

Numbers, money and measures in 13th century records

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Numerals

The records use only Roman numerals (Arabic numbers were known to mathematicians, but not in common use). Styles differ from one clerk to another, but generally:

i, v, x are written in lower-case;

L, C, D, M are often written in capitals (M is sometimes written in a stylized way, that looks rather like the ∞ sign);

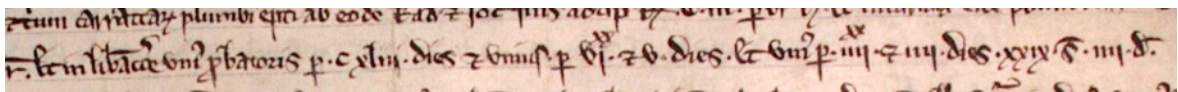
when i stands alone or as the final digit, it is written as a long i, looking like j – e.g. 13 is written xiiij;

numbers are often preceded and followed by stops, to distinguish them from the rest of the text;

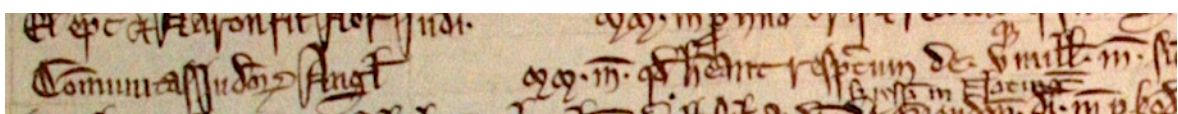
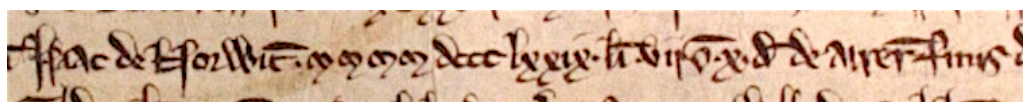
long numbers are broken by spaces and/or stops, to make them easier to read – e.g. 226 might be .CC.xxvj.

4 is usually iiij (not iv), but the subtractive system applies to 9 and 40 – ix, xL and so on. On the other hand, 90 is not xC – see the next point;

80 is not Lxxx, but iiij^{xx} – four score – with the xx directly above the iiij; as in French, four-score is used as the base for numbers up to 99 – iiij^{xx} xix; this system could also be used for 120, vj^{xx}, and for 60, iij^{xx}, but this is less often seen; this example shows both six score and four score in use:



very large numbers, like 5,000, are not often written out at length, like MMMMM. They can be written using an overline to indicate multiplication by 1,000, but are more often shown by writing *v milia* or *v mill'* (or even *v M*, contrary to Classical practice); combinations of words and numerals are common, as *quinq' mill' + dc li'*. Examples:



occasionally, sums (e.g. in land measurement, and in many non-monetary calculations) are expressed in “long hundreds” – the hundred of 120 units, or six score; this practice was well-established, and was for instance specified in

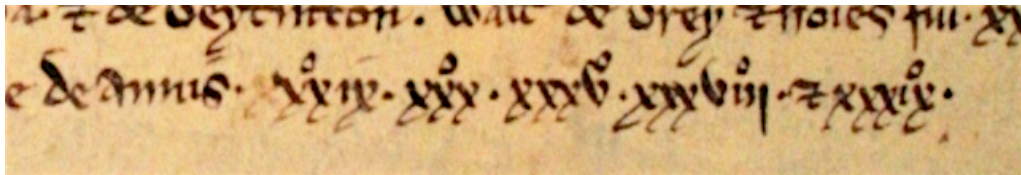
Domesday Book for Lincolnshire: 'In the city of Lincoln ...there were 970 inhabited messuages. This number is reckoned according to the English method, that is 100 for 120.'

Number words

Numbers written as words follow Classical rules – unus, duo, tres are adjectives, agreeing in gender and case; 4-100 do not decline; 200-900 decline like ducenti –e –a, but are seldom seen; mille is indeclinable, milia is a neuter plural noun.

Numbers up to 10 are often written as a mixture of numeral and word – ij^{obus}, iij^{or}, v^{que} (example above), vij^{tem}, viij^o.

