

sure of some Alcyone, 12,000 suns strong, revolving about another Alcyone, perhaps 100,000 suns strong. More than this. The Magellanic Clouds, so called, of the southern hemisphere, are nothing but two great beds of clusters and nebulae; three hundred nebulae in one, and thirty-seven in the other: and in the constellation Virgo, especially in one of its wings, the nebulae are scattered almost as the grain will be sown in your fields this spring—swarms of them, in groups and clusters of groups; and it is just as certain that each of these great beds is in course of revolution about its centre of gravity as it is that over that amazing congeries of firmaments is stretched the sceptre of law.

Such are the various orders of systems which we can prove to be within the range of our telescopes. But no astronomer doubts that within this range may lie hundreds of different orders, wheel within wheel, in astounding climax and bewildering complexity: even that within this range our own earth may be describing a thousand-fold orbit about a thousand different centres.

But there must be, at last, a **UNIVERSE SYSTEM**—a system composed of all the bodies that people space, and in which each body revolves about the gravity-centre of the whole material universe. Let us devote a few thoughts to it.

Eighteen millions suns belong to our firmament. More than four thousand such firmaments are visible; and every increase of telescopic power adds to the number. Where are the frontiers—the last astronomical system—that remote spot beyond which no nebula, no world, glitters on the black bosom of eternal nothingness? Probably, some one of those many nebulae just brought into faint view by the great reflector at Rosse's Castle, is but another nebula of Andromeda; which, though visible to the naked eye, gives no sign of being resolved into stars by an instrument of four hundred times the eye's space-penetrating power. Think of the distance expressed by four hundred times the distance of the milky way of Andromeda—five millions of years, as flies the light! Alas, how feeble are our powers! How they labor and bow under the weight of such mighty numbers, such gates of Gaza! What wondrous chronometers those must be which could take fitting account of the ongoings of such far-off firmaments! Could you stand, with a wand in your hand reaching to that remotest galaxy, and sweep it around you in every direction, what an empire fit for a Jehovah would fall within the embrace of those glorious circles! And yet who shall say that even this is the whole astronomical universe? What right have we to stop just where the power of our instruments happens for the moment to have stopped,

and say, "This is the end—these are the Pillars of Hercules? Turn back, O adventurous explorer—nothing but night and void in this direction—thou hast reached the last outpost of the kingdom of the Eternal! *Ne plus ultra!*" No: thrice no. On still through peopled infinitude, through raining galaxies and tornado-nebulae; and, while thou goest outward still through the charging, storming hosts of suns as long as thought can fly, or angels live, say ever to thyself, "Lo, these are parts of His ways; but how little a portion is heard of Him! The thunder of His power, who can understand?" Is not space infinite? Is not He infinite? And who dare say that His works are not wellnigh infinite too—at least that the limit to which our gasping and bewildered astronomy has hitherto conducted us is not, as it were, but the first mile-stone of peopled space; and that great swarming sphere which our mightiest telescopes have gauged, but the merest rain-drop compared with another swarming sphere which embraces it? But let us suppose an end; suppose an orbit so large as to include in its unspeakable round the entire magnificence of the sidereal heavens. At last the Ultima Thule is reached. We have the total universe of matter which God has made—one all-comprehending astronomical neighborhood—and around it stretches in all directions the black wastes of an altogether endless vacancy. All members of this great ultimate system must be in motion about its common centre of gravity. Whether this sublime centre is, or is not, a mathematical point, where not an atom of matter nestles, our present science has no means of determining. But is there not something at the bottom of our hearts better than science, which invites us to believe that what would be so fitting and beautiful is also triumphantly actual; namely, that at the centre of this august totality of revolving orbs and firmaments—at once the centre of gravity, the centre of motion, and the centre of government to all—is that better country, even the heavenly, where reigns in glory everlasting the Supreme Father and Emperor of Nature; the capital of creation; the one spot that has no motion, but basks in majestic and perfect repose while beholding the whole ponderous materialism which it ballasts in course of circulation about it. All hail, Central Heaven! All hail, innermost Sun Palace and celestial Alhambra! All hail, believer's Last Home—from which an adult astronomy, fitted with the pictured and dynamical wings of angels, shall immortally radiate to all the girdling worlds and immortally bring home fresh proofs of the glory of Him who has so long been defrauded of His rights among men of science by the empty names of law and nature!