



### THUNDER OVER TRYLON

This stroke of man-made lightning was photographed in the General Electric exhibit at the New York World's Fair, by Mildred Wellrich, of New York City. The six-foot model trylon, made of metal, carried 5,000,000 volts of lightning harmlessly into the ground, just as its 600-foot original captures and grounds the natural bolts from the clouds.

*Science News Letter, August 17, 1940*

### FORESTRY

## College Men Recruited To Fight Forest Fires

OREGON State, 100; Big Blaze, 0. Scores like that will be tried for by teams of college men now being formed at Oregon State College, under the direction of the U. S. Forest Service. The game is something much more strenuous than even big-time football, and it is played "for keeps"—it is fighting forest fires.

The teams are to consist of 25 men each, all picked for size, strength and endurance and trained for skill and teamwork in combating forest fire. Stationed at CCC camps in the timber country, they will "sleep with their boots on," ready to go into action day or night, at the first drop of a spark.

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### PSYCHOLOGY

# Pain Felt at Same Level Of Stimulus by All Persons

## Neither Age, Sex, nor Emotional State Changed Threshold in Group of 150 Assorted Subjects

PAIN makes itself felt alike to all persons, regardless of age, sex or "state of mind." Even if you've been kept awake for 24 hours on end and are tired enough to howl, you are no more sensitive to pain than you were after a refreshing night's sleep.

These are among the indications of experiments reported by Drs. George A. Schumacher, Helen Godell, James D. Hardy and Harold G. Wolff, of the Russell Sage Institute of Pathology, New York Hospital and Cornell University Medical School (*Science*, Aug. 2).

The four researchers investigated the pain threshold, or point at which sensation is identifiable as pain, in 150 persons of both sexes, through a wide range in ages. They subjected them to the same uniform test, in all stages of freshness and fatigue, up to 24 hours without sleep; also in all kinds of emotional moods, from bright and cheerful to depressed and gloomy. Nothing made any difference; they all began to "hurt" at the same point.

The pain stimulus was one that could be accurately controlled and measured. It consisted in the heat-bearing beam from a thousand-watt lamp, focussed through an opening onto the blackened forehead of the subject. The experimenter "turned on the heat" for exactly three seconds. If the subject reported no pain, the current was switched off for a short interval, then tried again a little stronger, until pain was just beginning to be felt at the end of the three-second exposure.

All the persons volunteering for the experiment reported in much the same terms: there was a feeling of warmth, "rising" or "swelling" to a sharp stab of pain at the end of the three-second exposure period.

Before the experiments began, the 150 subjects were all asked about their sensitivity to pain. Some reported themselves extremely sensitive, others "average" or quite insensitive. Actually, they all reported pain at close to the same amount of heat absorption. Apparent individual differences in pain sensitiveness

would therefore seem to be subjective rather than objective.

The point at which heat began to be felt as pain, in terms of the physical laboratory, was a trifle over two-tenths of a gram calorie per second per square centimeter.

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### GENERAL SCIENCE

## French Emigre Scientists Plan Journal in London

FRENCH scientists and scholars in England are planning the establishment and regular publication of a cultural review journal in the French language that will symbolize the freedom of the French spirit in science, literature and art despite the Nazi conquest of France itself. Leading British scholars and scientists are lending their support to the new project being organized by French emigre scholars and scientists in London.

A letter with influential British signatures will be sent shortly to heads of universities and other scientific and learned institutions in Great Britain and the United States asking for the moral support of leading personalities in both countries for this new cultural French review.

In the present struggle of democracy against fascism it is considered important here to maintain and present the results of French science, literature and art in the free environment that is possible in London even in face of the threat of invasion. The Royal Society of London, of which Prof. A. V. Hill is secretary, is playing an important part aiding the new movement.

Before France's capitulation plans were underway for French scientists to publish in French some of their research results through the columns of the leading British science journal, *Nature*. These plans may also be revived.

It is expected that the American and Canadian response to the new French review will be enthusiastic and cooperative.

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