

# An Overview of the Development of Accounting

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## Part 1 Introduction

Accounting history studies can be divided into 2 main categories. The first is books that discuss accounting history from its origins until the present day. We could call these general accounting histories. The second main category is studies of documents written about someone in the past, or studies of certain companies or particular elements of accounting. We could call these individual accounting histories.

The first main category can be further divided into 2 sub-categories, based upon where and when they place the beginnings of accounting. Those in sub-category 1 argue that it began in ancient Egypt and Mesopotamia, those in sub-category 2 argue that it began in either the city states of mediaeval Italy or in Ancient Rome. Books in sub-category 1, which argue that it began in ancient Egypt and Mesopotamia, adopt a broad definition of accounting; they define it as a method of recording calculations<sup>1)</sup>. Books in sub-category 2, which argue that it began in the city-states of mediaeval Italy or Ancient Rome, use a narrower definition. They say that the commencement of double-entry bookkeeping constitutes the starting point of accounting<sup>2)</sup>.

Main category 2 (individual accounting histories) includes studies of documents written in the past (eg. Pacioli's bookkeeping treatise), histories of accounting in certain companies (eg. the East India Company or the House of Fugger), and histories of particular elements (eg. balance sheets or profit and loss calculation)<sup>3)</sup>.

My objective in this paper is to present an overview of the development of accounting, from the 'general accounting histories' standpoint, referring mainly to the books cited in the notes for Part 1.

### Notes:

- 1) General accounting histories that place the starting point of accounting in Ancient Egypt and Mesopotamia:

Richard Brown, *History of Accounting and Accountants*, Edinburgh, 1905; Arthur H. Woolf, *A Short History of Accountants and Accountancy*, London, 1902; Wilmer L. Green, *History and Survey of Accountancy*, New York, 1930; Federigo Mellis, *Storia della Ragioneria*, Bologna, 1950; V. K. Zimmerman, *British Backgrounds of American Accountancy*, 1954; Michael Chatfield, *A History of Accounting Thought*, Illinois, 1974; John Richard Edwards, *A History of Financial Accounting*, London 1989; Parker & Yamey, *Accounting History, Some British Contribution*, Oxford, 1994.

2) Examples of general accounting histories that argue that accounting began with the commencement of double-entry bookkeeping:

A. C. Littleton, *Accounting Evolution to 1900*, New York, 1966, and Osamu Kojima, *Kaikeishi Nyumon* (Introduction to Accounting History), pub. Moriyama Shoten, 1987. An example of a general accounting history that places the origins of double-entry bookkeeping in Ancient Rome is David Murray, *Chapters in the History of Bookkeeping Accountancy & Commercial Arithmetic*, Glasgow, 1930.

3) Representative examples of individual accounting histories:

Balduin Penndorf, *Luca Pacioli, Abhandlung über die Buchhaltung 1494*, Stuttgart, 1993, and Emmett Taylor, *No Royal Road, Luca Pacioli and his times*, 1942.

## Part 2 Accounting in Ancient Times

Woolf said that, 'The history of accountancy is, in a large measure, the history of civilisation.'

Looking back through the history of the development of mankind, we can already see evidence of the beginnings of accounting in ancient times. Accounting played an important role in ancient Egypt, Mesopotamia, Greece and Rome<sup>1)</sup>.

In 3,000 BC the Pharaohs ruled Egypt. The people paid them taxes in the form of commodities such as gold, silver, copper, livestock and grain. The work of recording these commodities was carried out by scribes. They recorded the accounts on papyrus rolls, in hieroglyphics. They could read, write and do calculations, and as well as acting as bookkeepers they held important positions in government.

Also in 3000BC the Mesopotamians made records of accounts, at first in

hieroglyphics on clay tablets. Nineveh and Babylon, the capitals of Assyria and Babylonia, were the 2 great trading centres in the following era. Here also, the scribes played an important role. Not only did they record the taxes collected by the state, they also engaged in trade themselves. They recorded the accounts on clay tablets in cuneiform writing.

The official scribes were always summoned for the signing of trading agreements. They recorded the amounts paid, the names of the parties involved, rates of interest, repayment periods etc. on clay tablets. Then the parties to the contract rolled their seals (which they carried around their necks) over the wet clay tablet, as evidence of their agreement.

In the 5th century BC the Greeks, both the people and the state, were well aware of the power of the purse. The Athenian parliament secured control over Greece's state finances, and a large number of civil servants worked in financial management. The most important civil servants in the Athenian financial system were the ten apodectae. The apodactae were appointed after their names had been drawn from the list of nominees. They were in reality state accountants, and they managed the national finances prudently.

In Athens, bankers, called trapezitae because they sat at tables known as trapezae, played an important role. The 3 main types of work they carried out were money changing, lending and the receipt of deposits. It is said that they recorded the transactions in account books such as memorandum books (grammateidia), day books (ephemerides), ledgers (biblidia), and (bank) account books (grammateion).

The Senate held the political power in Republican Rome, and controlled the Treasury. Working for the Senate were magistrates responsible for fiscal administration (quaestores) and population survey Officials (censors), who carried out important financial work. Working for the quaestores were a number of scribes (accountants or secretaries), but it was slaves who actually did the recording. In Ancient Rome a census was carried out every 5 years, and taxable assets were valued. It has been said that the census was the starting point for Roman accounting.

In Ancient Rome the nobility (=Roman citizens) were not permitted to engage in trade, so slaves acted as their agents, trading according to their masters' instructions, and producing account books. It has been argued that this relationship, noblemen=masters, entrusting trading to slaves=agents,

developed into a system of related credits and debits, and the birth of double entry bookkeeping. This bookkeeping system is referred to as 'agency book keeping', and the hypothesis that double entry bookkeeping originated in Ancient Rome is called the Ancient Rome Origin Theory.

When a slave received cash from his master, he would enter it as a debit in the cash book, and as a credit in the account for his master. When he lent cash to someone he would enter it as a debit against the debtor's name in the *calendarium* (account book), and as a credit in the cash account. When he received interest in cash, he would enter it as a debit in the cash account and as a credit in his master's account. He would record unpaid interest as a debit against the debtor's name. When his master paid cash, he would record it as debit in his master's account, and as a credit in the cash account.

Some accounting historians believe that this relationship (the master entrusting trade to the slave, who acted as his agent) between noblemen=masters and slaves=agents, developed into a debt and credit relationship, and that it constitutes the birth of double entry bookkeeping. Kats attempted to justify the Ancient Rome Origin Theory by theoretically clarifying the existence of agency bookkeeping in Ancient Rome<sup>2)</sup>. The theory itself is quite clear; its weakness is that the lack of documentary evidence to support it. Agency bookkeeping based on cash accounts and masters' accounts can be seen in 16th century documents, Matthäus Schwarz's first bookkeeping exercise, and Valentin Mennher's bookkeeping exercises.

#### Notes:

- 1) For more on accounting in ancient times see *Urufu Kaikeishi* (Woolf's Accounting History), translated by Yasuhiko Kataoka, pub. Hosei University Publishers, 1977, pp. 1-62.
- 2) P. Kats, *A Surmise regarding the Origin of Bookkeeping by Double Entry* in Accounting Review, Vol. 5, No. 4, 1930, pp. 812-816.

### Part 3 Accounting in the Middle Ages

It took a very long time for the accounting systems of ancient times to evolve into full double entry bookkeeping. Bookkeeping and accounting methods (and models) went through many changes as empires rose and fell,

but progress was hastened by trade / commerce and state accounting systems.

