

A slow trek towards starvation: Scott's polar tragedy revisited

June 28 2012

On the centenary of Scott's ill-fated Terra Nova expedition to the South Pole, a study to be presented at the Society for Experimental Biology meeting on Sunday July 1 has shown that Scott's men starved to death because they were consuming far too few calories to fuel their daily exertion.

The researchers, environmental [physiologist](#) Dr Lewis Halsey of the University of Roehampton and [polar explorer](#) and physician Dr Mike Stroud, examined the voyage in light of today's knowledge of nutrition and how our bodies respond to extreme exercise, cold, and [high altitude](#). They determined that their rations, which consisted of biscuits, pemmican, butter, sugar, chocolate, cereals and raisins, and were supplemented by pony meat at the start of the expedition, were inadequate.

Dr Lewis Halsey said, "There has been much speculation about what Scott died of. Almost certainly his death was due to chronic and extreme emaciation."

While consuming around 4,400 kcal/day, the men probably burnt nearly 7,000 kcal/day hauling their supplies on sledges across the ice and snow (based on data from Stroud's Antarctic crossing). For comparison, elite cyclists covering 4,900 km over 6 days use around 6,500 kcal/day. So Scott and his men were exhibiting daily activity levels considerably higher than most Olympic athletes in full training, but without consuming the enormous amount of food required to fuel such exertion.

In addition to the calorie deficit, the rations were too high in protein and low in fat to be optimal. Rations with more fat provide more energy for the same weight, which is a critical consideration when supplies must be carried. Although Scott made his rations more fat-rich than other polar rations had been, with 24% fat and 29% protein, today's adventurers eat up to 57% fat with 8% protein.

According to the study, other factors also worked against Scott's team. For instance, vitamins were not yet known about and there was some confusion at the time about which foods would prevent scurvy. While it is not clear whether the men developed scurvy, they probably did not consume enough vitamin C. On the other hand, the team did have a form of cocaine on hand, to help them keep going when they had run out of food.

More information: This work will be presented in a poster session at 1700-1900 on Sunday 1st July 2012.

This work also appears in two publications:

1. Halsey LG and Stroud MA, Could Scott have survived with today's physiological knowledge? *Current Biology*, 2011 Jun 21; 21(12):R457-61.
2. Halsey LG and Stroud MA, 100 Years Since Scott Reached the Pole: A Century of Learning About the Physiological Demands of Antarctica. *Physiol Rev* (2012) vol. 92 no. 2 521-536. [doi: 10.1152/physrev.00031.2011](https://doi.org/10.1152/physrev.00031.2011)

Provided by Society for Experimental Biology

Citation: A slow trek towards starvation: Scott's polar tragedy revisited (2012, June 28) retrieved 3 May 2024 from

<https://medicalxpress.com/news/2012-06-trek-starvation-scott-polar-tragedy.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.