

make a simple refracting telescope by attaching lens holders to a yardstick, inserting lenses, and adjusting them until they focus. In my classes we have illustrated the phases of the moon by making a moon collar, as was suggested in "The Sky" magazine a year or two ago. Rarely does a teacher complete this unit without assembling her class for at least one night's observation.

Through it all, the teacher hopes to bring to the pupils an appreciation and understanding of scientific contributions in astronomical fields, to leave a feeling of awe, and to orient the student to the universe in which he lives.

---Mrs. Elanora B. Davis

BOOKS WE ARE READING

Some of the most interesting books on modern astronomy and nuclear physics were written within the last few years by George Gamow, Professor of Theoretical Physics at the George Washington University.

Mr. Tompkins in Wonderland, published by MacMillan Co. 1940. The strange adventures of Mr. Tompkins help the reader grasp such elusive and abstract notions as quantum mechanics and relativity by the simple device of deliberately "changing" some of the fundamental constants of nature and observing the startling results.

Mr. Tompkins Explores the Atom, MacMillan Co., 1944. A series of dreams describes the adventures of Mr. Tompkins among the little electron people and in the laboratory of the nuclei "woodcarver." The reader also makes the acquaintance of Maud Tompkins, Maxwell's Demon, and numerous temperamental particles.

---Eugene S. Henning

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MOTION PICTURE SOUND FILMS entitled "Clouds;" "Flood Weather," "Fire Weather," and "Fog" will be shown at the meeting on January 6, 1945, 8 p.m., room 43, U.S. National Museum. These films have been made available by the U.S. Weather Bureau, and the projection equipment, by Mr. E. S. Henning.

HISTORY OF ASTRONOMY group will meet at the home of Dr. Woolard on Monday, January 15th, 7:30 p.m.

HERE IS YOUR CHANCE to be of service in the field of astronomy. The American Association of Variable Star Observers has asked our society to help in the observation of sun spots. The observations of a large number of observers are needed to improve the determination of long-term trends of solar activity. These observations have, and are being used by the government for the war effort.

The information needed is the total number of groups, ~~whole disc,~~ and the total number of sun spots, whole disc, daily, weather permitting. There are other factors involved but they depend solely upon the experience of the observer. Report blanks and other material will be furnished to those equipped to cooperate in this important cause. Write to Neal J. Heines, 560 Broadway, Paterson 4, New Jersey, for full particulars, telling him what equipment you have.

Dr. Donald H. Menzel, our speaker last month, is also a member of the committee of AAVSO. This is an opportunity for the amateur to assist the professional

astronomer. Take advantage of it at once and have the satisfaction of taking a scientific part in the war effort.

LT. COMMANDER MENZEL defined the sun as a star, in his lecture last month, one among many, but that still leaves the question open, What is the sun? Physically it is a mass of hot gases 1,000,000 times that of the earth, and its density one and a quarter times that of water. The temperature of the core is estimated at well over 10,000,000 degrees Centigrade, while the surface is around 6000 degrees.

Because atoms are constantly being broken up in the atmosphere of the sun, it must be losing weight constantly. The electrons thus released account for the magnetic storms that so disrupt our electrical systems of communications. Sun spots are storm areas, regions of low pressure, with temperatures much lower than the surrounding area. They occur in cycles, reaching the period of greatest activity every eleven years. Photographs taken in different bands of light, and charts illustrated these points and also the paths of spots across the sun.

The sun does not rotate uniformly like the earth, another fact that indicates it is a gaseous body. Its atmosphere is in a perpetual state of turmoil and the surface winds sometimes reach the speed of 90 miles per second.

There is still much to learn about the corona. Astronomers are unable to tell why it is 1,000,000 times hotter than the surface of the sun. Since the invention of the coronagraph, a device for artificially creating an eclipse within a telescope, actual moving pictures are possible of this phenomenon and consequently more detailed study. We were privileged to see the first public showing of the new pictures from Harvard's observatory at Climax, Colorado.

---Mrs. William P. Harris, Jr.

ASTRONOMY IN THE WASHINGTON PUBLIC SCHOOLS

Only one unit of astronomy is taught in the Washington public high schools. This is offered in the first part of the first semester of the ninth grade to those students who elect to study general science. The unit is called, "The Sky Challenges Man." Its theme is: "The Universe Consists of a Great Number of Orderly Systems."

The topical outline begins with the study of the solar system. The student learns how early man studied the heavens for signs by which he sowed his grain, made his travels, in fact, pursued his everyday life, and also how he employed the phenomena of the skies in his religion and superstitions. Later the student learns about the further development of astronomy in various lands and by means of various instruments.

This leads us to investigate the value of astronomy in life today. We learn how astronomy helps to tell exact time, navigate the ships of the air and sea, and to understand the rise and fall of the tides.

We then examine the solar system as an example of orderliness, thereby touching every part of the solar system including the earth with its seasons.

From this we turn to other orderly systems in the universe. First we are concerned with our own galaxy. Then we travel to other clusters and also make a more definite study of individual stars and the instruments used in studying them. It is at this point that I always take my six-inch lens and the grinding tool to the classroom to help explain the reflecting telescope.

Teachers are allowed a certain latitude in selecting projects, experiments, and demonstrations to teach the information outlined above; for example, some classes