With the fall of the Roman Empire in AD476, civilisation in Europe fell into decline. Culture died, and accounting, which had developed from the Oriental era through the Ancient Roman era also seems to have been engulfed by the prevailing darkness. From AD476 until AD1000, there was hardly any progress in accounting.

Cellarius (Christoph Keller), a 17th German classics scholar, christened this period the Middle Ages, a period of vulgarity, barbarism and darkness between ancient and modern times.

However the view that the Middle Ages were years of darkness was rejected by Alphonse Dopsch of Vienna, Henri Pirenne of Belgium and others, and the theory that culture continued in the middle ages has become generally accepted in recent years. Dopsch was the first to argue that culture continued in Europe in the Middle Ages. He argued that the idea that the Germanic peoples were barbarians was a misinterpretation of history that developed out of nationalistic emotions, among Italian humanists in the 16th century and France scholars in the 19th century.

There were some differences between the views of Dopsch and Pirenne. They agreed that culture continued into the early Frankish Kingdoms period, dominated by the Merovingians, but Pirenne argued that it ceased in the later Carovingian period, due to invasions by the Moors, whereas Dopsch argued that the commerce and culture of ancient times continued during the Carovingian period. The reason for this difference of opinion lay in the fact that Dopsch was looking at the trade along the River Danube, whereas Pirenne was looking at the trade in the Mediterranean.

From the point of view of accounting history, if we accept Dopsch's continuation theory, we can say that agency bookkeeping was an important bookkeeping system that linked the accounting of ancient times with the accounting of the 14th–15th centuries.

Most accounting historians these days favour the Mediaeval Italy Origin Theory but there are some who support the Ancient Rome Theory.

There is one other aspect of accounting in the Middle Ages that is worthy of mention, namely the pipe rolls used by the Exchequer in the English financial system. The word Exchequer was the name for the accounting sector in public and private organisations in England. The public

sector Exchequer separated from the Curia Regis (the Royal Council / Court) in the 13th century. It controlled the income / expenditure of the royal household. The name Exchequer originated from the checked pattern of the tablecloth on the table used for counting money. The Exchequer had authority over all the financial affairs of the royal family, and at first also had jurisdiction as a court. However its authority was gradually eroded after the signing of the Magna Carta, and in 1834 the Exchequer system was completely abolished. The name Exchequer has been retained in Treasury bonds etc. Pipe rolls are England's oldest account books. They were recorded on parchment. They were created in about 1130 in order to record the annual accounts of the royal household. They were called pipe rolls because the parchment was rolled up into a 'pipe' shape.

After 5 centuries of darkness, the beacons were lit that heralded commerce's re-emergence, and this actually began in southern Europe, in Italy. This was, indeed, 'la renaissance de commerce'.

The rebirth of commerce was led by various cities on the Mediterranean, best situated to benefit from the effect of the money economy of the Byzantine region, in particular Venice, the Queen of the Adriatic, Genoa on the Ligurian Sea, and Florence, renowned for its role in the renaissance of the arts.

The prosperity of commerce in the cities of Italy reached its zenith from the 13th to the 14th century, and double entry bookkeeping was born in these Italian cities during this period. The development of trade was a major factor; other factors were the transfers (*giro*) carried out by banks, the activities of partnerships such as the *Commenda* and *Societas Maris*, and the progress in calculation skills.

If one customer of a bank wished to pay money to another customer, he did so through his bank, to avoid cash payments. In other words, debts were settled by transferring money from the account (*conto*) of the payer, to the account of the payee.

As trade developed, the type of trading carried out by Italian traders changed from travelling trade to fixed location trade. With travelling trade, there were 2 types of joint enterprise contracts, the *Commenda* and the *Societas Maris*. Both comprised members who travelled and actually carried out transactions, called *tractators* or *procertans*, and members called *stans*, who stayed in their homeland and only provided capital investment. The funding

for these ventures, on which dangers were braved in order to make a profit, was provided by several members. When a deal was completed, the profit was calculated and shared out among the members.

Originally Roman numerals were used in Europe, but they were extremely inconvenient for the calculations involved in trade. In 1202, Leonardo Pisano introduced Arabian numerals and calculation methods to Europe in his Book of Calculation (*Liber Abaci*). Arabian numerals were very convenient for traders, and they brought about a revolution in commerce.

Pisano's Book of Calculation comprised the following 15 chapters<sup>1)</sup>:

Chapter 1 Indian figures

Chapter 2 On the Multiplication of Whole Numbers

Chapter 3 On the Addition of Whole Numbers

Chapter 4 On the Subtraction of Lesser Numbers from Greater Numbers

Chapter 5 On the Divisions of Integral Numbers

Chapter 6 On the Multiplication of Integral Numbers with Fractions

Chapter 7 On the Addition and Subtraction and Division of Numbers with Fractions and the Reduction of Several Parts into a Single Part

Chapter 8 On Finding the Value of Merchandise by the Principal Method

Chapter 9 On the Barter of Merchandise and Similar Things

Chapter 10 On Companies and their Members

Chapter 11 On the Alloying of Monies

Chapter 12 On Methods of Processing in Mathematics

Chapter 13 On the Method of Elchataym and How, with It, Nearly all problems of Mathematics Are Solved

Chapter 14 On Finding Square and Cubic Roots, and on the Multiplication, Division, and Subtraction of Them, and on the Treatment of Binomials and Apotomes and their Roots

Chapter 15 On Pertinent Geometric Rules and on Problems of Algebra and Almuchabala

The oldest surviving Italian trading records, for 1154 to 1156, are in a register, recorded by Giovanni Scriba, a notary of Genoa, although part of a register for 1070 has survived. In Scriba's register there are records of transactions for a great deal of merchandise, including cloth, perfumes, dyes, and coral. The merchants of the time were illiterate and unable to record transactions themselves. However it was not long before some learnt to read and write and began keeping their own trading books (including account

books), so the number of trading records in the register decreased.

The oldest surviving accounts are those of a banker in Florence for the year 1211. Only 4 pages have survived, and these are kept in a library in Florence, the Bibliotheca Medici-Laurenziana di Firenze. They record the loans made by the banker, recovered loans and the interest on them. They do not provide sufficient evidence for us to say that it was double entry bookkeeping.

The main theories for the origin of double entry bookkeeping are the Genoa Theory, the Tuscany Theory, the Lombardy Theory, the Venice Theory and the Simultaneous Theory.

The documentary evidence for the Tuscany Theory is the ledger of the Renieri Fini company for 1296 to 1305, now kept in Archivio di Stato di Firenze. The items in this ledger are not copied from journals, they are independent accounts, and corresponding debits and credits are entered for each account. The terms used for debits and credits throughout are *de dare* (must give) and *de avere* (must have), and there are personal accounts, interest accounts, accounts for expenses, and profit accounts.

The documentary evidence for the Genoa Theory is a ledger, the financial accounts of the *Massari* of the Genoese Commune for 1340, now kept in Archivio di Stato di Genova. The main objective of this ledger was to manage the income and expenditure of the Commune. It is double entry, with left and right corresponding debits and credits. Debits are recorded as *debet nobis* and credits as *Recepimus*, and there are personal accounts, commodity accounts, commodity sales profit and loss accounts, accounts for expenses, profit and loss accounts, and the Genoese Commune account.

The documentary evidence used to support the Lombardy Theory is either the Piacenza accounts (1356-1359) or the Catalogna company ledger (1395-1398). The Catalogna company ledger has left and right corresponding debits and credits. The debits, on the left hand side, are recorded throughout as *debet dare* (must give) and the credits, on the right hand side, are recorded throughout as *debet habere* (must have). There is a cash account, commodity accounts, a joint profit and loss account, investors' accounts and various types of personal accounts.

