

ing, resting, looking at trees, conversation with a friend, smelling of flowers, working, laughing, reading, joking, shopping, freshening up after shopping, looking over a magazine.

Unpleasant items: Headache, nausea, argument, tiredness, loss of appetite, pains, financial worry.

Notice how objective and external, comparatively, were the pleasant matters listed, how tied up with physical condition were the unpleasant. The score on this person is plus five.

For contrast, here is the list of a poor unhappy soul, whose life for the moment was ruined by a howling toothache and the absence of his adored one. Listing pleasant items he rather imagines the absence of the unpleasant ones that dominate his thoughts. The list follows:

Pleasant: Seeing my girl friend, eating ice cream, relief from my present tooth trouble, candy, 10 gallons of free gasoline, a good drink of cool milk, my quarterly payment, money, a good movie, a job given to me, not to have to shave, today being tomorrow, a letter from Philadelphia.

Unpleasant: My tooth trouble, the damned noise in my radio, work tonight, cleaning the kitchen, having no money, going to psychology class, having no gas in my car, having to read

for English, my girl friend is away, no meat for dinner, having a tooth out, having to reline my brakes, having to polish a car, having to listen to lousy radio program, the fellow I work with, have to go to Hartford tomorrow, not graduating in June.

Here is the record of a student more nearly average in his spirits:

Pleasant: Golf, winning match, watching baseball game, watching football game, playing ice hockey, skating, cold drink, good food, vacation, fishing, good show or movie, seasonable weather, pleasure driving.

Unpleasant: Late for train, late to class, examination, writing thesis, flat tire, poor sportsmanship, bad show, engine trouble, bodily ailments or illness, poor food.

Aside from the toothache, sleep and worry were the conditions most definitely related to high or low spirits, the investigators found.

The highest average euphoria was reported by those who had had eight to eight and three quarters hours of sleep during the previous night. Amounts of sleep below or above the optimum were associated with definitely lower average euphoria, it was discovered.

Those who worry have low spirits.

*Science News Letter, August 28, 1937*

## PHILOSOPHY

## Belief In The Miraculous Still Has Large Place

By DR. WILLIAM E. RITTER

Professor Emeritus of Zoology, University of California

WHAT is known as the "industrial revolution" is not merely industrial and economic and due to science, invention and industry. It is also philosophic, theologic, and religious—at least in its import. For it has almost completely revolutionized the conception of the external world held by the greatly dominant portion of the human species. It has proved that a prodigiously large part of that world is what we call natural. As a result belief in anything called supernatural in that part has faded from the picture almost entirely. One scans in vain the parts of modern civilization, which are held to be "objective," for traces of what in ancient and recent backward civilizations have flourished under such characterizations as "miraculous," "magical," "occult," or "supernatural."

Today even though there may be professions of *belief* in forms and powers of this sort, when it comes to the test of life-or-death *action* the beliefs cut little or no figure. Understanding begotten of much common experience has come to perceive too much of what is involved in the notion of miracle.

It sees for example that the military injunction about trusting in Providence but keeping the powder dry really involves recognition that even Providence can not win battles with water-soaked powder.

No civilization has yet fully realized that the cherished inner world of humanity itself is natural in the same sense that the outer world is natural.

Belief in the supernatural and the miraculous still has a large place in the way of life of the most advanced civilizations.

Natural knowledge and understanding have contributed vastly to man's good so far as external nature and much of his own corporeal nature are concerned. But they have not yet been extended to the whole of his nature in accordance with the great discoveries of Charles Darwin.

Evolution as conceived by Darwin is not yet understood and accepted by more than a minute fraction of the human species, even by the most culturally advanced members of it. The revolution



**AH-H-H!**

*Here is a treat to be listed among life's pleasant things*

in man's understanding of nature that marks the last century and a half or thereabouts, and has incalculably promoted his material welfare, still falls pitifully short of like promotion of his spiritual welfare.

Two of the most definite qualities of the species that still remain unrecognized as natural are those that have given rise to the idea of the brotherhood of man; and those that have given rise to the idea of mysticism.

