Pewter Spoon

The spoon is a basic utensil for eating. While one can pick up many morsels with fingers, some consumables are too fluid for such an approach. Extant spoons are made of a variety of materials including wood, horn, silver, gold, latten (copper based alloys), and pewter.

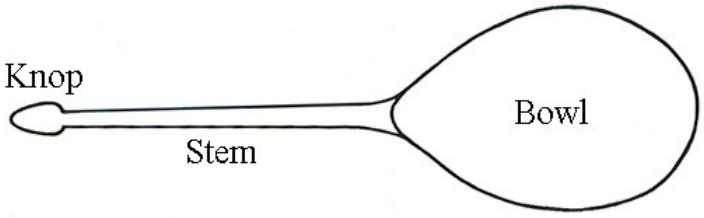

Figure 1. Spoon parts description
(Adapted from Pewter Spoons and other related material of the 14th ~ 17th centuries, Page 9, Figure 3)

The basic nomenclature for spoons is shown in figure 1. My spoon is an attempt at producing a utensil that might have been used in 1340 England.

Historical Evidence

The Luttrell Psalter is an illuminated manuscript made for an English knight, Sir Geoffrey Luttrell and is dated to the second quarter of the fourteenth century. In this manuscript is an image of Sir Geoffrey at table, a portion of this image is shown in figure 2. Two spoons are shown on the table in front of the man. The man may be holding a third spoon in line with the edge of the bowl in front of him (or it could be a lid he is about to remove).

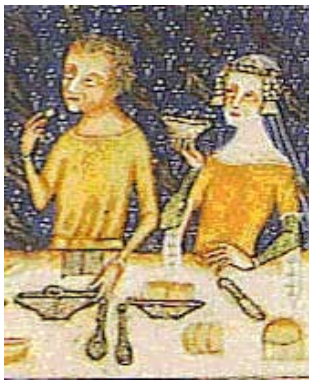

Figure 2. Luttrell family and guests at table (f.208v.)
(Medieval Rural Life in the Luttrell Psalter, Page 15, Figure 5)

Scale in illuminations is always problematic, as can be fine detail. It is however easy to see that the spoons have broad bowls, with a decorative knop. The cross section of the stem, and style of knop are harder to discern. It could be a round cross section with a simple sphere for decoration, but the level of fine detail doesn't make such assumptions very reasonable.

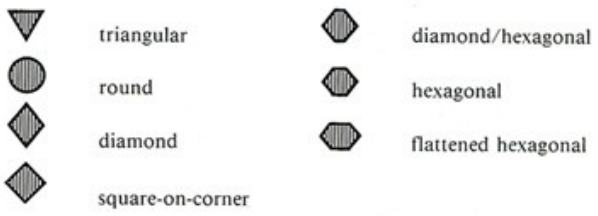

Figure 3. Examples of stem cross-sections
(Pewter Spoons and other related material of the 14th ~ 17th centuries, Page 9, Figure 2)

Extant pewter spoons come in a variety of styles of bowls, stem cross-sections, and knops. While it is reasonably easy to see knops and bowls, it can be harder to see stem cross-sections. Figure 3 shows some typical styles. Shaped stems are not only attractive; they increase rigidity, which considering the softness of pewter is critical to the longevity of the utensil.

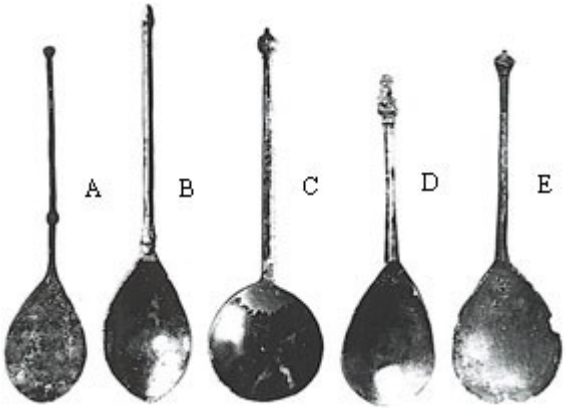

Figure 4. Selection of pewter spoons
A c. 1300; B c. 1300; C 14th century;
D 15th/16th century; E 15th/16th century
(English Medieval Industries, page 74, Figure 28)