The various documents used as evidence for the Venice Theory are now kept in Archivio di Stato di Venezia. There are, among others, the old ledger (1410-1417) and the new ledger (1406-1434) of the Soranzo brothers, the



Barbarigo account books (1430-1582), and the ledgers of Giacomo Badoer (1436-1439). The reasoning behind the Venice origin theory is that Luca Pacioli adopted and explained the Venetian method. Let's look at explain the similarities between the Barbarigo account books and Pacioli's bookkeeping theory:

- (1) The Barbarigo system had 2 accounting books, a journal and a ledger, and Pacioli also describes these same 2 books in detail. The Barbarigo account books are the only surviving Venetian accounts with these 2 accounting books, in particular the journal.
- (2) The format of the examples of entries in the Barbarigo journals is similar to the format in the examples explained by Pacioli.
- (3) The Barbarigo accounts and Pacioli used the same words for debits and credits, *per* and *A*, throughout their respective journals.
- (4) The method used in the Barbarigo accounts for transferring entries from the journal to the ledger is similar to the method described by Pacioli.
- (5) The terms used for debits / credits in the Barbarigo journals are *de* (or *dino*) *dar*, and *de* (or *deno*) *aver*, similar to the terms used by Pacioli, *deve dare* and *deve avere*.
- (6) The method of transferring the balance from a ledger account to a new account in the Barbarigo journals is similar to the method explained by Pacioli in Chapter 28 of his treatise.
- (7) The content of the creditor / debtor accounts in the Barbarigo accounts is similar to the content of the trial balance chart explained by Pacioli in Chapter 36 of his treatise.
- (8) The term used in the Barbarigo accounts for profit and loss, *utile e dani*, was also used by Pacioli.
- (9) When the accounts were closed in the Barbarigo books, profit accounts in the ledger were transferred to the capital account. Pacioli also explains how to transfer profit and loss accounts to the capital account.

The Simultaneous Theory is that the origins of double entry bookkeeping were not limited to a particular set of accounts or a particular city, but rather that it emerged in various cities, including Genoa, Milan and Venice, during the same period, in the 13th and 14th centuries.

It used to be generally believed that full double entry bookkeeping was devised in one city and then passed on to other cities. However, the view that it was not 'invented' by one person in one city and passed on to the

others, but that it gradually evolved in various cities during virtually the same period, is gaining strength. I think that the Simultaneous Theory for the origin of double entry bookkeeping is the most convincing. This simultaneous theory was also put forward by Peragalla (in 1938) and de Roover (in 1956)<sup>2)</sup>.

It cannot be said that one particular place is the birthplace of double entry bookkeeping. Double entry bookkeeping was not suddenly dreamed up. It developed very gradually. The theory that double entry bookkeeping has its origins in Genoa in 1340 and then spread to other city-states, should be rejected. It emerged in several trading centres in Italy during the same period, and was gradually perfected, as a result of communication between the merchants in the various cities. Full double entry bookkeeping is the result of the combined efforts of merchants over several centuries.

#### Notes:

- 1) L. E. Sigler, *Fibonacci's Liber Abaci, Leonardo Pisano's Book of Calculation*, New York, 2003.
- 2) Edward Peragallo, *Origin and Evolution of Double Entry Bookkeeping*, New York, 1938, p.7.

Raymond de Roover, "The Development of Accounting to Luca Pacioli According to the Account-books of Medieval Merchants," in A. C. Littleton and Yamey, eds., *Studies in the History of Accounting*, 1956, p.115.

## Part 4 Modern Accounting

### I Italy

Littleton described Fra Luca Pacioli as the father of modern accounting. Pacioli's bookkeeping treatise, *De Computis et Scripturis*, in his *Summa de Arithmetica, Geometria, Proportioni et Proportionalita*, published in Venice in Italy in 1494, is the world's oldest work explaining double entry bookkeeping. I believe that Pacioli's treatise was the starting point of modern accounting.

Pacioli was born in 1445 in Borgo Sansepolcro (which means the village of the holy sepulchre) in Arezzo Province in Tuscany. At 20 years of age he went to Venice, to the household of a great merchant, Antonio de Rompiasi, where he became the tutor for his 3 sons, Bartolo, Francesco, and Paolo.

During his time there he acquired a profound knowledge of mathematics and commerce.

Pacioli expounded the theory for the bookkeeping system used in the commercial centres (cities) of Italy at that time, particularly Venice. In Chapter 1 he says, 'Let us use the highly praised Venetian bookkeeping method. This is the method that can be applied to all situations.'

Pacioli's theory contained many special features, many of which still pertain today<sup>1)</sup>.

(1) There is a religious influence throughout.

There is a strong religious theme throughout the treatise. This religious influence has a deep relationship with the fact that Pacioli was a monk in the Conventuale Sect of the Franciscan monastic order.

(2) The system comprised 3 types of books.

Pacioli said that formal accounts should comprise a daybook (*memoriale, squartafolio, vachetta*), a journal (*giornale*) and a ledger (*quaderno*).

(3) He explained that merchants needed 3 things.

In Chapter 1 of his treatise, Pacioli put forward, as the 3 main things (*tre cose maxime*) needed by merchants, cash and other substantial assets (*pecunia numerata e ogni altra faculta substantiale*), a good accountant / capable calculator, (*buon ragioniere e pronto computista*), and the sorting of all transactions into credits and debits in an orderly manner (*belle ordine*).

(4) He used the Venetian method of bookkeeping.

In Chapter 1 he says, 'We will adopt the method employed in Venice, which, among others, is certainly to be recommended. This is the method that can be applied to all situations.'

(5) He explained the need for an opening inventory of assets when starting a business.

(6) He used market value basis and cost or market basis (whichever is higher).

In Chapter 12, Pacioli explained market value basis and cost or market basis (whichever is higher) for the valuation of assets.

(7) He explained how to close a ledger and the annual settlement of accounts.

Pacioli's method for closing a ledger was to carry it over to a new ledger when there was no more room for new entries. He also explained annual closing.

(8) He explained how to calculate profit / loss.

Pacioli explained profit / loss calculations for each trading journey (*viaggi*) and each commodity (*robba*).

(9) He explained debits and credits.

Pacioli explained debits and credits for the journal (Chapter 11) and the ledger (Chapters 14 and 15).

(10) He explained the trial balance sheet used after closing a ledger.

In Chapters 14, 34 and 36, Pacioli explained in detail how to produce a trial balance sheet after closing a ledger.

(11) He explained about partnership accounts.

In Chapter 21 he explained partnership or company (*Cōpa=compagnia*) accounts in detail.

(12) He explained about transactions with public offices.

In Chapter 17 Pacioli explained points to bear in mind when dealing with public offices (*li officii publici*).

(13) He did not create a series of examples of transactions.

(14) He did not create balance sheets or profit and loss statements.

As mentioned above, Pacioli's final bookkeeping step was the trial balance sheet. The balance sheets and profit and loss statements of today were not described in his treatise. He probably did not know about them.

(15) He stated many maxims and proverbs.

(16) He explained accounts for branch offices.

(17) He explained how to correct mistaken entries.

On August 25th 1458, Benedetto Cotrugli from the city of Ragusa (=Dubrovnik, in Dalmatia on the Adriatic Sea) finished writing a manuscript entitled *Libro dell' arte di mercantura* (A book on mercantile arts), in which he explained double entry bookkeeping. Unfortunately, this manuscript was not published immediately, in fact it was not published until 115 years later, in 1573, under the title *Della mercantura et del mercante perfetto* (Commerce and the perfect merchant). However, 2 copies of Cotrugli's manuscript were made. One was by Marin Rafaeli, a merchant in Dubrovnik, in 1475, and this is now kept in Malta's National Library in Valletta. The second copy was completed by Giovanni Strozzi, a merchant in Florence, on March 17th 1484, and is now kept in Florence's National Central Library (Biblioteca Nazionale Centrale Firenze).