The very fact that both of these are recognizable in probably all races of the species and are associated with the most varied doctrines of supernatural beings, of supposed miraculous happenings, and of magic rites, constitutes some of the best evidence that they belong to the nature of the species in the some sense that its upright posture and power of speech belong to its nature.

So far as the idea of brotherhood is concerned, Darwin is explicit in including it in his evolutionary conception of man. As to the other idea, that of mysticism, he is not explicit either for or against such inclusion. But a large mass of sense data and unanswerable reasoning is available today in support of the hypothesis that certain of our sensory-motor responses to nature produce in us emotional experiences and states that have led to the erroneous supposition that something other than our natural selves and something other than the natural external order must be involved in these experiences and states. Insofar as the generally recognized emotional portion of man's religious experiences is conceived to be supernatural and a like conception is allowed to dominate his idea of God, his understanding of his own nature and all the rest of Nature are sadly warped and inadequate.

*Science News Letter, August 28, 1937*

Near Muscle Shoals, Alabama, is a series of ponds that annually disappear into the earth, leaving as many as 230,000 fish stranded in a grassy morass.

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### Agriculture Outruns Culture

WHEN a "snooty" politician or a scornful journalist jibes at the alleged lack of culture in the great farming areas of the country, he is only taking localized, special and snobbish notice of a phenomenon so general that it might almost be dignified with status as a scientific "law." For in the long course of the world's history, and what we can extrapolate of prehistory, men have always learned how to be farmers before they created cities, built temples and palaces, invented or adopted writing, and in general become "civilized."

Prof. Elmer D. Merrill of Harvard University, who has made a special study of the history and migrations of cultivated plants, has reduced it to three words: agriculture outruns culture.

Prof. Merrill points out as conspicuous examples the ancient agriculture-culture distributions in North America and southeastern Asia. In both regions there was originated an agriculture based on grain—corn in America, rice in Asia. In both, the sections where the agriculture developed earliest and fastest became the centers of elaborately developed civilizations—Maya-Toltec-Aztec in

America, India-Siam-China in Asia.

And in both cases, there was a fringe of less civilized peoples who received the arts of agriculture readily enough from their better-advantaged neighbors, but who lagged in the development of more complex and later-developed cultural features. As far north and east on this continent as corn and pumpkins would grow, Indians grew corn and pumpkins which they had received from the south and southwest. But of stone temples and stone-faced pyramids, of organized religion and empire, they knew nothing.

Similar was the case in the Asian region. Filipinos in ancient days grew rice by Indo-Chinese methods. But in all the Philippine archipelago there is no Angkor Wat.

*Science News Letter, August 28, 1937*

### ENTOMOLOGY

## Epsom Salt Bait Fails To Kill Grasshoppers

HOPES that epsom salt could poison grasshoppers wholesale have been dashed by new tests conducted at Kansas State College, by Dr. Roger C. Smith. Standard poison baits, made with compounds of arsenic or fluorine, still remain the best known means for fighting the swarming insect enemies.

Last spring experiments in which grasshoppers died after consuming a bait "dosed" with epsom salt were reported in one of the leading scientific journals and were afterwards broadcast through the press. Prof. Smith, noting that the experiments had been conducted in the fall, suspected that the grasshoppers then used were about ready to die of natural causes anyway, decided to repeat the tests, using young and vigorous early-summer 'hoppers. When he did, he found that the insects thrive on the supposed poison, even when used at double strength. Parallel tests, with standard baits of real poisons, worked perfectly.

*Science News Letter, August 28, 1937*

## ● RADIO

August 31, 4:15 p. m., E.S.T.

SOUR WATER—Ralph E. Tarbett of the U. S. Public Health Service.

September 7, 4:15 p. m., E.S.T.

AMONG THE BEDOUINS OF NORTH ARABIA—Henry Field of the Field Museum of Natural History.

In the Science Service series of radio discussions over the Columbia Broadcasting System.

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