

ASTRONOMY

New Moon Origin Theory

Unstable earth, thousands of years ago, shook off the material from which the moon was to be created. Moon still moving away from earth.

► THE MOON was shaken off an unstable young earth thousands of years ago, according to the latest report of the origin of the moon.

This new moon origin theory comes from K. E. Bullen, mathematician of the University of Sydney.

A liquid, cooling earth with an additional high-density region where great pressure was concentrated inside its central core is visualized as the additional mechanism needed to push the moon away from the earth.

In an attempt to solve the age-old mystery of where the moon comes from, Mr. Bullen goes back to the general "fission" theory developed by Sir George Darwin, but pretty much ignored by astronomers and geologists for the past two decades.

Further investigation of the earth's interior and additional mathematical computations are necessary before this new theory can be put on a precise quantitative footing, Mr. Bullen admits. But then more information is needed before astronomers and geologists will unreservedly accept any theory as to how the moon came to be.

The moon is known to move about five feet farther away from the earth each century. Now over 200,000 miles away, in earlier years it was much nearer the planet on which we live. Some believe that the Pacific Ocean covers the scar where the moon was torn away from the earth between one and ten billion years ago.

This additional high-density region, no

longer present in the earth, was caused chiefly by pressure rather than by change of material from ultrabasic rock to nickel-iron, Mr. Bullen reported (NATURE, Jan. 6). This region was just the right size to keep the primitive earth near the state of instability.

Tidal forces raised by the sun would then be only partly responsible for the disruption that led to the birth of the moon. But they would be the trigger effect that brought the young earth, bulging around its equator because of the great pull of the sun, to the point of instability.

Then forces pent up in the high-density region of the earth would have completed the task of casting away from the earth the material from which the moon was to be created. The two forces working together would be powerful enough to send the moon-matter spiraling out into space.

Science News Letter, January 27, 1951

MEDICINE

Test Tells Whether Swelling Is Mumps

► WHETHER the child with a swollen face has mumps or whether the swelling is due to some other cause can be told by a urine test for the starch-converting ferment, diastase.

Successful use of this test in 30 mumps patients and 10 patients with swollen faces due to other causes is reported by Dr. Martin M. Nothman of Tufts College Medi-

cal School, the Joseph H. Pratt Diagnostic Hospital and Boston Dispensary (NEW ENGLAND JOURNAL OF MEDICINE, Jan. 4).

In mumps the excretion of diastase in the urine is increased. In other swollen-face conditions it is not. If mumps starts on one side, the diastase excretion goes down as the swollen gland goes down, and increases again if the other side of the face is affected. The parotid glands, which are the ones involved in mumps, are believed to be the source of the extra diastase.

Science News Letter, January 27, 1951

SCIENCE NEWS LETTER

VOL. 59 JANUARY 27, 1951 No. 4

43,900 copies of this issue printed

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., North 2755. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

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Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C. under the act of March 3, 1879. Acceptance for mailing at the special rate of postage provided for by Sec. 34.40, P. L. and R., 1948 Edition, paragraph (d) (act of February 28, 1925; 39 U. S. Code 283), authorized February 28, 1950. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to periodical literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., Pennsylvania 6-5566 and 360 N. Michigan Ave., Chicago. STAtE 2-4822.

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