

208. Can you inform the Committee now whether that recommendation of Sir Leopold M'Clintock's to you differed very much from the one which you yourself adopted?—I have not got it with me now, but there can be very little difference with regard to the rations used; and I think the only alteration which I have made in the equipment was in a slight increase to the tent in order to shelter the cook whilst cooking the provisions; and this necessitated an extra weight of about 5 or 6 pounds to be carried on the sledges. The double allowance of tea was a new thing adopted; but except that, I think there is no change.

209. There was no material alteration between the equipments of the sledges in which M'Clintock's and Mechem's travelling parties went and yours?—No material difference whatever.

210. Can you supply the Committee with the equipment of the sledges and the weights of each article?—The official journal prepared by the officers in charge of the sledges will furnish these details. They have all been sent into office, and, I believe, are now being printed.

211. Were the men weighed before they started and on their return?—I believe not. I must inform you that you have not got the chief journals, in which you can get the whole story of the scurvy. You have got the letter reports, and you have got Markham's northern journey, which goes into details but those of the western party, under Lieutenant Aldrich, and the north-eastern Greenland party, under Lieutenant Beaumont, have not yet been issued to you.

212. In your answer with respect to the carrying of the lime juice, that it would be about the same weight as the rum, have you included the sugar that it would be necessary to take with it?—The allowance of rum for each man weighs two ounces a day. The allowance of lime juice would be one ounce, and the allowance of sugar for the lime juice would be one ounce, making the two articles exactly the same weight.

213. (*The Chairman.*) You were quite sensible of the value of the lime juice, could it have been carried?—Yes, if it could be carried and used during the cold weather.

214. And the question was of course very seriously considered by you?—I was going to answer that it was also considered by me in a medical point of view, and as being recommended by the medical officer of the ship.

215. Returning now to the 7th paragraph: "The necessity of keeping the atmosphere of the lower deck as pure as circumstances will permit is obvious, and the escape of foul air should be promoted to the greatest extent possible, and the maintenance of as much warmth and dryness as possible is most essential." Referring to this recommendation, Captain Stephenson states in his report, paragraph 36, that it was necessary to stow the hammocks in the hold, having found that stowage on deck rendered them damp when taken below. What was your practice in this respect, and what was the result?—All former expeditions have experienced a similar trouble. The hammocks are always stowed on deck up to as late a period as possible in the autumn. When the temperature falls, the cold hammock, on being brought below into the warm atmosphere of the lower deck, becomes moist, and the bedding is wet; consequently during the winter, or when the temperature is at all below zero, the hammocks are necessarily stowed in some part of the ship below in order to preserve them dry. The hammocks on board the "Alert" were stowed in the extreme forward part of the lower deck before the men's messes. After they were thus stowed, the bedding remained dry, excepting in the sleeping berth close to the hatchway, where, by receiving the cold air descending, the bedding became damp in a similar manner to what would have happened if the hammock had been brought down itself out of the cold.

216. Further, from the paragraph at page 18 of your own report, under the head of "Health," and paragraphs 35 and 37 of Captain Stephenson's report, it would appear that absolute dryness was not obtained on the lower deck. State to what extent this defect existed?—The ventilation of arctic ships is a peculiarity which can only be grasped by experience, and never yet has it been found possible to keep the lower deck beams thoroughly dry. I am certain that on board the "Alert" we succeeded in keeping the living deck less damp than on board the "Resolute" in 1852. This was partly owing to my former experience, and partly, also, to the increased experience of Sir Leopold M'Clintock in the late voyage of the "Fox," where extra houses were built on the upper deck at the head of each hatchway. These houses I increased to a large size, and the alteration was very beneficial. Without finding fault with the ventilation of the "Discovery," it was natural that inexperienced officers should not succeed to the same extent as I did; but even with our better fittings, and a far larger area per man than, I think, had ever before been experienced, the lower deck beams had to be very frequently sponged down; but we succeeded in preventing much actual drip on to the floor of the deck except, perhaps, for a quarter of an hour or so when the steam from the galley at meal times produced extra moisture. The officers' cabins were as usual the dampest parts of the ship, and it was necessary, as it always is, for an upper covering to be spread under the beams over the bed to catch the occasional drip. I was very glad to be able to reduce the number of men wintering on board the "Discovery" by eight men, in consequence of her much smaller lower deck; and I should state that when the temperature fell to a very low state, even on board the "Alert," without using a very large supply of coal, it was found impossible to prevent the drip off the beams completely.

217. Describe the mode of heating adopted on board the "Alert"?—In lieu of the Sylvester stove, which had been used previously, a number of stoves were distributed about the deck, and were used as required, sometimes all together. This was certainly a good way of both drying and warming the habitable deck, because it was found quite unnecessary to warm the holds below, in consequence of the ship wintering with water under her bottom; but had we unfortunately had a layer of ice underneath the ship, we should probably have been put to great straits. On board the "Discovery," a small stove fitted with hot water pipes, which had been tried on Sir George Back's voyage to a larger extent, but had there failed through the small pipes leaking, answered admirably, it burnt the ashes from the other stove and gave out a very large warming power; and I think that had a stove been supplied which was made for us by the same maker, but which unfortunately was too heavy, a great advantage would have been gained over the common service stove; in fact I think all stoves could now be fitted with hot water pipes. The number of funnels from the stoves were of great use when turned into ventilators. The great difficulty is to produce uptakes, all openings wherever formed always being downtakes; and all the openings that I made were obliged to be closed up again, except the openings close to the beams in each stove funnelling, which always from the first remained uptakes, and were the only uptakes in the ship.

218. Of what description were the stoves in the "Alert"?—The common service stove, with the door cut in half and formed into two.

219. Vertically or horizontally?—Horizontally.

220. How was the funnelling led?—It acted better as a ventilator when led up direct from the fire, but we gained warmth by leading it up for a distance of 10 or 12 feet from the fire; a greater distance than this proved to be bad for the draught.

221. Are you acquainted with the mode of heating adopted on board the "Assistance" and "Resolute" in 1850-51, and, if so, describe it?—The Sylvester

Capt. Sir G.
S. Nares.
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11 Jan., 1877.