

9. Give good measure of serious satisfaction.

10. Redeem all serious disappointments.

The first law is important because the best of jokes may fall flat unless it "taps a stream from one of the eternal glee-reservoirs" (such as sex) or unless a real emotion interest is built up.

The reason for the second law is that we cannot laugh about what matters too much. Death is seldom the butt of a good joke. The audience must be in a playful mood if anything is to seem funny.

The labored joke is wearying. Hence law 3.

"By a practical joke," says Mr. Eastman of his fourth commandment, "I do not mean setting a can of water on the upper edge of a door and then calling someone in the next room—although that is a practical joke and a good one, especially if the person does not come, and you forget what you wanted him for and get up and go after him yourself."

He means a joke which comes to a point as distinguished from the humorous story which is laugh-provoking throughout. Laws 5 to 10, the importance of which are obvious, apply only to the pointed joke.

These laws bar the dragged-in joke, the chestnut, the inverted joke or riddle, and the attempt to emphasize the point by repetition.

The final commandments require that the joke have some link or pertinence in the more serious interests of life.

"During the depths of the Great Depression," says Mr. Eastman, "a story went around about a young man who had a nervous breakdown. The doctor recommended to his parents that they put him somewhere where he would not be disturbed, and so they put him in business."

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Science News Letter, February 18, 1939

Over 1,500,000 new houses have been built in Britain in about six years.

More than 100,000 miners were trained in first aid by the Bureau of Mines in the past year ending June 30.

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FORESTRY

New Deadly Disease Is Destroying Elms in Ohio

A NEW-FOUND, deadly disease, caused by a filterable virus instead of a fungus, has killed many hundreds of American elms in Ohio. Plant pathologists of the U. S. Department of Agriculture fear that it will prove even more destructive than the so-called Dutch elm disease that they have been fighting for several years in the neighborhood of New York, unless its cause can be discovered and means for combating it developed.

The disease was first called to the attention of government scientists in Ironton and Dayton, Ohio. During three years it killed more than 1,000 out of about 1,800 elms in Chillicothe. It is now rampant in Columbus. It was at first thought to be a "city" disease, but it has since been found in forest trees in West Virginia, northern Kentucky and southern Indiana and Illinois.

Symptoms are: first, a slight shriveling and brittleness in the leaves; then a rotting of the roots and the inner bark

of the trunk. Within a few months the tree may be dead.

The new disease is not at all related to the Dutch elm disease of the Northeast. That is caused by a fungus which is carried about by a beetle. The Ohio valley elm disease has been proved to be due to a filterable virus—a mysterious, self-multiplying something that is too small to be seen through a microscope. How it gets from one tree to another is still unknown. The present outbreak is the first known instance of a virus disease causing a fatal epidemic among trees.

Since the disease may have gained a foothold outside the Ohio valley, government authorities wish to be informed regarding trees showing symptoms of its presence. Notices should be sent to the Division of Forest Pathology, U. S. Department of Agriculture, Washington, D. C. Because the disease is caused by a virus that cannot be isolated and identified, there is no point in sending diseased samples.

Science News Letter, February 18, 1939

GENERAL SCIENCE

Leading Scientists Are Born and Trained in East

TO THE Yankee ingenuity and curiosity of New England stock, America apparently owes the development of most of her most outstanding scientific men.

A survey of the names in *American Men of Science*, starred for their eminence, reveals that New England contributed far more, in proportion to general population than did any other section of the country. The yield of 77 per million in the wooden nutmeg country was double that of the Middle Atlantic States (37 per million) and far outdistanced that of the East North Central (30), Pacific (27), West North Central (22), Mountain (17), South Atlantic (11), and South Central (4).

The East has also contributed the training for these scientific men.

"Of those who received American bachelors degrees," writes Prof. Stephen S. Visher, of Indiana University, in re-

porting his survey to the *American Journal of Science*, "nearly 30 per cent graduated in the East North Central States, 22 per cent in New England, but less than one-eleventh in the South. For their doctorates, over one-fourth of those with American doctorates went to New England, nearly one-fourth went to Middle

● RADIO ●

Dr. Henry Field, Curator of Physical Anthropology at the Field Museum of Natural History, will be guest scientist on "Adventures in Science" with Watson Davis, Director, Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, Feb. 23, 7:15 p. m. EST, 6:15 p. m. CST, 5:15 p. m. MST, 4:15 p. m. PST. Listen in to your local station. Listen in each Thursday.

Atlantic universities and a like number to those of the East North Central States."

Very few women are included among the starred scientists. In 1937, nine women were starred—three zoologists, two geologists, and one each in anatomy, astronomy, botany and psychology.

But if you think of these eminent savants as ancient graybeards, you are mistaken. The average age for receiving the coveted star is only 43 years. Mathematicians and physicists are much young-

er, averaging only 36, and chemists average but 41. Psychologists are close to the general average, 44, while biologists are 46, pathologists 48 and geologists 49.

Industry gives employment to exceedingly few of America's most eminent scientists. Educational institutions support 76 per cent of them. Research institutions can claim only one-twelfth. Government employment takes in one-fifteenth. Less than a sixteenth are in applied or commercial science.

Science News Letter, February 18, 1939

AERONAUTICS

Reversible Pitch Propeller To Be Tried as Brake

Flying Boat Designers Recognize Need of Future Pilots For Some Means of Slowing Their Craft at Landing

AIRPLANE propellers as brakes? Sounds odd, when you're used to thinking of whirling blades speeding a plane instead of stopping it. But it may soon be tried to aid in maneuvering the still bigger flying boats for transoceanic air services of future years.

Flying boat designers at a plant near Washington have asked a nearby experimental firm to test this paradoxical idea, it was learned, and thereby show once more that the unusual can and often does happen in aviation. Basis of the experiments is the fact that reversing the pitch or twist of the propeller blades reverses the direction of the airstream and slows the plane.

The designers, taking a look at available waterways where transoceanic airliners of the future will have to land and take off, base their request for action on the belief that future planes will give many a pilot a maneuvering headache. This does not, however, apply to the biggest today; the engineers are thinking of ships still on their drawing boards.

Propellers with reversible pitch blades can do the trick and will be manufactured for the test, it was stated. Such propellers, with the blades twisted oppositely to their usual position, would reverse the direction of the airstream they create. Instead of slipping it back past the wing, it would blow it forward, slowing the plane.

This scheme—which isn't so new, since, like many other things aeronautical, it has been thought up and even tried several times before—is intended

only for planes on the water or on the ground. If you lose speed in the air, you don't stay up very long.

The whirling brakes would help in maneuvering big flying boats with four or more engines by enabling a pilot to use one or two of his motors producing their reverse effect, while running the others as usual. He would be able to turn quickly—like an oarsman pulling his oars in opposite directions. In addition, all four motors could be used as brakes to come to a quick stop.

Two other possible uses are foreseen. Landplanes, which now have wheel brakes, might use propeller brakes. Dive bombers developing enormous velocities—which, by the way, are not desirable despite the general impression to the contrary—could use the reversible pitch propellers to slow their descent to a paltry 200 or 300 miles an hour.

Science News Letter, February 18, 1939

CHEMISTRY

Japanese Report Mucilage Made Out of Seaweed

CHEMISTS of the Osaka Industrial Experimental Laboratory of Japan's ministry of commerce and industry have developed a process for manufacturing mucilage from seaweed.

An output of 10,000 pounds monthly has already been achieved. While details of the process are secret as yet, washing the seaweed to remove salt is an essential step in the process.

Science News Letter, February 18, 1939

New Blakiston Books

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