

tion of the pendulum, as a regulator in an apparatus for the measurement of time—a combination that ripened at last into that exquisite piece of mechanism—the Astronomical Clock.

The recent ingenious experiment of M. Foucault, to demonstrate to the eye the motion of the earth, was the result of a chance observation. While engaged about a turning-lathe, he took notice that a certain slip of metal, when set in motion, vibrated in a plane of its own, independently of the movement of the part of the lathe on which it was carried round. Hence, he thought he could by a certain contrivance exhibit to the eye the revolution of the earth on its axis. He obtains permission to suspend from the dome of the Pantheon at Paris, a pendulum of some 280 feet in length, and demonstrates the accuracy of the idea which he had conceived. However difficult of brief explanation the phenomenon may be, it is nevertheless a fact—and it is with a degree of awe that one witnesses it—that the pavement of the Church seems very sensibly to rotate, the pendulum at every oscillation returning to a different point on the graduated circle placed below the dome.

The inventor of spectacles was a great benefactor—but having found no chronicler, his name is lost. He was, probably some one who himself suffered from defective vision—the necessity of an individual often leading to contrivances which benefit a class. Friar Bacon has been mentioned as the inventor, but not with certainty. Spectacles, however, became generally known in Europe about his time (1214-1292). I have often thought that a person afflicted with short sight, would be very apt to hit upon a remedy. I remember, as a boy, discovering that many of the little blisters in common window glass would partially correct short-sight; also, that the polished bottom of a common tumbler would occasionally do the same—facts that might lead any one to the construction of concave lenses.

Sir Francis Palegrave in his "Merchant and Friar," amusingly represent the good Abbot as scouting the idea that the *shape* had anything to do with the marvellous effect which a certain lens was discovered to have on the vision of the short-sighted young Emperor. According to the notion of the age, it was simply the innate *virtue* of the transparent gem of which the lens was composed that produced the result.

The defect of sight arising from the approach of old age, calls of course, as we all know, for a lens of the reverse shape of that required by the short-sighted. The construction of such a lens may readily have been suggested by noticing the magnifying power of a drop of water, or a globule of clear glass. A lens of this description once made, and used in frames for the correction of vision, soon led to important combinations.

An ingenious lad—the son of a spectacle-maker at Middleburgh in Holland—takes it into his head to look through two of these convex lenses at once, varying the distance between them by means of his two hands. He observes that the vane on the church steeple is brought wonderfully close to his eye—but that the image seen is reversed. The casual circumstance gives birth to a