

PARTICULARIS de COMPUTIS
et
SCRIPTURIS

1494

Fra Luca Pacioli



A CONTEMPORARY INTERPRETATION

Jeremy Cripps

1994

PACIOLI SOCIETY

Seattle





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Foreword

The Pacioli Society's publication of this new English version of Fra Luca Pacioli's treatise on accounting commemorates the 500th anniversary of its initial publication in Venice in 1494. Renaissance mathematician Luca Pacioli's codification of the "Venetian" accounting method was part of a much larger work entitled *Summa de Arithmetica, Geometria, Proportioni et Proportionalita*. The 300-page *Summa* represents the collected knowledge of mathematics of the time. It also includes the now celebrated 26-page guide for merchants on sound accounting and business practices. Pacioli entitled this guide *Particularis de Computis et Scripturis*.

Pacioli's how-to manual, the *Summa*, was a great success. As Edward A. Fennell points out in his captivating monograph on Pacioli's life and work, *Figures in Proportion: Art, Science and the Business Renaissance* [Institute of Chartered Accountants in England and Wales, 1994], the *Summa* was a publisher's dream, taking advantage of the new market for self-help books and the prestige of an established scholar and teacher. Pacioli's publisher, Paganino de Paganini, took the *Summa* into a second printing. The section on accounting was in such demand that it was extracted from the *Summa* and published separately. This version found its way to Northern Europe, where it was read and translated into other languages as early as 1543.

Pacioli's *Summa* was equally celebrated for its contribution to organizing knowledge in the field of mathematics. Pacioli's work attracted the attention of Renaissance intellectuals, most notably those in the court of Lodovico Sforza in Milan. This illustrious group of scholars and artists included the architect Bramante, the composer Josquin des Pres and the artist Leonardo da Vinci. Pacioli was invited to join this intellectual circle in Milan and share his knowledge of mathematics and proportion. Luca Pacioli, the protege of Piero della Francesca, became the tutor of Leonardo da Vinci. Thus, Piero's influence on Pacioli's knowledge of mathematics and proportion was brought to bear upon the work of Leonardo, then in the midst of painting *The Last Supper*. Pacioli and Leonardo went on to collaborate in Pacioli's second masterwork, *De Divina Proportione*, written by Pacioli and illustrated by Leonardo.

A distinctive and crucial aspect of the *Summa* is the language in which it was written: not Latin, the language of scholars and lawyers, but Renaissance Italian, the language of the street. Luca Pacioli, one of the great teachers and mathematicians of his time, was trying to reach the common man — the stonecutter, the architect, the merchant, the banker. He was convinced that a grounding in mathematics was essential to success in many walks of life, including commerce.

Jeremy Cripps' translation joins a distinguished field of English translations. What further distinguishes Cripps' work is his insistence on applying a modern interpretation to Pacioli's writing. Professor Cripps, a linguist and a practitioner and teacher of accounting, believes his work most honestly reflects the style in which Pacioli would have written had he used 20th-century accounting and business idiom.

Professor Cripps goes so far as to present Pacioli's example accounting entries in decidedly modern presentations of memorandum, journal and ledger formats, partially described but not presented in Pacioli's treatise. Pacioli, undoubtedly due to the limitations of the early art of printing, used a shorthand method to illustrate accounting entries in his treatise. While this may be a controversial translation of Pacioli's treatise on accounting, Professor Cripps' interpretation brings Pacioli's material to life. In this accessible and truly contemporary writing, Professor Cripps captures not only the literal impact of Pacioli's work but the spirit of the man behind it. The work enriches not only our understanding of Luca Pacioli's contribution to the art and practice of accounting but of Renaissance commerce itself.

This book is one of three major efforts by the Pacioli Society to examine and celebrate the contributions of Luca Pacioli to the culture and commerce of the Italian Renaissance. In addition to publishing this new English version of Pacioli's treatise on accounting, the Society has produced a video on Luca Pacioli's life, *Unsung Hero of the Renaissance* (South-Western Publishing, 1990). Further, in June 1994, the Pacioli Society held an international symposia in Sansepolcro, Italy, the birthplace of Luca Pacioli.

