

motions in certain times, on heights and in mines. Now, this is the very same thing that has really been done in the recent experiments of professors Airy and Whewell in Dolcoath mine : a pendulum (a weight moved by gravity) has been compared with a chronometer balance, moved and regulated by a spring. In his 37th aphorism, Bacon also speaks of gravity as an incorporeal power, acting at a distance, and *requiring time for its transmission*; a consideration which occurred at a later period to Laplace, in one of his most delicate investigations.

(197.) A well chosen and strongly marked crucial instance is, sometimes, of the highest importance; when two theories, which run parallel to each other (as is sometimes the case) in their explanation of great classes of phenomena, at length come to be placed at issue upon a single fact. A beautiful instance of this will be cited in the next section. We may add to the examples above given of such instances, that of the application of chemical tests, which are almost universally crucial experiments.

(198.) Bacon's "travelling instances" are those in which the *nature* or quality under investigation "travels," or varies in degree; and thus (according to § 152.) afford an indication of a cause by a gradation of intensity in the effect. One of his instances is very happy, being that of "paper, which is white when dry, but proves less so when wet, and comes nearer to the state of transparency upon the exclusion of the air, and admission of water." In reading this, and many other instances in the *Novum Organum*, one would almost suppose (had it been written) that its author had taken them from Newton's *Optics*.

(199.) The travelling instances, as well as what Bacon terms "frontier instances," are cases in which we are enabled to trace that general law which seems to pervade all nature—the law, as it is termed, of continuity, and which is expressed in the well known sentence, "*Natura non agit per saltum.*" The pursuit of this law into cases where its application is not at first sight