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EXHIBITION OF THE NEW YORK MICROSCOPICAL SOCIETY.

The thirteenth annual exhibition of the New York Microscopical Society took place on the evening of the 22d of April, at the American Museum of Natural History, and, notwithstanding the pouring rain, the enthusiasm of the lovers of microscopy was not dampened and the spacious halls were crowded almost to an uncomfortable degree.

Nearly one hundred microscopes were in place, each containing an attractive object. It is obviously impossible to go into the details of the several exhibits, or even to describe the most interesting ones. The display of the instruments themselves was hardly less attractive than the objects exhibited. Among accessory apparatus shown were several forms of microtome, photo-micrographic apparatus, illuminators, various chemicals, and some of the earlier microscopes and microscopical apparatus. While the general exhibition was in progress there were three exhibitions of thirty minutes each in the lecture room at the end of the large hall. These comprised an exhibition of lantern slides of photomicrographs, an exhibition of lantern slides of diatoms, and a projection of miscellaneous microscopic objects.

Taken altogether, the exhibition proved a great success, and the officers and members of the society may well take pride in the results of their efforts.

ERICSSON'S DESTROYER AND ITS SUBMARINE GUN.

Some trials are to be made, during the latter part of April, of the Ericsson submarine gun, for the testing of which the Destroyer was built by the great inventor in 1878. The little vessel, now lying at the Navy Yard, is 130 feet long, 17 feet wide, and 11 feet deep, and adapted to use a submarine gun of 16 inch caliber and 30 feet long, the muzzle projecting through an opening in the stem, near the bottom. The vessel is designed to be almost totally submerged and have great speed, so that she could approach a hostile vessel with but little danger, discharging her torpedo at a distance of not more than 200 yards from an opponent, at such a depth below the surface of the water that it would not be stopped by the ordinary nettings and would reach the weakest part of the enemy's hull.

Some trials of the gun have been made within a few weeks past at the Erie Basin, but a lighter torpedo was employed than is required for use in actual service, that it might come to the surface at the end of its range and be recovered. The next trials, however, are to be made with torpedoes of the actual service weight, and under such conditions that the line of their passage through the water will be accurately marked. For this purpose the vessel has been brought to the Navy Yard, and the torpedoes will be discharged into the basin of the great timber dry dock, the vessel being stationed a few yards in front of the open gateway of the dock. Nettings are to be stretched across within the dock, at spaced intervals, through which the torpedo will pass, thus marking its path, the pumping out of the dock permitting the recovery of the torpedoes and the definition of the trajectory of each of them. The range at which the gun is designed to be serviceable is only about 200 yards, and it is the intention that the projectiles shall sink, and not rise to the surface, at the end of their course. The nets were constructed under the direction of Commander A. H. McCormack, the chief ordnance officer of the Brooklyn Navy Yard.

Some alterations have been made in the gun from the designs of Captain Ericsson, the principal change being one by which, when the torpedo is in position for firing, the explosive it contains will be entirely in the water section of the gun, beyond the gasket surrounding the torpedo and separating that portion from the inner section. This change has been made to prevent any possibility of a premature explosion as the torpedo leaves the gun. The weight of the projectile is designed to be 1,525 pounds; its length, 27 feet 4 inches; diameter, 16 inches; explosive charge, 300 pounds; propelling charge, 40 pounds. The weight and the balancing of the torpedo have to be carefully looked to in charging it, that it shall have the specific gravity of sea water and may be kept to a true course. The arrangements for the trial have been made by the Ericsson Coast Defense Company, under a contract with the government, and the experiments will be conducted under the supervision of the Naval Torpedo Board, of which Commander G. A. Converse is president.

POSITION OF THE PLANETS IN MAY.

VENUS

is evening star. Even more in May than in April is she first among the planets for her marvelous beauty and brilliancy. She is now retracing her steps toward the great central luminary. Her progress at first only slowly reduces the apparent length of the chain that binds her to the sun. Seen through a telescope at the beginning of the month, she presents the appearance of the moon when one-half of its illuminated surface is turned toward us. At the end of the month she is of a crescent shape like that of the moon when two days

past its third quarter. Venus is now moving rapidly toward the earth. This is a more important factor in determining her apparent brilliancy than the diminution of her phase. On the 2d of June she will appear at her brightest. The light number of Venus on May 1st is 142, on May 31st it is 184.