It is our hope that this interpretation of Pacioli's work on accounting by Jeremy Cripps captures for you, as it has for us, the enduring nature of the underlying principles of accounting and business that were so clearly and compellingly set out by Fra Luca Pacioli five hundred years ago.

David E. Tinius
William L. Weis
The Pacioli Society
Seattle, Washington
December 1994

Introduction

Five hundred years ago, in November 1494, one of our world's earliest printed texts included a section on accounting. Printing from loose metal type had just begun, and the publishing industry was in its infancy. Naturally, publishers preferred important texts on marketable topics. In their judgment, internal control, management accounting and the simple elegance of the double-entry system were essential material for readers in the world's then-greatest financial center: Venice.

Five hundred years later, the ideas printed in that accounting manual continue to provide the guidelines for recording economic activity in *all* the world's great financial centers. The author of that first accounting manual is Luca Pacioli. The *Summa de Arithmetica, Geometria, Proportioni et Proportionalita* — which includes this first published discourse on accounting — is a work of genius.

For hundreds of years, Pacioli's work — often plagiarized — stood alone as a text for young accountants. Pacioli had identified key information and key internal controls needed to manage the economic activity of a single entity. As accounting technology advanced, as new financial centers evolved and as English emerged as the language of commerce, other writers incorporated Pacioli's work into new texts. Seldom is Pacioli acknowledged, or are the authors even aware of his contribution. Indeed, Pacioli's ideas are so pervasive and deeply rooted that today we consider them “generally accepted accounting principles.” Sad to say, even in our universities, we forget to identify the man so rightly honored as the “Father of Accounting.”

Luca Pacioli's ideas, found in his accounting manual and other great books, provide the fundamentals young people must appreciate if they are to have a successful career in business. As those in the paintings of his friend Leonardo da Vinci, Luca Pacioli's perspectives are deep and wonderful. To communicate those perspectives and ideas most beneficially, Pacioli — a distinguished academic — avoided writing in scholarly Latin, then the language of the elite. Instead, he chose to write his ideas in the vernacular of Renaissance Italy. He wanted to share his knowledge and insights with real people — and especially with young accountants.

PACIOLI'S LANGUAGE

Renaissance Italian, the language of the *Summa*, developed during the 15th century from classical Latin, current in Pacioli's time. Although as elegant as Latin, Renaissance Italian was far less formal. It had no fixed grammar or disciplined syntax or structure; even the spelling of words was flexible. The beauty of the language was the way it enabled ideas to be shared among the people. It was because of its quality of communication that Pacioli preferred Renaissance Italian to Latin.

The first definitive version of embryonic modern Italian is usually accorded to Dante. His work marks the beginning of at least 150 years of Italian language renaissance.

Writers in this period include Petrarch and Boccaccio from the late 14th century, Lorenzo de Medici and Pacioli during the 15th century, and Machiavelli into the 16th century. Their language combines a classical Ciceronian vocabulary with Italian vernacular in an extraordinarily rich exercise of individuality.

Some of the character and individuality of the language is lost to us because we are not familiar with all the meanings in Pacioli's text. For example, the subtitle of his manual, "*pticularis de coputis*," includes an abbreviation. Abbreviations occur throughout the text, and words are shortened to such an extent that it is impossible to ascertain accurately what word was intended. At the beginning of Chapter 21, for example, "*com*" may be an abbreviation of "*compra*" or "*compagnie*." Pacioli also makes frequent use of ampersands, "etc." and phrases such as "so and so" and "so on," which add pace to his writing but require contemporary interpretation. Words are also divided to wrap around the end of lines, probably because of technical limits in the early stages of printing.

Punctuation is almost nonexistent and includes inverted commas for more than one purpose. As with other vernaculars, a knowledge of the spoken language should provide sufficient understanding of punctuation — but we are listening five centuries later. Words are spelled inconsistently and perhaps with special meaning. We cannot know. Quite often, letters are obviously omitted, in some cases with such consistency that the existence of a common shorthand speedwriting is suggested. The diversity is at once attractive and upsetting: attractive because the language is so exciting; upsetting because the very diversity adds a barrier to our understanding.

