

### III.

#### NUMBER, DISTRIBUTION, AND COLOR OF THE FIXED STARS.—STELLAR MASSES (STELLAR SWARMS).—THE MILKY WAY INTERSPERSED WITH A FEW NEBULOUS SPOTS.

We have already, in the first section of this fragmentary Astrognoſy, drawn attention to a queſtion firſt mooted by Olbers.\* If the entire vault of heaven were covered with innumerable ſtrata of ſtars, one behind the other, as with a wide-ſpread ſtarry canopy, and light were undiminished in its paſſage through ſpace, the ſun would be diſtinguiſhable only by its ſpots, the moon would appear as a dark diſk, and amid the general blaze not a ſingle conſtellation would be viſible. During my ſojourn in the Peruvian plains, between the ſhores of the Pacific and the chain of the Andes, I was vividly reminded of a ſtate of the heavens which, though diametrically oppoſite in its cauſe to the one above referred to, conſtitutes an equally formidable obſtacle to human knowledge. A thick miſt obſcures the firmament in this region for a period of many months, during the ſeaſon called *el tiempo de la garua*. Not a planet, not the moſt brilliant ſtars of the ſouthern hemisphere, neither Canopus, the Southern Croſs, nor the feet of the Centaur, are viſible. It is frequently almoſt impoſſible to diſtinguiſh the poſition of the moon. If by chance the outline of the ſun's diſk be viſible during the day, it appears devoid of rays, as if ſeen through colored glaſſes, being generally of a yellowiſh red, ſometimes of a white, and occaſionally even of a bliſh green color. The mariner, driven onward by the cold ſouth currents of the ſea, is unable to recognize the ſhores, and in the abſence of all obſervations of latitude, ſails paſt the harbors which he deſired to enter. A dipping needle alone could, as I have elſewhere ſhown, ſave him from this error, by the local direction of the magnetic curves.†

Bouguer and his coadjutor, Don Jorge Juan, complained, long before me, of the “unaſtronomical ſky of Peru.” A graver conſideration aſſociates itſelf with this ſtratum of vapors, in which there is neither thunder nor lightning, in conſequence of its incapacity for the transmission of light or electric charges, and above which the Cordilleras, free and cloudleſs, raiſe their elevated plateaux and ſnow-covered

\* *Vide ſupra*, p. 38, and note.

† *Cosmos*, vol. i., p. 178, and note.