EARTH SAID TO HAVE SOLID CORE

The center of the earth is composed of very heavy materials,possibly metallic iron, Dr. Paul R. Heyl, of the United States Bureau of Standards, told the American Geophysical Union recently. He bases his conclusion upon determinations which he has been making of the density of the earth, which he finds to be about five and a half times that of water. As the average density of the rocks in the earth's crust is only two and a half times that of water, the center must be of much greater density.

This view was supported by the statements of Robert B. Sosman, of the Geophysical Laboratory of the Carnegie Institution of Washington. Mr. Sosman has studied the passage of waves from earthquakes through the earth. These studies have established with reasonable certainty, he said, "that the earth is a solid object without any very extensive liquid layers within it. It contains a core about 2200 miles in radius. This core reflects and refracts as if it had a clearly marked surface, and is capable of transmitting elastic waves, but at a speed which is much less than the speed in the overlying material."

AIR CAME FROM ABSORBED GASES IN ROCKS, SAYS PHYSICIST

That the waters of the ocean, and the air around the earth, came out of the rocks was the idea suggested to the American Geophysical Union at its recent meeting, by Dr. W. J. Humphreys of the U. S. Weather Bureau.

Dr. Humphreys bases his suggestion on the theory, now widely held, that the earth was originally part of the sun and that it was pulled out of it by the passage of a larger star close by, due to gravitational attraction. In this case, he says, the hydrogen, nitrogen and oxygen to form the ocean and the atmosphere of the earth, were pulled from the outer layer of the sun, as well as the heavier elements. "Presumably," he says, "most of the mass of the earth collected into a liquid nucleus great enough to retain by gravity all the elements of the air, including water vapor, except hydrogen andhelium.

"In a comparatively short time this nucleus cooled sufficiently to form a more or less stable crust, after which it soon became cool enough to permit the greater part of the water vapor, if it existed in large quantity, to condense, At this lower temperature the earth could also retain both hydrogen and helium.

"The thickening of the crust must have been accompanied with innumerable eruptions and lava flows, all giving off then, as they do today, water vapor, hydrogen, nitrogen, oxygen and carbon dioxide, previously absorbed by the rocky material when liquid or gaseous. In this way the primordial water vapor and the fixed gases of the air, however great or small in amount, were supplemented from within the earth until an atmosphere substantially as now exists was formed, and the oceans covered most of the earth."

Over one-third of this years' graduating class of Wellesley College expect to teach.
