

beholds before him mighty cities, with their battlements and towers, which, alas ! can give him no shelter, for they are but the distorted forms of the iceberg, and the snow-capped pinnacles of barren rocks.

M. Monge, who accompanied the French army into Egypt, states that in the desert, between Cairo and Alexandria, the image of the sky was so mingled with that of the sand as to give the appearance of a rich and fertile country. The travellers seemed to be surrounded with green islands and extensive lakes, together forming a beautiful landscape in the midst of a sandy plain. But in vain did the exhausted party press forward to reach this happy spot, for neither the islands nor the lakes were there, nothing but a continuation of the same heated desert over which they had passed so wearily.

Dr. Clarke observed a very similar appearance near Rosetta. The city seemed to be surrounded with a beautiful sheet of water, and the Greek interpreter, who accompanied the traveller, could not be persuaded that the appearance was a delusion ; but they reached Rosetta without finding water, and when they looked back upon the country over which they had passed, it appeared as a vast blue lake.

In more temperate climes this phenomenon is sometimes observed. Dr. Vince has given a description of an appearance of this kind, which he saw in 1798 at Ramsgate. The topmast of a ship approaching the shore was just seen above the water in the horizon, and, immediately above it in the sky, two images of the whole vessel, one erect, and one inverted. But, as the ship came into view, the images became less distinct, though they were both visible after the ship had risen above the horizon.

From the description already given of refraction, it is easy to determine how a single upright image of a vessel below the horizon might be formed, but it may not be so evident how the inverted image is produced. The sun is seen after it has descended beneath the horizon by ordinary refraction, or, rather, in consequence of the refraction of the atmosphere resulting from the common variation of density. But when a mass of air has its density increased or diminished by local causes, then an uncommon refraction is the result, and the line in which the light moves being more convexed than usual, the object is proportionally thrown upward, and an erect image may be seen at a great apparent distance above