

where they fell. The shot would fall in one place, the wheat in another, the sand in another, the chaff in another, and the feathers anywhere—nowhere ; but none of them in the straight direction in which they were originally tossed. All would be *deviated* ; and if you marked the places of each sort, you would find them all arranged in a certain order—that of their relative lightness—in a line on the ground, oblique to the line of their projection. You would have separated and assorted them, and formed a *spectrum*, so to speak, on the ground ; or a picture of what had taken place in the process ; which would in effect have been the performance of a mechanical analysis of the contents of your basket.

(30.) Bearing always in mind that it is an illustration of a series of facts, not a theoretical explanation of a natural process, which is here intended ; I will now proceed to observe that the analogy of this case to that of the prismatic analysis of a sunbeam may be pursued still further. If the original contents of the basket had been all of one material, such as sand, consisting of a mixture of particles of every gradation of coarseness and fineness ; from small pebbles down to impalpable dust ; the trace upon the ground, the sand spectrum, however long, would be uninterrupted : the coarsest particles lying at one end ; the finest at the other ; and every intermediate size in every intermediate place. On the other hand, in the case first supposed, and supposing the shot to differ *inter se* in respect of size within certain limits ; the wheat grains again within certain other ; the sand within other ;