Erik Bloodaxe, last king of Viking York, was killed on Stainmoor, near Barnard Castle, in AD 954. How long ago was that? Over 1000 years. But who can imagine 1000 years? It is difficult enough to think back even 100 years, beyond the lifespan of the oldest grandmothers still alive today. To get back to York's Viking Age would take the lifespans of 11 very old people, living one after the other.

All through those thousand years, there were people living and working in Coppergate. Not long ago they were factory workers, making sweets in Craven's boiled sweet and sugared almonds factory, which was built in the late 1870's and stood there until 1975. Before that, most of the people in Coppergate were shopkeepers and merchants. At one time in the Middle Ages the street was very prosperous, and several of the Lord Mayors of York had houses there. In the Viking Age, long, long before that, there were craftsmen—woodworkers, coinmakers and jewellers, and the cupmakers or cooperers who gave Coppergate its name. In the tunnel of time in the Jorvik Viking Centre you can meet some of these people, marching forward to the present.

Archaeologists dug up remains of all these people just before the new Coppergate Shopping Centre was built in 1981-83. They got a very good idea of how long ago these various people lived, because their rubbish had to be dug through layer by layer. First were found the brick walls and cellars built by the Victorians. Then came the walls and wells of Georgian times. Under those were the walls and rubbish dumps of the people who lived in Coppergate in Stuart and Tudor times. Below these came the remains of half-timbered buildings of the late Middle Ages, and they in turn were built over huge rubbish dumps laid down in the Norman period. At last, even deeper down, were found remains of Viking houses, alleyways, wells, lavatories and rubbish dumps. After removing all those layers to get down to the Vikings, the archaeologists knew that they were going back a very long way in time.
But exactly how long? The diggers found coins, lost in Viking times, stamped with the names of kings whose dates were known. That gave some clue as to when the buildings nearby were occupied. Then there were other finds, like knives, brooches, or pottery, of the kind known to have been used by the Vikings. Finally there were the tree rings to count. You probably know that trees put on a growth ring every year. If you count back through the thick and thin rings of a modern tree, you can calculate when it was first planted. Then you can match the earliest rings (thin in a dry year, thicker in a wet year) with the latest ones in a beam from an old house — and then overlap that beam with one from an old church — then overlap that with one from the excavation — then link that with one from the Viking houses. If you have counted and measured and compared accurately enough (and it takes a science laboratory to do it properly), you can get back to the actual year in which the Viking timbers were cut down.

Count over 1000 tree rings — 1000 springs, summers, autumns, winters; 1000 Christmases, 1000 birthdays, and you'll get some idea of how long ago it all happened.

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**Dendrochronology Diagram**

- **Part of a tree cut down at a known date.**
- **Timber 1 — Modern**
- **Timber 2**
- **Timber 3**
- **Timber 4**
- **Timber 5 — Viking age**

A pattern of growth in the rings has been matched to Timber 2. We now know that these two trees were alive at the same time.

This same matching process can be repeated. The timbers are now older, but by counting the rings back, we know the exact age of Timber 3 and 4 in relation to Timber 1.

In this way we can date when Viking timber 5 was cut down.