

off; but, in spite of her efforts, it kept coming back. Finally she drew it to the bank. Three days afterward she had a vision, in which she heard a human voice complaining, and demanding to be released from the trunk of a tree in which it was enclosed. The woman told her husband of her dream, and they concluded that the dream must refer to the tree which the woman had drawn to the bank. They brought it to the house, and cut it open, and found within a puppet similar to that of the Wajang Kalitik, which they named Kjai Gandroung. Several days after, in a dream, the woman again heard a voice saying, "I am the wife of Kjai Gandroung, and I desire passionately to be re-united to him." The woman asked her where she was, and was told that she was enclosed in one of the two trees before the house. On cutting off a branch of one of the trees a very pretty puppet of the Wajang Kalitik was found. It was placed beside the other, and given the name of Njai Gandroung. The man put them in a box, and then made a number of similar puppets after these two models. This box descended from father to son, and is at present in the possession of a Dalang of Pagoung, regent of Kediri. The two puppets are said to be in the same state as when found, and many poor people come to make them offerings in order to obtain the fulfilment of their wishes. When an extraordinary representation is desired, Dalang of Pagoung is invited to come with his chest containing the puppets.

Besides the performances where puppets only are on the stage, there is another kind of Wajang where the parts are taken almost altogether by women. It is called the Wajang Wong, or Ringgit Tijang; and the actors are dressed and painted to resemble the persons whom they are meant to represent. But they do not speak: the Dalang always recites their parts, while they only dance and sing.

THE RECENT TORNADOES.

THE recent tornadoes, which the newspapers still persist in calling 'cyclones,' in Pennsylvania and adjacent states, seem to have had all the peculiarities of the typical storms of the west. The whirling funnel, or conical cloud, and the excessive destruction that accompanies its rapid passage along a narrow path, are clearly made out: the occurrence of several whirls near one another in south-eastern Pennsylvania on the afternoon of Aug. 3 is equally characteristic of this class of storms. The tornado in Philadelphia was well developed; and, by reason of passing over a thickly populated district, it proved especially destructive. A letter from Mr. S. E. Paschall of the Bucks county (Penn.) *Intelligencer*, describes the passage of three tornadoes in his neighborhood on the same day, one of which he regards as a continuation of the Philadelphia storm: when it reached the town of Churchville, it wrecked nineteen large and twenty-eight small buildings; it struck a cemetery, and scattered the tombstones, and even tore the bark from trees. Its course was a little east of north: the other

two storms travelled north 35° east. It is with regret that one notes the absence of discriminate observation concerning the immediate mechanism of the tornado among the many newspaper columns given to the description of its general appearance and destructive action. Few observers who speak of the rotation of the conical cloud mention the direction of its turning: no one seems to have watched the downward extension of the cloud sharply enough to say whether its 'plunging' toward the ground was real or apparent, although it is probable that this important point might be directly determined by looking closely to see if the wisps or fibres of cloud at the base of the cloud rose into it or descended from it. It can hardly be doubted that the 'plunging' is only an optical effect of the growth of the cloud-forming space downward, faster than the cloud particles are carried upward; for heavy objects are carried high aloft in the centre of the whirl, and this could hardly be if the wind descended there. The circulation of the upper winds should also be determined by noting the motion of the clouds overhead at different times during the tornado's passage; for it is probable that much of the working of the storm is well above the ground, and that we feel only its most violent central action; and, if an observer be found, with presence of mind equal to doing all this while the tornado is roaring past, it would be well to notice whether the clouds above him are forming or dissolving. A tornado is an elaborate experiment, and very critical observation will be needed to follow all its action.

W. M. D.

THE BACILLI OF CHOLERA ASIATICA AND CHOLERA NOSTRAS.

WE have received within a few days a copy of Finkler and Prior's latest work upon the curved bacilli of cholera nostras, and of cholera asiatica. (*Ergänzungshefte zum centralblatt für allgemeine gesundheitspflege*, 1885.) It will be remembered that these observers found in the discharges of patients, in an epidemic of cholera nostras, bacilli which they at first considered to be identical with the organisms found by Koch in cholera asiatica. Various slight differences in the behavior of the two organisms under cultivation were observed, and the paper before us contains the results of a great deal of work undertaken to prove the exact nature of the relationship between the two organisms. It contains chapters upon the morphology and behavior under cultivation of each bacterium. The differences between the two are well considered; and a full account is given of the inoculation experiments undertaken with intestinal dejecta, and pure cultures of the two bacilli.

The conclusions of the authors are given in the following *résumé*:—

1°. We have established the occurrence of Koch's comma bacillus in the intestinal contents, and dejections of cases of cholera asiatica in the epidemic of 1884, at Genoa.

2°. We have found comma bacilli in the dejections