

themselves towards the new equator. A great proportion at least of the human race would be destroyed in the deluge, or by the shock of the terrible collision. All monuments of civilization would be in a moment annihilated. Indeed, it is not impossible that such an event has actually taken place in a not very remote past. This would explain why the oceans have receded from the high mountains, upon which they have left incontestable marks of their sojourn. It would explain the comparative newness of the moral world of rational beings, whose monuments date back but for a few thousand years. The human race, reduced by such a catastrophe to a small number of individuals, and solely occupied for a length of time with the care of its own preservation, must have lost entirely the remembrance of the sciences and arts. And when the progress of time made these wants felt anew, it was necessary to begin again, as if man had been newly placed upon the Earth. To obtain, however, a truly correct view of the effects of a collision with a heavenly body of a supposed mass about equal to that of the Earth, we must not ignore the great principle of the "law of the conservation of energy," by which the kinetic energy of a body can be transformed into heat. Thus, knowing the weight and velocity of the Earth, we can calculate the exact amount of heat that would be generated, were the Earth to be suddenly stopped in its course. This heat would be sufficient not only to fuse the entire globe, but to reduce it in great part to vapour. This collision between the Earth and another body of equal mass and velocity would result in the annihilation of all movement of translation, and the Earth and body together, fused into one single-heated mass, would fall into the Sun within two months after the catastrophe.

Memoranda for Observers.

Standard Time of India is adopted in these Memoranda.

For the month of October 1915.

Sidereal Time at 8 p.m.

				H.	M.	S.
October	1st	...	...	...	20	36 58
,,	8th	...	...	...	21	4 34
,,	15th	...	...	...	21	32 10
,,	22nd	...	...	...	21	59 45
,,	29th	...	...	...	22	27 21

From this table the constellations visible in India during the evenings in October can be ascertained by a reference to a Star Chart, as the above hours of sidereal time represent the hours of right ascension on the meridian.

The Moon.

PHASES—

October	1st	at	3-14	P.M.	Last Quarter.
"	9th	"	3-12	A.M.	New Moon.
"	15th	"	7-21	P.M.	First Quarter.
"	23rd	"	5-45	A.M.	Full Moon.
"	31st	"	10-9	A.M.	Last Quarter.

OCCULTATIONS—

October	3rd	at	7-10	A.M.	Mars	Between	90° N.	and	11° N.
"	12th	"	7-56	P.M.	Antares	"	17° N.	"	48° S.
"	17th	"	7-37	A.M.	Uranus	"	59° N.	"	20° S.
"	25th	"	5-46	P.M.	The Pleiades	"	90° N.	"	22° N.

CONJUNCTIONS—

October	2nd	at	7-53	A.M.	with Saturn	(Planet	3°	12' S.)
"	3rd	"	7-11	A.M.	" Mars	"	0°	43' S.
"	9th	"	8-0	P.M.	" Venus	"	6°	11' N.
"	10th	"	5-6	P.M.	" Mercury	"	1°	40' N.
"	20th	"	7-55	A.M.	" Jupiter	"	4°	57' S.
"	29th	"	5-10	P.M.	" Saturn	"	2°	53' S.

The Planets.

Mercury—is an evening star until the 22nd, when he will be in inferior conjunction with the Sun at 7-30 P.M., and then becomes a morning star. He will be visible during the first week of the month, setting a little more than an hour after the Sun.

Venus—now an evening star, sets within an hour after sunset throughout the month.

Mars—a morning star, rises between four and five hours before the Sun all through the month. Position on the 15th R. A. 8·27 Dec. 20° 23' N. in Cancer to the west of *Præsepe*. On the morning of the 12th, he will be in conjunction with Neptune.

Jupiter—is now high in the heavens before midnight. Position on the 15th R. A. 23·26 Dec. 5° 20' S. still below the Great Square.

Saturn—a morning star, will be at quadrature with the Sun on the 10th, being then on the meridian at sunrise. Position on the 15th R. A. 7·10 Dec. 21° 53' N. in Gemini.

Uranus.—Position on the 15th R. A. 20·57 Dec. 17° 55' S. in Capricornus.

Neptune.—Position on the 15th R. A. 8·19 Dec. 19° 18' N. in Cancer.

For the month of November 1915.

Sidereal Time at 8 p.m.

			H.	M.	S.
<i>November 1st</i>	...	...	22	39	11
„ <i>8th</i>	...	...	23	6	47
„ <i>15th</i>	...	...	23	34	23
„ <i>22nd</i>	...	...	0	1	59
„ <i>29th</i>	...	...	0	29	35

From this table the constellations visible in India during the evenings in November can be ascertained by a reference to a Star Chart, as the above hours of sidereal time represent the hours of right ascension on the meridian.

The Moon.

PHASES—

November 7th at 1-22 P.M. Now Moon.
 „ *14th* „ 4-33 A.M. First Quarter.
 „ *21st* „ 11-6 P.M. Full Moon.
 „ *30th* „ 3-40 A.M. Last Quarter.

OCCULTATIONS—

November 13th at 1-49 P.M. Uranus Between 72° N. and 3° S.
 „ *27th* „ 8-32 A.M. Neptune „ 90° N. „ 33° N.

CONJUNCTIONS—

November 6th at 9-46 A.M. with Mercury (Planet 7° 32' North.)
 „ *8th* „ 4-6 P.M. „ Venus „ 4° 46' „
 „ *16th* „ 11-25 A.M. „ Jupiter „ 4° 59' South.
 „ *25th* „ 10-38 P.M. „ Saturn „ 2° 41' „
 „ *29th* „ 5-47 A.M. „ Mars „ 3° 52' North.

The Planets.

Mercury—is a morning star rising in Virgo about an hour before the Sun at the beginning of the month, and in Libra less than an hour before on the 30th. He will be at greatest elongation 18° 57' W. on the morning of the 7th.

Venus—an evening star, gradually increases her distance above the Sun and by the end of the month will set nearly an hour and a half after the Sun.

Mars—a morning star, will be in quadrature with the Sun on the 10th, being then on the meridian at about sunrise. Position on the 15th R. A. 8·27 Dec. 16° 59' N. in Leo, a little to the north-west of Regulus.

Jupiter—who has been retrograding since July 19th, will be stationary on the 15th and will afterwards resume his eastward course. Position on the 15th R. A. 23·20 Dec. 5° 49' S. in Pisces.

Saturn—a morning star, now rises before midnight. Position on the 15th R. A. 7·10 Dec. 21° 55' N. in Gemini.

Uranus.—Position on the 15th R. A. 20·58 Dec. 17° 51' S. in Capricornus.

Neptune.—Position on the 15th R. A. 8·19 Dec. 19° 16' N. in Cancer.

