ing bent at the point where it penetrates the surface of the water, There are many very interesting experiments to be performed in this department of optics. It furnishes the explanation of how we can see the sun for some time after it has passed below the horizon and in the case of total reflection reduces to a scientific fact the apparently the inexplicable mirage. It is by virtue of refraction that lenses have power of magnifying, thus making the telescope, the microscope and opera-glass possible. Refraction is to be distinguished into single, exemplified by light passing through uncrystallized media, and double refraction, produced by the passage of light rays through such transparent material as Iceland spar and other highly crystalline substances.

In dealing with refraction we take up the study of prisms which form a very necessary part of it. A prism is a transparent medium comprised between two plane faces inclined to each other. A ray of light, striking obliquely on one of the faces, is, by the peculiar property of the material, deflected at the point of entrance and traversing the prism is still further bent on passing out through the other bounding surface, so that its final direction takes a very noticeable change from its original course. The property of the prism is to deflect light rays always towards the base. Lenses are really combinations of prisms, and are of different styles according to the arrangement of the prisms. Thus a double-convex lens, which has the power of converging light rays and bringing them to a focus, may be considered as a combination of prisms placed base to base. A double-concave lens, on the contrary, which diverges rays of light, is merely composed of a number of prisms placed with the apices towards the centre. The double-concave and double-convex lenses are the ones which are most used, but there are four other forms, namely, the plano convex, the converging meniscus-convex, the plano concave. and the diverging concavo-convex. In proportion to the greater or less convexity or concavity, lenses have a greater or less power of magnification. The eye which is the most perfect as well the most delicate of optical instruments is essentially composed of two lenses, a plano-convex and a double convex, and it is to remedy certain defects of these human media that people so affected are forced to make use of lenticular glasses.

Returning to prisms we must remark on their wonderful pro-