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Hist. Geo Space. Sci. Discuss., author comment AC1
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Author response to referee comments

W John Gould

Author comment on "HMS *Challenger* and SMS *Gazelle* – their 19th century voyages compared" by W. John Gould, Hist. Geo Space. Sci. Discuss., https://doi.org/10.5194/hgss-2022-7-AC1, 2022

I am grateful to the two online reviewers (both known to me) and to many others who have read the preprint and have sent suggested minor corrections direct to me (not posted online).

Referee RC1, after reading the comments of RC2 has subsequently contacted me to say that " ……a slight expansion of the description of the sampling would be sufficient."

I propose therefore to include in the revision a summary of the procedure adopted on each vessel for occupying a station. Unlike in modern day marine round-the clock science the work was conducted almost exclusively in daylight hours. On Challenger the sequence was firstly depth sounding, then temperature and water sampling, biological net hauls and finally bottom dredging). The dredging presumably left to last so as to allow the decks to be cleared and samples sorted and preserved while the vessel was underway to the next station. Gazelle paid particular attention to current measurements.

The issue of the subsurface water/temperature sampling is described in the Supplementary Information appended to Gould and Cunningham 2022. Challenger collected samples that were distributed throughout the water column but in a manner that changed throughout the voyage with relatively few in the early part of the voyage. Gazelle consistently sampled only three horizons, surface, 200m and near bottom.

The point about the Royal Society guidance is important and I have discovered that this "Report of the Circumnavigation committee" is available online.

(https://curiosity.lib.harvard.edu/expeditions-and-discoveries/catalog/38-990067600400203941)

I will therefore comment on the fact that the sampling carried out by Challenger closely followed the RS guidance.

Finally, at the suggestion of John Phillips, I will make a correction to reference to the seaman (Edward Winton) who was lost overboard in the Cook Strait approaches to New Zealand refecting the difference between the shallow underway sounding and the deep sea soundings at each station.