constituents of this venom. It is only just to Calmette to add that Martin's criticism, of course, only applies to the serum as he was able to obtain it as imported into Australia; and Martin himself is careful to add that the specimens he had access to were only possessed of very feeble powers.

Wehrmann's valuable memoir, to which we so frequently have referred in the foregoing brief *résumé* of some of the latest contributions to the ever-increasing domain of preventive medicine, is a record of experiments carried out under the inspiration of Calmette in the Institut Pasteur at Lille. It is full of experimental data, and no attempt is made to formulate theories on the facts recorded, only at the close the following suggestion is to be found:—"Enfin nous voyons que les sérums des animaux immunisés contre l'un quelconque des poisons que nous avous étudiés sout fréquemment curatifs à l'égard des autres.

"Ces phénomènes d'action réciproque préventive, neutralisante *in vitro* et curative, apportent un argument de plus en faveur de la théorie cellulaire de l'immunité. . . . Il faut bien en conclure que la notion de spécificité des toxines et des sérums antitoxiques est loin d'être aussi étroite qu'on l'avait cru jusqu'à ces derniers temps." G. C. FRANKLAND.

THE RECENT PERSEID METEORIC SHOWER.

THIS display appears to have been of rather a special character on August 11, and to have attracted a considerable amount of attention. At any rate, during the thirty years in which I have witnessed returns of the shower, I have never known it to have been so generally observed. Many people, quite unaware that such a phenomenon was in progress, on looking up and admiring the singular beauty of the night, noticed the meteors. They were so numerous and occasionally so brilliant that they were watched for a considerable time.

Usually the maximum of the shower occurs on August 10, but on that date the atmosphere was, on the whole, unfavourable this year, and at the majority of stations not many Perseids appear to have been observed. The following evening came in under vastly improved conditions, the stars shone with remarkable lucidity, and it was quite an ideal night for the observation of meteors. To this circumstance, and to the fact that the shower was really a strong one, perhaps coming a little later than usual, is to be ascribed its marked prominence.

In the twilight at 8h. 58m. a splendid meteor brighter than Jupiter was seen in the S.S.W. sky, moving very slowly and almost horizontally westwards amongst the stars of Ophiuchus and Serpens. It threw off a thick train of yellow sparks, but, when near ϵ Serpentis, the nucleus, after a sudden accession of brilliancy, collapsed, and I thought the whole thing had vanished until, in the same direction of motion, a star-like fragment became visible and travelled some 8° further. It moved very much slower than the earlier and brighter part of the meteor had done, and looked like a mere spark sailing along on the wind. This meteor was also observed at Slough and other places, and it will be possible to obtain some interesting deductions respecting it. It was manifestly not a Perseid; its leisurely flight being directed from the region of Pisces and Aquarius.

At 10 p.m. I began watching the eastern sky, and immediately found that the Perseids, with their swift motions and phosphorescent streaks, were in strong evidence. During the 4½ hours ending 2.30 a.m. on August 12 I saw 106 of them, but I believe that a continuous watch of the sky would have enabled twice this number to have been counted. Whenever bright meteors appeared, or others were observed with great exactness, they were carefully registered; and during these intervals, when attention was distracted from the sky, many Perseids must have escaped my notice. I think that one observer might have counted quite 50 meteors per hour in an uninterrupted view of the sky on the night of August 11.

I endeavoured to ascertain the position of the radiant point as precisely as possible, and obtained it at hourly intervals from the best observed paths in the region immediately surrounding it. The results were as follow:—

	h.	h.	Radiant.	
Aug. 11,	10	to 11	... 47° + 58°	... 21 meteors
,,	11	to 12	... 46½ + 58	... 22 ,,
,,	12	to 13	... 46 + 57	... 20 ,,
,,	13	to 14	... 46 + 57½	... 18 ,,

The mean is at 46°·4 + 57°·6, which I believe is well within 1° of probable error. The centre was defined with tolerable sharpness, for all the registered paths intersect within an area of about 4° diameter.

Some conspicuous meteors were observed during the night, though no really large fireballs appeared. It may be advisable to give the apparent courses of the brighter objects, for some of them must certainly have been seen by other observers, many of whom were watching the sky on the same night.

G.M.T. h. m.	Mag.	Path From	Path To	Length of path.
8 58 ...	> 1 ...	259° − 2° ...	231° − 1¼° ...	28°
10 9 ...	1 ...	56 +64 ...	65 +67 ...	5
10 16 ...	1 ...	200 +61½ ...	206 +44½ ...	17
10 45 ...	1 ..	240½ +62½ ...	237 +47 ...	15½
10 49 ...	1 ...	37½ +66 ...	30 +70½ ...	5
10 57 ...	> 1 ...	21 +26 ...	16 +11¼ ...	15½
11 12 ...	1 ...	359 +78½ ...	295½ +77¼ ...	13
11 26 ...	> 1 ...	12½ +15 ...	7 + 0½ ...	15½
11 35 ...	1 ...	50 +67 ...	54 +71 ...	4½
12 15½ ...	1 ...	27¾ +37 ...	25 +30½ ...	7
12 19½ ...	1 ...	2½ +57½ ...	348 +54 ...	9
12 23½ ...	1 ...	14½ +29 ...	6 +13 ...	17½
12 39 ..	1 .	13½ +19 ...	9 + 8 ...	12
13 11 ...	1 ...	20½ + 1 ...	18 −11 ...	12½
13 29 ...	> 1 ...	46 +31 ...	46 +19 ...	12

With the exception of the first, all these were Perseids.

It is satisfactory to note that reports from other quarters show that the display was very successfully observed. Prof. Herschel, at Slough, describes the rate of appearance and general brightness of the meteors on the night of August 11 as considerably greater than on other dates, and mentions having mapped 80 observed paths between 10½h. and 14h. Four of the Perseids observed at Bristol were also recorded by him at Slough, and he finds their radiants very definitely and distinctly marked at about 46° + 58°.

At Paris, it appears that very favourable conditions prevailed on August 10, so that Mlle. Klumpe, at the Observatory, succeeded in observing 200 shooting stars. The display is stated to have begun at sunset and to have continued with "amazing rapidity" until sunrise. It is estimated that altogether at least 600 shooting stars were noticed. W. F. DENNING.

NOTES.

THE proposal made at the Toronto meeting of the British Association last year, for a marine biological station in the Dominion of Canada, is taking practical shape. Such a proposal has been in the minds of Canadian biologists for many years, and Prof. Prince, the Dominion Commissioner of Fisheries, reported at length upon the necessity for such a marine station for Canada in the Marine and Fisheries Blue Book, 1894, and the Royal Society of Canada also urged the

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