TRANSLATION RISKS

In any work of art, there is an integral coherence between the language and the content. Loss is a risk when the language is changed. That risk exists with any interpretation of Pacioli's original text. My translation, however, is quite different from the three previous English translations in this respect: my emphasis has been placed on integral coherence, that is, the form at some expense to literal translation.

To this end, certain of Pacioli's medieval terms have been replaced with contemporary idioms and terms. In connection with the making of payments, for example, Pacioli describes the borrower's "oath," which I rephrase as "promise to pay." I have adapted certain medieval accounting terminology to contemporary financial terminology. Thus, Pacioli's "charges for exchange" made by a taxing authority in the marketplace readily adapts to modern sales tax. Also, medieval word order differs from the word order of classical Latin, modern Italian and English, so some of Pacioli's medieval phrases have been paraphrased.

Certain pieces of text and word descriptions have been condensed and streamlined, in each case the subject of a footnote. I have also changed the schematic representation, particularly of the accounting book entries. I have shown such entries as they might appear in a modern text on accounting. Finally, I have used a single currency, again in an effort to present data in a contemporary manner.

PRIOR TRANSLATORS

The three prior English translations of Luca Pacioli omitted “numerous foreign terms and ancient names” because they were “unattractive and tiresome to follow.” My interest in international accounting and enjoyment of an atlas made investigation of both terms and names intriguing. Many of the foreign terms led me to the roots of modern-day economic activity, especially in the areas of documentary credits and exchange controls. The ancient names also charted the way to interesting discoveries.

Prior translators, who did not accept the original text as a language separate from classical Latin or modern Italian, found Pacioli’s language “presented some difficulties.” They believed that “what is written must necessarily be interpretive.” From a different language viewpoint, I agree that interpretation is inevitable.

Each prior translator in turn criticized Pacioli’s style and his reiteration of salient points. They found his use of the vernacular “vulgar.” In contrast, I find beauty in the original text. Sinews of real energy, excitement and expectation interact synergistically as words from ancient Rome and Renaissance Italy react etymologically. It is a mighty accounting experience, getting closer to Pacioli’s original text, its meaning and, therein, the abundant accumulated evidence of accounting as a liberal art.

Pacioli, with a rare creativity, if not always gently, blends the language of the academic and the artisan. Pacioli sets aside needless communication barriers that have no place in the art of accounting.

THE CHOICE

For the translator who loves and respects the author and his work, the most difficult problem is the choice of the language and its layout when presenting the translation. It is a choice between fundamentally conflicting poles: literal translation and free translation.

This classic choice is as problematic as the choice facing the knight in Chaucer’s “Tale of the Wife of Bath.” The knight, bent on learning what woman is most desirable, must choose between a wife who is “foul and old” but absolutely faithful and a wife who is “young and fair” but faithless. In much the same way, translators who wish to write a fine translation are forced to choose between the author’s text and attractive prose. Changes in order and cultural improvisations at the expense of literal adherence to a beloved author’s text are inevitable.

Professor Francis William Newman, in his translation of the *Iliad*, described this difficult choice. The translator may “retain every peculiarity of the original . . . with the greater care, the more foreign it may happen to be.” Alternatively, the translator should focus on the reader. The reader should, if possible, “forget that it is a translation at all, and be lulled into the illusion that he is reading an original work.” Horace, translator into Latin, advised that “even a faithful translation does not have to be word for word.”

The work of Luca Pacioli must be set in 20th-century America, far from the civilization of Renaissance Italy. My contemporary translation is from a language I have called Renaissance Italian, a language whose rules of grammar are free spirited and never clearly defined. For all its beauty, that language is a dead language and, as Howard W. Clarke puts it in *The Art of the Odyssey*, we can never know “quite what to be faithful to.”