Those who may wish to see Venus with the naked eye in broad daylight should look for her as following the course of the sun and about three hours behind it. When Venus crosses the meridian, which takes place about 3 P. M. throughout the month, she has a high altitude and may be found at about one-sixth of the distance from the zenith toward the horizon.

The conjunction of the moon with Venus takes place at 2 h. 15 m. A. M., May 29th, below the horizon. Venus crosses the meridian about half an hour after the moon on May 28th and about half an hour before the moon on May 29th. On each day at that time she is only about 8 degrees from the moon, mainly in right ascension. As she will then be practically at her brightest, the position of the moon will enable the observer to find Venus readily in daylight. On the evening of the 28th, Venus and the three days' old moon with the bright stars in their neighborhood will form a charming picture.

The right ascension of Venus on the 1st is 5 h. 48 m., her declination is 26° 50' north, her diameter is 24'.4, and she is in the constellation Gemini, whose length she very nearly traverses during the ensuing month. Venus sets on the 1st at 10 h. 46 m. P. M. On the 31st she sets at 10 h. 21 m. P. M.

SATURN

is evening star. He crosses the meridian the first of the month at about 9 o'clock, at the end of the month at about 7 o'clock. Taken in connection with his more brilliant rival Venus, he will serve to mark the course of the ecliptic among the stars, that path from which the sun and all the planets can only slightly deviate. The motion of Saturn in the ecliptic is very slow. Owing to his great distance from the sun, he passes through but one sign of the zodiac in the course of a year. Since the middle of January he has been retrograding; during May his position will be almost stationary. He may be recognized by the time he crosses the meridian and by his steady red light. The system of rings and eight satellites about Saturn make him the most wonderful member of the solar system. Just now the plane of his rings passes in the neighborhood of the earth, so that the telescope reveals the rings only as a line of light.

The moon, five days before the full, is in conjunction with Saturn on the 6th, at 6 h. 47 m. P. M., being 2° 2' north.

The right ascension of Saturn on the 1st is 11 h. 41 m., his declination is 4° 48' north, his diameter is 17'.8, and he is in the constellation Virgo.

Saturn sets on the 1st at 3 h. 12 m. A. M. On the 31st he sets at 1 h. 12 m. A. M.

URANUS

is evening star. He crosses the meridian on the 1st at 11 h. 20 m., on the 31st at 9 h. 18 m.

Uranus is a star of the sixth magnitude and not easily recognizable under ordinary conditions.

The moon occults Uranus on the morning of May 10, being in geocentric conjunction at 4 h. 32 m. A. M. But this occultation will not be visible in New York, as moon and planet will be below the western horizon. Nor will the approach of the moon to the planet present any special interest, on account of the low altitude and the near approach of daylight.

The right ascension of Uranus on the 1st is 14 h. 7 m., his declination is 12° 16' south, his diameter is 3'.8, and he is in the constellation Virgo.

Uranus sets on the 1st at 4 h. 37 m. A. M. On the 31st he sets at 2 h. 39 m. A. M.

NEPTUNE

is first evening star and then morning star. He is lost throughout the latter part of the month in the sun's light. He is in conjunction with the sun on the 29th at about 1 P. M., at which time his role of evening star changes to that of morning star. His right ascension on the 1st is 4 h. 25 m., his declination is 20° 7' north, his diameter is 2'.5, and he is in the constellation Taurus.

Neptune sets on the 1st at 8 h. 47 m. P. M. On the 31st he rises at 4 h. 29 m. A. M.

MARS

is morning star. There is little of interest in his May course. He rises the earliest of the morning stars. His distance from the earth and his low altitude prevent his being of value for purposes of observation.

The moon is in conjunction with Mars on the 17th at 1 h. 37 m. P. M., being 3° 5' south.

The right ascension of Mars on the 1st is 19 h. 59 m., his declination is 22° 8' south, his diameter is 11'.5, and he is in the constellation Capricornus.

Mars rises on the 1st at 12 h. 37 m. A. M. On the 31st he rises at 11 h. 26 m. P. M.

JUPITER

is morning star. He is now so far away from the sun