

ASPECTS OF THE PLANETS FOR MAY.

VENUS

is morning star until the 4th, and then commences her brilliant career as evening star. On the 4th, exactly at midday, an event occurs in her history that gives her prominence on the annals of the month. She is in superior conjunction with the sun, passing beyond the sun, making her advent on his eastern side, clinging closely to him for a time, and hiding herself in his brilliant rays. As the weeks roll on she will emerge from her seclusion, shine with fitful glow, almost in the full blaze of the twilight, and before the summer wanes will be the loveliest object in the western evening sky, while winter will commence in earnest before she reaches her point of greatest distance from the sun. No true lover of the stars can gaze unmoved upon this fascinating planet, as, like a golden bead strung on an invisible wire, she oscillates eastward from the sun until her eastern elongation is reached on the 8th of December. Even more interesting is her return to the great orb, to whom she is linked by chains lighter than gossamer, and indestructible as the material universe itself.

Observers who watch closely the movements of this radiant star will readily perceive the oscillation eastward and westward from the sun, for such is the appearance she presents to spectators on the earth.

In reality, Venus and the earth are both revolving in elliptical orbits around the sun, as would be plain if observers could take the great luminary for a standpoint. Venus, being nearer the sun than the earth, moves faster and in a smaller orbit. She travels 21 miles in a second, and it takes her 225 days to complete a revolution. The earth moves slower, and makes a larger circuit. She travels 18 miles in a second, and completes a revolution in 365 days.

Thus our nearest planetary neighbor and her twin sister, the earth, move on in their shining paths, the former gaining upon the latter all the while. A time must come when the two planets and the sun will be in line, as is the case with all the planets in the system, and on the 4th Venus and the earth will reach that point.

Mathematicians give the exact figures. When Venus has made two entire revolutions and six-tenths of a third one, and the earth has made one revolution and six-tenths of a second one, a superior conjunction of Venus will take place, following, of course, a preceding epoch of the same kind. Venus requires 584 days to accomplish this feat. It is therefore called her synodic revolution, and represents the time that elapses between two consecutive returns to superior conjunction. The same law holds in regard to inferior conjunctions.

Venus, then, on the 4th, is in superior conjunction with the sun, rising and setting with the sun. She is in line with the sun and the earth, the sun being in the middle, is at her greatest distance from the earth, invisible as she passes beyond the sun, and invisible for some weeks to come, being eclipsed by his all-powerful light.

Although at present we may not behold the fairest of the stars with the physical eye, it is none the less sure that the light of her countenance is turned earthward, and that before long she will be visible in the west as evening star, and will throw a spell over the summer nights with her soft, dreamy beauty. She is lovely as in the morning sky she heralds the sun's approach in the glowing east, and even dares to shine in his majestic presence. She is more lovely, in our view, as, in the evening sky, she hangs in the star depths like a golden lamp suspended on invisible chains, sinks slowly in the west, increasing in brilliancy as the shadows deepen, outshining the myriad twinkling hosts that surround her path, and reigning the acknowledged queen of the star-spangled firmament.

But we anticipate the coming glory of our sister-planet. For, during the month, she can only be seen by the eye of fancy as she makes her way toward us amid the blaze of sunlight that encircles her.

Venus, on the 11th, moving eastward from the sun, pays her respects to Neptune, moving westward toward the sun. The planets are in conjunction, Venus being 1° 15' north.

The right ascension of Venus on the 1st is 2 h. 39 m.; her declination is 14° 38' north; her diameter is 10.2"; and she is in the constellation Aries.

Venus rises on the 1st 8 minutes before 5 o'clock in the morning; on the 31st she sets 20 minutes before 8 o'clock in the evening.

JUPITER

is evening star throughout the month. His course is marked by an interesting event. On the 17th, at 10 o'clock in the morning, he is in quadrature with the sun on the eastern side. Jupiter in quadrature is almost as impressive as Jupiter in opposition. For as the sun sinks below the western horizon, the princely planet comes into view, looking down with friendly eyes from the zenith. It is a fitting place for the most distinguished member of the sun's family, who, though three months have passed since opposition, retains the golden luster, the large proportions, and the beaming aspect that marked his presence on his nearest approach to the earth.