NEW FOCUS

My contemporary interpretation of Pacioli's *Summa* is distinctly different from previous interpretations. The vocabulary and style are deliberately contemporary, following Pacioli's lead in writing in vernacular Renaissance Italian, not formal Latin. The presentation of accounting entries is also deliberately contemporary. New readers of Pacioli should be encouraged by the contemporary format. A contemporary language and format are more readable. New and younger readers of Pacioli ought to be no more limited by the constraints of 15th-century printing and accounting than 15th-century readers needed to be limited by the constraints and conventions of classical Latin.

My purpose is to present an important part of our accounting heritage and to extend that heritage to the widest possible readership. Pacioli's text is important in so many ways. It captures a historical moment in the development of ideas. It helps accountants document significant traditions in accounting. It provides a benchmark against which advances in accounting practices and techniques may be measured.

Prior interpreters of Pacioli were not focused on accounting as a college subject and liberal art. Yet Luca Pacioli, a Renaissance professor of mathematics, saw the practical application of algebra across the humanities as an interdisciplinary opportunity. A simple application of basic algebraic theory gives ordinary users the freedom to control — and the art of maintaining — their financial transactions in meaningful and significant order. In setting forth the core concepts of modern accounting and blending those concepts into an economic communications powerhouse, Pacioli demonstrates accounting not as a technical skill but as a liberal art. I hope that the addition of informative footnotes goes far in illustrating Pacioli's liberal art.

The ideas Luca Pacioli wrote down for us seem clear and simple, and, for all the difficulty of interpretation, his language seems to be so, as well. Pacioli is direct. He writes with pace. He reiterates important points, as will any good professor, emphasizing certain principles delightfully and managing to include numerous essential details for the student in a remarkably short text. Pacioli's style is also simple to listen to (accountants "audit" what they read). Pacioli seems to think naturally. His writing flows easily from one subject to the next in a fine and easy order, and the text is never boring.

The muse of Luca Pacioli's language may be silent, yet I hope that an accountant, as aged as the author when he wrote, knows how the algebra of accounting sounds. I hope that a teacher knows something of the ways a teacher wrote. May my focus on the message of the author — the meaning of accounting — give me an empathy for the material so that my translation may prove both faithful and fair. I hope my contemporary interpretation of Pacioli's manual will fill young accountants with great joy and excitement at the discovery of this great man and encourage a wider knowledge of our accounting heritage.

Jeremy Cripps
Heidelberg College
Tiffin, Ohio
March 1994

Accounting Books
and
Records

FRA LUCA PACIOLI



From Pacioli's
Summa de Arithmetica Geometria
Proportioni et Proportionalita

1494
PAGANINO OF PAGANINI
Venice



Dedication

*To all respectful subjects of
His Most Serene Highness the
Duke of Urbino,
that they may understand
accounting systems.¹*

¹ Pacioli acknowledges his patron and employer, His Most Serene Highness ("Docis Urbini Domini Serenissimi") the third Duke of Urbino, within the original text. Modern convention places the dedication to a patron here.

I n t r o d u c t i o n

I decided to compile an accounting manual.¹
Such a manual is much needed by businessmen.²

I have put it together in such a way that,
whenever necessary, everything
essential to understand accounts and
bookkeeping may readily be found.
My wish is to provide the minimum
number of accounting rules
for businessmen to keep
all their accounts and
books in good order.

¹ That is, Book 9, Tract 11 of the *Summa*.

² Pacioli refers to "*mercatare*" throughout, which I have translated as "businessman." The literal translation refers to merchants and traders who actually handled goods. Pacioli's work applies equally to those who trade in services, however, and for this reason prefer businessman to merchant, good merchant or small businessman.

