

are two alternative routes for the conveyance of the materials. There is good transport from the Transvaal to Fort Salisbury, or a shorter route would be adopted if materials were shipped direct to Beira, carried along the railway now being built as far as it extends, and then conveyed the rest of the distance by ox-wagons. The scheme is being pushed forward with great activity now.—*Pall Mall Gazette*.

RAINDROPS.—How large is a drop of rain? Probably most people have a notion that raindrops are nearly all of one size, although it is a matter of common observation that in what is called a misty rain, or a drizzle, the individual drops are very small. The question of the size of raindrops is not so unimportant as might be supposed, and Mr. E. J. Lowe has collected many facts bearing upon it, and presented them to the Royal Meteorological Society. He employed in his experiments sheets of slate made in book-form so as to be readily closed, and ruled in inch squares. The impressions of the drops were caught on the slate, and afterwards carefully copied on paper. He discovered that the size of raindrops varies from a speck so small as to be almost invisible up to a diameter of two inches. Every reader has probably noticed that the raindrops preceding a thunder-storm frequently assume gigantic proportions, though he may not have suspected that they could ever attain so great a size as Mr. Lowe has discovered that they do. Other interesting facts about raindrops which have been brought out by Mr. Lowe's experiments are that drops of the same size do not always contain the same amount of water, and that some of the largest drops are hollow. The importance of these observations from a scientific point of view lies in the bearing of the facts thus ascertained

upon the question of the manner of precipitation of the aqueous vapor of the atmosphere. From another point of view they are important as illustrating nature's power to introduce variety into her works, even when her hand is busied merely in forming drops of rain.—*Goldthwaite's Geographical Magazine*.

THE DEFLECTION.—That the earth's motion has an appreciable effect upon artillery fire, deflecting the projectile from a straight course, may be news to many, and as such would probably seem a novel notion. It has, and the exact nature and extent of the effect is an important point of study with artillery experts. An English army expert told of the results of many interesting experiments along this line in a paper read before the Royal Artillery Institution the other day. Firing from north to south there is a divergence of projectiles to the left due to the earth's rotation, and firing due north the divergence is to the right. The extent of the "pull" varies at different points on the earth's surface, and with projectiles fired at different speeds and elevations. In England a deflection of five inches is found to occur with the projectile of a twelve-pounder in a 4,000 yard range.—*New York Sun*.

ICE BREAKING.—There have been divided opinions about the expediency of using dynamite for ice-breaking, and it has never been used for this purpose to any extent. Practical experiments last winter at the Hango Harbor, in Finland, seem, however, to have given very satisfactory results. The powerful ice-breaker of the port was helpless in the face of a belt of some 1,200 feet of very thick ice, the thickness of which was measured to be as much as eighteen feet. It would seem essential for successful ice-breaking with dynamite, that there