Jupiter and Regulus continue to be near neighbors during the month, as they have been for the last six months. On the 30th, at 7 o'clock in the morning, they are in conjunction for the third time, Jupiter being 41' north. A better opportunity seldom occurs for studying the difference in apparent movement between a planet and a fixed star. The star seems to be unchangeable in its position, being carried westward by the earth's motion eastward in her orbit. The planet is rightly named a wanderer, for he seems to move now forward, now backward, and is now stationary. Thus on the 7th of October of last year, Jupiter and Regulus were in conjunction, the planet after that time being east of the star. On the 14th of March, they were in conjunction again, changing places, the planet being west of the star. On the 30th they will be in conjunction for the third time; the planet again being east of the star, to whose vicinity he will no more return until he has completed a revolution round the sun, taking in the whole circle of the zodiac. Regulus is very near the sun's path, being only half a degree from the ecliptic, so that sun, moon, and planets are often passing near it. Mars was in conjunction with the star in May, and Venus in October of last year.

The right ascension of Jupiter on the 1st is 9 h. 54 m.; his declination is 13° 58' north; his diameter is 37.2"; and he is in the constellation Virgo.

Jupiter sets on the 1st about a quarter before 1 o'clock in the morning; on the 31st he sets a few minutes before midnight.

NEPTUNE

is evening star until the 13th, and then becomes morning star. On the 13th at noonday, he is in conjunction with the sun, passing to the sun's western side, and commencing his course as morning star. He is the first of the giant planets to reach the goal, though the other members of the fraternity will follow his example in due time.

It is well to note the difference between the conjunction of an outer planet and the superior conjunction of an inner planet, as illustrations of both occur during the month. In the former case, that of Neptune, he passes from the sun's eastern side to his western. In the latter case, that of Venus, she passes from the sun's western side to his eastern, apparently reversing the process. Venus, being the first to arrive at conjunction, must meet Neptune hastening to the same goal, and, as already referred to, the planets are in conjunction on the 11th.

The right ascension of Neptune on the 1st is 3 h. 22 m.; his declination is 16° 47' north; his diameter is 2.5"; and he may be found in the constellation Taurus.

Neptune sets on the 1st at half past 7 o'clock in the evening; on the 31st he rises about half past 3 o'clock in the morning.

MERCURY

is morning star. On the 25th he reaches his greatest western elongation, being 24° 59' west of the sun. Although he is nearly as far as possible from the sun, he is 9° south of him and not as favorably situated for observation as he was at eastern elongation in April, when he was 19° 26' from the sun. He will, however, be visible to the naked eye, under the best conditions of wind and weather, for it is the first of the three times in the year when there is a possibility of picking him up as morning star. On the 25th he rises about an hour before the sun, and is in the constellation Aries, but there are no bright stars in the vicinity to point him out. The observer who succeeds in finding him is blessed with keen visual power.

On the 13th, at 3 o'clock in the morning, Mercury is in conjunction with Mars, being 2° 27' south. On the 30th, at 4 o'clock in the afternoon, he is again in conjunction with Mars, being 2° 56' south.

The right ascension of Mercury on the 1st is 2 h. 12 m.; his declination is 12° 49' north; his diameter is 12"; and he is in the constellation Aries.

Mercury rises on the 1st about half past 4 o'clock in the morning; on the 31st he rises at a quarter after 3 o'clock.

MARS

is morning star. He is twice in conjunction with Mercury, and very near him during the whole month.

The right ascension of Mars on the 1st is 1 h. 32 m.; his declination is 8° 54' north; his diameter is 4.4"; and he is in the constellation Pisces.

Mars rises on the 1st soon after 4 o'clock in the morning; on the 31st he rises about 3 o'clock.

SATURN

is evening star. He is now conspicuous in the western sky, but at the close of the month will be too near the sun to be of much account.

The right ascension of Saturn on the 1st is 5 h. 24 m.; his declination is 22° 10' north; his diameter is 16"; and he is in the constellation Taurus.

Saturn sets on the 1st a few minutes before 10 o'clock in the evening; on the 31st he sets about a quarter after 8 o'clock.

URANUS

is evening star. The month closes with Neptune, Mercury, and Mars as morning stars, and with Venus, Saturn, Jupiter, and Uranus as evening stars.

The right ascension of Uranus on the 1st is 11 h. 58 m.; his declination is 0° 58' north; his diameter is 3.6"; and he is in the constellation Virgo.