There are many differences between the content of the book published

in 1573 and the 1475 copy. The publisher of the 1573 book, Francesco Patritius, made additions and changes, in order to make it easier to read. However, double entry bookkeeping is explained in considerably more detail in the 1475 copy than in the 1573 published version. Cotrugli's explanation of bookkeeping is shorter and simpler than Pacioli's bookkeeping treatise, but he clearly explains the basics of double entry bookkeeping.

These are the main features of Cotrugli's bookkeeping:

(1) He used a 3-book system for formal accounts.

Cotrugli explained that a bookkeeping system required the use of 3 books, a day book (*ricordançe*), a journal (*giornale*), and a ledger (*libro grande*).

(2) He explained that the accounts should be closed each year.

(3) He explained how to calculate profit and loss.

Cotrugli explained the calculation method for profits (*avançi*) and losses (*perde*), and said that profits should be transferred to the credits in the capital account.

(4) He explained the terms used for credits and debits.

In the journal, the term for debit was *per* and the term for credit was *A*. In the ledger, the term for debits was *de (ve) dare*, while the term for credits was *de (ve) avere*. This is similar to Pacioli. There was a detailed explanation in the copy, but this was simplified in the published version of the manuscript.

(5) He used the term double entry bookkeeping.

Cotrugli was the first person to use the term *duppie partite* (double entry bookkeeping).

(6) He provided a consolidated example of journal entries.

This was in the appendix at the end of the manuscript.

(7) He used the Venetian method of bookkeeping.

Later, in Italy, many bookkeeping works were written, which referred to Pacioli's bookkeeping theory. Domenico Manzoni created a systematic bookkeeping example, based on Pacioli's bookkeeping theory, in his bookkeeping treatise, 'The Double Ledger with its Journal, newly composed and organised with extreme care, following the custom of Venice' (*Quaderno Doppio col suo Giornale, secondo il costume di Venezia*), published in Venice in 1540. Manzoni's treatise was made up of explanation and examples of journal and ledger entries. He also explained and gave an example of an inventory of

assets, but although he explained the daybook, he did not provide an example. He categorised profit and loss calculations by commodity and by profit / loss, then brought them together in the profit and loss account. He then transferred the profit, the difference between the profit and loss, to the capital account. Transferring of accounts in the ledger is shown in the journal. However his calculations for the ledger are not the trial balance sheets explained by Pacioli, they are just meaningless sheets of totals.

Alvise Casanova's bookkeeping work, *Specchio lucidicimo*, was published in Venice in 1558. The section on theory in this treatise is fairly brief; he placed more importance on the examples. There are many similarities between the examples used by Casanova and Manzoni, for example, the credit and debit terms used in the journal and the ledger, the opposite terms used in the ledger accounts, the terms for cash and capital, the accounting period (1 year, from March until February), the units of currency, and the format of the journal. However Casanova's treatise differed from Manzoni's in several ways: Casanova created an opening balance account and closing balance account. He transferred the old ledger account to a new ledger. Instead of transferring the net profit (the difference between the credit and debit amounts in the profit and loss account) to the capital account, he transferred it directly to the balance account. He did not create an inventory of assets.

Angelo Pietra's bookkeeping work, *Indirizzo degli Economi*, was published in 1586. He was a Benedictine monk, and in it he wrote about the accounts at his monastery, but his treatise is also important as an explanation of the double entry bookkeeping of that point in time. He explained that double entry bookkeeping was needed to manage the economy of the monastery, and used it as a model for a consolidated bookkeeping example. In this example he created a general profit and loss account and a general balance account, transferred the net profit (the difference between the profit and loss in the profit and loss account) to the capital account, and then transferred the difference between the amounts for the credits and debits in the capital account to the general balance account. He explained how to value assets using the common price and the market price, and gave examples. Pietra's bookkeeping theory was the Venetian method of bookkeeping explained by Pacioli, developed for use with the monastery accounts.

Antonio Moschetti's bookkeeping work, *Dell'universal trattatodi libri*

*doppii* (Universal Double Entry Bookkeeping Theory), published in 1610 in Venice, had many special features:

Firstly, he included an opening inventory of assets for starting up a business to the bookkeeping example.

Secondly, in the ledger calculations, he transferred the profit and loss account to the capital.

Thirdly, he created a closing balance account, to which he gave the role of the trial balance sheet.

Fourthly, he likened double bookkeeping to music. He likened the debits in the journal and the ledger to the alto, mezzo-soprano, and soprano voices, and the credits to the base, baritone and tenor voices. He said that the credits and debits were regulated by the capital account and the profit and loss account, similar to the way in which the voices and harmony are regulated by the music and the tempo.

Lodovico Flori's bookkeeping treatise, *Trattato del modi di tenere il libro doppio domestico col suo esemplari* (Recording Methods for Household Bookkeeping with Examples), was published in Palermo in 1636. Flori was a Jesuit monk, and explained monastery accounting (inherited from Pietra's bookkeeping). Flori's treatise comprises explanation and an example of a journal and a ledger. He omitted the daybook. His accounting year is from January 1st to December 31st. In the annual settlement, he transfers the difference (between the profit and loss) in the profit and loss account to the capital account, and the balances for the assets, liabilities and the capital account to the balance account. Then he produces a profit and loss statement and a balance sheet from the profit and loss account and the balance account.

## II Germany

The basis of the commercial development in the cities of Southern Germany from the 14th to the 15th century was in Southern Europe, in the cities of Italy. At this time, the Italian cities were in a virtual monopolistic position for the East India trade, which was very important in European history. For the merchants of Southern Germany the most important of the Italian cities was Venice.

In the 15th century, the double entry bookkeeping that had evolved in

Italy was brought back to Nuremberg from Venice by the merchants of Nuremberg. At the 'German House' (*Fondaco dei Tedeschi*) in Venice, where they studied commerce, they also studied double entry bookkeeping, and took it back to their motherland. The 15th century Nuremberg theory for the origins of double entry bookkeeping in Germany has been the focus of much interest.

The man who would later become the head of the House of Fugger (*Haus Fugger*), Jacob II, was sent to the German House in Venice in 1473, where he mastered bookkeeping skills. He studied the Venetian method of bookkeeping 21 years before the publication of Pacioli's bookkeeping treatise (1494); Pacioli also studied Venetian bookkeeping. Jacob brought Venetian bookkeeping back to Augsburg, and completed the House of Fugger's bookkeeping system. Then, in 1511, he did the settlement of the accounts for the whole of the House of Fugger.

Anton Fugger, who became the head of the family after Jacob's death in 1525, produced an inventory of assets, a balance sheet and a profit and loss statement for the whole of the House of Fugger in 1527, and carried out assets-based profit and loss calculations (comparing the amount of capital at the beginning of the accounting period with the amount at the end of the period). Assets-based profit and loss calculations were also used on the balance sheets of 1533, 1539, 1546 and 1553. Assets-based practical accounting played a major role in the survival and development of the House of Fugger<sup>2)</sup>.

Matthäus Schwarz, the chief bookkeeper of the House of Fugger, wrote 3 bookkeeping manuscripts in 1516, 1518 and 1550. The original manuscripts have not survived, but a copy was made of each. According to these copies, Schwarz used examples to explain bookkeeping, based on methods used at the House of Fugger's branch office in Venice. The first example was for agency bookkeeping, using 2 books, the journal and the debt book. The accounts sheets in the 5th example, show assets-based profit and loss calculation and profit and loss-based profit and loss calculation for 7 years, based on the balance sheets of the House of Fugger for 1546 and 1553. Schwarz used only assets-based profit and loss calculation for the House of Fugger; this was his own unique method<sup>3)</sup>.