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CHAPTER 1

GOOD BUSINESS ACCOUNTS

*The universal¹ approach to keeping a
Journal and a Ledger.*



Three things are needed by anyone who wishes to carry on business carefully:

- 1) Cash² and/or credit³
- 2) A good accountant⁴
- 3) Proper internal control⁵

Cash and/or credit The most important of these three is capital (that is, assets, cash or any cash equivalents). As the saying goes, "Capital is the key."⁶ Without capital, a business ceases to be a going concern.⁷

Many without capital of their own but whose credit was good have managed to finance large transactions, using just their credit (which they faithfully kept), and some have also become very wealthy. You may be acquainted with many of these.⁸

In the business world, nothing is considered more important than the word of a reputable businessman. Promissory notes are honored and accepted based on a businessman's reputation. Confidence, faith in reputable businessmen, is what makes the market effective. This is not really strange, for the faith of a Christian in God works in much the same way to make religion effective.

A good accountant The second necessity in business is to employ a good accountant or to have a good accounting system so as to understand the business. Prerequisite to being a good accountant is a practical understanding of elementary mathematics.⁹ For the person who lacks elementary mathematics, there is no point in reading further!

Proper internal control The third and last necessity to achieve success in business is to have a system of internal control. With a system of internal control, business transactions are recorded in such a systematic way that one may understand

1. Literally, "in Venice and through the world."

2. "*La pecunia numerata e ogni altra faculta su'staniale*," that is, "money, property, possessions and wealth (substance), and other means to gain substance (credit)."

3. For clarity, I adopt the modern convention of paragraph summaries and add paragraph headings.

4. "*Recerca al debito trafico*"; literally, "the person who keeps records of what is owed."

5. "*Bello ordine*"; literally, "system that puts transactions in their proper place."

6. "*Unum aliquid necessarium est substantia*"; literally, "One, the one, which is of necessity the real one."

7. "*Traficante exercitare*"; literally, "to carry on doing business in the same way."

8. Literally, "throughout Italy."

9. Pacioli had already included "the rules and functions necessary for any reader to understand the mathematics of accounting all by himself" in previous sections of the *Summa*.

each one of them at a glance. The way to do this is to record each transaction with a double entry in the Journal:

- 1) once by the debit¹⁰
- 2) once by the credit¹¹

as follows:

JOURNAL					Page ____
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	To: An account	123	1,234.56		
	By: An account	456		1,234.56	
	Being (explanation)				

This double-entry system is really essential to merchants because, without making the entries systematically, they may not be able to control and manage their business. Without double entry, businessmen would not sleep easily at night. Their minds would keep them awake with worry about their business. To prevent this stress, I wrote Book 9 of the *Summa*. The chapters of Book 9, step by step, describe the best system for recording accounting transactions. Still, no one can describe every single detail for every single transaction.

Nevertheless, with experience, a businessman who learns from the examples given will be able to apply the same principles to any individual transaction that takes place.

This book¹² describes the accounting system used in Venice. This system is certainly recommended above all the others, for using this system enables one businessman to understand the accounts of any other.

We shall divide this book into two principal sections. The first¹³ we shall call "Inventory Control," and the second¹⁴ "Internal Control." We shall describe first one and then the other, in the same order as the accompanying table of contents, from which the reader may select what he needs as it suits.

10. "*Quanto alor debito e anche credito*"; literally, the system in which "whenever there is a debit entry there is also a credit entry." Our current use of the word "debit" derives from Pacioli's use of the Latin word *debito*, which means "owed (or belonging) to" (this entity).

11. Our current use of the word "credit" derives from Pacioli's use of the Latin word *credito*, which means "owed (to some other entity) by" (this entity).

12. Book 9, Tract 11 of the *Summa*.

13. Chapters 2-4.

14. Chapters 5-34.

The person who wishes to know how to keep a Ledger and Journal using a proper system of internal control must pay strict attention to what follows. To understand the system, we will take the case of a businessman who is just starting out in business and describe how he must keep his accounting books and records so that, at a glance, he may find each thing in its proper place. For, if he does not put each thing in its proper place, he will find great trouble and confusion in all his financial affairs. Just as the saying goes, "Without order, there is chaos."¹⁵

To best illustrate the system for every merchant, the internal control system, as noted, is in two principal sections, and these are clearly arranged so that a businessman can get good results. First then, the inventory and how to take it are described.

15. "*Ubi no e ordo ibi est cotusio*," a famous saying often ascribed, but wrongly, to Nicholo Machiavelli, who used it in *The Prince*, written in 1527.

