

employ bromide-of-silver gelatine emulsion prepared according to any well-known formula . . .

My improved process consists in coating the plates from the lower side by means of suitable apparatus hereinafter described. The apparatus may be varied in construction, but in any case the operation remains the same, the plate being drawn over a device which covers its surface with a uniform supply of the emulsion, and being then immediately reversed and placed upon a level support to set . . .

It is unnecessary to remark that the

operation of coating the plates must be performed in a sufficiently non-actinic light. In preparing very sensitive plates, which require a very subdued light, the advantages of my improved apparatus will be most appreciated, as the operation of coating the plates as herein described can be performed with rapidity and certainty in almost entire darkness . . .

Emulsions made with any other colloid soluble in water may be used in place of gelatine in my improved apparatus for coating plates . . .

*Science News Letter, March 26, 1932*

CALENDAR REFORM

## League of Nations Acting To Abolish March Easters

**M**ARCH EASTERS may soon be things of the past.

The State Department, with the aid of other interested offices of the government and individuals, is framing a reply to a circular letter from the Council of the League of Nations dealing with the stabilization of the date for Easter.

This reply, which is to be made before May 1, will not commit the United States to any action, but will merely indicate whether or not the government approves the "Easter act" which declares that "the common good calls for the stabilization of movable feasts." The letter has gone to all governments, whether members of the League or not, which have not already endorsed the act.

### Varies 35 Days

Under the present method for fixing the date of Easter, this feast may occur any time during a 35-day period from March 22 to April 26. This year the Sunday following the "first full moon after the vernal equinox" comes on March 27. Next year it will not arrive until April 17—three weeks later.

The proposed plan is to fix the date of Easter as the Sunday coming within the seven-day period from April 9 to April 15. This arrangement would make Easter fall on April 9 in the event that the fixed calendar of thirteen 28-day months were adopted.

It is thought that religious bodies will, in general, have no objection to the plan, because, in addition to the advantage of providing for Easter and the various church days dependent upon Easter to come regularly at the same time

each year, the new plan will bring the celebration of this great holy day nearer to the anniversary of the first Easter.

April 9 is the date generally accepted by church historians as the date of the resurrection of Christ, and this date has recently been verified by exhaustive researches by a German scientist, Prof. D. Oswald Gerhardt.

Two statements in the Bible gave Prof. Gerhardt clues to the date of the original Easter. One is in the Gospel according to St. Luke to the effect that the baptism of Jesus occurred in the "fifteenth year of the reign of Tiberius Caesar." The other is in the Gospel according to St. John which places the visit of Jesus to the temple as being made when the temple was 46 years from its foundation.

These two statements indicate that the year of the resurrection came somewhere between 29 and 33 A. D. Gospel accounts also state that the crucifixion took place on the eve of the Sabbath of the Passover, on the fifteenth day of the month Nisan. The remaining problem for Prof. Gerhardt was then to determine by astronomical calculations just when this day fell on a Friday. He determined the date as April 7 in the year 30 A. D. Thus the first Easter was on April 9 of that year.

There has been so little opposition in this country to the stabilization of Easter that it is generally expected that the State Department will make a favorable reply. Of course, the matter of making the change is one for the Christian churches to take action on.

*Science News Letter, March 26, 1932*

ANTHROPOLOGY

## Woman's Face More "Toothy" Than Man's

**A** WOMAN'S face is more "toothy" than a man's. This discovery was reported before the American Association of Physical Anthropologists by Dr. Milo Hellman of the American Museum of Natural History. Dr. Hellman termed his discovery "a curious fact."

In all the races that he has studied, Dr. Hellman said, the faces of females give relatively more space to teeth.

The role played by the teeth as a portion of the face has not been sufficiently recognized, the speaker declared.

As the face of a child grows, a good deal of the increase in size is really due to acquisition of teeth. At birth, the height of the face includes no teeth. At about three years, the two jaws which were in contact at birth, have been separated by a set of teeth taking up 5.5 per cent. of the height of the face. At about twenty years, when the permanent teeth are all present, teeth occupy about eight per cent. of the entire height of the face.

Teeth also influence the dimensions of the face from front to back, Dr. Hellman pointed out. As the child grows and his teeth increase in number, the jaws and face continue to project more forward.

Racial as well as sex differences were described by Dr. Hellman, who compared the faces of East African Negroes, European whites, and Buriats from Central Mongolia. In the Negro faces, teeth take up relatively more space than in the faces of the whites, he has found. The Asiatics measured had higher faces than the whites, but the relative height of their teeth was much less, showing that the height of their faces was due to larger bones than were found in the whites.

*Science News Letter, March 26, 1932*

ENTOMOLOGY

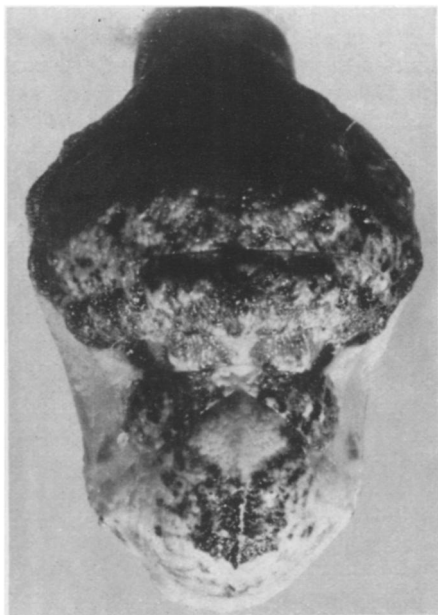
## Fierce Caterpillar Monkey-Faced in Sleep

**T**HE HABITS of a ferocious caterpillar that lives as a little beast of prey, and marks its back with the face of a monkey twisted into a mocking grin when it becomes a chrysalis for its winter sleep, have been studied by Austin H. Clark of the U. S. National Museum.