The second major trading house in Augsburg was the House of Welser, but their inventories of assets and balance sheets have not survived.



However, we know that they used daybooks, journals, ledgers and various subsidiary books, and their accounting system had reached an advanced level.

The Venetian bookkeeping methods explained by Luca Pacioli were introduced to Germany in a bookkeeping work written by Schweiker, and published in Nuremberg in 1549. However, the merchants of Nuremberg had already brought back double entry bookkeeping from Venice in the 15th century, before Schweiker's work was published. Furthermore, Schreiber (in 1518) and Gottlieb (in 1531, 1546) had bookkeeping works published in Nuremberg, before Schweiker's work was published. The bookkeeping systems they described were unique; they had not been influenced at all by Pacioli's bookkeeping theory. Also, the writings of Schreiber and Gottlieb influenced several bookkeeping works subsequently published in Southern Germany (especially in Nuremberg).

Schreiber and Gottlieb described 3 accounting books, a journal, a commodity book and a debt book. Gottlieb produced a balance sheet and verified the 2 profit and loss calculations he carried out on it (profit and loss calculation for each commodity and periodical profit and loss calculation).

Schweiker made references to Manzoni in his work, and explained the Venetian bookkeeping methods propounded by Pacioli. However, there are several differences, as well as similarities, between Schweiker's bookkeeping system and Pacioli's bookkeeping system. Furthermore, Schweiker made many mistakes in his accounting examples.

Gammersfelder perfected Pacioli's bookkeeping in Danzig in 1570. His bookkeeping work is highly rated by accounting historians. From around this time onwards, the focus of bookkeeping history in Germany shifted from the south to the north. Goessens' bookkeeping work, published in Hamburg in 1594, explained Italian bookkeeping, describing inventories of assets, the journal and the ledger. His accounting year was from January 1st to December 31st, and he periodical profit and loss calculation before it was explained by Stevin. Goessens also described the Continental closing procedure in his ledger calculations.

Lerice's bookkeeping works, published in Northern Germany in the early part of the 17th century (1606 and 1610), explained Italian bookkeeping, which had by then become traditional in Northern Germany. As well as the journal and the ledger, Lerice also described a commodity book, in which quantities (but not prices) were entered, and indent accounts. Wolff's

bookkeeping work, published in the same period (1610) in Nuremberg in Southern Germany, described the traditional German bookkeeping method used in Southern Germany. After closing, Wolff produced a unique closure sheet, with special features such as the general closure balance. On this sheet he divides the various commodity accounts into 3 accounts, purchases, sales and merchandise stock, and calculates the merchandise sales profit / loss. Although Lerice's work was published in the south and Wolff's in the north, and although they explained different bookkeeping systems, they had many similarities. Hager's bookkeeping work, published in 1624 in Hamburg, was based on the traditional Italian bookkeeping of Northern Germany. It had 2 features that constituted a particular achievement in accounting history terms. Firstly, he included a daybook in the bookkeeping example. The second noteworthy feature was the inclusion of subsidiary books in the example, and the creation of a totals trial sheet and a trial balance sheet. Schurtz published 2 bookkeeping works in Nuremberg, in 1662 and 1695. In the first he explained the traditional bookkeeping system of Southern Germany, with the journal, the debt book and the commodity book etc. In the second, he described the Italian bookkeeping method, built around the daybook, journal and ledger. Schurtz's work indicates that in the middle of the 17th century, even in Nuremberg, where Pacioli's bookkeeping spread, German style bookkeeping was still in use, but was replaced by Italian bookkeeping in the second half of the century.

Both Helmling's bookkeeping work, published in Danzig in 1685, and Rademan's bookkeeping works, published in Hamburg in 1682 and 1714, explain Italian bookkeeping, with the daybook, the journal and the ledger as the main accounting books. Both included examples of periodical profit and loss accounting and they had the same accounting year, from January 1st to December 31st. Hemling used a warehouse account to bring together the various commodity accounts. Rademan divided his account books into an overall account book and several sectional account books, and, following on from Hager, divided all transactions into personal, commission and company transactions. Dibbern's bookkeeping work was published in Copenhagen in Denmark in 1692, but it was written in German, and explained the traditional Italian bookkeeping used in Germany, so I have classified it as a German bookkeeping work. Dibbern's great achievement was the creation of a single six-figure working sheet that incorporated the totals trial sheet, the profit and

loss statement, and the balance sheet. This was a real watershed in accounting history. Dibbern also produced closing sheets from the working sheet.

Heyne published a bookkeeping work in 1725 in Leipzig, which explained Italian bookkeeping. In addition to the 3 main account books—the daybook (including an inventory of assets), the journal and the ledger—Heyne also produced examples of 10 subsidiary books. His closure documents comprised a totals trial sheet, a closing inventory of assets, a profit and loss statement, and a condensed balance sheet. Heyne also describes 3 types of commodity accounts—accounts for individual commodities, an all-commodities account, and an account for purchases, sales and inventory. He uses the acquisition cost when valuing assets (commodities), and adds the inventory depletion loss at the end of the accounting period.

Margelsen, in his bookkeeping work, published in Altona in 1772, explained Italian bookkeeping. He explained the depreciation of movables from two standpoints, theoretical and practical. In other words, he explained the theory of depreciation for movables, and showed how to process it in the examples. This was a groundbreaking achievement from the point of view of accounting history. His movables were mainly jewels, and he explained the necessity of setting the depreciation rate at between 4% and 5%. He also divided accounts into 3 types, property accounts, personal accounts and transfer accounts; this was a unique method.

Three bookkeeping works published in 1781, by Krügers, Fleischer and Flügel respectively, demonstrated how Italian bookkeeping had become firmly established in Germany, and show its effectiveness and development. The 4-accounting book bookkeeping system described by Krügers had a significant influence on the bookkeeping works of the 19th century, while Flügel contributed to the theorisation and progress of bookkeeping systems.

### III Holland

1543 was an important year for accounting history, because in this year Pacioli's bookkeeping theory was introduced to 3 countries (Holland, France and England). First, Jan Ympijn Christoffels introduced it in Antwerp in Dutch and French, and then Hugh Oldcastle introduced it in England, in English.

Later the trading centre of Europe shifted from the Mediterranean to Holland, France and England.

In the middle of the 16th century, Christopher Plantin, a printer and publisher in Antwerp, produced 2 account books that have survived, a journal and a ledger for the period 1563 to 1567. These account books are very important from the point of view of accounting history, firstly for the history of double entry bookkeeping in Holland<sup>4)</sup>, and secondly for their place in cost accounting history. They had many similarities with Pacioli's bookkeeping theory, and the entries were recorded in the Italian (particularly the Venetian) manner. Also, costs were recorded in raw material accounts, manufacturing expenses accounts, manufacturing accounts, product accounts etc., and were calculated systematically, as in the cost accounting account charts of the present day.

In Holland, many famous bookkeeping works were published after Ympyn's, by for example Mennher (in 1550), Savonne (1567), Petri (1576), Clout (1582), Wentseslaus (1588), Mellema (1590), Renterghem (1592), Dycke (1598), Hoorebeke (1599), and Courtereels (1603).

Here I will explain the special features of the bookkeeping theory of Ympyn, Dycke and Courtereels.

