

too extensive to be treated at length in the present work.* I must content myself with remarking, that these illusions are the direct consequences of the very same laws, which, in ordinary circumstances, direct our judgment correctly, but are then acting under unusual or irregular combinations of circumstances. These illusions may be arranged under three classes, according as they are dependent on causes of a physical, physiological, or mental kind.

The first class includes those illusions in which an impression is really made on the organ of sense by an external cause, but in a way to which we have not been accustomed. To this class belong the acoustic deceptions arising from echoes, and from the art of ventriloquism; the deceptive appearances of the mirage of the desert, the looming of the horizon at sea, the *Fata Morgana* of the coast of Calabria, the gigantic spectre of the Brocken in the Hartz, the suspended images of concave mirrors, the visions of the phantasmagoria, the symmetrical reduplications of objects in the field of the kaleidoscope, and a multitude of other results of the simple combinations of the laws of optics.

The second class comprehends those in which the cause of deception is more internal, and consists in the peculiar condition of the nervous surface receiving the impressions. Ocular spectra of various kinds, impressions on the tongue and the eye from galvanism, and those which occasion singing in the ears, arising generally from an excited circulation, are among the many perceptions which rank under this head.

The third class of fallacies comprehends those which are essentially mental in their origin, and are the consequences of errors in our reasoning powers. Some of these have already been pointed out with regard to the perceptions of vision and of hearing, the formation of which is regulated

* In the Gulstonian Lectures, which I was appointed to read to the Royal College of Physicians, in May, 1832, I took occasion to enlarge on this subject. A summary of these lectures was given in the *London Medical Gazette*, vol. x. p. 273.