The species is known scientifically as *Feniseca tarquinius*. The caterpillars certainly are fierce little creatures, feeding exclusively on the flesh of insects, in-

PSYCHOLOGY

## Chinese Children Take Tests In New Peiping Laboratory



### DEATH IS AN APE

*The back of the chrysalis of Feniseca tarquinius, a ferocious caterpillar that lives on the flesh of plant lice instead of the customary diet of green leaves.*

stead of the common caterpillar diet of green leaves.

Their prey consists entirely of woolly aphids, sometimes called "plant lice," that live on the leaves and green twigs of alders and other trees in moist places. These aphids, like many of their kind, are "cows" to various races of vicious ants, which guard them jealously. The ants would make short work of the caterpillars, but the latter protect themselves in concealed tunnels of thin silk, and attack the aphids from underneath.

When a *Feniseca* caterpillar is ready to fall into the transformation sleep from which it will emerge as a butterfly, it becomes a chrysalis with dark markings on its back, which require no imagination at all to be interpreted as the face of a monkey, with beady black eyes and a smirking grin on its mouth.

The butterfly of *Feniseca* is a rather small, inconspicuous insect, dark-colored with lighter markings on its wings. Like its caterpillar stage, it is always to be found in the neighborhood of trees afflicted with aphids. But it does not devour them alive now. Instead, it joins the caretaking ants in feeding on the sweet exudation, called honeydew, which such sap-sucking insects secrete from their bodies. A raider in its youth, it is content to be a mere milk thief in its maturity.

*Science News Letter, March 26, 1932*

A CHILD STUDY laboratory, where Chinese youngsters have their "IQ's taken" by the most approved American methods, has been opened at the Catholic University of Peking by a young American psychologist, Dom Gregory Schramm. In the laboratory and its surrounding grounds are the things American children like to play with and on: swings, slides, sandpile, climbing bars, and so on. The tests are given in small special rooms, and take the form of "games" between the tester and his small charges.

So popular are these test "games," writes Dr. Schramm, that whenever anyone appears on the grounds with a stopwatch in his hand he is greeted with a clamor of "Nin yao wo!"—"Please want me!"

"The first difficulty with the children was a feeding problem," Dr. Schramm continues. "A supply of a favorite American powdered milk was gotten with which to refresh the youngsters before sending them home. After the prepared milk was served up, a silence ensued, and then a chorus cried, 'Pu hao he'—'Not good to drink.' Added chocolate flavor only changed the cry to 'Che shih yao'—'This is medicine!' Added sugar blocks did not change the refrain."

The difficulty was, that Chinese children are not used to milk. In crowded China, dairying is too expensive, and the Chinese are not milk-drinkers. Instead, they make a sort of synthetic milk out of soy beans and water, which is a by-product in soy bean curd manufacture. This "milk" serves as a very fair substitute for the real article, and is very cheap.

"Calling the roll is like introducing a story hour dramatis personae," Dr. Schramm writes. "There are on the scenes, among others, Little Butterfly, Big Rain, Like the Spring, Jewel Bright, Like a Hero, Black Girl, Beautiful Leaf, Fragrant Sea, Handy Man, Snow Ball, Big Ox-Eyes, Taste of Tulips, Jewelled Blossom, Pretty Maid, Beautiful Bird."

Aside from solving individual problems, of which the little Chinese child has his share just as has his occidental cousin, the laboratory staff are giving

the same psychological tests at regular intervals to the same children in an effort to find out how the mental development of these youngsters compares with the growth of American children.

Dr. Schramm, director of this pioneer child study laboratory in Peiping, is himself a product of three American psychology laboratories, those of the Catholic University of America, Columbia University and the Johns Hopkins University.

*Science News Letter, March 26, 1932*

## Easter Lily Unfolds Tale To X-Ray's Piercing Eye

See Front Cover

ORDINARILY it is necessary to pull a flower to pieces to find what it is doing at any given moment in its development—and that, naturally, precludes one from following its development any further. One must turn to other flowers, at other stages of their unfolding, and ruin them in their turn.

But the X-ray technique evolved by Mrs. Hazel Englebrecht, of Des Moines, offers the possibility of studying the whole drama of a developing flower or other plant organ, and yet leaving it inviolate, its robe unturned. The cover picture of this issue of the SCIENCE NEWS LETTER shows the beautiful results of the method as applied to the simple structure of the Easter lily; but it is applicable as well to more complex flowers such as snapdragon or beardtongue.

*Science News Letter, March 26, 1932*

## NEW DISCOVERIES IN OLD PERSIA

will be the subject of the Science Service weekly radio address over the Columbia Broadcasting System to be given by

### C. Ross Smith

associated with the University Museum of the University of Pennsylvania.

FRIDAY, APRIL 1  
at 3:45 p. m., Eastern Standard Time