The important points of the bookkeeping theory explained by Ympyn may be summarised as follows:

- (1) He explained double entry bookkeeping over 29 chapters.
- (2) He explained a 3-account book system, comprising the daybook, journal and ledger. However he only produced examples for the journal and the ledger, not for the daybook.
- (3) He explained inventories of assets, and gave an example.
- (4) His accounting period was about 8 months, from December 28th to August 31st.
- (5) The credit and debit terms used throughout the journal are *By* for debits and *an* for credits.
- (6) In the ledger *is schuldig*, *ziin schuldig*, *is debiteur*, *ziin debiteur* are used for debits, while *moet hebben*, *is crediteur*, *ziin crediteur* are used for credits.
- (7) The procedures carried out for closing in the ledger use profit and loss accounts, capital accounts and balance accounts.
- (8) Profit and loss calculation is carried out for each commodity.
- (9) Transfers of amounts of profit / loss calculated for each commodity in

the ledger to the profit and loss account, and transfers from the profit and loss account to the capital account, are effected using the journal.

(10) He created an unsold merchandise account in order to calculate the amount of inventory at the end of the accounting period.

Dycke's bookkeeping theory can be summarised as follows:

(1) He used a 2-account book system, comprising the journal and the ledger.

This method is similar to that of Manzoni and Casanova (Italy), Schweiker, Gammersfelder, Sartorium and Goessens of Germany, Peele and Wedington, and Mellis of England, and Petri of Holland.

(2) He explained inventories of assets and gave an example of one.

One special feature of Dycke's treatise is that he showed the inventory of assets when starting up a business, which had been explained by Pacioli. This method is similar to the one described by Ympyn, and I think that he learnt it from Ympyn.

Stevin never mentioned an inventory of assets.

(3) Dycke neither explained nor gave an example of a daybook.

The daybook explained by Pacioli had already been explained in Holland by Ympyn, Savonne, Cloot, Mellema etc., and Cloot and Mellema had produced examples. Stevin explained it but did not present an example.

(4) The length of Dycke's accounting period was one year.

He gave 2 examples of a journal, A and B. Journal A covered the period from August 2nd to December 16th. Journal B covered the period from December 16th to July 20th. If we add these 2 periods together it is almost one year. This indicates that Dycke's idea of the unit for an accounting period was one year.

(5) The credit and debit terms used throughout the journal are *Per* for debits and *Aen* for credits.

(6) In the ledger *is schuldig* is used throughout for debits, in the right-hand column, while *moet hebben* is used throughout for credits, in the left-hand column. This method of expression is similar to Petri, and I think he learnt it from Petri.

(7) The procedures carried out for closing in the ledger involve a profit and loss account, a capital account and a balance account.

The characteristic features of Courtereels' bookkeeping theory can be

categorised as follows:

- (1) He explained a 3-account book system, comprising the daybook, the journal and the ledger, and produced examples.
- (2) He explained inventories of assets, but his examples are not recorded in the journal, but are shown in the daybook.
- (3) The length of his accounting period was one year, from September 1st to August 31st. This unit is similar to that of Dycke.

In Germany, Goessens had already (in 1594) used a unit of one year for the accounting period, from January 1st to December 31st. I think that Stevin followed this tradition.

- (4) The credit and debit terms used throughout the journal are *debet* for debits, in the left-hand column, and *aen* for credits, in the right-hand column.
- (5) The credit and debit terms used throughout the ledger are *debet* for debits, in the left-hand column, and *credit* for credits, in the right-hand column.
- (6) The procedures for closing in the ledger are carried out using a profit and loss accounts, a capital account and a balance account. The procedure is similar to that of Ympyn and Dycke.

Stevin did not conform to the traditional methods of calculation. He did not use a balance account. He brought together credit and debt accounts other than cash in the capital account.

- (7) He showed the closing entry for the ledger in the journal.
- (8) He carried out profit and loss calculation for each commodity.

He showed the profit and loss calculations for each commodity, calculating the commodity inventory (unsold merchandise) at the end of accounting period, and finally calculating the profit / loss.

- (9) He created examples of transactions for commodity futures.

In 1607 Simon Stevin, a native of Bruges, wrote 'Vorstelicke Bouckhouding op de Italiaensche wyse'. Stevin introduced the concept of decimals, and his name will be remembered for ever in the history of mathematics, and even in accounting history his importance is comparable with that of Pacioli.

Stevin's bookkeeping had the following special features:

- (1) He explained the theorem of double entry bookkeeping.
- (2) He used a sundries format in the journal.
- (3) He called January 1st 'zero day', the starting day for transactions in his accounting period.
- (4) He used Italian bookkeeping, with the journal and the ledger as the 2 main account books.
- (5) He explained the daybook, but did not give an example.
- (6) He neither explained nor gave an example of an inventory of assets.
- (7) He did not use a balance account. His capital account was a combination of the credit and debt accounts, and his final step was to compare the capital account and the cash account.
- (8) He produced a 'staet van my dierick' (=balance sheet) from the capital account, and a 'staetproef' (=profit and loss statement) from the profit and loss account.
- (9) The left / right debits and credits in the status sheet are the opposite way round to left / right debits and credits in the capital account.
- (10) He explained double entry bookkeeping for state accounting.
- (11) He argued that the origins of double entry bookkeeping were in Ancient Greece and Ancient Rome.

#### IV England

Double entry bookkeeping was introduced to England from Italy in the 15th and 16th centuries, through the medium of bookkeeping works written by people such as Oldcastle (1543), Jan Ympyn Christoffels (1547) and James Peele (1553), and by exchanges between British and Italian merchants. These began with the Italian Borromeo Company in the 15th century, and continued through English merchants such as Thomas Howell, John Johnson, Thomas Gresham and Thomas Laurence in the 16th century.

The account books of the Borromeo Company's London Branch Office, recorded in double entry bookkeeping in the 15th century (1436-1439), have survived, but were recorded by Italians. Hence bookkeeping in England did not really start until the 16th century.

England's first bookkeeping work, written by Oldcastle, has not survived. We only know about its content from a bookkeeping work published in 1588 by John Mellis, entitled 'A Brief Instruction'. In his letter to the readers

Mellis honestly admits that he is no more than the recycler of an old copy published in London, which was compiled by a schoolteacher, Hugh Oldcastle, on August 14th 1543.

A bookkeeping work, in English, written by Jan Ympym Christoffels, entitled 'A notable and excellent worke', was published in London in 1547. However, Christoffels was of course Dutch, not English.

The first surviving bookkeeping work written in English by an Englishman was 'The maner and fourme how to kepe a perfecte recording', 1553, by James Peele. It comprised an explanation and examples of bookkeeping. In the explanation he described 3 accounting books, the daybook (Memoriall or booke of remembrances), the journal (Journal or dayly booke), and the ledger (Quaterne or greate booke of accomptes). However, there is no example of a daybook, only of a journal and a ledger. He did explain an inventory of assets (Inventorie) and gave an example.

Many account books recorded by English merchants in the 16th century have survived, and are now kept in London. These are extremely important documents in terms of finding out when double entry bookkeeping actually started in England.

In Thomas Howell's ledger (1522-8), the entries mainly take the form of personal accounts, with corresponding debits on the left-hand pages and credits on the right-hand pages. Debits are indicated by *oue to-give* and credits by *oue to have*. Connel Smith says that Thomas Howell's ledger constitutes the oldest surviving double entry bookkeeping accounts in England.

John Johnson's ledger (1534-8) contained profit and loss accounts as well as personal accounts. The terminology used is similar to Howell's; debits are indicated by *ought to-give* and credits by *ought to have*, but the debits are on the right-hand page and the credits are on the left-hand page, the opposite way round from Howell.

