

**Thoughts on comms. 2128 and 2129 – Early Music, experimental archaeology and scientific method.**

'Early Music' is an act of experimental archaeology, both instrument construction and in performance reconstruction.

During these activities we need to clarify and keep separate the concepts of 'hypothesis' from 'theory' as despite fairly intensive teaching of the differences both at Key Stages 2 and 3 in the UK National Curriculum for science, public discrimination of them is poor. People value a 'preferred solution' rather than accept that there is a number of competing but valid ones. We like to grasp a clear, unequivocal story whether one exists or not. When we reconstruct a performance historically, it's important that we inform the audience of its degree of tenuousness or the construction assumes, in their perception, the mantle of 'the correct way to perform it'. There is a human tendency to value received wisdom as authority and a reluctance to accept ideas critical of it. Beware other human traits: to assemble evidence that supports one's hypothesis and ignore inconvenient evidence to the contrary and sometimes and regrettably to belittle one's adversary. A notable example of the latter is Boyd Dawkins' treatment of Timothy Heath over the Victorian excavations at Creswell Crags<sup>1</sup>.

For example, the hypothesis 'Stonehenge and Durrington walls – the prehistoric realms of the dead and the living' has a wide following in archaeology and while based on parallels with modern Madagascan culture seems in archaeological circles to be treated and enlarged on as proven fact rather than hypothesis. Inevitably, through the medium of television and newsprint this becomes accepted as 'truth' by the wider public. Another example I have quoted in FoMRHI comm.1942 is the current, almost universal mixed sex performance of Morris Dance which isn't as originally recorded but, now is accepted as the historical norm by that part of the public that hasn't informed itself to the contrary. Scientific method (Baconian and Karl Popper's ideas of falsification<sup>2</sup>), when followed, should keep these tendencies under control.

Coming to Martyn Hodgson's point about the validity of 'thumb under' lute technique, I heard Michael Schaeffer give the seminal talk on this technique to the Lute Society Summer School in Cheltenham in, I think, 1973 or 1974. Tony Rooley gave one at, I believe, the same summer school on his use of thumb out and nails which, I seem to recall, generated a measure of discord. From then on, much teaching switched to thumb under and having switched, I can testify that it's easier, if unhistorical, to try to modify thumb under for later styles than acquire two techniques. But I must persist.

Lute size is another area where received wisdom dominates. I'm sure makers in the 1970s had a reason for picking string lengths at or close to 60cm for 'classical' Elizabethan/Jacobean period lutes in 'g'. I wonder if the reason was because it created an instrument of playable size for most clients? Coincidentally and conveniently for me it happens to accord well with the statistics on hand size that I published much later in FoMRHI comm. 1897 and earlier related articles. But if I turn up with a 55cm lute tuned in

'g', which is a size I find easier to manage, a proportion of my fellow players will comment that 'but that's an 'a' lute. Received wisdom in action, or am I using evidence that's convenient to me and ignoring that which points in a contrary direction?

If you reconstruct a cornett or a simple 'renaissance' flute the instrument puts severe constraints on the range of sounds and tone quality that can be delivered – but, still, it is a range. To try this is a clear example of musical, experimental archaeology in action; the properties of the reconstruction define the range of possible sound and technique and raise hypotheses about its use which need testing. With a more complex instrument like the lute or viol, not only is historically informed construction important but so is the choice of material for the strings as it affects the pitch, range and sonority of the result. Here, I suspect our public perception is still influenced by the modern, classical guitar, with expectations of resonance, size, tone and ability to fill a concert hall. The archaeological approach dictates using gut, with all its limitations, to find the range of possible sonority but the player, amateur and professional, often has other views based on her or his perception of what the instrument 'should' sound like. Consequently, and in conflict with our evidence from reconstruction, this dictates the use of modern polymer and overwound strings.

Thus, the sequence of events during reconstruction ought to be:

- assemble the evidence for the construction of the chosen instrument including stringing
- assemble any evidence of how it was played
- assemble and evaluate evidence to the contrary
- attempt a reconstruction
- play it to observe its acoustic properties and any difficulties that need investigating
- raise any hypotheses about any of the above and test them, if needs be by changes in construction.
- cycle the last three points until you have a workable reconstruction
- when demonstrating the instrument note point three above and be sure to discuss any caveats relating to playing technique, sonority etc.. Stress that this is a 'best fit' model but that others may be valid, particularly as more evidence becomes available.

Charles Besnainou's hierarchy of the scientific process, hypothesis, clue, evidence and fact is precisely this process. However, comm. 2139 also shows what often happens when 'received authority' meets contrary evidence and the personal creeps in. This is a very common and very human conflict that occurs when anyone, myself included, attempts to question and overturn 'perceived truth' and I've had many a professional fight in scientific and educational fields where I have not been 'the authority'. I know how uncomfortable and powerless you can feel. What's important is that both Charles Besnainou's and MIMO Peruffo's evidence is heard and that it should generate a series of hypotheses that can be tested against evidence. What shouldn't happen is for one line of evidence to get buried because it 'goes against the grain' or because it is expressed with some warmth. Both lines

of reasoning need to be weighed on their merits and faults and not on the strength of personalities.

Just some other brief observations, not criticisms, on this comm.

From my experience of using longbow, (fig.23) I'd suggest that the bowstring needs to be flexible but not stretchy. Bowstrings employ a simple twist except for the terminal loops. Their function firstly, is to propel the arrow and, secondly, to act as a shock absorber once the arrow has left. Indeed, if, in use, the string breaks it's not unusual for the stave to shatter at the same time because of the sudden release of the tension within itself. The force for delivering the projectile derives largely from the bow, not the string. Watch the bowstring after the arrow has left; it returns to tension as it moves forward and, in doing so restrains and restores the shape of the bowstave which remains under slight tension at the end of the shot. A very stretchy string could not do this.

Around 2009 I stopped to listen to a Kora player on Bristol Harbourside and, when he had finished his piece, I asked him how he made his roped strings. What he described was precisely what Charles Besnainou in section 3.1.3 calls Ramelli's super winding. I discussed this with Eph Segerman shortly afterwards and he said that the technique dated back almost to prehistoric times. This is confirmed by figs. 1.4.1 and 1.4.2. Oh, and the roped kora strings sounded good and carried right across Millenium Square.

Roped catlines work well. I'm assuming that NRI catlines that I've used since 1978 are still rope wound and I haven't encountered the problems or the dissatisfaction alluded to in section 3.1.1. The 11<sup>th</sup> course of my baroque lute has a thickness of 1.9mm and might well have benefitted from me splitting the end before inserting it into and tying it on to the bridge. The latter seems to cope with a 2mm hole, historical size or not. I suspect the same method of fixing should apply to the peg end of the string, perhaps with even greater need.

Eric Franklin, 17.4.'20

References:

- 1, Mark White, 'William Boyd Dawkins', chapters. 4-7, publ. Pen and Sword, 2017.
2. <https://en.wikipedia.org/wiki/Falsifiability>