

and an half, 138179 grains; and that of five inches, 190211 grains. All these weights were taken with very good scales, and those bullets which were found too heavy, were filed.

While these bullets were making, the thermometer exposed to the open air was at the freezing point, or some degrees below; but in the pit where the bullets were suffered to cool, the thermometer was nearly ten degrees above that point; that is to say, to the degree of temperature of the pits of the observatory, and it is this degree which I have here taken for that of the actual temperature of the earth. To know the exact moment of their cooling to this actual temperature, other bullets of the same matters, diameters, and not heated, were made use of for comparison, and which were felt at the same time as the others. By the immediate touch of the hand, or two hands, on the two bullets, we could judge of the moment when they were equally cold; and as the greater or less smoothness or roughness of bodies makes a great difference to the touch; (a smooth body, whether hot or cold, appearing much more so than a rough body, even of the same matter, although they are both equally so) I took care that the cold bullets