Uranus sets on the 1st soon after 3 o'clock in the morning; on the 31st he sets soon after 1 o'clock.

THE MOON.

The May moons fulls on the 28th at 31 minutes after 3 o'clock in the evening. The moon does not encounter a single planet in her path until the 12th, when she is in conjunction with Mars, being 2° 3' south; four minutes later she is in conjunction with Mercury, being 22' north. She is in conjunction with Neptune on the 14th, about three hours before new moon, and with Venus on the same day about three hours after new moon. On the 16th, she pays her respects to Saturn, on the 20th to Jupiter, and on the 23d she makes a close conjunction with Uranus, being 1° 11' south. The close conjunction with Mercury on the 12th is an occultation for observers more favorably situated, and so is the conjunction of Uranus on the 23d, an occultation to observers in some parts of the far south.

The celestial kaleidoscope reveals a brilliant picture for the month of May. Venus is in superior conjunction, Neptune is in conjunction, and Jupiter in quadrature with the sun. Mercury reaches his greatest western elongation. Venus is in conjunction with Neptune. Mercury is twice in conjunction with Mars. The moon, besides swinging her ponderous sphere near the whole family of planets, occults Mercury and Uranus, for the telescopic delight of those observers who chance to be on that portion of the earth's surface where the exhibition is visible.

A Bark Canoe.

The camping out season is approaching, and an accessory to a life in the woods is the canoe. A writer in *Macmillan's Magazine* gives the following timely information for tourists: A bark canoe is only one man's load; he turns it upside down, and walks with it on his head. A man toiling across a portage in this attitude is a somewhat grotesque sight, suggesting a monstrous new kind of snail. Then the canoe will go over shallows where anything else would stick, and as for handiness, an expert canoeeman will almost turn it around with one twist of the paddle. Repairs are frequent but simple, consisting mainly in the free application to damaged places of a resinous gum kept in store for that purpose. Speed is a secondary consideration; you cannot go fast paddling up, and you cannot help going fast coming down. We came down a reach in half an hour that we had taken half a day to work up. Often towing and poling have to be resorted to to make way against a heavy current. Paddling, though a more wasteful application of muscular work than rowing, is less fatiguing when the pace is not forced, and after a little practice becomes a very delectable exercise. The traveler embarked on a canoe voyage has to carry most things with him. Along the river there are only scattered farm houses, and the only certain and comfortable way of securing shelter for the night is to camp out. The tents and other necessities form the cargo of the canoes. It is astonishing how much stuff can be stowed away in a canoe that looks quite small—another merit of the savage birch bark vessel as compared with European boats. Every night we choose our camping ground, pitch our tents, and make our camp fire; this last is of great importance, not only for warmth and brightness, but for driving away insects, the only drawback in a life otherwise perfect. When people play at camping out in England, they make a fire a foot or two across, over which they hang a kettle on three sticks. In Canada you make a fire of logs five or six feet long, or may be whole roots of pine or cedar, which will burn all night. The trouble of chopping the wood up small would be greater than that of burning it as it is, and its cost is nothing. In many places, indeed, the best fuel is drift wood, which could in no way be made otherwise useful. Even in summer nights the fire is a welcome companion, and after a day's work at paddling, hot tea is the best of drinks whatever the temperature may be—not that other drink would be easy to get if one wanted it, but no such want is felt.

Diphtheria in the Chief Cities.

Deaths from diphtheria per 100,000 inhabitants in

Amsterdam.....	265	Paris.....	85
Berlin.....	245	Hamburg.....	76
Madrid.....	235	Naples.....	74
Dresden.....	184	Lisbon.....	74
Warsaw.....	167	Stuttgart.....	61
Philadelphia.....	163	Rome.....	56
Chicago.....	146	Edinburgh.....	50
Turin.....	127	Buda-Pesth.....	50
St. Petersburg.....	121	The Hague.....	45
Bucharest.....	118	Vienna.....	44
Berne.....	115	London.....	44
Munich.....	111	Christiania.....	43
Stockholm.....	107	Copenhagen.....	42
Malines.....	105	Suburbs of Brussels.....	36
Antwerp.....	104	City of Brussels.....	35
New York.....	91		

The *Siglo Medico*, from which this extract is taken, considers Brussels a highly favored city. It is certainly so in regard to exemption from diphtheria.