

Black as Coal, Dense as Zinc

Astronomy

THE new planet resembles the earth and the other inner planets in size and brightness more nearly than it does its huge closer neighbors, Jupiter, Saturn, Uranus and Neptune, Dr. John Q. Stewart, Princeton astronomer, told Science Service.

Black as coal, nearly as dense as iron, twice as dense as the heaviest earthly surface rocks. So Dr. Stewart's estimates reveal the new planet. Because of the great pull of gravity shown by Dr. Stewart's figures, a man there could jump less than half as far as he could here on the earth.

From the observations showing the planet to be of the fifteenth magnitude, and the prediction of Prof. Lowell that it would have about seven times the mass of the earth, Dr. Stewart has made a preliminary calculation of some of the planet's characteristics.

"The planet is very faint," he said. "At the same distance from the sun and earth, Neptune would be about sixty times brighter. Only Mercury and Mars would be fainter. Either Lowell's predicted mass is not strictly correct or the planet is very dense or very black."

Dr. Stewart's tentative results make the planet's density between six and seven times that of water; its diameter 14,000 miles; its angular diameter seventeenths of a second of arc, or about a twenty-five hundredth the apparent diameter of the moon; the force of gravity on its surface more than twice that of the earth, so that with a spring balance a 150-pound man would weigh something like 325 pounds on the planet. He also estimates that it reflects about four per cent of the light falling on it, so that it would be little brighter than a coal pile.

Confirmation of the Lowell Observatory's discovery of the trans-Neptunian planet has been obtained in photographs made at the Steward Observatory of the University of Ari-

The Solar System

	Millions of Miles From Sun	Revolution Around Sun, Years	Diameter, Miles	Rotation Period
Sun.....	—	—	864,392	25 d. 7 h. 48 m.
Mercury.....	36.0	.24	3,009	88 days
Venus.....	67.2	.62	7,575	225 days
Earth.....	92.9	1.00	7,917.8	23 h. 56 m. 4 sec.
Mars.....	141.5	1.88	4,216	24 h. 37 m. 23 sec.
The Asteroids—1500 or more tiny bodies a few miles in diameter at an average distance from the sun of 258,000,000 miles.				
Jupiter.....	483.3	11.86	86,728	9 h. 55 m.
Saturn.....	886.1	29.46	72,430	10 h. 14 m.
<i>Above planets, except asteroids, all known since ancient times.</i>				
Uranus.....	1782.8	84.02	30,878	10 h. 45 m.
<i>Discovered by Sir William Herschel in England, March 13, 1781.</i>				
Neptune.....	2793.4	164.79	32,932	unknown
<i>First recognized as planet by J. G. Galle in Germany, September 23, 1846.</i>				
New planet.	4000.0	282.00	14,000	unknown
<i>Discovery announced by Lowell Observatory March 13, 1930. Values in italics not certain.</i>				

The Answer Is

In This Issue

Who discovered the *new planet*? p. 179—How did he get *started* in astronomy? p. 179—How fast does the planet *move*? p. 179—What is the *importance* of the planet's discovery? p. 180—Who first *discovered* a planet? p. 180—How *many* planets are now known? p. 180—Are there any *more* beyond? p. 180—Who *predicted* the planet's position? p. 181—Was the prediction of *Neptune* or the new planet more difficult? p. 182—What ancient American *road* has recently been explored? p. 183—What is the present price of *helium*? p. 184—When was *Philadelphia* ruined? p. 185—Why is *John Couch Adams* not recognized as the first discoverer of Neptune? p. 186—Does an *octopus* like musk? p. 187—For what is *milkweed* useful? p. 189—How long ago did *man* appear in America? p. 189—What *astronomical* body besides the planet has just been discovered? p. 190—What is *Millikan's* latest book? p. 191—Where can one secure material for a debate on the thirteen month *calendar*? p. 191.

zona. The natural skepticism with which the scientific world always greets any discovery of such importance will now largely be dispelled by this independent observation.

The first photograph was obtained by E. F. Carpenter with the observatory's three-foot reflecting telescope on Saturday, March 15. As the planet could not be identified by the character of its image on the plate, it was necessary to take a second photograph on a later night, in order to determine which object had moved. Stormy weather delayed taking of the second plate until Monday night, March 17.

Naming the Planet

Naming the trans-Neptunian planet is the next problem of astronomers, and numerous suggestions have been made, which may or may not be followed. One of the most obvious suggestions is to name it Lowell after the astronomer who predicted where it would be found; just as Uranus was known for a time in England as Herschel and Neptune in France as Leverrier. Herschel himself suggested Georgium Sidus after the reigning king, and a parallel is the suggestion that the new planet be named Hoover.

But as a good Harvard man, Lowell himself would probably have preferred a classical name, in accordance with the other planets. Kronos was one of the first suggestions in this class, after the Titan who was the son of Uranus and father of Jupiter. But Kronos was identified by the Romans with Saturn, so it would probably not be fair to put him in twice. Another son of Saturn, Neptune, is already in the sky, so another suggestion is that the planet be named after the third brother, Pluto. One appropriate name that has been suggested is Minerva, because it was by the wisdom of man, of which she was the patron goddess, that the planet was located.

Science News-Letter, March 22, 1930



SCIENCE NEWS-LETTER, The Weekly Summary of Current Science. Published by Science Service, Inc., the Institution for the Popularization of Science organized under the auspices of the National Academy of Sciences, the National Research Council and the American Association for the Advancement of Science.

Edited by Watson Davis.

Publication Office, 1918 Harford Ave., Baltimore, Md. Editorial and Executive Office, 21st and B Sts., N. W., Washington, D. C. Address

all communications to Washington, D. C. Cable address: Scienservc, Washington.

Entered as second class matter October 1, 1926, at the postoffice at Baltimore, Md., under the act of March 3, 1879. Established in mimeographed form March 13, 1922. Title registered as trade-mark, U. S. Patent Office.

Subscription rate—\$5.00 a year postpaid. 15 cents a copy. Ten or more copies to same address, 5 cents a copy. Special reduced subscription rates are available to members of the American Association for the Advancement of Science.

In requesting change of address, please give old as well as new address.

Advertising rates furnished on application.

Copyright, 1930, by Science Service, Inc. Reproduction of any portion of the SCIENCE NEWS-LETTER is strictly prohibited since it is distributed for personal, school, club or library use only. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicate services issued by Science Service, details and samples of which will gladly be sent on request.