Ordinals decline –us –a –um, and are often written as numerals with the appropriate ending superscript – iij^{us}, anno xxxvj^o. The mixed approach goes as far as *anno xlprimo* (written without a space) for 41st year.



Money

Although the only coin in general circulation until the late 13th century was the penny, accounts and so on use a variety of units:

li. or lib.	libra	pound (240d.)
m. or mr ^a	marca	mark ($\frac{2}{3}$ of a pound – 160d.)
s. or sol.	solidus	shilling (12d.)
d. or den.	denarius	penny
ob.	obolus	halfpenny
qu.	quadrans	farthing ($\frac{1}{4}$ d.)

These units are not used consistently. Small sums over a pound, up to about £5, are often expressed in shillings rather than pounds and shillings – 65s. rather than £3 5s.; small sums below a pound, up to 40d. (3s. 4d., or a quarter of a mark), are often written as pence rather than shillings and pence. Marks are used both for large sums, such as reliefs of hundreds or thousands of marks, and for small amounts, typically fines or amercements of half a mark or a mark. In accounts, clerks frequently switch between units – Johannes owes £10; he pays 6 marks 5 shillings; he owes 115s.

The abbreviations for money units are written in lower case. Watch out for potential confusion with sums like £51 – Lj li.

Accounts sometimes use gold marks, equivalent to 10 silver marks, particularly for expressing fines. One gold mark = £6 13s. 4d.

The value of land is often expressed in terms of its annual worth, reckoned by the *librata*, *marcata*, *solidata* or *denariata*.

It would be futile to give modern equivalent values in terms of purchasing power. However, in terms of wages: a building labourer in the 1250s was paid from 1½ to 2½ pence per day, working 7 or 8 hours a day in winter, 10½ hours in summer (Colvin, *Building accounts of Henry III*) – call it 2d. for 9 hours; at the 2011 minimum adult wage of £6.08 an hour, a labourer would be paid nearly £55 for 9 hours; so 1d. is roughly equivalent to £27.50, giving a multiplier of 6,600.

Foreign currencies are often used in Gascon affairs (*libra Andegavensis*, *Burdegalensis*, *Parisiensis* and so on), each with their own value – exchange rates can be calculated with the RHS *Handbook of medieval exchange* (by Peter Spufford, with Wendy Wilkinson, Sarah Tolley).

Weights and measures

This is a morass – units vary locally, and are often specific to particular products (e.g., the *carrata*, or cart-load of lead; oats reckoned as 16 bushels = a seam, wheat and barley as 8 bushels = a quarter, and so on). The legal treatise *Fleta* (ed. HG Richardson & GO Sayles) gives some idea of the fun to be had:

But a last [lestus] of herring consists of ten thousands, and each thousand [miliare] of ten hundreds, and each hundred of six score. Again, a last of hides consists of 10 dickers, and each dicker [dakrum] of 10 hides. On the other hand, a dicker of gloves consists of 10 pairs and a dicker of horse-shoes of 20 horse-shoes.

There is an exhaustive guide: R. E. Zupko, *A dictionary of weights and measures for the British Isles: the middle ages to the twentieth century* (Philadelphia 1985).

Precious metal

In the majority of medieval accounts the weight of precious metal objects – brooches, basins, cups and rings – is given in pounds, shillings and pence (i.e. the pound weight is divided, not into ounces, but into shillings and pence). However, this only tells us what the item weighed in pence. To express the weight of an item in a form that is easier to comprehend, we need to convert it into Troy ounces, which is still the standard means of weighing jewellery and plate today.

1d. = 1.5g.

31g = 1 Troy ounce.

So, if a cup is recorded as weighing as £2. 13s. 4d. First, convert the figure into pennies ((2x240)+(13x12)+4 = 640d.), then, to find out what this equates to in grams, multiply the figure by 1.5g (640d. x 1.5g = 960g). To express in Troy ounces, divide figure by 31g (960g ÷ 31g = 30 oz.) A pennyweight of £2 13s. 4d. is therefore equivalent to 30 Troy ounces. Arduous, but any modern article/work on medieval jewellery will always refer to Troy ounces as opposed to pennyweight.

The mints also recorded the weight of silver received as £ s. d. These are divisions of the Tower pound, as distinct from the Troy pound used by goldsmiths etc.