beings. It has learned, somehow, a most fantastic and complicated method of making mosquitoes carry its eggs for it.

When a female of this species has eggs ready to deposit, she haunts a spot where mosquitoes are emerging from pupation. When a mosquito comes out, still soft-winged and unable to fly well, she grabs it and retires to a secluded and quiet nook. There, holding the victim carefully, she proceeds to lay from ten to fifty eggs, sticking them to the body and upper legs of the mosquito. Then she lets it go.

Later, the mosquito alights upon a human or simian victim, seeking its normal meal of blood. Immediately the larvae within the eggs burst forth and make haste to the victim's warm skin, which they presently penetrate, to begin the parasitic stage of their life cycle.

The same species of botfly, Dr. Curran states, also finds homes for its young in the bodies of cattle, but the indirect method of egg deposition is different in this case. The flies merely lay their eggs on the underside of leaves in the high bushes, and from these positions of vantage the larvae find their way to the backs and sides of cattle that brush through.

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STUDYING DUST

The Navy Department is now getting ready to study the dust problem, cause of industrial diseases, on a larger scale. Assistant safety engineer Morris H. Mills is taking a dust photograph with this piece of apparatus which is designed to take samples of the dust content of the air and then to make a permanent record of the sample by photographing it on 35 mm. film. These film records can be studied and compared by enlarged projection on the Argus film viewer shown at the right.

ASTRONOMY

Star Emits Puffs of Smoke Causing Light to Vary

A STAR that periodically half-hides itself behind a puff of smoke, like an automobile with a dirty, soot-choked muffler, was described by John A. O'Keefe of Yerkes Observatory to the American Association for the Advancement of Science. This star, an inconspicuous member of the constellation Northern Crown, is a variable, that is, it undergoes periodic fluctuations in brightness.

Five years ago another astronomer, E. Loreta, suggested that the star produced its own dimmings by puffing out clouds of obscuring matter. Mr. O'Keefe's studies have now indicated that these clouds are probably composed of carbon dust—in effect, smoke.

The star apparently expels the carbon in the state of a vapor or gas, which speeds out to a distance of about four times the star's diameter and then condenses into solid particles.

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Unlike grasshoppers, Mormon crickets cannot fly in advancing on farm crops.

PUBLIC HEALTH

North Dakota Health Program To Resume in Improved Form

Fixed Trial Period, Not Failure, Cause of Plan's Abandonment; Dues to be $33 Yearly

THE FARM SECURITY Administration's health program in North Dakota, far from being abandoned as a failure, as a recent news report indicated, is to continue under an improved plan shortly after July 30.

Dues will be set at $33 per year, a slight increase over the $2 per month of the last plan.

"There is no justification for saying the plan has failed," Jesse B. Yaukey stated. Mr. Yaukey, statistician borrowed from the U. S. Public Health Service, is second in command of this division of the FSA under the chief medical officer, Dr. R. C. Williams, of the U. S. Public Health Service.

The lapse in operation of the health program for FSA clients in North Dakota is similar to the lapse which occurred in 1937, Mr. Yaukey explained. It is due to the fact that the FSA and medical groups in North Dakota have deliberately limited each of the plans so far tried to a definite period for trial purposes, with the idea each time of starting operations again under new plans improved from the experience gained with previous ones. The last plan was set up to run for eight months ending June 30.

Dr. Williams and Mr. Yaukey will meet on July 30 with the medical group in North Dakota to put the final touches to the plans already made for the new program of health service. As soon as possible after that date, the new program, worked out at a meeting in May, will go into operation.

The new program, it is planned, will

operate for two or three years, instead of the shorter periods to which previous programs have been intentionally limited. Members may join at the beginning of each quarter-year. Under previous plans members were accepted only at the beginning of the program and for the entire length of its operation.

Dues will be increased slightly. They will be set at $33 per year, it is now planned. Under the last plan, the dues were $2 per month for each of the eight months of the plan.

Efforts will be made to bring the health program closer to the members, by community organization if necessary, in order to arouse in the members a feeling of responsibility for the plan which they have not heretofore shown.

Medical groups in North Dakota are eager to have the new program started and on a long-time basis. They point out that the present custom of operating the program for a limited time, stopping and starting it, is enough to make a program fail.

