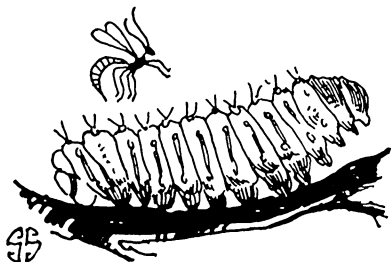


## NATURE RAMBLINGS

By FRANK THONE

*Ichneumon Flies*

In a hundred thousand homes all over the country, hopeful young naturalists are bringing in big gray cocoons. In the spring, if all goes well, they will be rewarded by the sight of a miracle of resurrection of the seemingly dead, when a lovely moth or beautiful butterfly comes out of the unpromising leaden-hued shroud.

But in a tragic percentage of cases there is no resurrection; no moth nor any butterfly. After weeks of vain waiting a sympathetic elder may open the cocoon with pointed scissors, only to find the chrysalis inside dead, dry and hollow. If the dissection is made carefully, the corpse will show, somewhere on its shell, one or more tiny holes, like the wounds of the smallest kind of birdshot. And there will be corresponding holes to the outside through the cocoon.

If the failure cocoons have been kept in a box, it may be that one or more small, wasplike insects will be found in it. These are the mischief-makers that have thwarted the expectation of a moth or butterfly to come. They have been inside the cocoon; as a matter of fact they have been inside the chrysalis, feeding on the sleeping insect, battering at its expense, and preventing it from ever awakening.

They are ichneumon flies. Some time during the summer, while the caterpillar was waxing fat and juicy, a darting, nervous mother-ichneumon, anxious from a burden of eggs to be laid, rested briefly on the grub's back. During that moment she slipped an egg under its skin. The egg, hatching, produced a tiny grub that made no trouble for the time being, and did not prevent the caterpillar from spinning himself into his silken cradle in the fall. But after that, it grew apace, turning what was intended for a moth into another generation of ichneumon flies.

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## Norway to Save Whales

Zoology

Whales, threatened with extinction through the tremendous expansion of the modern whaling industry, have found a friend in need in Norway, the nation in which about four-fifths of the world's whaling is centered. Recent legislation by the Norwegian parliament represents an impressive example of self-imposed conservation and far-sighted industrial policy, says A. Brazier Howell of the Johns Hopkins Medical School, a lifetime student of whales and their ways, and executive secretary of the Council for the Conservation of Whales.

Under the new act all Norwegian whalers are wholly forbidden to kill the right whale, one of the most valuable of all the great sea mammals and formerly one of the most persecuted. All whale cows with calves are given a similar blanket protection, and calves must also be

## Two New Vitamins

Physiology

No less than two new vitamins have recently been discovered by English scientists. Katherine Hope Coward and her colleagues at the Laboratory of the Pharmaceutical Society in London have just published a paper describing a new vitamin which has somehow escaped notice before. Scientists do not yet know whether this new factor is necessary for the human race, but Miss Coward's experiments have proved that it is necessary for the growth of that all-important animal, the experimental rat. No name has yet been given to this vitamin. It has been found in fresh milk, lettuce, grass, ox muscle, liver, and wheat embryo.

The other new vitamin has recently been described by Vera Reader of the Biochemical Department, Oxford University. The original Vitamin B was said to prevent beri-beri. Scientists found later that Vitamin B really consisted of at least two separate factors, and they decided to call them B1 and B2. Miss Reader now has found that in the Vitamin B of yeast there is a third growth factor which is chemically distinct from either of the other two. She suggested the name B3 for this new factor. Like B2, it can be destroyed by heat.

The pellagra preventing factor in foodstuffs, known as P-P, was also once thought to be part of Vitamin B.

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let alone. The practice of paying whaling crews according to the number of whales taken must be discontinued, and all parts of the animal containing oil must be utilized. Illegal catches are subject to confiscation.

The law further confers taxing powers on the King, the funds obtained to be used in enforcing the legislation and in promoting research fundamental to the whaling industry. The King is further empowered to forbid all whaling in tropical waters.

"This praiseworthy and timely action by Norway should prove a cause for no little elation among those interested in maintaining a commercial supply of whales," comments Mr. Howell. "It should render much easier the task of securing international regulation of whaling."

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## Nerves Like Radio

Neurology

The human nervous system has generally been compared to a telegraph system, but Prof. Louis Lapicque in a recent lecture at the Harvard Medical School has compared it to radio. While connection is important in telegraph or telephone systems, time is the important factor in neuro-muscular relay, Prof. Lapicque discovered, just as wave-length is important in radio.

A series of radio receivers, tuned to different wave-lengths, will get different stations or incoming messages, and so different muscles, tuned at different time standards, will get messages, or stimuli, from different nerves.

When a nerve carries a message from the brain to the muscles of the leg, for example, it is the time factor that causes the nerve to deliver its message to the set of muscles that extends the leg, rather than to the set that draws up the leg.

"Every anatomical element, every kind of cell, reckons time according to a particular standard, say thousandths or perhaps hundredths of a second," Prof. Lapicque said.

If the anatomical connections have the same temporal characteristics, the message will pass smoothly, but if the time factors are different the message will not.

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Eight thousand wild horses were killed in Arizona last year.