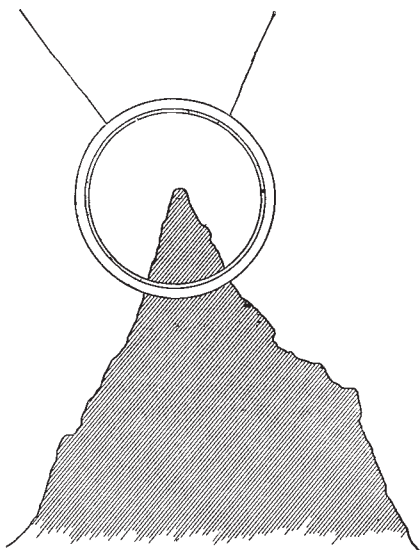


shadow, and we saw a circular rainbow of perhaps  $8^{\circ}$  or  $10^{\circ}$  diameter surrounding the shadow of the summit, and as we waved our arms we saw the shadow of our limbs moving in the mist. Two dark lines seemed to radiate from the centre of the bow, almost in a prolongation of the slopes of the Peak, as in the figure.

Twice this shadow appeared and vanished as cloud obscured the sun, but the third time we saw what has apparently struck so many observers. The shadow seemed to rise up and stand in front of us in the air, with rainbow and spectral arms, and then to fall down suddenly to the earth as the bow disappeared. The cause of the whole was obvious. As a mass of vapour drove across the shadow, the condensed particles caught the shadow, and in this case were also large enough to form a bow. As the vapour blew past, the shadow fell to its natural level—the surface of the earth.

An hour later, when the sun was well up, we again saw the shadow of the Peak and ourselves, this time encircled by a



Shadow, circular rainbow, and dark radiating lines of Adam's Peak.

double bow. Then the shadow was so far down that there was no illusion of standing up in front of us.

I believe that the formation of fog-bow and spectral figures on Adam's Peak is not so common as the simple rising up of the shadow, but one is only a development of the other. In fine weather, when the condensed vapour is thin and the component globules small, there is only enough matter in the air to reflect the Peak shadow in front of the spectator, and no figure is seen unless the arms are waved. In worse weather the globules of mist are large enough to form one or two bows, according to the intensity of the light. We were fortunate to see the lifted shadow accompanied by fog phenomena, which left no doubt as to the cause of the whole appearance.

Any idea of mirage was entirely disproved by my thermometric observations, which cannot be detailed here for want of space.

RALPH ABERCROMBY

Colombo, February 25

#### "Bishop's Ring"

THE critique on Dr. Riggenbach's pamphlet on the Krakatã dust-glow alludes to the peculiar ring since seen surrounding the sun, and known as "Bishop's Ring," as though it had ceased to be visible last year. But the peculiar pink-tinged area surrounding the sun has been constantly seen since then, though perhaps without so definite a succession of tints as to deserve the title of "halo." On almost any day when the sun is hidden by a dense cloud so that the direct light is greatly subdued, there will appear, surrounding the cloud, an area at first intensely white, and then passing into a definite pink tinge. I saw this phenomenon very markedly this afternoon at 5.10 p.m., when walking across the fields from Swinggate, a hamlet between here and Dover, towards the Cornhill Coastguard Station,

I have always observed it better when there is a strong south-west wind blowing. Does this mean that the great mass of the dust-particles is still in equatorial regions? Though the phenomenon to which I allude is undoubtedly best seen when the sky has that gray tinge which accompanies a saturated or super-saturated condition, I can hardly think it due to moisture. I did not observe it till after the Krakatã eruption, and I have observed it constantly since that outbreak. Perhaps condensation of moisture in the upper aerial regions may result in the formation of minute particles of water to which the dust-particles become attached, and thus both water and dust may be concerned in the production of the pink-tinged area. EDWARD F. TAYLOR

St. Margaret's-at-Cliffe, Dover, March 29

#### "Ferocity of Rats"

IN reference to the correspondence that appeared in last week's issue (p. 513) upon the above subject, permit me to state I have found by practical experience that the ferocity and voracity of rats is very great. They devour one another at all times and under all circumstances, whether living in a wild state or under the influence of domestication. I kept six rats at one time in confinement, and although well fed, the largest specimen consumed all the rest. Again, shortly after the late Inventions Exhibition closed last year, the following incident came under my notice, which fully confirms me in the belief I have expressed. As I was passing through the building I heard wild and piteous cries issuing from a spot close to where I stood. I immediately proceeded thence, and beheld six large rats feasting upon three of their congeners not much smaller than themselves, who were endeavouring to free themselves from the sharp teeth of their assailants. All of these rodents appeared thin and wild, and were no doubt rendered bold and desperate by privation, for my presence had no effect upon their carnivorous attacks. I frequently hear rats scampering beneath the floor of my office, accompanied by loud and protracted squeals; and, after what I saw, I am induced to believe that a deadly raid is on such occasions being made upon one or more of them.

W. AUGUST CARTER

The Claylands, South Norwood, April 5

#### Weather in South Australia.—Stevenson's Thermometer-Screen

LATELY the conditions of weather on the Adelaide Plains have been so very interesting to the English meteorologist that a few figures may doubtless be acceptable to readers of NATURE. On February 18 the shade-maximum temperature at this observatory was  $105.5$  during a barometric depression. This was followed by a minimum of  $48.7$  accompanying a barometric crest on the morning of the 21st, a range of  $56.8$  within three days. Again, at 3 p.m. on the 18th the dry bulb read  $105.5$ , and wet bulb  $69.1$ , giving the extraordinary difference of  $36.4$ . These figures actually give 9 as the percentage of relative humidity, according to Guyot. The instruments are exposed in an enlarged Stevenson screen, which answers admirably in this climate; and what can be a better test? I may add that I also have a small "Stevenson," of the pattern usually employed in England, with duplicate instruments. The differences between the two usually amount to merely a few tenths of a degree. The Hon. Ralph Abercromby, who visited my observatory a short while ago—since my return from Queensland—was much pleased with the result of my comparison. I reserve a table for the Royal Meteorological Society, but I may mention that I claim to have proved that Mr. Stevenson's screen is in every way suitable for the hot and dry climate of this continent. I am strongly of opinion that this screen, in its enlarged form, should henceforth be universally employed to secure *uniformity* of exposure—a desideratum of the very highest importance. I have strongly recommended its adoption throughout Queensland. I have found no trace of undue heating of the internal louvres, even under temperatures over  $100^{\circ}$ .

CLEMENT L. WRAGGE

Torrens Observatory, near Adelaide, South Australia,  
March 1

#### "Radicle" or "Radical"

MAY I utter a word of protest against a common, but (as I venture to think) erroneous way of spelling the above word