

Fish 'n' ships: a story about food and holistic outreach

Kristine Korzow Richter tells us all what we can learn from the fish we have eaten



Dr Kristine Korzow Richter is a British Academy Newton International Fellow, in the BioArCh facility, Archaeology Department, University of York. This article was jointly written with Richard Gardner, who provides logistical help for non-profit organisations.

I'm going to start with a few keywords: food provenance, overfishing, managing fishing stocks, expanding human population, water quality. These are all words used by ecologists, economists and environmentalists which appear frequently in news sources we read every day, and you might therefore think I am going to tell a modern food story. However, my story starts around 1,000 years ago in medieval Europe. These keywords are not new – people thousands of years ago struggled with some of the same issues we do today. So there is a story to be told about the winding and complex relationship that humans have with the fish we eat.

BioArCh researchers from the Archaeology Department at the University of York, along with 'Chef Presenter' Phil Leverington, put on an outreach event for York Festival of Ideas to tell this story to the public. Over 400 people joined us on the sunny afternoon of 4 June 2016 at the lawn of King's Manor in York. Phil (assisted by Richard Gardner and Samantha Tilford) cooked authentic medieval recipes, while my fellow researchers (Drs Laura Llorente-Rodríguez and Andrew Jones) and I engaged adults and children about history, archaeology and science. While we did tell a fish story, we also addressed a lot of lingering questions people came into the event with. Were the average people eating the same thing as the rich people? Who were the people who were dodging the me-

dieval fasting rules? And how do archaeologists make claims from only a few bones?

A meal for a king

A wood burning stove, fish roasting over hot coals, and aromatic sauces drew most people in. Phil cooked three different species of fish in authentic fish-sauce recipes from medieval cookbooks. Bream, a freshwater fish caught in rivers and lakes, was cooked in a *dauce egre* sauce made from a base of red wine vinegar, sugar, onions, and cloves. Carp, a freshwater fish common in Asia and Eastern Europe but introduced to England for fish farming in the medieval period, was covered with a *galantyne* sauce made from wine and spices straight from the *Forme of Cury*, a cookbook of the Master Chef of King Richard II (see page 56). Cod, a marine fish, was salted and covered in a *pikesauce* made from butter and parsley. The common perception of medieval cooking is that it was vile, and in preparing the recipe list even Phil was a bit concerned about driving people away with terrible-tasting food. However, all three recipes were surprisingly tasty, and people left with copies wanting to try them at home.

A fish with wings

'Fish' to the medieval person were not just the aquatic vertebrates we think of today. Fish was a general name for anything not considered a proper land-living animal. This included the obvious marine mammals such as whales and porpoises, as well as a number of slightly less obvious creatures – such as beaver, because of its scaly tail



and considerable time spent in water; geese, because of the time they spend in water and feeding from water; and puffins, because they spend much of their time flying over water and catching fish. Because the Catholic Church prescribed over 200 fast days a year (when no land-living animal meat could be consumed), there are a wide range of recipes for 'fish', some of which replicate favourite meat dishes that people eat today. One example is *puddyng of purpaysse* found in Harleian MS 279 from the 15th century, which is essentially a traditional Scottish haggis recipe, but made from porpoise instead of sheep.

An artifact for the lab

After they had learned about the classifications of fish and had tasted some medieval cooking, we encouraged our audience to think about what remains after the butchery, cooking, and consumption of fish. And we asked participants what they thought archaeologists might recover hundreds or thousands of years later. Trays filled with sand containing some of these items including bones, shells, fruit pits, and pottery fragments allowed the young (and young at heart) to dig for and touch some examples of the types food remains found in the archaeological record. We then introduced our audience to the science that allows us to analyse these artifacts: morphology, lipid, stable isotope, DNA, and protein analyses. How can these discarded fish bones provide us with a window into the world of the past?

A tale of three fish

With more than 200 fast days where fish was the primary protein, it is unsurprising that fish played a significant role in the medieval diet, which archaeologists can see through looking at the different species in the archaeological record. In the 7th century, freshwater fish such as bream were plentiful, and can be seen to be a greater part of the British diet than marine fish such as cod. However, as the population increased the rivers and streams begin to suffer the consequences of excessive consumption and pollution: overfishing, poor water quality, and the resulting diminishing fish stocks. These diminishing fish stocks were a contributing factor (although not the only reason) to the increased spread of freshwater fish farming in ponds from the late 10th to the 12th centuries. Initially, locally caught freshwater fish such as bream were farmed, but then carp were introduced from France and became the dominant farmed fish in Britain. Carp grow quickly and are quite hardy, able to survive in conditions that would kill other freshwater fish – qualities valuable to the medieval fish farmer. However, the muddy flavour of carp is considered an acquired taste at best.¹

At the same time marine resources were also being increasingly exploited. A switch between primarily freshwater to primarily marine fish bones can be seen starting in the 11th century. Factors contributing to this switch included the diminishing freshwater fish stocks and improved sailing technology. The iconic British cod now became a common food source. Isotope evidence shows that initially the marine fish were being sourced locally, mostly from the North Sea. However, during the 13th to 16th centuries, marine fish were increasingly being fished or traded from further away locations – some coming from as far away as Newfoundland (Canada today). From local ponds to an international fishing trade, the changing face of Britain's diet in the past illustrates how the problems we face today also influenced the lives of our ancestors centuries ago – and maybe can provide insights into how to address them in the future.



