disease, but not in the later, though the patients are sicker than ever. But certain puzzling granules have been found in the spinal fluid of such patients, and it now appears quite possible that these may be the half-transformed germs themselves.

Science News Letter, August 1, 1931

ASTRONOMY

Comet Discovery Brings Fame To Melon Patch Worker

While Following Hobby at Night, Japanese Foreman Finds New Visitor to Solar System

DISCOVERY of a comet has lifted Masani Nagata out of his daily routine as an obscure melon patch worker in Imperial Valley of California, and caused his name to become known to astronomers throughout the world. In an exclusive interview a Science Service correspondent learned the story of this latest astronomical discoverer.

When Nagata observed the comet, which has been named after him, he notified hopefully and somewhat apologetically the famous Mt. Wilson Observatory at Pasadena. Astronomers immediately turned a telescope at the location given and verified his discovery. They sent out an astronomical telegram announcing the find.

At observatories throughout the world, where Nagata was an unknown name, the question was asked: "Who is Nagata?" None could answer. Further confusion was caused by the assumption that the comet had been discovered in Japan.

It has been found that Nagata is a foreman on a melon ranch ten miles from Brawley, Calif. During the day while Nagata directs the activities of 20 field workers, he dreams of peering into the heavens through his four month old three-inch telescope. The instrument is a portable refractor which he keeps in the house when not in use. He carries it outdoors when observations are to be made. For more than nine years he used a two-inch

telescope. After working under the sun at 110 degrees, he spends the evenings with his telescope.

This 45 year old Japanese has been interested in astronomy since childhood, but not until ten years ago was he able to pursue the study of the stars. His education in astronomy has been only a correspondence school course.

The discovery of the comet came by accident. While searching for the planet Neptune, Nagata found the comet within the field of his telescope. Fear-

ASTRONOMY

Nagata Tells His Own Story

I AM PURELY an amateur astronomer. On July 15 about 8:30 p. m. Pacific Standard Time I was observing the planet Neptune with my three-inch telescope which has a thirty-diameter eyepiece of eighty millimeters and an altazimuth mounting. Near one of the stars in the constellation of Leo I found what seemed to be a nebulous hazy star. As I am very familiar with that area of the heavens I was therefore very puzzled and doubtful about what I had seen. Soon the hazy unfamiliar star faded away under the horizon.

The next evening at about 8 p. m., observing the same point, I found the

same "star" moved about one degree to the northeast. It seemed to be a comet. As I could not believe that a comet of this brilliance, magnitude seven, could have escaped the eyes of thousands of comet seekers with much more improved and more efficient instruments than mine, I inquired at Mt. Wilson Observatory if such a comet were known. They replied in the negative. Then I pointed out to them the position and . . . they answered me that two photographs they had taken showed the comet.

As I am only an amateur astronomer, I have had no special study or courses

ing that it might be an old one, he notified professional astronomers. Astronomers at large observatories will observe Nagata's comet, compute its orbit, its future path and its distance from the earth. Because Nagata has only a three-inch telescope, he can not take photographs and carry out the intricate orbit computations. While professional astronomers search the sky from high mountain peaks, M. Nagata will continue his work in a melon patch.

The comet has a tail eight times as long as the moon's diameter. A small telescope is needed at the present time to see this visitor to the solar system. The tail is difficult to see with a small telescope, but can be found on astronomical photographs.

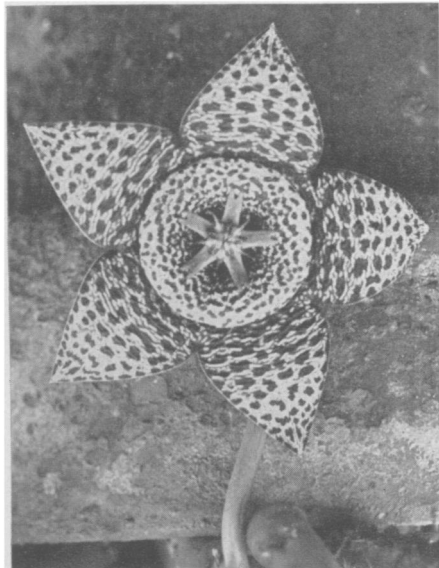
The latest position of Nagata's comet as determined at Mt. Wilson on the evening of July 19 is right ascension 10 hours 49 minutes and 22.3 seconds and declination north 9 degrees 58 minutes 12 seconds. It is between seventh and eighth magnitudes and its tail is reported as four degrees long.

There is no hope that Nagata's comet will become visible to the unaided eye.

Orbit computations made at the University of California's Students Observatory under the direction of Prof. R. T. Crawford show that the comet was nearest the sun on June 15. It was then one hundred million miles from the sun. It is now one hundred and sixty-seven million miles from the earth. It is receding from the earth and the sun.

