and apparently empty spaces through which we seem to look out from the bounds of the visible universe into fathomless depths beyond. But is there any thoughtful mind which can avoid asking itself the question, "What lies beyond? When we come to the outermost star of the universe, what then?" That is a question which even astronomy, with all its marvellous wealth of discovery and achievement, cannot answer—at least not yet.—*Youth's Companion.*

THE POWER OF TELESCOPES.—Prof. Holden says that if the brightness of a star seen with the eye alone is one, with a 2-inch telescope, it is 100 times as bright; with a 4-inch telescope, 400 times; 8-inch telescope, 1,600 times; 16 inch telescope, 6,400 times; 32-inch telescope, 25,600 times; 36-inch telescope, 32,400 times. That is, stars can be seen with the 36-inch telescope which are 30,000 times fainter than the faintest stars visible to the naked eye. While the magnifying power which can be successfuly used on the 5-inch telescope is not above 400, the 36-inch telescope will permit a magnifying power of more than 2,000 diameters on suitable objects, stars for example. With such a telescope the moon appears the same as it would with the naked eye 200 miles away. This is the same as saying that objects about 300 feet square can be recognized, so that no village or great canal, or even large edifice, can be built on the moon without our knowledge.—*The School Journal.*

M. de Lucy, a French naturalist, has shown that the wing-area of flying animals varies from about 49 square feet per pound of weight in the gnat, and 5 square feet in the swallow, to half a square foot per pound of weight in the Australian crane, which weighs 21 pounds and yet flies well. If we were to adopt the last or smallest proportion, a man weighing 12 stone would require a pair of wings each of them 14 feet long by 3 feet broad, or double the area of an ordinary room door, to carry him, without taking into account the weight of the wings themselves. To pick out other aerial instances it may not be generally known that a frigate-bird can travel at the rate of a hundred miles an hour by chronograph, and live in the air a week at a time, day and night, without touching a roost; that large and heavy birds can remain almost motionless in air for hours without flapping their wings; that birds can exert continuously about three times the horse power per pound of weight that man can, and about the same amount more than a horse can. The energy given out by birds is, in fact, weight for weight, unparalleled in nature.—*Pall Mall Gazette.*

DAY OF THE WEEK FOR ANY DATE.

Let A = number of given year;

B = number of the day in the year;

C = number of leap years from A. D. 1 to the beginning of the year, that is, $(A-1)\div 4$, neglecting the remainder.

Add these numbers together, and from the total subtract D = the number of secular years which were not leap years (100, 200, 300, 500, etc.); divide the sum by 7, and the remainder will be the day of the week.

Example: June 18, 1815.

$1815 + 169 + 453 - 14 = 2423$.

$2423 \div 7$ gives the remainder 1, showing that the day is Sunday.

This holds for any century according to the Gregorian Calendar. For the Julian reckoning the rule is the same, only omit the number D, and write 2 in its place.

Example: Oct. 14, 1066.

$1066 + 287 + 266 - 2 = 1617$.

$1617 \div 7$ gives the remainder 0 (or 7), showing that the day is Saturday.—*Nature.*