CHAPTER 2

INVENTORY

The nature of inventory.



egin with the assumption that a businessman has a goal when he goes into business. That goal he pursues enthusiastically. That goal, the goal of every businessman who intends to be successful, is to make a lawful and reasonable profit.

Therefore, businessmen should begin their business records with the date AD,¹ marking every transaction so that they always remember to be ethical² and, at work, always act mindful of His Holy name.

To begin with, the businessman must take inventory (*inventario*) in this way. Always record on a separate sheet of paper or in a separate book all assets, personal property or real estate, beginning with the highest value items (and those most likely to be lost):

- first, personal property, cash, jewels, silver, etc.
- then, real estate, such as houses, lands, lakes, meadows, ponds, etc. (which cannot easily be lost)
- then, all the other things must be put down one after another

In the inventory records, always show, after a descriptive heading, the day, the year and the location for each item.

The whole inventory is best completed in one day; otherwise, the inventory process may interfere with the management of the business.

The next chart³ shows typical items that may be included in inventory and how inventory is taken.

1. Thus, for the date of year, write 2/7/94 AD and not just 2/7/94; in the Ledger, at the top of the page, as we shall see, 1494 AD and not just 1494.

2. "*El suo sancto nome hauera mete*"; literally, to have the knowledge of His Holiness on their minds. Business ethics were clearly a feature of early accounting records. Maybe the use of AD as an *aide-memoire* would remind all accountants and users of financial statements to act ethically.

3. In Chapter 3.

CHAPTER 3

A MODEL INVENTORY

Inventory of: N.N. Location: Holy Apostles St., Venice, Italy Taken by: N.N. Date: 8 Nov. 1493 AD						
Item	Description	Location	Type	Quantity	Amount	Dr/Cr
1	Cash - currency Cash - in bank Cash - prior year's profits Inheritances Princely gifts					
	Total					Dr
2	Jewelry: Jewels set & unset Gold rings Lady sapphires Rubies Diamonds cut & uncut (Add weights, cuts, etc.)					
	Total					Dr
3	Clothing: (Each kind described)					
	Total					Dr
4	Silverware: Cups Basins (Each kind weighed)					
	Total					Dr
5	Farmhouse bottom drawer 1: Cloth & linen, bed sheets, shirts, sheets, etc. (Each described)					
Total						Dr

Inventory of: N.N. Location: Holy Apostles St., Venice, Italy Taken by: N.N. Date: 8 Nov. 1493 AD						Sheet 2 of 3
Item	Description	Location	Type	Quantity	Amount	Dr/Cr
6	Farmhouse bottom drawer 2: Beds & bedding					
	Total					Dr
7	Supplies - Raw: Ginger Various					
	Total					Dr
8	Supplies - Ground: Pepper Cinnamon Cloves Verzini, etc.					
	Total					Dr
9	Fine skins for lining: Kid skins White skins Fox skins, etc.					
	Total					Dr
10	Thick skins: Seals skins, etc.					
	Total					Dr

You continue to inventory every article, item by item. Diligently record the customary identification marks, the details of weights and measures. Some items will be valued by the thousand, others by the hundred and still other items by weight in pounds and ounces. Some items are valued singularly, as with leather goods; others by the piece, as with jewels and pearls. Take note of everything. These 10 examples should give you a guide.

Then, also consider:

Inventory of: N.N. Location: Holy Apostles St., Venice, Italy Taken by: N.N. Date: 8 Nov. 1493 AD						Sheet 3 of 3
Item	Description	Location	Type	Quantity	Amount	Dr/Cr
11	Family Estate: House of x stories on Apostles Street Contents Registration Documents					
	Total					Dr
12	Farm: Fields, x acres Woods, x acres Measurements & tax Document references Annual production					
	Total					Dr
13	Savings Accounts: Loan office, Venice Canareggio office Bank deposits (Detail the amounts & the bank representatives)					
	Total					Dr
14	List of Debtors: ¹ Surname, address (Note each debtor & any co-signers or other documents)					
	Total					Dr
15	List of Creditors: ² Surname, address (Note each creditor & any documents, etc.)					
	Total					Cr