Bream roasting over coals, and (on facing page) cod being cooked in a butter and parsley *pikesauce*, at the 'Fish 'n ships' event held on 4 June 2016 as part of the York Festival of Ideas. PHOTOS: SAMANTHA TILFORD, HARRY LEVERINGTON.

Bones of contention

Fish archaeological 'assemblages' – collections of bones found at particular archaeological sites – from medieval Iberia (Spain and Portugal today) reflect the differences in diet between the two main cultures inhabiting Iberia at that time: Muslims and Christians. It is possible to detect differences between which species were present at the different sites, which may indicate different cultural attitudes toward fish. The most dramatic differences can be seen in serpentine fish such as the conger eel. This fish is quite common in Christian sites, but scarce in their Muslim

1. This section represents a wide number of research projects. For more information, see the work of Drs James H Barrett (University of Cambridge), David Orton (University of York), Andrew K.G. Jones (University of York).

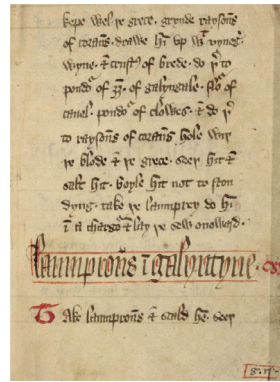
counterparts. A likely explanation for this difference is that serpentine fish were *Makruh* (disapproved) items in Muslim areas.

Butchery practices in fish also reflect differences between these two cultures. Cutmarks on hake bones from Christian assemblages exhibit a perpendicular pattern, while cutmarks on Muslim assemblages are inclined. The inclined pattern is still seen today in the southern regions of Portugal which is likely related to the longer Muslim occupation in this area of Iberia. These differences make it possible to identify an area where there are no artifacts as a potential Muslim or Christian community just through the study of food waste – a fascinating insight gained through examination of fish bones.

Continuing the story

Often outreach events are seen as just for kids, or just lectures and discussions for people already interested in the topic. We tried to join the increasingly growing group of science advocates who are attempting ‘holistic’ outreach. We included hands-on activities for adults and kids, discussion and mini-lectures on multiple cross-disciplinary topics, and items for kids and adults to take home. And it didn’t stop at the doors of the event. Many small businesses got involved, including Bluebird Bakery who donated the bread, Swains Family Butchers who donated bones for the children’s activity, Smelly Ally Fish Company who sourced the fish (including carp from France), Netherton Foundry who made historically based cooking equipment, and several tour companies who agreed to take their tour groups through our event on the day. We advertised via traditional methods (fliers, website) and social media (Twitter and Facebook), but most of the over 400 people who attended the event just walked in off the street.

I hope that these sorts of holistic outreach events can create a sense of community and a wider circle that will hear the story and be interested beyond just the day of the event. And with feedback like ‘truly brilliant and original idea: I’ve learned more about fish and medieval cooking than I’d have thought possible’, it’s a rewarding thing for everyone involved. ■



The original ‘laumpreys in galentyne’ recipe from the *Forme of Cury* (written in the late 14th century by the Master Chef of King Richard II). IMAGE: ©JOHN RYLANDS LIBRARY.

Galentine sauce, medieval and modern Chef’s note by Phil Leverington

In many historical recipes, including that for galentine sauce, no quantities are given. This recipe from the *Forme (method) of Cury* (cooking) just gives the ingredients and the process or method for cooking the dish. I have adjusted the 14th century text to give estimates of quantity to produce the recipe in a recognisable, modern format. Try it for yourself (and tell us about it #fishships). As you cook, remember that the medieval chef would have altered the quantities based upon their taste.

In recreating the dish, I made only minor adjustments to the *Forme* as outlined in the original text. The recipe calls for lamprey blood in the sauce, and it was served over cooked lamprey. As lamprey are not available for consumption in the UK, for the event I omitted the lamprey blood and served the dish over carp. I also added a small amount of unrefined sugar, which would have been available at the time. This could also be replaced with a small quantity of honey as that was a common substitution for sugar during the period.

The method itself is exceptionally simple, requiring nothing more than the reduction of the liquid and regular tasting, and the sauce can be served over a roasted or grilled fish of your choice.

Ingredients

- 1/10 of a Pint of Vinegar
- 9/10 of a Pint of White Wine
- A pinch of Salt (to taste)
- 2 Tablespoons of Currants (ground to a paste)
- The crusts of approximately 4 slices of bread
- ½ a Teaspoon of Powdered Ginger
- ½ a Teaspoon of Powdered Cloves
- ½ a Teaspoon of Powdered Cinnamon
- A small amount of Unrefined Sugar (to taste)

Method

- Add all the ingredients to a saucepan or pot and bring to the boil. Simmer and reduce by half.
- Serve on a fish of your choice.

