

1. *The great disparity between the number of cases in the men of the two ships.*—A reference to the tables shows that 45 men among the 70 who wintered in the "Alert" (or 64 *per cent.*) were affected with scurvy, whereas only 15 men among the 52 who wintered on the "Discovery" (or 29 *per cent.*) were affected. Two of the conditions that were present in different degrees in the two ships have been thought accountable for this great disparity. These are the somewhat more prolonged absence of sun light, and the much greater deficiency of fresh meat, to which the men of the "Alert" were subjected.

The first, however, was merely a difference of four days—the "Discovery's" men having been deprived of sun light for 138 days and the "Alert's" men for 142 days—and cannot of itself account for a difference of 35 *per cent.* in the numbers affected proportional to the crews of the two ships.

The second constitutes a much more marked difference. It appears from the evidence and the reports of the Commanding Officers of the two ships, that fresh meat, chiefly in the form of musk-ox beef, was served out, during the winter's confinement, only 14 times on board the "Alert," (2075) whereas it was served out 53 times on board the "Discovery (Appendix No. 10)." To the extent represented by this difference, the "Alert's" men were supplied more largely with the preserved and salt meat carried by the ships; which, although of good quality, is not considered so well fitted as fresh meat to maintain a high standard of health. The positive advantage was also enjoyed by the "Discovery's" men of obtaining more frequent supplies of a food which has acquired, probably on sufficient grounds, a high reputation as a prophylactic against scurvy. This reputation is mainly founded on experiences in which enormous quantities of fresh meat were consumed (as 3½ lbs. or even 8 lbs. of fresh venison daily*), or in which the fresh meat was eaten raw,† by men who did not suffer from scurvy, although conditions were present favourable to the production of that disease. On board the "Discovery," however, fresh meat was issued at irregular intervals; the ration for a short period was only one pound three to four times a week, and for a more considerable period one pound and a-half once a week; and the meat was eaten in the ordinary cooked form. That fresh cooked meat, consumed in these quantities, possesses the power of preventing scurvy in the presence of conditions otherwise sufficient to develop that disease, cannot be assumed from any existing data (2385, 2388, 2389, 2639, 4851, 5268, 5423, 5424, 5525). The evidence is undoubtedly against this supposition, and even more so against the supposition that any antiscorbutic power can be exerted by such consumption for several weeks after the consumption had altogether ceased. The latter supposition must be maintained in order to assume that the greater immunity from scurvy among the men who wintered in the "Discovery" was due to the greater quantity of fresh meat consumed by these men during the winter; for with the exception of one case that occurred on board the "Discovery" in winter, all the cases in this outbreak and in both ships occurred during the sledging season, and not until several weeks after the last preceding issue of fresh meat on board the "Discovery."

2. *The unusually early occurrence of several cases of scurvy after what is generally regarded as the essential antecedent of scurvy came into operation.*—Although the majority of the cases of scurvy did not occur until several weeks after the sledge expeditions had left the ships, still there were several cases which originated only a few days after the starting of these expeditions, and in men who had enjoyed good health during the winter. The earliest of these were connected with two of the three most important sledge expeditions, the Northern under Commander Markham, and the Eastern under Lieutenant Beaumont. In Commander Markham's party, John Shirley became ill on the eleventh day, George Porter on the twelfth day, and Alfred Pearce on the sixteenth day; and other cases followed in quick succession. In Lieutenant Beaumont's party, James Hand became ill on the seventeenth day after the expedition left the "Alert."

The occurrence of these, and of several other cases which made their appearance early in the sledging season, seems to have been the main reason for the expression of opinions such as the following, which appear in the evidence:—"It is evident that "twelve days of travelling did not give these men scurvy, if so, it is contrary to all "previous experience" (3045); "I believe the disease manifested itself within a few "days after leaving the ship, and I think it is impossible that the disease could have "shown itself if the seeds had not been sown in winter" (3986); "Taking the sledge "parties alone, from the fact of scurvy breaking out among the sledge crew or crews ten

* Dr. Rae, Paper handed in to the Committee, Appendix No. 27, also 8710 and 8779 of Evidence; and Admiral Pullen, 6105.

† Kane's "Arctic Explorations," London, 1876, p. 263; Dr. Pavy, 5159 of Evidence; 4925.