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GEOLOGY

Artificial Earthquake Reflections Show Oil

NEW prospecting methods may soon be needed in the great oil fields of the Texas-Louisiana Gulf Coast area. Like fishermen combing the sea for fish harder and harder to find, the oil prospectors have gone to increasingly finer "nets" to trap their sought-for oil deposits.

In the good old days exploratory wells were drilled, in geologically-typical formation, and often struck oil. Then came the core drilling methods which brought up to the surface samples of underground rock for examination and analysis.

Next, at least in the Gulf Coast region, reports E. DeGolyer to the American Petroleum Institute, came refraction seismology, which used dynamite blasts to set up sound waves in the earth's crust, and then studied their speeds of arrival several miles away.

In the salt dome oil region refraction seismology worked splendidly, for the waves travelled through salt at a speed of some 15,000 to 16,000 feet a second. In neighboring clays and rocks the speed was less than half that much. If the sound waves through the earth from the man-made earthquakes arrived at the receiving station much quicker than normal there was good chance that a hidden salt dome was in between. And in that region this usually meant oil.

Refraction seismology proved extremely successful in the seven short years it took to explore the Gulf Coast. For a cost of from $20,000,000 to $30,000,000 some 60 salt domes were located, or as many as previously had been known to exist in the region. The ability of this method, however, now seems to be exhausted, states Mr. DeGolyer.

The newest method is reflection seismology and oil prospectors are recombing the Gulf Coast with good success. What will come after this method no longer is practical, is unknown but it may be a form of soil gas analysis.

Despite the increasing difficulties of finding oil, the improvement of methods has actually lowered the "prospecting cost" hidden in each barrel of oil that goes to the consumer. In the early 1920's this ran as high as 25 cents a barrel. Today it is only 10 to 12 cents a barrel.

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ARCHAEOLOGY

Ten Years to Restore Mammoth Stone Circle

FOR CENTURIES, says a British archaeologist bluntly, the stone circle of Avebury has been "the outstanding archaeological disgrace of Britain."

But now, a ten-year campaign is underway to clean up Avebury and set the pattern of stones in place as nearly as possible the way prehistoric Britains left them.

Avebury rates special care, for it has been called the most impressive megalithic monument in the world. Far bigger than Stonehenge, the circle of ancient ceremonies encloses an area 1,130 feet in diameter.

Around the western rim, now, more than half the original stones stand erect. But back of that simple statement is a struggle of archaeologists to cope with three-foot heaps of broken bottles, tins and rusty pig wire; not to mention jungle growth, and derelict cottages, now at last removed.

Progress thus far is reported by Alexander Keiller of the Morven Institute of Archaeological Research, in the British journal *Antiquity*.

Mr. Keiller concludes that at first, in the early Bronze Age, three small circles of stones were ranged in a row at Avebury. Then, later in the Bronze Age, builders had a far grander idea and formed a huge circle. They ignored the earlier plan, if indeed they knew of it. This second Avebury is a ditch forming the mammoth circle, a bank outside that, and a single line of big stones inside it.

Some of these stones have been completely buried. Unearthing one, the archaeologists found a skeleton of a medieval workman, killed suddenly by accident while burying the stone. It happened in the fourteenth century, judging by two silver pennies of Edward I, minted at Canterbury in 1307, which had been in a pouch. The unfortunate man was a barber, for with him were his pointed scissors.

Avebury is now attracting thousands of visitors, and a museum has been opened to hold the accumulating evidence of its long story.

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ARCHAEOLOGY

Nestor's Palace of "Odyssey" Fame Unearthed

EXCITED over discovering ruins of Nestor's Palace, famed in Homer's "Odyssey," archaeologists are eagerly examining more than 600 Greek documents from the ruins, written in a baffling script.

The palace, identified almost certainly as the place where wise Prince Nestor entertained and advised young Telemachus in Homer's tale, has been found by the Ionian Sea on the promontory of Pylos.

Prof. Carl Blegen of the University of Cincinnati, noted for his discoveries at Troy, and Dr. K. Kourouniotis, director of the National Museum at Athens, are in charge of the excavations. The palace is revealed as a large residence, strongly built of stone with columns and fresco decorations.

Palace archives, stored in a small room, survived the fire that wrecked the ancient palace. Written on clay, they are in the mysterious kind of writing that was used by the brilliant civilizations of the Island of Crete. They prove that Greeks of the thirteenth century B. C. borrowed this script from Crete. Scholars can decipher only a few signs, but they recognize many of the archives as lists of men and goods, probably tax records.

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