

adenoids took second place in mental level. The lowest average both in grades and mentality was shown by the group having defective lungs.

Defective teeth are almost as detrimental to school progress as weak lungs and they are more often found. Thirty per cent. of the whole group had them and the grades of pupils so affected indicated that they were getting only 64.5 per cent. of the potential value of their education.

The low accomplishment on the part of the physically handicapped children holds good for each group at each intelligence level. The very bright children, however, are more affected by bad teeth than are those who are just average since the mentally superior have more sensitive nervous systems.

*Science News Letter, April 6, 1935*

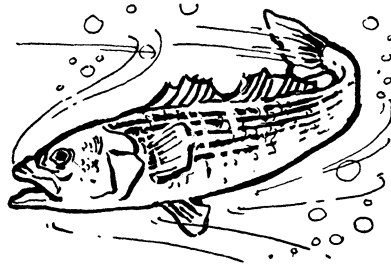
ASTRONOMY

**Sun's Probable Age Ten Million Million Years**

**T**HE outside limit of the probable age of the sun is ten million million years, according to Dr. Donald H. Menzel, of Harvard College Observatory, in an address for Science Service over the Columbia Broadcasting System.

In the report of Dr. Menzel's address in SCIENCE NEWS LETTER of March 30, the probable age of the sun was erroneously reported as 500 sextillion years. This figure in Dr. Menzel's address referred to the energy liberated by the sun from its surface as radiation and not to the probable age of the sun.

*Science News Letter, April 6, 1935*



**Fish Can Be Drowned**

**I**SN'T it odd, that a fish can be drowned? Or maybe it isn't so odd after all, when you consider what a fish is, and what it must do to remain alive.

A fish is an animal—as much so as a cow or canary, a toad or a turtle, or any other creature that walks or hops on land and breathes air with lungs.

Land-living animals breathe the air for one prime necessity: oxygen must somehow be sent to all the cells of their bodies, there to unite with food substances in the low-temperature combustion we call life. Stop either oxygen or food, and you stop life.

In all land-living vertebrates, or backboned animals, the oxygen is carried to the cells by the red blood corpuscles. In insects and their kin, the oxygen is carried in another way—but that is another story. The central fact is that the oxygen simply must reach the cells.

The cells of fish, and of all other water creatures as well, have this same imperious need for oxygen. Fish, like their backboned "rich relations" of the land, depend on red blood cells to carry the oxygen.

But where is the oxygen to come from? You can see the answer if you warm up a little common tap-water. Before it is hot enough to start giving off steam bubbles, little bubbles of air rise to the top and escape. Oxygen—and the other air gases—are in solution in all natural waters. Fish can take out this dissolved oxygen from the water with their gills, as we take oxygen out of the gaseous mixture we call air with our lungs.

When a man or other air-breathing animal drowns, the real cause of death is oxygen lack—for our lungs are not so made as to take dissolved oxygen out of the water. Drowning is therefore really a form of strangulation.

Keep active fish in water without oxygen, and they, too, soon strangle. They are dead of drowning, as surely as a drowned man.

This drowning of fish can take more than one form. The fish can be trapped in water wholly sealed in by ice, as when "anchor ice" forms across the bottom of a pond in a long cold spell. Or, in a hot and droughty summer, they can be caught in a dwindling pool, in which swarming animal life sucks out all available supplies of this life-element. You can even starve pet goldfish for oxygen by crowding too many of them into too little water, in a narrow-topped bowl.

*Science News Letter, April 6, 1935*

PSYCHIATRY

**No Rise in Serious Mental Disease During Depression**

**S**ERIOUS mental disease has not increased notably as a result of the depression. This fact, contrary to current belief, has been found in a study made during the past year by the National Committee for Mental Hygiene in collaboration with the American Psychiatric Association.

"This study shows no rising tide of hospital admissions that can be ascribed to prevailing economic conditions and reveals no striking increase in new cases or in total institutional populations," is the conclusion of the study made public recently.

The increases in number of cases of mental disease that were reported during the depression are not considered numerous enough to be significant and are thought due to increase in hospital facilities and in public confidence in hospitals for the care of the mentally ill. A substantial part of recent increase is thought due to exhaustion of family resources.

*Science News Letter, April 6, 1935*

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Tuesday, April 16, 4:30 p. m.

**THE MEANING OF MATHEMATICS,**  
by Dr. E. R. Hedrick, Professor of Mathematics, University of California at Los Angeles.

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