

Reduplication of Seasonal Growth.

FROM time to time instances of this in the case of foliage have been recorded by correspondents in the pages of NATURE. This year I have noticed not only an unusually early appearance of this in the development of new foliage-laden twigs, as in former years in the oaks, the hornbeams, the elms, and other forest trees; but, what is more rare with this somewhat exceptional summer, the fruit-trees seem to be expending their reserve energy in a second season of *flowering*. At this moment an apple-tree in my garden presents the curious sight of apple-blossoms side by side with apples more than half-grown, and a rowan-tree laden with nearly ripe fruit has a corymb of flowers on one of its higher boughs. The plum-trees have presented similar abnormal phenomena within the last week or two. The facts are of interest as pointing to considerable interference with the normal cycle of functional change by variations in environment.

Wellington College, Berks, July 18.

A. IRVING.

Chimpanzees and Dwarfs in Central Africa.

PERHAPS Mr. Stanley or Surgeon Parke, if applied to, could throw some more light on the extraordinary statement made by Emin Pasha, recently referred to, which, if it be true, is the most important statement in the whole book.

It is probable that when Emin Pasha witnessed the torch-bearers, whether chimpanzees or young negroes or dwarfs, he was not alone, and, even though very short-sighted, he would have been able to verify his observation of the torch-bearing animals by reference to those near him. An experienced naturalist like Emin Pasha is not likely to have made the mistake Prof. Romanes thinks he did make—but it is possible.

Bearing in mind that a large ape is now undoubtedly acting as a signalman (under direction) on a railway at Natal, who can say what the limits of intelligence are in the tribes of Simians?

J. F.

The Perseid Meteors.

ACCORDING to Mr. Denning, the radiant of the famous Perseid meteor-shower (which, in his opinion, commences early in July) shifts night after night until about August 20, the principal change being an increasing R.A. The declination also increases, but more slowly.

I have some reason to think that the true explanation of the phenomena is that there are several radiants almost simultaneously in action, but which do not attain their maxima at the same data. For this reason I would ask those of your readers who are interested in the subject to watch these meteors carefully on the present occasion.

W. H. S. MONCK.

Dublin, July 15.

P.S.—Mr. Denning's Catalogue in *Monthly Notices* for May suggests to me the existence of four radiants (each of some continuance) whose approximate positions are $6^{\circ} + 52^{\circ}$, $20^{\circ} + 57^{\circ}$, $32^{\circ} + 53^{\circ}$, and $44^{\circ} + 56^{\circ}$.

"Wind Avalanches."

SOME of the readers of Dr. Pernter's paper, "A Winter Expedition to the Sonnblick," may perhaps be interested by the following extracts from the *Alpine Journal* of June 1864. They are taken from a painfully interesting paper by Mr. Gosset, describing a fatal accident on the Haut-de-Cry in February of that year.

A party of six were crossing a wide *coulloir*, "about 150 feet broad at the top and 400 or 500 at the bottom." The actual fall of the avalanche is thus described:—"Bennen advanced; he had made but a few steps when we heard a deep, cutting sound. The snow-field split in two about 14 or 15 feet above us. The cleft was at first quite narrow—not more than an inch broad. An awful silence ensued. . . . broken by Bennen's voice: 'Wir sind alle verloren.' . . . They were his last words. I drove my alpenstock into the snow, and brought the weight of my body to bear on it. . . . I turned my head to see whether Bennen had done the same thing. To my astonishment, I saw him turn round, face the valley, and stretch out both arms. (So in Dr. Pernter's paper, "Their advice is to throw oneself prostrate, with hands outstretched.") The ground on which we stood began to move slowly, and I felt the utter uselessness of any alpenstock. I soon sank up to my shoulders, and began descending backwards. . . . The speed of the avalanche increased rapidly,

and before long I was covered up with snow. I was suffocating when I suddenly came to the surface again. I was on a wave of the avalanche, and saw it before me as I was carried down. . . . The head alone was preceded by a thick cloud of snow-dust; the rest of the avalanche was clear. Around me I heard the horrid hissing of the snow, and far before me the thundering of the foremost part of the avalanche. . . . At last I noticed that I was moving slower; then I saw the pieces of snow in front of me stop at some yards' distance; then the snow straight before me stopped. . . . I felt that I also had stopped, . . . but the snow behind me was still in motion; its pressure on my body was so strong, that I thought I should be crushed to death."

Mr. Gosset further remarks:—"The upper stratum of snow was eleven days old. . . . The snow was thawing, and the whole snow-field in a state of uncertain equilibrium. By cutting through the snow at the top of the *coulloir* we cut one of the main points by which the snow of the two different layers held together. . . . The avalanche may have taken a minute to descend; I can give no correct estimation on this point."

The vividness of the above description, and its complete accord with Herr Rojacher's account given in Dr. Pernter's paper, will, I hope, excuse the length of the extracts.

Otham, Maidstone.

F. M. MILLARD.

ON THE METEOROLOGICAL CONDITIONS OF DESERT REGIONS, WITH SPECIAL REFERENCE TO THE SAHARA.¹

THE arid regions of the world are, speaking roughly, distributed in two bands north and south of the equator. They comprehend all inland drainage areas, or areas where the streams have no connection with the sea, which are also regions where evaporation is in excess of precipitation, for if the latter were in excess the water would rise till it could flow into the sea, as in the case of the great lake region of North America, and the area would no longer be one of inland drainage. The largest of the deserts, the Sahara, is about $3\frac{1}{2}$ million square miles in area, and the area of all the deserts of the world together about 11,500,000 square miles. In other words, over one-fifth of the land of the world has no outlet for drainage to the sea, and in all that area evaporation is greater than precipitation. These areas correspond very closely with the regions of the world where the rainfall is less than 10 inches annually.

In no place in the world can there be found such enormous ranges of temperature as in these deserts. In the Sahara the temperature sometimes falls from 100° during the day to the freezing-point during the night, due to the great dryness of the atmosphere and to the radiation that takes place from the soil after the sun has set. These inland drainage areas correspond very much in their barometric phenomena. In all desert regions during summer all the winds blow in upon them. In winter the reverse takes place—the winds flow out of them, and that holds good both for the northern and the southern hemispheres. This occasions the low rainfall, for the great majority of these regions are more or less bounded by high hills. The winds arrive at the deserts over these hills, and the vapour is precipitated from the atmosphere by the hills, with the result that when the winds reach the interior regions there is nothing left to be deposited. If there are not hills all round any desert area, then, as in the case of Northern Asia, the winds pass from a colder to a warmer climate, and as they get to warmer regions they are able to contain more vapour, and, consequently, no rain is precipitated.

The author then gave an account of his own views and impressions as to the Sahara. When staying in May last in Algeria, he was anxious to make a trip to the desert, principally with the object of examining the sand and other deposits. During the *Challenger* expedition they had found in the bed of the Atlantic for a long distance

¹ Abstract of a Paper read by Dr. John Murray at the meeting of the Scottish Meteorological Society held in Edinburgh on July 14.