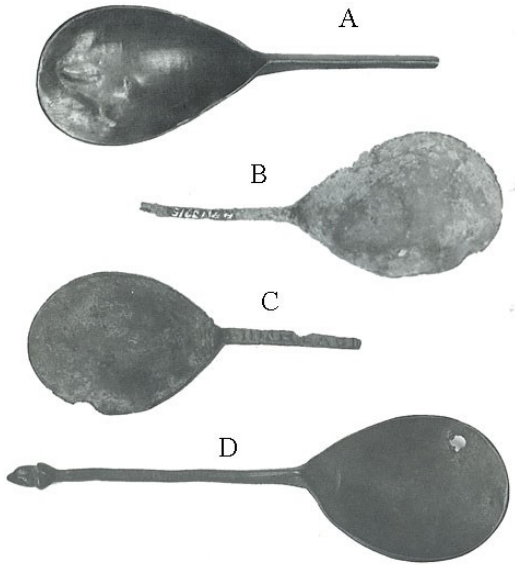

Figure 5. Additional selection of pewter spoons
A Probably early 14th century;
B Probably 14th century;
C Probably 14th century;
D Early 15th century
(Modified image from Pewter Spoons and other related material of the 14th ~ 17th centuries, Page 11)

Figure 4 shows a selection of pewter spoons ranging from the beginning of the 14th century to the 16th century. The scale of these spoons is regrettably unavailable. Spoon B is of particular interest as it has what appears to have proto-acorn knop and a square-on-corner (or possibly diamond) cross-section.

More pewter spoons are shown in figure 5. The 14th century examples are unfortunately missing their knops, while the 15th century example has a fully developed acorn. The stems are of diamond, round, triangle and diamond cross-sections respectively. Bowl shapes are relatively consistent, with spoon A having a slightly elongated shape compared to the others. A final interesting feature is that spoon B has a piece of iron wire embedded in the stem. Considering that the stem is round (a weak shape), the iron wire was probably needed as reinforcement.

There are two types of pewter alloys stipulated in the Pewterers' Ordinances of 1348, "fine metal" and "lay metal". Fine metal was to be tin with as much copper as it could take (1 to 3 percent), while lay metal was to be 22 or 26 lbs. of lead per hundred weight of tin. Flatware (e.g. plates) and square wares (salt cellars, and what seems to be other food holding items) were to be made of fine metal[1]. Despite the ban on lead in fine metal, some lead was added anyway to help the metal flow better. This fact is quite important when recreating.[2]

Spoons were not typically of fine metal. Of twenty-four pewter spoons for which I found alloy analysis[3] only two could be considered fine metal and they contained up to 6

[1] Riley, Memorials 259-60 and Cal. Plea & Mem. R., 1323-64, 264; via English Medieval Industries, Page 73
[2] Robert MacPherson, 2005
[3] Pewter Spoons and other related material of the 14th ~ 17th centuries, Page 8

percent lead, the rest were leady lay metal. The average lead content found for the lay metal was 45 percent. The high lead content in spoons is likely because the supplies required for casting spoons are quite easy to transport. It would be quite easy to move shop and avoid guild regulators.

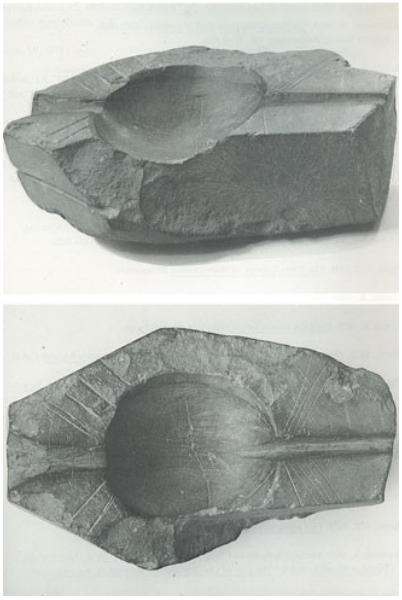

Figure 6. Female mould fragment
(Pewter Spoons and other related material of the 14th ~ 17th centuries, Page 25)

Spoon moulds in the medieval period were made of clay or stone. Figures 6 and 7 are examples of mould fragments, but are not a set. The pour for spoons is located at the tip of the bowl, so the knop is located at the bottom of the mould. This is the ideal location for decorative elements as gravity is on side for drawing the metal into the details.

The stem connection to the female mould extends into the bowl. This would help reduce the stress at the join when levering stubborn foodstuffs.

The lip of the bowl is carved into the male mould. This means that the flash would be found at the edge of the bowl, making it easier to clean, and ensuring that the lip is naturally smooth.

Scratches in both the moulds allow for air escaping when the pewter is cast. As the spoon cools, the metal contracts, and additional metal is drawn from the pour.

Figure 7. Male mould fragment
(English Medieval Industries, page 66, Figure 21)

Figure 8 is a larger version of spoon D from figure 5. After examining the material available, this seemed a reasonably simple guide for my spoon. It is 148 mm long, of which the bowl is 60 mm long and 42 mm wide. (These dimensions are close to the averages of the examples in Pewter Spoons and other related material of the 14th ~ 17th centuries, 143 mm long, and 63 mm by 43 mm.)

