

THE
ODD FELLOWS' RECORD;

A MONTHLY MAGAZINE,

DEVOTED TO THE INTERESTS OF THE INDEPENDENT
ORDER OF ODD FELLOWS.

Vol. II.

MONTREAL, NOVEMBER, 1847.

No. 11.

(For the *Odd Fellows' Record*.)

ASTRONOMY.

CHAPTER II.

ON THE PHYSICAL PECULIARITIES
OF THE PLANETS.

We shall now proceed to treat of the physical peculiarities and probable condition of the several Planets, so far as the former are known by observation, or the latter rest on probable grounds of conjecture.— In this three features principally strike us, as necessarily productive of extraordinary diversity in the provisions by which, if they be, like our earth, inhabited, animal life must be supported. There are— first, the difference in their respective supplies of light and heat from the Sun; secondly, the difference in the intensities of the gravitating forces which must subsist at their surfaces, or the different ratios which, on their several Globes, the inertia of bodies must bear to their weights; and thirdly, the difference in the nature of the materials of which, from what we know of their mean density, we have every reason to believe they consist. The intensity of solar radiation is nearly seven times greater on Mercury than on the Earth, and on Uranus 330 times less; the proportion between the two extremes being that of upwards of 2000 to 1. Let any one figure to himself the condition of our Globe, were the Sun to be septriplicated, to say nothing of the greater ratio; or were it diminished to a seventh, or to a 300th part of its actual power. Again, the intensity of gravity, or its efficacy in counteracting muscular power and repressing animal activity, on Jupiter is nearly three times that on the Earth, on Mars not more than one third, on the Moon one sixth, and on the Asteroids probably not more than 1-20th; giving a scale of which the extremes are in the proportion of 60 to 1. Lastly, the density of Saturn hardly exceeds one eighth of the mean density of the Earth, so that it must consist of materials not much heavier than cork.

Now under the various combinations of elements so important to life as these, what immense diversity must we not admit in the conditions of that great problem, the maintenance of animal and intellectual existence and happiness, which seem, so far as we can judge by what we see around us in our own Planet, and by the way in

which every corner of it is crowded with living beings, to form an unceasing and worthy object for the exercise of the benevolence and wisdom which presides over all.

Quitting, however, the region of mere speculation, we will now show what information the telescope affords us of the actual condition of the several Planets within its reach. Of Mercury we can see little more than that it is round, and exhibits phases. It is too small, and too much lost in the constant neighbourhood of the Sun, to allow us to make out more of its nature. The real diameter of Mercury is about 2300 miles. Nor does Venus offer any remarkable peculiarities; although its real diameter is 9800 miles, and though it occasionally attains the considerable apparent diameter of 61, which is longer than that of any other Planet, it is yet the most difficult of them all to define with telescopes. The intense lustre of its illuminated part dazzles the sight, and exaggerates every imperfection of the telescope; yet we see clearly that its surface is not mottled over with permanent spots like the Moon; we perceive in it neither mountains nor shadows, but a uniform brightness, in which sometimes we may, indeed, fancy obscurer portions, but we can seldom or never rest fully satisfied of the fact. It is from some observations of this kind that both Venus and Mercury have been concluded to revolve on their axis in about the same time as the Earth. The most natural conclusion, from the very rare appearance and want of permanence in the spots, is, that we do not see, as in the Moon, the real surface of these Planets, but only their atmospheres, much loaded with clouds, and which may serve to mitigate the otherwise intense glare of their sunshine.

The case is very different with Mars. In this Planet we discern, with perfect distinctness, the outlines of what may be Continents and Seas; of these, the former are distinguished by that ruddy colour which characterizes the light of the Planet (which always appears red and fiery,) and indicates no doubt, an ochrey tinge in the general soil, like what the red sandstone districts on the Earth may possibly offer to the inhabitants of Mars, only more decided. Contrasted with this (by a general law in Optics), the Seas, as we may call them, appear greenish. These spots are not however always to be seen equally distinct, though, when seen, they offer always the same appearance. This may arise from the planet not being entirely destitute of atmosphere and clouds; and what adds greatly to the probability of