



## **Scrimshaw: unlocking the cultural and biological archive of sea mammal art**

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During the middle decades of the 19th century a folk-art tradition—scrimshaw—using the teeth of sperm whales (*Physeter macrocephalus*) flourished among the crews of industrial whaling ships. It is best known from New England whalers, but a London-based South Sea sperm whale industry resulted in many objects incorporating recognizably British motifs. An important selection is now held by the Scott Polar Research Institute (SPRI), University of Cambridge, providing a unique pre-industrial biological archive of the cetacean population(s) exploited by the London whalers before the use of steamships and exploding harpoons.

Examples of sperm whale scrimshaw are commonly found in private collections and museums around the world. Although these collections represent a unique biological and ecological archive of historic sperm whale populations, the historical and cultural value of these specimens has precluded significant scientific investigation of scrimshaw pieces. This research first examines the SPRI scrimshaw collection utilising non-invasive methodologies including micro-computed tomography (micro-CT). CT images have been used to both age the whales based on growth-layer-groups (GLGs) and examine the internal morphology of the teeth in order to identify pieces that will be utilised for biomolecular sampling.

Isotopic and genetic examination of the SPRI scrimshaw collection has the potential to provide insight into the cultural, biological, and ecological history of whaling-era sperm whale populations as well as re-evaluate the time depth of the extremely low genetic heterogeneity of modern sperm whales. In addition, this research will provide a case study demonstrating the interdisciplinary analysis of cultural/historical material through creating an artefact-based environmental and biological history of the London whaling industry.

This research is part of the SeaChanges Marie Skłodowska-Curie Innovative Training Network of Horizon 2020, which aims to address human impacts on European marine species through combined archaeological and biological research.