Only Thomas Gresham's journal (1546-52) survives, but it is clear from its content that there was also a ledger. Cash accounts, personal accounts, commodity accounts, capital accounts and profit and loss accounts are used in the journal, and it seems certain that the entries in the ledger were in a corresponding left / right, debit / credit format. Yamey and Winjum said that Gresham's journal represents England's first double entry bookkeeping accounts<sup>5)</sup>. I also believe that Gresham's journal is the oldest surviving



account book with double entry bookkeeping.

Thomas Laurence's journal and ledger (1565-9) are of great historical value, and are extremely significant as an example of 2 account books recorded at the same time. Commodity accounts, capital accounts and profit and loss accounts are used, and a trial balance sheet is produced. In the journal and the ledger, debits are indicated by *is debtor to*, and credits by *is creditor to*. I think that Laurence's account books show that full double entry bookkeeping was in practical use in England in the 16th century.

## V France and Elsewhere

The Ordonnance du Commerce was enacted in France in 1673. This was an important event in accounting history because it contained stipulations concerning trading account books and inventories of assets. This was the first time that these things were regulated by state law. It stipulated that all merchants must keep trading account books, that they had to create an inventory of actual assets within 6 months after the passing of this law, and recheck it every 2 years. Merchants who went bankrupt and were unable to present their books would be regarded as fraudulent bankrupts and receive the death penalty.

This law was pushed through by Colbert, the mercantilist, in the reign of Louis XIV. Colbert did everything he could to help France catch up with Britain and Holland, encouraging advantageous trading by protectionism and state intervention, developing trade and industry, preventing fraudulent bankruptcies, and increasing state wealth<sup>6)</sup>. One of the proposers of this law, Jacques Savary, published '*Le Parfait Negociant*' (The Perfect Merchant) in 1675, said to be the explanation of the law. There were many editions of this book and it was translated into German, Dutch and Italian. Savary argued that an inventory of assets, including a balance sheet, should be made every year. He also explained assets-based profit and loss calculations.

De la Porte's bookkeeping work, published in Lyons in 1673, is famous because in it he attempted to categorise accounts (on a theoretical basis) into 3 main types, company owners accounts, tangible assets accounts, and clients accounts.

In Germany, the Prussian legal code of 1794 adopted the ideas in France's Ordonnance du Commerce, introducing regulations regarding

inventories of assets. Then, in 1861, the General German Commercial Law introduced regulations governing the assessment of inventories of assets and balance sheets. Assessment of balance sheets and assets based on these regulations, and judgements made in the High Court, forced a debate on objective and subjective valuation. After this, the study of accountancy progressed significantly in Germany, based on balance sheet theory.

The industrial revolution took place in Britain in the 18th and 19th centuries, and this highlighted practical problems in accounting, with depreciation, cost accounting, and auditing systems. As a result, studies of depreciation, factory accounting, and accountancy courses improved, and this paved the way for modern accounting.

The practical theory of the accounting carried out by the Railway Companies in Britain the early 19th century had a particularly significant effect on the formation of modern accounting theory. For example, capital income and expenditure accounts, cash basis accounting, accrual basis accounting, the principles of conservatism and truthfulness, the calculation of capital and profit, the calculation of depreciation costs, an obligation to produce financial statements, and auditing systems all emerged as part of accounting theory and developed during the course of the Railway Companies' accounting activities.

#### Notes:

- 1) For more on Pacioli's bookkeeping treatise see Yasuhiko Kataoka, *Itaria Bokishiron* (The Theory of the History of Bookkeeping in Italy), pub. Moriyama Shoten, 1988, pp.143-254.
- 2) For more on the accounting of the House of Fugger see Yasuhiko Kataoka, *Doitsu Bokishiron* (The Theory of the History of Bookkeeping in Germany), pub. Moriyama Shoten, 1994, pp.17-53. For a detailed and excellent study of the 1527 inventory of assets of the House of Fugger, see Jacob Strieder, *Die Inventur der Firma Fugger aus dem Jahre 1527*, Tübingen, 1905. For a detailed and excellent study of the history of the House of Fugger, see Pölnits, Freiherr von Göts, *Anton Fugger, Tübingen, 1. Bond, 2. Band, 3. Band*.
- 3) For more on Schwarz's bookkeeping treatise see Yasuhiko Kataoka, *Doitsu Bokishiron* (The Theory of the History of Bookkeeping in Germany), pp.55-82.

4) The official name for Holland is the Kingdom of the Netherlands (Koninkrijk der Nederlanden), which means the Low Countries. In German it is Die Niederlande. Outside the Netherlands it is usually referred to as Holland, but Holland is actually the name of what was the most powerful province in the Netherlands when it became independent, and is still the most important part of the Netherlands today.

Holland's independence was recognised by Spain at the Peace of Westphalia in 1648. At the London Conference in 1831 a draft was produced for the separation of Belgium and Holland, after Belgium revolted against the Dutch King. William I of Holland rejected the draft and resumed hostilities, but a Franco-British intervention forced the Dutch to withdraw from Belgium.

Although the official name in the 16th century was the Netherlands, I have decided to use the word in general use in Japan today, *Oranda* (=Holland).

5) Yamey, *Some topics in the History of Financial Accounting in England, 1500-1900*, p.17. Winjum, The Journal of Thomas Gresham, in the *Accounting Review*, Jan. 1971, p.155.

6) See Etsuzo Kishi, *Kaikeiseiseishi* (The History of the Emergence of Accounting), pub. Dobunkan, 1975, pp. 196-207.

## Part 5 Accounting in Japan

### I The Edo Period (1600-1868)

The account books of Japan's great merchants in the Edo period have survived, for example those of the House of Toyama in Ise, the House of Tabe in Izumo, the House of Honma in Dewa, the House of Konoike in Osaka, the House of Mitsui in Edo (present day Tokyo) and Kyoto, the House of Nakai in Omi and the House of Ishimoto in Higo. Some used bookkeeping with a double structure based on quite advanced principles, and some used double entry closure documents similar to balance sheets and profit and loss statements.

A closing report was made annually in the house of Konoike's *sanyocho* (book used for calculation), which was inaugurated in 1670. According to this document the closure carried out by the House of Konoike used a double

structure, the concept of capital (net assets) had been formed, and the accounting system placed great emphasis on the relationship between debt and credit and the recording of capital turnover. However, it did not yet have entries for periodical profit and loss calculation or fixed assets.

The main part of the *Omotokata Kanjo Mokuroku* (the Omotokata Accounts Catalogue), produced by the House of Mitsui in 1710, is made up of the balance sheet section [the *kinginazukarikata* (the gold / silver receiving / holding method=capital+debt)], and the profit and loss statement section [the *haraikataoboe* (the payment method memorandum=costs) and *irikataoboe* (the incoming method memorandum=profit)]. Profit and loss calculations for the accounting period were carried out in two ways. The format used for closure was a consolidated financial statement compiled from the results of the independent closures for each Mitsui shop, and it was quite a sophisticated bookkeeping system; there were also entries for periodical profit and loss calculations and fixed assets.

Many of the account books used by merchants in this period were called *daifukuchō* (an old word for ledger), so the bookkeeping of the Edo period is called daifuckucho bookkeeping. Unfortunately, there is not a clear link between the bookkeeping methods of this period and the accounting techniques of Japan in the Meiji period.

In the entry in his diary on the 9th of March 1616, the head of the Hirado trading house of the British East India Company, Richard Cocks, says that he had in his possession a bookkeeping work entitled 'a book of forme of debtor and creditor'. We cannot be sure that this was the correct title, but according to Osamu Kojima it is very similar to a bookkeeping treatise by James Peele, entitled 'The maner and fourme how to kepe a perfecte reconying, ...'<sup>1)</sup>.

