

was said to be made in Germany from the body of some mysterious animal from the East. It cost nearly \$400 a bottle. To be effective its use had to be prolonged over a course of two years.

The method of using the preparation involved another very primitive magical idea. Just as the savage believes that anything which has been in contact with the human body may be effective in working magic for or against that person, so these sisters were told that they were to wear a piece of cloth next their bodies for 24 hours. This was then to be burnt in the flame of a lamp by the fortune-teller and each would see her future husband in the smoke. This vision of the future husband on certain occasions such as St. John's Eve (June 23) or New Year's Eve is a common belief in peasant folklore everywhere; but in this case the smoke evidently takes the place of the crystal ball more commonly used by the fortune-teller, or the pool of ink in the palm of the Arab boy employed in Egypt, or of a pure youth as in Persia, where future events are to be foretold.

In addition, the "zep" was to serve the purpose of a binding charm, for it was to hold the lover. But as time went on and nothing happened, it became evident that it would not be efficacious unless used in a more materialistic fashion. One of the sisters was told that she must induce a man to come to the room and the fortune-teller would then sprinkle "zep" over him, so that he could never get away.

*Science News Letter, August 6, 1932*

#### PALEOBOTANY

### Gall Swellings Found On Fossil Oak Leaf

GALL-FLIES flew in the Miocene, back in the times when wild camels and three-toed horses scampered in the country that is now Oregon. This is indicated by an interesting fossil oak leaf that has been studied by Arnold D. Hoffman of the University of Chicago.

Split out from between layers of shale, the leaf impression shows 25 flattened-down swellings closely resembling the hypertrophied growths caused on leaves and stems of present-day plants by the little wasps called gall-flies, that lay their eggs in plant tissues to give their young an abundant food supply.

*Science News Letter, August 6, 1932*

#### CHEMISTRY

## Real "Artificial Silk" Is Promising Possibility

### Silkworm's Cocoon Would Be Chemically Made Over To Produce Fiber Closely Resembling That of Nature

WHEN SCIENTISTS learned how to make a silk-like thread from the cellulose of cotton or wood, they dethroned the silkworm as the premier producer of material for stockings, dresses, and other intimate and public apparel for both sexes. Rayon or "artificial silk" is one of the new materials that the industrial revolution has made available generally since the World War.

Science now promises to invade the domain of the silkworm again. The production of real "artificial silk" is promised. The term real artificial silk may sound like a bull, but the new process justifies it.

The real artificial silk is a regenerated silk. The silkworm is a necessary actor in its making. Unlike rayon, which is not silk at all, the new fiber is real silk. It is artificial, however, because it is formed into fiber in much the same way as rayon.

In making regenerated silk, the silkworm's cocoon is converted into a sericin-fibroin solution of liquid consistency just about that which occurs

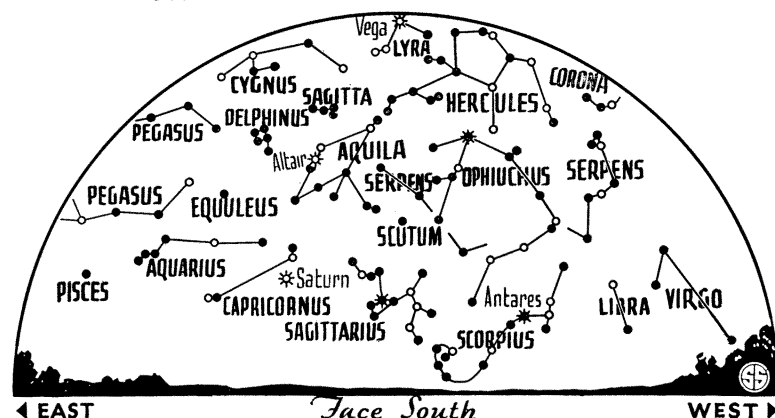
within the body of the silkworm before it spins its silk filament. It is a solution of real silk. From this point on, the process uses the experience of rayon manufacture. The silkworm solution is made into yarn as though it were cellulose solution destined to be rayon. It is squirted out of very fine holes into filaments that are twisted by a spinning machine into yarn.

#### Protein Rayon

The *American Silk Journal* believes that this real artificial silk will soon become an accomplished industrial fact. Perhaps it will be called a protein rayon instead of a cellulose rayon since the silk solution is a protein manufactured by the silkworm. It is said that the new product will approach real silk much more closely in its physical and chemical properties than any of the existing synthetic fibers.

The regeneration process has been perfected by the Japanese but the story is that the Japanese government will not permit its commercial utilization because it would seriously affect the estab-

#### ☼ \* ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS



#### THREE BRILLIANT STARS AND A PLANET

These are attractions of the southern skies during August. The three stars are of the first magnitude—Vega, Altair and Antares—and the planet is Saturn, the heavenly object girded by peculiar rings. The other two first magnitude stars visible are Arcturus and Deneb in the northern skies.