

### Query about a lime and cheese-based mediaeval glue recipe

Last year I started to attempt to make a renaissance cornett and as usual was hoping to experiment with historically-informed methods of construction. I made a plan of sorts and prepared my wood but my progress has been halted as my experiments with making a waterproof cheese-based casein glue have not been as successful as I would have liked.

I tried to follow the method described by Theophilus in his 12th century craft treatise 'On Divers Arts' (Translated by John G Hawthorn and C S Smith, University of Chicago Press, 1 Dec. 1963) I used full fat cottage cheese (apparently low fat would have been better) and I used Slaked lime (Calcium Hydroxide readily available for use in Aquariums) as I read that quicklime (Calcium Oxide) could be hazardous to use.

After thoroughly washing my cheese in hot water then using cold water to harden the cheese lumps following Theophilus method (Should I have used colder water?) I ended up with a small quantity of small white lumps of washed cheese which I slowly dried. I tried out some of the undried paste, mixing it with some. Slaked lime and water, on some scrap wood and was pleased to find it seemed to have worked well as an adhesive. I then decided to see how waterproof it was by immersing it in water. It held well at first but unfortunately after five or ten minutes the glue softened and the joint came apart.

Later I took some of the dried, washed cheese and rehydrated it and added a stronger mixture of slaked lime and water. As before, the resulting creamy paste set hard and glued my scrap wood well but when I put a lump of the dried glue in water it quickly softened. I suspect that this glue would not hold the two halves of a cornett together for long when subjected to the moisture from playing?

Would I get a more waterproof glue if I used quicklime? Any advice would be most welcome.

Best wishes,

Andrew Atkinson