Astronomy.

Astronomical Notes for July.

The Sun is in the constellation Gemini till the 18th, when he enters Cancer. His distance from the Earth is greatest on the 3rd. His northerly declination is now decreasing, making a rise in altitude at true noon of nearly 5 degrees. The solar surface, during the past month, has been almost entirely devoid of spots, denoting a close approach to time of minimum "spot" activity.

The Moon, in her monthly circuit of the heavens, comes into the vicinity of the planets and some of the brighter stars, and serves as a convenient pointer to them. She will be near Jupiter on the evening of the 5th; Uranus on the evening of the 12th; Mars on the morning of the 20th; and Saturn on the morning of the 21st. She will be passing through the following constellations during the early evenings of the given dates:—In Leo on the 1st and 2nd; Virgo on the 3rd, 4th, and 5th; Libra on the 6th and 7th; Scorpio on the 8th; Sagittarius on the 9th, 10th and 11th; Capricornus on the 12th, 13th and 14th; Aquarius on the 15th and 16th; after which she rises late in the evening.

Phases of the Moon in New Zealand mean time—

First Quarter ..	3 days	7 hrs.	50 min. p.m.
Full Moon ..	12 days	0 hrs.	23 min. a.m.
Last Quarter ..	19 days	5 hrs.	1 min. p.m.
New Moon ..	26days	7 hrs.	42 min. a.m.
Apogee ..	9 days	2 hrs.	12 min. p.m.
Perigee ..	24 days	10 hrs.	6 min. p.m.

Mercury is a morning star at the beginning of the month, in Gemini. He will be in perihelion on the 1st, in superior conjunction on the 4th, and his descending node on the 9th, and in greatest heliocentric latitude north on the following day; in conjunction with the Moon on the evening of the 27th; and in conjunction with the bright star Regulus on the 30th, when a very interesting view of both bodies may be had in a small telescope, or pair of field glasses, and better in a telescope of larger proportions, when useful comparison can be made of the two bodies, their light, magnitudes, etc.

Venus is now the brilliant evening star of the western skies. Shining brightly in the waning light of early evening, she immediately arrests the eye of the observer looking towards the west. She is at her greatest eastern elongation on the 8th, at which time her angular distance from the Sun's centre is 45.5deg.; she is in her descending node on the 17th; and in conjunction with the Moon on the 29th, and will appear close to the body on the same evening, when the two will present a very interesting appearance in the western skies.

Mars is still a morning star in Pisces, slightly west of the star Mu. He is still too far away for useful observations to be made of his surface markings; the only object clearly visible upon his small, ruddy disc is his snow cap. He will be in perihelion on the 2nd; and in conjunction with the Moon on the 20th.

Jupiter is an evening star on the borders of Virgo, and is a splendid object in our evening skies at this time. He well repays telescopic scrutiny, even in a small "hand' telescope his disc may be made out, and his four larger moons clearly seen, and their motions watched. He will be stationary amongst the stars on the 3rd; in conjunction with the moon on the evening of the 5th, at 51min. past 8; and will be in quadrature with the sun on the last day of the month.

Saturn is a morning star at this time rising about three hours before the sun, in the constellation Aries. He will be in conjunction with the Moon on the 1st, being 3.5 degrees to the south of our satellite at the time. His beautiful ring system, now well inclined to the observer's line of sight, presents an object of great beauty, and one that should not be missed by telescopists at this time who find themselves "opposed" to him in the early morning hours.

Uranus is an evening star in the constellation Sagittarius having a retrograde path amongst the stars at this time. He is in conjunction with the Moon on the 12th.

Neptune is a morning star in Gemini. He is in conjunction with Mercury on the 9th, and with the Moon on the 25th.

Meteors.—A radiant located in the constellation Aquarius may be watched during the early part of the month. These are generally slow-moving meteors with long, bright trains, and the centre is near the star Delta.

