

An Introduction to Double-Entry Book Keeping

Or

Here's one I made up earlier



Luca Pacioli Venice 1494



*Summa de arithmetica.
Geometrica,
proportioni et
proportionalita*

What went before?

1. Roman Numerals

- M, D, C, X, V, I

2. The Abacus

- Frame abacus
- Checked cloth = 'Exchequer'



What were the limitations?

1. Largest Numeral is $M=1,000$
2. No zero or symbol for nothing or an empty abacus column
3. Can't do multiplication or division
4. Complex calculations cannot be done on a piece of paper
5. Each stage of calculation destroys the stage before, therefore it is not possible to check a result without starting again.



Example

Consider 1999 and 2008

1. Roman style

$$\text{MCMXCIX} = 1000 + (1000 - 100) + (100 - 10) + (10 - 1)$$

$$\text{MMVIII} = 1000 + 1000 + 5 + (3 \times 1)$$

2. Algorithm

$$1999 = (1 \times 1000) + (9 \times 100) + (9 \times 10) + (9 \times 1)$$

$$2008 = (2 \times 1000) + (0 \times 100) + (0 \times 10) + (8 \times 1)$$



Mediaeval Accounts

a. Receipts

Arrears

Rents

Other Receipts

Total of all receipts

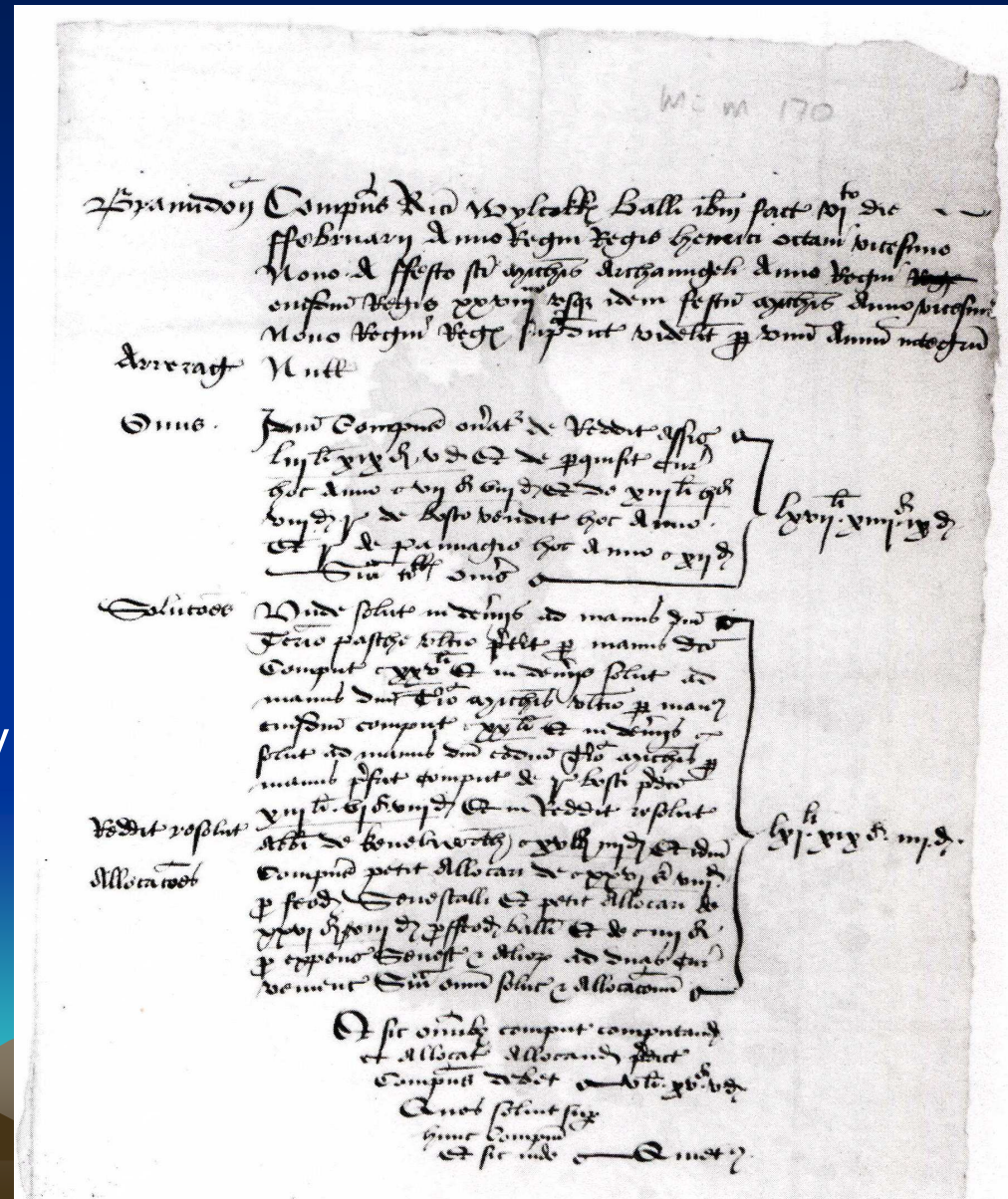
b. Expenses

Necessary expenses

Foreign receipts & livery

Total of expenses

Balance = a-b



16th & 17th Century Algorithm