The orbit shows that the comet will be four degrees south of the star Beta Leonis on August 3 and that it is moving eastward two degrees a day.

Science News Letter, August 1, 1931



STAR OF EVIL

In the desert, where the struggle to get growth is severe and where there are always hungry and thirsty animal mouths to cut down in a moment what took months to build, plants must needs put on a forbidding and even sinister aspect. This curse of the sun shows itself even in objects of beauty, like the flower of the *Stapelia* here shown. For all its attractive form, the flower has an almost reptilian texture and coloring, and its odor is so overpoweringly ill that it gives many persons a headache just to smell it. Photo by Cornelia Clarke.

in astronomy in school. Perhaps I inherited my interest in the stars from my father. I am head foreman for one of Sears Brothers, Inc., ranches near Brawley Calif., which grow vegetables and melons.

If this discovery does anything for the good of astronomy, nothing will please me more.

Science News Letter, August 1, 1931

ZOOLOGY

Oysters Open Up When Weather Warms

OYSTERS OPEN UP when the water over their beds grows warmer, and they shut up when it gets cooler, A. E. Hopkins of the U. S. Bureau of Fisheries has discovered. It was previously thought that oysters opened by day and closed at night because of light changes, but Mr. Nelson's experiments indicate that it is the daily changes in water temperature rather than the daily light changes that affect the behavior of the shellfish. The experiments were performed on the oyster of the Pacific coast.

Science News Letter, August 1, 1931

ETHNOLOGY

Vile Indian Brew Believed Linked With Schmerler Murder

The body of Henrietta Schmerler, 23-year-old student of anthropology, was found July 24 in a ravine on the White River Apache Indian reservation. The fact that Miss Schmerler was working among Apache Indians to obtain material for a post-graduate thesis attracted nation-wide attention to the "hazards" of studying Indians at firsthand. Scientists point out that it is not unusual for women to do research among Indians and that the solution of the Apache mystery is to be sought in

special circumstances surrounding the case. "As a rule investigators are safer among Indians than in American cities," declared one anthropologist consulted. Science Service asked Arthur Woodward, who cooperated with Miss Schmerler in her work at the reservation, for information regarding her efforts to study the Apaches. Mr. Woodward has just returned to Los Angeles from an expedition into the part of Arizona where the Apache reservation is located.

By ARTHUR WOODWARD

Curator of History,
Los Angeles Museum

ACCORDING to statements made by Miss Henrietta Schmerler, 23-year-old student of Columbia University, a few days before her death on the Fort Apache Reservation, Ariz., where she was attempting to gather data on the little known ceremonial and tribal home life of the Apache Indians, her efforts were being balked on nearly every turn by the reluctance of the Indians to give this information.

Miss Schmerler also stated that she had left New York on three weeks notice and without having had time to inform herself sufficiently on the nature of the people among whom she was to work. It is believed by some of her white acquaintances who endeavored to aid Miss Schmerler in her work that this unpreparedness and her well meaning but unversed attempts at working among primitive peoples may have been one of the factors that indirectly led to her death.

At a devil dance held at the White River Agency on July 4 Miss Schmerler experienced considerable difficulties in obtaining desired information and photographs. Ben Wetherill, archaeologist of the Van Bergen-Los Angeles Museum expedition working on an archaeological survey in that region, proffered his aid to the young student, obtaining for her photographs of devil dancers which she desired and was unable to obtain herself. At that time she intimated her despair of being able to work into the graces of the people, but she appeared determined in her efforts to carry on her work which was

being done preparatory to the granting of her degree of Ph. D.

Judging from the latest press reports from White River, she was criminally attacked before she was murdered. This brings a new element into the case, that of a vicious sort of a home brew which it is alleged is manufactured in large quantities by some of the Indians. Into the crudely distilled alcoholic drink is placed a decoction made of the roots of the Nimson-weed, a particularly vile narcotic. This drink is said to incite partakers to a frenzy.

It is also alleged that these drinking orgies in the Apache camps take place on Saturday evenings and on Sundays. For that reason curiosity seekers are advised against making tours of the camps along White River at such times. It may be that Miss Schmerler in her ignorance of these drinking bouts attempted to go from her cabin to one of the camps Saturday night or Sunday morning and was either followed or waylaid, assaulted and murdered by some drunken Indian.

It is related that her body was discovered in a ravine near the old Fort Apache military cemetery which is situated on a small hill not far from a group of tepee shaped houses of one portion of the Apache camp which extends for several miles along the river. In this cemetery rest the remains of many United States troopers killed in the Apache wars half a century ago. Rock breastworks along the mountain trails still tell of the Apache ambushes while rusty rifles and mouldering bones found in the rocks speak of unknown troopers who failed to report for duty.

Science News Letter, August 1, 1931