

## ASTRONOMY

# Age for Earth Given

► AN AGE for the birth of the earth and a prediction that it may be dying are voiced by Dr. E. J. Opik of Armagh Observatory, Northern Ireland.

The earth is approximately 3,500,000,000 years old, according to Dr. Opik's calculations, published in the annual report of the Smithsonian Institution.

The Milky Way galaxy, only one system containing several billion stars among millions of such systems, may be 1,000,000,000 years older.

Both the earth and the Milky Way are relative youngsters, however, when compared to the age Dr. Opik says is the upper limits that can be assigned to the universe itself—6,000,000,000 years.

The birthday for the universe, the Irish astronomer points out, is the time of the creation of the present star systems or state of matter out of which they are evolved, and not the present configurations.

Dr. Opik also suggests the universe may be "bound for inevitable death." It may be, he reports, that the universe is oscillating, expanding and then contracting, re-

turning to the primitive state of matter. If this is the case, he states, there may have been many such cosmic structures in the past and there may be many more in the future.

The death of the present universe will come about, Dr. Opik thinks, with the eventual return to the highly condensed state of matter, pure nuclear highly condensed particles such as neutrons, electrons and protons out of which it evolved.

Then, he says, another universe, but far different from this one, may evolve by the same processes.

To arrive at his conclusions, Dr. Opik combined such factors as the rate at which great star galaxies are pulling away from each other; calculations on the average density of matter in space and the amount of decay of naturally occurring radioactive elements like uranium and thorium.

Four scientists recently gave the age of the earth as 5,000,000 years and that of the Milky Way as 7,500,000 years. (See SNL, Oct. 20, p. 245).

Science News Letter, December 15, 1956

## MEDICINE

# Hypnosis for Anesthetic

► HYPNOSIS has been found to be a quick and effective substitute for anesthetics when setting broken bones, Dr. L. Goldie of the Maudsley Hospital, London, reports in the *British Medical Journal* (Dec. 8).

Used in the emergency room of a general hospital, hypnosis was tried on random patients who required minor operations, such as incisions, the removal of foreign objects, stitching and the setting of broken bones.

The hypnotic procedure, Dr. Goldie says, proved most effective during the stitching of wounds and the setting of bones.

No anesthetics were needed to reset 26 out of 28 consecutive cases of fractured bones when hypnosis was used. Without hypnosis, 22 out of 27 cases needed an anesthetic.

Patients to be hypnotized were asked to think of a variety of ways to distract their attention from their injury. They were told that if any pain was felt they could ask for an anesthetic.

Some were asked to picture vividly a scene and a time when they were completely relaxed, or they were told that with each breath their muscles were growing more loose and relaxed.

In some cases it took only ten minutes of this suggestive method before all pain disappeared. Then bones were set as smoothly and gradually as possible.

Even without any specific suggestion about forgetting, not one of the bone patients treated under hypnosis could re-

member anything about the procedure when it was over.

Dr. Goldie states that the use of hypnosis for minor injuries in a hospital could reduce the amount of anesthetics administered and could be useful for emergency cases who had just eaten.

For those who have just dined, he points out, it is usually necessary to wait until the food is digested before getting an anesthetic drug.

Science News Letter, December 15, 1956

## MEDICINE

# Use X-Rays to Diagnose Acute Appendicitis

► USING X-RAYS to diagnose attacks of acute appendicitis was reported by Dr. David S. Carroll, X-ray specialist from Memphis, Tenn., to the Radiological Society of North America meeting in Chicago.

Acute appendicitis causes 17,000 deaths per year in the United States alone, Dr. Carroll said, and any factor that will aid in early diagnosis and care is of considerable importance.

Dr. Carroll has used X-rays to show up the presence of calcified enteroliths, or stones, inside the appendix of 34 patients. These stones are believed to be one of several causes of appendicitis, and in some cases are difficult to diagnose.

"Most of the patients had symptoms and physical findings such that acute appendi-

citis was the obvious pre-operative diagnosis," Dr. Carroll said. "However, in a few of the patients the symptoms and signs were more difficult to interpret, and the radiological demonstration of calcified appendiceal enteroliths contributed a great deal of the differential diagnosis."

When these stones are present, Dr. Carroll reported, there is less time between when the symptoms first appear and when the appendix may burst. X-ray demonstration would then be of considerable help in early diagnosis.

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