obſerved, and moreover the Angle A known, by means of the diſtance B C or I D. changed into Minutes and Seconds of a great Circle of the Earth; becauſe the exceſs of theſe Three Angles above 180 Degrees is the total refraction.

The Third Figure repreſents Two Mountains of equal height, but ſo far diſtant, that the viſual Ray cannot paſs from the top of one, to the top of the other, without ſenſibly approaching nearer to the ſurface of the Earth, and without being conſequently broken or refracted in its way, which 'tis not neceſſary farther to explain. You muſt always ſet apart all the irregularities which may happen every moment in the conſtitution of the Air.

It will be enough for practiſe, that one can inform ones ſelf of the refraction when there is any, and that otherwiſe it may be avoided in the Obſervation of the Level, by contenting ones ſelf with middle ſtations.

Divers Authors report a thing which we have often tryed; which 'tis convenient to note here, that an Object which at break of the Day has appear'd in the Level, and ſometimes a little above it, has afterwards when the Sun is up, appeared below it, and on the contrary after the ſetting of the Sun, Objects far diſtant appear'd to be raiſed ſo ſenſibly, that in leſs than half an Hour their apparent height has been augmented more than Three Minutes.

The cauſe of theſe appearances is, that the coolneſs of the Night condenſes the Vapours, which deſcend to a lower place, leaving the Air of the higher Stations mare pure then in the time of the day, which cauſes a great Refraction on the contrary when the motion of the Sun has made a part of the Vapours to mount to the more elevated ſtations, there muſt be leſs difference of the *Medium*, and conſequently leſs of Refraction.

We ſhall add here one Experiment which makes it appear contrary to the Opinion of ſome Authors, that even at Noon day there remains ſomewhat of Refraction when the diſtance is great, and that the viſual Ray cannot paſs from one place to another without approaching the Earth. The laſt Summer being on the top of the Towers of *Noſtre Dame* of *Paris*, we pointed the quadrant towards the Tower of *Mont Leherie*, and we found that the foot of this Tower was preciſely in the apparent Level: This was about Noon in a very Serene time. Some days after at the ſame Hour, the height of the Tower of *Noſtre Dame*, obſerved from the foot of the Tower of *Montleherie*, appear'd below the Level line 11′. 30″. whereas conformable to the diſtance of 12796 Toyſes, which there are between theſe two places, this Angle ought to have been 13′. 30″. whence it appears that it had Two Minutes of refraction in the whole.

This experiment ſhews what exactneſs one may expect from thoſe who after *Maurolicus* pretend to have found the Magnitude of the Earth, by means of the apparent Level; they ſuppoſe that for this purpoſe, one ſhould chuſe a very high Mountain near the Sea ſhore; and