

INTRODUCTION.

GEOGRAPHY treats of the figure, magnitude, position, and motion of the earth, and of the situation, extent, divisions, subdivisions, and boundaries of the different places upon its surface; to which is usually subjoined an abstract of the religion, history, character, government, manners, commerce, and population of every kingdom. This science is, however, in many respects so closely connected with Astronomy, that it will be proper to give a general outline of the latter as well as the former.

THE UNIVERSE.

The term *universe* comprehends the whole frame of Nature, to the utmost extent of Creation. How magnificent and exalted, then, are the ideas presented to the human mind by its contemplation! In the formation and preservation of this stupendous structure, the wonders of Omnipotence are illustriously displayed; and the more accurate and extensive our knowledge of the universe, the more elevated will be our conceptions of the Supreme Being.

THE SOLAR SYSTEM.

The *solar system* is that portion of the universe which comprehends the sun, planets, satellites, and comets. The sun is the centre of this system, and there are eleven planets which revolve around him, each in its orbit. The names of these, according to their distance from the Sun, are Mercury, Venus, the Earth, Mars, Ceres,* Pallas,* Vesta,* Juno,* Jupiter, Saturn, and the Georgium Sidus. The first two, moving within the orbit of the Earth, are denominated inferior planets; the others move without that orbit, and are therefore denominated superior planets. The Earth, Jupiter, Saturn, and the Georgian, are attended by secondary planets, called *satellites*, or *moons*, which revolve about them as centres, and are regulated in their motions by the same laws which regulate the motions of the planets in their orbits round the sun. The Earth is attended by *one* Moon, revolving at the distance of 240,000 miles, Jupiter, *four*; Saturn, *seven*; and the Georgian, *six*. Saturn, also, besides his moons, is encircled by two concentric *rings*, at a considerable distance from his body, which, like satellites or moons, revolve round about him in his planes.

The planets have likewise a motion of rotation each, round its own axis; at least observation renders it certain that Venus, the Earth, Jupiter, and Saturn have such a motion; and it is natural, from analogy, to infer that the rest have a similar motion.

The planets are opaque spherical bodies, and, having no light of their own, shine by borrowed light from the sun, which is both the centre of their motions and the source of their light and heat. They complete their revolutions in a greater or less time in proportion to their distances from the sun, there being a constant and very curious relation between their distances from him and their periodical times.†

* Ceres was discovered by M. Piazzi, astronomer royal at Palermo, on the 1st of January, 1801: to the naked eye it is not visible, nor will glasses of a very high magnifying power show it with a distinctly defined diameter. Pallas, which is still smaller, was discovered in 1802, by Dr. Olbers, at Hamburg. Juno was discovered by M. Harding, in 1804; and Vesta by Dr. Olbers, in 1807.

† It was first discovered by Kepler, a Prussian astronomer, that the squares of the periodic times of the planets are proportional to the cubes of their mean distances from the sun.