

Researchers Find Water Will Drug Salt Water Snails

London—(Science Service)—Physiologists in the Union of South Africa have solved a long-standing research problem—how to anesthetize a salt-water snail.

These creatures are rather resistant to anesthetics. They can be rendered insensitive to pain, but even when so heavily drugged that they do not recover their powerful muscles will not relax. These muscle contractions make experimental surgery almost impossible.

Dr. A. C. Brown of the University of Cape Town noticed that marine snails lost their ability to crawl and could not move at all if they come too far inland where fresh water dilutes the salty sea.

Clue Found

Taking this clue into the laboratory, Dr. Brown and a colleague, Dr. B. J. Krige, also of the university, found that muscle contractions in two snail species, *Bullia digitalis* and *Bullia iacovissima*, could be completely eliminated by reducing the salinity of their watery environment. The distilled water, added gradually to the sea water, seeps into the snail's bodily tissues by a process known as osmosis.

With tissues swollen to the point that muscles cannot move, the stiffened snail is in a state of "water rigor," and can be operated upon successfully. Remaining in this state for several hours has no apparent ill effect, and once back in sea water, the animal recovers and behaves normally.

The physiologists, reporting here in *Nature* believe the "water rigor" technique might find wider application in the field of gastropod physiology.

Leaders Think War Is Not Immediate

Washington—(Science Service)—Nuclear war could break out within 20 years but it is not probable in the near future. This is the opinion of American leaders in many fields expressed in a poll conducted by the National Planning Association here.

The poll was completed before the 12 incident and the collapse of the summit conference.

The association sent questionnaires to 244 members of its board of trustees, national council and standing committees. The 298 who answered represented agriculture, business, labor and the professions.

Seventy-two per cent said nuclear war was possible but not likely by 1980. Twenty per cent said it was highly improbable. Only six per cent said nuclear war was likely.

Underwater Sound Travels 12,000 Miles

New York—(Science Service)—Underwater sound waves from depth charges have been detected at a record distance of 12,000 miles, or virtually half way around the world.

The previous record was approximately 3,000 miles.

Recording of the shots fired from the research vessel, *Vema*, was reported by Columbia University's Seismic and SOFAR station in Bermuda, to Dr. Maurice Ewing, director of the Lamont Geological observatory at Palisades, N.Y.

Acoustic waves from the shots, fired off southern Australia on March 21, reached the Bermuda station in approximately 144 minutes. They traveled through the water, following the sound channel axis near the surface in the south and dropping to depths of about 4,200 feet near the equator.

Forestry Crews Battle Two Blazes

State department of forestry crews were called to two fires Wednesday afternoon. One, west of Jackson, was thought to be under control Tuesday evening was about one acre in size. It was reported to have flared up about 12:45 o'clock.

The second report was of a fire in the Dodge bridge area. Two crews were said to be at the fire and two additional crews en route to the blaze.

NEW FATHER PAINTS

St. Louis, Mo. — (AP) — Paul Ardway rushed up to fireman Sam O. Skelton at a bus stop Tuesday and asked for help because his wife was having a baby. Skelton assisted in the delivery of a seven pound girl. Ardway fainted.



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English Scientist Proposes New Creation Theory

London—(Science Service)—A new theory of how the sun's family of planets were born by being torn from the sun's substance when another star passed close by was proposed here last week.

Dr. M. W. Woolson, physicist department, College of Science and Technology, Manchester, England, suggests a new variation on the old theme that the planets were formed when the sun and another star passed close to each other. This theory was once generally accepted but now is supported by only a few astronomers because the chances of close passage of two stars are extremely small, among other reasons.

A current view of planet formation is that the planets resulted from gravitational attraction in eddies and turbulent areas remaining in the gas and dust surrounding the sun after it was formed.

One new variation is Dr. Woolson's theory in his suggestion that the material for the formation of the planets was removed from the sun in 12 hours.

Dr. Woolson's theory is as follows:

At some time in the remote past a star 100 times as massive as the sun passed within a distance of ten times the solar radius. (The solar radius is about 433,000 miles.) As it approached the sun, the passing star raised a tide on the solar surface that increased in height as the star drew closer. Eventually a portion at the tip of this tidal bulge was more attracted by the star than by the sun, and broke off. Pluto, the outermost planet, was the first thus formed.

This loss of material at the solar surface set up waves that traveled around the sun until they reached the region facing the oncoming star. This wave crest was then torn off to form Neptune, the second outermost planet.

New Wave Started

A new wave was then set up, which gave the planet Uranus, and then Saturn and Jupiter were formed in a similar way. At this stage, the star was approaching its closest to the sun and was able to draw material out quite regularly.

Each part of this material not captured by the passing star formed the belt of asteroids, or minor planets, that lie for the most part between the orbits of Jupiter and Mars.

Finally, as the star receded, the four inner planets, Mars, earth, Venus and Mercury, were formed.

Dr. Woolson's theory is reported in the *British astronomical Journal*, Nature.

Computer Could Reproduce and Improve Offspring

Ann Arbor, Mich.—(Science Service)—Man, theoretically, can build a self-reproducing, self-improving computer machine whose descendants might even be smarter than the man who thought it up.

Prof. John Myhill of Stanford University, speaking at the University of Michigan here, advised students of the possibility of an "Adam" automatic computer system.

The mathematics professor said a self-improving series of machines would each have a builder, instructor and computer components.

After instruction to reproduce itself and improve its "off-spring," the machine would produce a better version of itself.

Each succeeding machine would be better than its predecessor. Its computer would be faster and more efficient. Improvements mainly would come from the devising of better circuits, as the machines reproduced.

System Already Exists

A self-reproducing system already exists at Bell Telephone Laboratories in an electric toy train that takes care from a sliding and reproduces itself.

Prof. Myhill predicted that a self-improving, self-reproducing system "will happen as soon as somebody wants to build a non-trivial self-reproducing, and has the money."

Prof. Myhill was asked if the machines could even become smarter than the men who originated them. He answered that if a computer network can build another network "smarter" than itself, the brain could also build a network smarter than itself.

FRED HAUCK DIES

Frenchtown, N. J. — (AP) — Fred Hauck, 55, one of the nation's leading experts in typography who designed the format of the Long Island, N. Y., daily newspaper *Newday*, died Monday.