The Constellations for the middle of the month at about 8 p.m. are placed as follows:—Hercules and Bootes, with the Northern Crown (significant at this time) near the meridian. It may be of interest to those who take interest in these matters that, as the Coronation ceremonies are taking place in London, we in New Zealand may see Corona Borealis at its culmination in our evening skies. Serpens and Ophiuchus, with Libra and Scorpio still higher, well up to the zenith. In the east we may see the Eagle rising, easily identified by the three bright stars, the central being Altair, the brightest. Capricorus and Sagittarius are over these, and Grus and Pisces Australis further towards the south. The Southern Cross is now making its way downwards on the western side of the South Pole, followed by the "pointers," Alpha and Beta Centauri. To the left of the Cross are the Triangle, Pavo, Indus and Toucan, and Hydrus below. Argo and the brilliant Canopus are now getting well down in the south, while Achernar is rising in the south-east. In the west Leo is setting, also part of Hydra, the Water-snake, bearing down with himself, Corvus and Crater, and over these is Virgo and the bright star Spica.

June 30, 1911.

Professor Bickerton.

His Lecture—Sketch of Proceedings.

The Chairman (the Right Hon. Sir George Reid, K.C.M.G.): Professor Bickerton is not, I regret to say, a native-born Australian, but, like many Englishmen, he has been greatly improved by a visit to the Antipodes. Many years ago he was one of the most distinguished students in the Mother Country and one of the most successful teachers. He went out to New Zealand thirty-six years ago. He has come home to endeavour to draw public attention to a theory of his which has already been received with great respect by most of the high authorities and which may in days to come bracket with his name one of the most wonderful discoveries of science. What his theory is Mr. Bickerton will himself explain to you.

After the paper, published in PROGRESS last month, the following discussion took place:—

The Chairman: I wish to propose a vote of thanks to Professor Bickerton for his address. I lack the necessary qualifications to follow with certainty the brilliant theory he has expounded, but I do not think we need scientific knowledge to recognise that the theory is far more in harmony with what we believe of life and the mysteries of life than the theory which points to a dying universe. The spiritual theory is singularly in accordance with the theory of the address to-day, for it teaches that out of death comes a more glorious life, out of mortality immortality. That theory runs side by side with the theory propounded by Professor Bickerton: the theory that out of the collisions and collapses of Nature come a new life and a fresh universe. One or two thoughts crossed my mind while listening to Professor Bickerton's address. It is the first time, I think, that Australia has sent to you a man to speak on one of the great mysteries of science. We have sent cricketers, plenty of them, and fine fellows, as you know. We have sent men to your rifle meetings; we have sent champion scullers; we have sent statesmen. But now Australia, in Professor Bickerton, has sent a man of scientific mind dealing with the mysteries of the Universe. I wish to express my thanks to the Royal Colonial Institute for arranging for this address. As the Professor said, I think it is within the broad scope of the work of this admirable Institute. Is it not a grand thing sometimes that our attention should be taken from the earth upwards to the skies? How seldom the average man or average woman looks up to the skies, except on a question of overcoat or umbrella; but to-night we have been taken on a grand excursion into the remotest spaces of the heavens. I feel that the work to which the Professor has devoted his life will not only bring to him great fame, but will add marvellously to the light which is being shed more and more upon the marvels of Creation. What a marvellous work the illustrious Darwin did in his theory of Evolution! But the theory of Evolution dealing only with the visible living things on this little earth, is as simplicity itself compared with the evolution of the broad and mighty Universe, which may contain thousands of worlds and forms of life infinitely greater than our own. I do not think in the history of this Institute you will have a greater subject brought before you than this which Professor Bickerton has introduced. The Professor comes here with the highest credentials. The Government of New Zealand and the men of science in New Zealand are so impressed with the value of his discoveries that they have contributed out of the public funds to his mission to the Mother Country, and Lord Dudley, the Governor-General in Australia, made a splendid donation out of his own private purse. I ask you to join with me in a cordial expression of thanks to the lecturer.

Professor Bickerton: I am much obliged to you for your vote of thanks, and I have to thank our chairman very heartily for his very kind remarks. We all know how extremely busy he is, and that we should have him here on this inclement day to listen to a discussion on such a very erudite subject is a great compliment to us. I beg to propose a vote of thanks to the chairman.

Mr. E. B. Knobel (President of the British Association, Past President Astronomical Society): I have much pleasure in seconding the vote of thanks to the Chairman. It has been an extreme pleasure to me to listen to Professor Bickerton's eloquent address. I have given some attention to astronomy myself, and I can say that the basis of Professor Bickerton's theory is such that it must command not only the attention and consideration, but, I think, the assent of the majority of astronomers.