ECOLOGY

NATURE RAMBLINGS by Frank Thone

The Acorn Crop

OAKS we commonly think of as timber and shade trees only. We know they bear acorns, of course; in some years the ground is so littered with them that they crunch under your feet as they lie on pavement or sidewalk. But they figure simply as squirrel food, in our usual thought—if we trouble to think about them at all.

Nevertheless, acorns are a highly important crop. They figure indirectly in the food cycles of even most civilized peoples. The choicest and most famous hams and bacon, usually produced in limited quantities and sold at premium prices, are very apt to come from acorn-fed hogs. The world-famed Westphalian products furnish an excellent example. Acorns are favorite provender for many species of game animals and the larger wild birds, too; the wild turkey is a great acorn eater.

Acorns, however, do not always get into the human digestive system in this roundabout manner. Primitive peoples, everywhere that oaks grow, are acorn eaters themselves. And in more civilized lands, acorns have been resorted to in times of grain scarcity. They do have a really considerable food value; grains and starchy root vegetables have crowded them out mainly on the score of greater palatability and greater ease in harvesting and preparation.

Of course, there is also the unevenness of the yearly crop to score against acorns as a dietary mainstay. Like all forest trees, oaks have great fluctuations in their annual crop. One year they may carpet the ground, and the next year there may be hardly one acorn to the square yard. Annual crops, like grains and the root vegetables, are commonly more dependable than that.

The wiping out of the primeval hardwood forest in the eastern United States, in which oak was one of the most abundant trees, probably was a considerable factor in the extinction of the passenger pigeon through the breakdown of its acorn food cycle.

When there were very few acorns left, and those competed for in times of a bad crop by every hungry wild thing, it must have meant a great reduction in the number of passenger pigeons. And on the reduced flocks, the guns of hunters, and probably disease as well, worked with deadly effect.

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INDUSTRIAL PSYCHOLOGY

Find Industrial Efficiency Depends on Social Environment

FIVE girls assembling telephone relays at the Hawthorne plant of the Western Electric Company taught scientists that industrial efficiency depends on social conditions of work.

The findings of a study of these girls and another group of workers, and their importance to industrial management, were reported by Dr. Lawrence J. Henderson of Harvard University and Dr. Elton Mayo of Harvard Business School at the opening session of a symposium at the Harvard School of Public Health.

The symposium was devoted to consideration of the effect of the environment on man and was one of the conferences on arts and sciences held in Boston and Cambridge in celebration of the Harvard University Tercentenary.

Most of the symposium was given over to discussion of physical factors of the environment, such as temperature and humidity of the air and air-conditioning; poisonous gases and injurious dusts; air-borne disease; and the germs and hayfever-causing pollen of the air.

These factors affect health, comfort and consequently efficiency. Social factors that are hard to measure and may even be overlooked are nevertheless a very real part of man's environment and have a measurable effect on his efficiency as a worker, it appears from the experiments reported by Drs. Henderson and Mayo.

The five girls, all experienced and expert assemblers, who took part in one of the experiments were observed over a period of five years. They worked in a special room; they were allowed to converse freely; their output was recorded minute by minute and day by day; their conversations, mutual relations, home situations and leisure activities were all noted. The study was made with the consent and cooperation of the girls.

Particularly interesting were the wave-like irregularities observed in output. These waves lasted sometimes for months, sometimes only for a few minutes. They were not related to any change in physical circumstance, such as temperature or the worker's own physical state. The speed of work, however, did vary markedly with changes in the girls' feelings towards each other, towards their supervisors and towards the group as a whole.

A change in seating arrangements, which separated two friends and generally disturbed the neighborly relations of the group, lowered the output. When one of the workers, after several years, left the company and was replaced by another girl, even though the latter had a friend in the group, a disturbance in the group's tone was noted for three months. Drop in output was noted at the beginning of the economic depression. As the leader of the group put it, "We lost our pride." It was also noted that when one girl was dispirited and for this or some similar reason slowed down in her work, her neighbor or best friend also slowed. A reverse effect was noted between two girls who were unfriendly. When one worked fast, the other worked slowly and vice versa.

Another study of a group of men working in the general workroom of the same plant showed again how the social forces in the group affected the work output.

Drs. Henderson and Mayo caution administrators against too many and too rapid changes in work arrangements. These changes may be logically expected to increase efficiency, but if these changes upset the workers' social relations and work routines, they will decrease efficiency because they upset the worker's feeling about his work and the world he lives in.

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