

radio reception and sunspots, Dr. Stetson has found that radio signals are much more strongly received when the moon is below the horizon. Furthermore, this effect is modified at different times of the month, depending upon whether the moon is more nearly over the northern or the southern hemisphere.

"The curves of radio reception which we have obtained," he says, "are very suggestive of a tidal effect in an ionized atmosphere far above the stratosphere. If this should be substantiated by further measurements now in progress, we shall have the problem of electronic tides in

the ionosphere, rising and falling in response to the moon's motion, like ocean tides."

Just how the moon produces these tides is difficult to say, Dr. Stetson admits. "But were we to speculate that the moon is an electrically charged body with a different potential from that of the earth, or that it were capable of emitting some mysterious radiation similar to gamma rays, we might have a hypothesis for finding the source of the moon's effect in producing these mysterious ionic tides."

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MEDICINE

## C.C.C. Workers Prove Value Of New Pneumonia Vaccine

### Thousands of Young Men Completely Free of Disease As Result of Preventive Vaccination This Winter

**T**HOUSANDS of young men at C.C.C. camps who have been completely free of pneumonia this winter are the living proof of the success of a new pneumonia vaccine discussed with Johns Hopkins Medical School physicians by Dr. Lloyd D. Felton of Harvard Medical School.

After proving its safety by trying it on himself nearly two years ago, Dr. Felton has given the vaccine to some three thousand men. None of these developed pneumonia. In a control group of fourteen thousand who did not receive the vaccine, about forty cases of pneumonia developed.

#### Chemical Treatment

The vaccine is made by chemical treatment of the pneumonia germ, *Pneumococcus*. A remarkable feature of the new vaccine, fellow scientists point out, is that it protects against any of the four types of pneumonia germs which may cause the disease. Serums developed for treating pneumonia are only successful against specific types of the germ and before they can be used, the physician must make a test to find which type of germ has caused the disease in his patient.

Dr. Felton has devoted himself for years to the problem of pneumonia and developed one of the serums used in treatment. He says that the vaccine for preventing the disease will not be ready

for public use until many more tests have been made, but he is very encouraged over the results so far obtained.

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TOMBS IN "WORLD'S OLDEST CITY"

*Older by several centuries than the famous royal burials of Ur of the Chaldees, these unripped tombs have been unearthed at Tepe Gawra, by Charles Bache (inset). The tombs show that early funerals in Mesopotamia, 3750 B.C., called for wooden coffins and the placing of valuable possessions with the dead. Thousands of beads, and beautiful ornaments of gold and electrum—a natural alloy of gold and silver—were among the objects found.*

ARCHAEOLOGY

## City 5,700 Years Old Under "Oldest City"

**T**EPE GAWRA in Mesopotamia, already famous as the oldest known city in the world, has had more centuries added to its hoary pre-history by new discoveries reported to the University Museum by the joint expedition of the American School of Oriental Research and the Museum. The expedition has just added to this already ten-layered archaeological "cake" an eleventh layer representing the oldest settlement thus far explored at this now classic site. Its estimated date is about 3750 B.C., according to Charles Bache, field director.

#### Ten Earlier Cities

But even this eleventh Tepe Gawra is not the end. Exploratory trenchings already made indicate the existence of at least ten still earlier cities on that site, dating back beyond 4000 B.C., and eventually in all likelihood to a thousand years earlier still.

For all its antiquity, the newly-explored eleventh Tepe Gawra had a complete civilization. Discoveries there include carefully arranged graves, indicat-