1. Robert Record, *Grounde of Artes* (1540)
2. Hugh Oldcastle, *Manor and Forme how to kepe a perfect reconynge....* (1553)
3. John Dee, *The Elements of Geometry.....of Euclid of Megara* (1570)
4. Richard Dafforne, *The Merchants Mirrour.....Debtor and Creditor* (1635)



Why Double-Entry?

Every financial transaction is recorded in at least two accounts



Example

Business A sells an item to Business B who pay for the item by cheque

- Business A would credit the amount to “sales” and debit the account called “Bank”
- Business B would debit the account called “purchases” and credit the account called “Bank”



The Elements of Accounts

- Assets
- Liability
- Equity
- Revenue
- Expense



The Accounting Equation

Double-entry Book-keeping is governed by the accounting equation

– Assets = liabilities+equity

or (fully expanded)

– Assets = liabilities + (capital–drawings) +
(revenue-expenses)



4 Stage Process

1. The Daybook /Journal/books of first entry

2. General/ Nominal Ledger
(unadjusted trial balance)

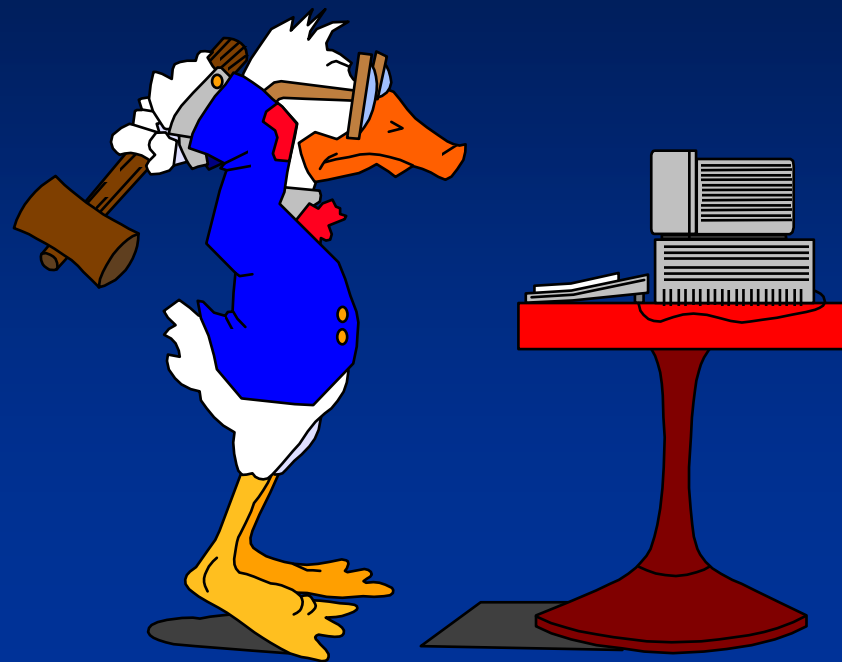
3. Financial Statements

- the balance sheet
- profit and loss statement
- Statement of retained earnings
- cash-flow statement

4. Audited and Approved Accounts



That's all Folks!



Any Questions?