We are told that they used Italian style double entry bookkeeping in the account books at the Hirado trading house of the Dutch East India Company at this time (1609-1640). However, in a report to the General Director of Commercial Affairs in Batavia in 1637, the 8th head of the Hirado trading house of the Dutch East India Company (François Caron, 1600-1673), said that the Japanese did not know Italian bookkeeping method. He also said, however, that their accounts were accurate, and that, using their unique method, they were faster than the Dutch. Hence we know that in Japan at this time Italian bookkeeping was not yet in use; accounts were still kept in

the unique Japanese way.

## II Accounting in the Meiji Period

Double entry bookkeeping was first used officially in Japan during the Meiji period by one Vincent E. Braga (1840-1911) for recording the accounts at the Mint, which was established in April 1871. Braga was Portuguese, but he was born in Hong Kong in March 1840. After the Meiji Restoration in 1868, the currency situation in Japan was dire. As well as dissatisfaction within Japan, there was strong criticism from other countries. Through their ambassadors, various countries demanded that the minting system be reformed. The upshot of this was that many Europeans, one of whom was Braga, were invited to work at the Mint. The bookkeeping system used by Braga comprised 3 main account books, the waste journal, the journal and the general ledger. This was the start of the use of Pacioli style bookkeeping in Japan. The unit used for valuation and calculation was the weight (in ounces) of the gold / silver. In the lectures he gave at the Mint, however, Braga taught double entry bookkeeping with money as the unit<sup>2)</sup>.

The starting point for modern accounting in Japan can be said to be in 1873, because in this year 3 works on double entry bookkeeping were published in Japan.

The first was *Choai no Ho* (A Method of Bookkeeping) by Yukichi Fukuzawa, a translation of a book entitled 'Common School Book-Keeping' written by 2 Americans, Bryant and Stratton. Fukuzawa's book comprised 4 volumes. Volumes 1 and 2, which made up the first edition (brief or single entry) were published in 1873. Volumes 3 and 4, which made up the second edition (full or double entry) were published in 1874. Being a translation of an American bookkeeping treatise, viewed from the standpoint of modern accountancy it may not be very sophisticated, but it was not just a translation. Fukuzawa included ideas of his own that were not in the original, and the explanation was written in superb Japanese, so it is fair to call it his own work. In it he criticised the feudal system of the Edo period, and recommended the adoption of modern culture from the West. He rejected the rigid class system of the Edo period (in which people were divided into 4 classes, in descending order—samurai, farmers, artisans, and finally traders), and said that the aim should be the formation of human relationships based

on liberty and equality. This is similar to the doctrine of humanism put forward during the Renaissance in Italy. The first bookkeeping document published in the Renaissance was part of Luca Pacioli's 'Summa'. *Choai no Ho* could be said to be Japan's equivalent of Luca Pacioli's bookkeeping treatise.

The second was *Ginko Bokiseiho* (Bookkeeping for Banks). The original was written by a Scot, Alexander Allan Shand, for a course of lectures given at the Ministry of Finance's Lecture Hall, and the Ministry published it in December 1873. It was translated by two 9th grade officials at the Mint, Sai Ebihara and Seichi Umeura,. Japan's First National Bank was established by the National Banks Regulations promulgated in December 1872, and started business in August 1873. The Japanese Government employed Allan Shand at the Ministry of Finance Mint and asked him to write a text on bank bookkeeping, for the accounting activities of the First National Bank. He was asked to complete the text and have it translated by August 1873. Hence, from when the First National Bank opened for business its accounting activities were carried out in accordance with the bookkeeping system explained in Shand's 'Bookkeeping for Banks'. This double entry bookkeeping system, christened the Shand System, was not only used by the First National Bank, it was subsequently used by National Banks established all over Japan.

The third was *Shoke Hitsuyo* (Requirements for Trading Houses) by Nakaba Kato, a translation of 'Book-keeping by Single and Double Entry' by William Inglis, published in 1872, which described British bookkeeping methods. The first 2 volumes (*Tannin no Bu*), which explained single entry bookkeeping, were published in October 1873. The second 2 volumes (*Fukunin no Bu*), which explained double entry bookkeeping, and the last volume, an appendix in which the terms used by merchants and their transactions were explained, were published in April 1877. The content is not particularly sophisticated from the standpoint of present day accounting, but it was quite new and more sophisticated than the bookkeeping methods carried over from the Edo period. Also it was not just a literal translation from the English, it was translated into Japanese that was easy to understand. Fukuzawa's *Choai no Ho* was easy to understand, and described the Italian bookkeeping method based on the daybook, journal and ledger, whereas *Shoke Hitsuyo* was based on the British account book system, in which several books were used. In his youth Kato had been greatly influenced by Sanai

Hashimoto, who was executed during the 'Great Oppression' of 1858. As a result, after the Meiji Restoration in 1868 he strove for improvements to society and the absorption of Western culture. One of his objectives in translating this British bookkeeping treatise was to aid the development of Japanese trade and increase state wealth.

The Ministry of Education published *Marushushi Bokiho* (Mr. Marsh's Bookkeeping Method) in 5 volumes, in March and October 1875, and September 1876, which were used as bookkeeping textbooks in Junior and Middle Schools. These were translated by Norihide Kobayashi, from 2 books written by an American, Christopher Columbus Marsh. Single entry bookkeeping was explained in the 2 volumes published in March and October 1875, double entry bookkeeping in the 3 volumes published in September 1876. The titles of the original books were, 'A Course of Practice in Single-Entry Book-keeping' (New York, 1871), and 'The Science of Double-entry Book-keeping' (New York, 1871).

In his single entry bookkeeping method, all transactions were entered in 5 (subsidiary) account books. The items from one of them, the book for daily use, were transferred to the ledger. Then the 'Balance of our Property and Debts' (=balance sheet) and the 'To ascertain the Gain or Loss of the Business' (method for calculating trading profit / loss) were produced from the ledger and the 5 subsidiary account books. The balance sheet had 2 columns, one for debits and one for credits, so it might be more appropriate to call it simplified double entry bookkeeping rather than single entry.

5 subsidiary books are also used in his double entry method, but the main ones were the book for daily use, the daybook, and the ledger. This could be said to represent the adoption of Pacioli's bookkeeping method. Also, after the trial balance sheet had been verified, the 'Balance of our Assets and Liabilities' (=balance sheet) and the 'Balance of our Profits and Losses' (=profit and loss statement) were produced.

The thinking behind this bookkeeping method was similar to that of Yukichi Fukuzawa's *Choai no Ho*, and was based on Pacioli's bookkeeping theory.

In 1872 the Ministry of Education established a compulsory education system, and bookkeeping was one of the subjects put into the curriculum. Then 'Mr. Marsh's Bookkeeping' was published in 1875 and 1876. These textbooks, which had their foundations in Pacioli's bookkeeping treatise, were

to make a major contribution to the development of bookkeeping education in Japan.

Notes:

- 1) Yasuhiko Kataoka, *Wagakuni ni okeru 「Pacioli Bokiron」 ni kansuru Bunken Kenkyu* (Research on Literature in Japan Regarding Pacioli's Bookkeeping Theory), Yasuhiko Kataoka, *Wagakuni Pacioli Bokiron no Kiseki* (On Track of Pacioli's Bookkeeping Theory in Japan), pub. Yushodo, 1998, pp. 5-6. Osamu Kojima, *Bokishi* (Bookkeeping History), pub. Moriyama Shoten, 1973, p.120.
- 2) Kojiro Nishikawa, *Nihon Bokishidan* (Japanese Bookkeeping History), pub. Dobunkan, 1971, pp.72-116.