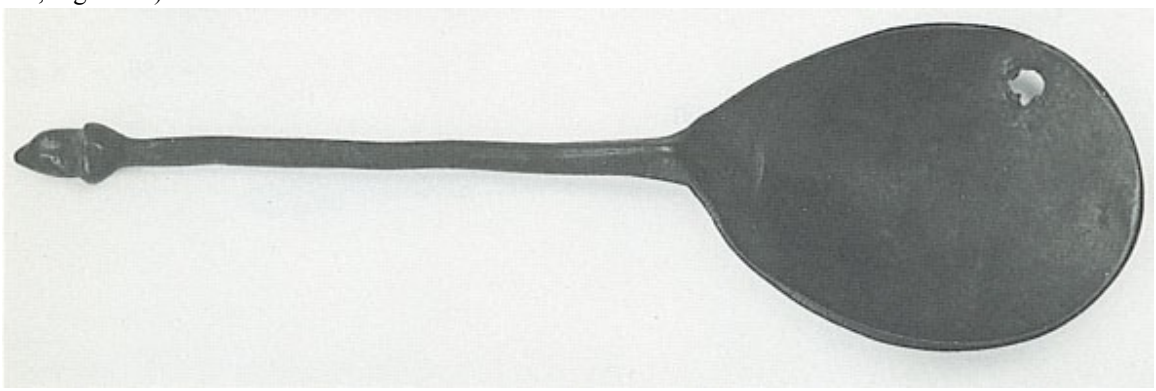

Figure 8. Pewter spoon from the early 15th century
(Pewter Spoons and other related material of the 14th ~ 17th centuries, Page 11, 68/123/1)

My attempt

The spoon design I chose for my spoon is a fig shaped bowl, with a square-on-corner cross-section, and an acorn knop (figure 9). It is 145 mm long, and the bowl is 62 mm long by 44 mm wide.

Figure 9. My spoon

The majority of spoons from figure 5 have fig shaped bowls. This seemed to be the most likely/common bowl. When choosing a knop however, I was in an awkward situation because most of the examples had their knops missing. I chose to make an acorn because I was intrigued by the proto-acorn on spoon B in figure 4 (which has a square-on-corner cross-section), and married the style elements of that spoon and the early 15th century example in figure 8 (also figure 5 D) which has an acorn knop and diamond cross-section. As a result, square-on-corner cross-section combined with the acorn knop was chosen. There are mentions of silver spoons with "akerne" knops in 1348 and 1351[4], so I feel that my choice is fairly reasonable.

The pewter alloy I chose is BM (Britannia Metal) 94, which is 94% tin, 1% copper, and 5% antimony (which helps with hardness). The casting temperature is 500-550°F (260-288°C) so I could melt it in a stainless steel pot on my stove. It is lead free and completely food safe. Lead poisoning may be period, but I have limits on what I am willing to do for re-creation…

The stone I chose for my mould is soapstone. Unfortunately the safe stone (some soapstone contains asbestos) that I could afford was only 5" long. This meant I had to use four parts to my mould, rather than two (see figure 10). I used a drill press to drill holes for pinning the parts together. This ensured that the moulds would come apart after casting the pins (an angled pin would lock the mould together). Pinning means the moulds match up identically each time. Some period moulds are pinned, but not all. Given the complexity of this mould, pinning seemed wise.

Figure 9. My mould, female and male respectively

Carving the mould was done with a small chisel, a dental tool, sandpaper, and an aluminium rod that was rounded off on the end and filed flat on opposite side. To begin, I traced out the bowl and stem using a stencil I made. On the male half of the mould, I used a hacksaw to make rough cuts straight down around the bowl from the face. I then made cuts around the sides to make a new flat surface and leaving a lump of stone where the bowl would be. I carved the divot in the female and the lump of the male until they

[4] Antique Pewter, Page 58

fit together. I then carved the stem and knop. Scratches were carved into the mould halves to allow air to escape when casting.

Given the lack of lead in my alloy, I found there were problems casting because the connection between the pour and the spoon known as the gate, would solidify before all the extra metal in the pour had been drawn in. This creates an effect known as suck-back which are craters and/or holes in the casting. To combat this, I had to expand the pour into the bowl in the female mould. This gives a larger gate, which takes longer to solidify reducing suck-back, but also means clean up takes longer.

Cleaning the spoons was done with a belt sander, needle files, sandpaper, and polished with black emery. I could do it entirely by hand, but I found there was no difference in the result except for the amount of time required. As I am selling the spoons, the time saving is important.

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