1. A comprehensive list, identifying debtors one by one.
2. A comprehensive list, identifying creditors one by one.

CHAPTER 4

IMPORTANT DOCUMENTS

A useful note to businessmen.



n this way you will make a formal record — an inventory — of all your assets. Detail everything, item by item, regardless of how many items there are and regardless of their condition or whereabouts. Include assets deposited in banks, assets on loan; register all assets. Record all the appropriate details, identification marks, names and surnames. Be as detailed as possible. The sheer volume of inventory items requires attention to detail, as every business executive knows. The proverb is right that says, “There’s more to the making of a good businessman than to the making of a Doctor of Laws.”¹

Who can say what will happen to a businessman? Businessmen operate on land and sea, in peace and war, during boom and recession, in health and plague. During all these times, they need to know the right decision to make in markets and at international industrial fairs. So, in this sense, the businessman, like the early bird,² must remain on the lookout for change all year long.

There is a saying that “though the businessman’s head has a hundred eyes, yet there are still not enough for all his duties.” Those in the know repeat the saying: they are familiar with competition in the international marketplace.³ The largest competitors, the cities of Venice and Florence, have adopted rules and regulations for commerce that include the warning that “the law helps those who help themselves.”⁴

In church, too, we sing of help coming to those who are awake, not to those asleep.⁵

1. “*Piu ponti a fare un bo mercatate che a fare un doctore de leggi.*” Literally, “It takes more bridges to make a good merchant than to make a Doctor of Laws.”

2. Pacioli contrasts the rooster with the nightingale. The rooster, he says, is on vigil day and night all year long, while the nightingale sings beautifully only during summer nights.

3. Which, as Pacioli describes, includes Venetians, Florentines, Genoese, Neapolitans, Milanese, Anconians, Brescians, Bergamenes, Aquileians, Sienese, Lucchesi, Perugians, Urbiniens, Forosempronians, Cagliesi, Ugubrians, Castellani, Borghesi, Fulignati, Pisans, Bolognese, Ferrarese, Mantuans, Veronese, Vicentians, Paduans, Trani, Lecce, Bari and Betoni. A number of these cities may be found on the map of Italy in Appendix 2.

4. “*Vigilantibus et non dormientibus Jura subueniunt*”; literally, “the law helps those awake and not those sleeping.”

5. “*Nocte surgentes vigilemus omnes*”: one of eight hymns assigned by Benedictines to St. Gregory and found in three 11th-century hymnaries of the English Church in the British Museum.

In Dante's *Inferno* (Canto 24⁶), Virgil implores his son to be good and to work hard, saying, "Wake up son, don't be lazy, fame just does not get under the blankets. Let's see some action, or all that will be left of you will be a puff of smoke and some floating flotsam." An ancient poet wrote, "Let tiredness be a stranger to you, for the God of War only grants victory to those in action."

Another example, from the wise old poet, was for businessmen to work like an ant.⁷ Paul, the Apostle, also said that no one is worthy of the crown who has not fought for it.⁸

So I have included this advice to remind businessmen to pay attention to your business daily, mostly by keeping up to date with your accounts, using the system this book describes.

Do remember, however, above everything else, to think of Our Lord and to pray each morning. This time is never wasted, just as gifts to charity are not wasted, "nor good works, nor gifts," as the Bible says. Remember, too, the words of Our Lord to "seek ye first the Kingdom of God, and his righteousness; and all these things shall be added unto you."⁹

I wish these notes may prove to be sufficient instruction for the businessman to take inventory and to keep his accounts and other books and records well.

6. Apparently a reference to Dante's *Inferno*, lines 46-51, which reads:

*Omai convien che tu così i spoltre,
disse 'lmaestro 'che, seggendo in piuma,
in fama non si vien, ne sottocoltre:
sanza la qual chi sua vita consuma,
cotal vestigio in terra de se lascia,
quai fumme in aere ed in acqua la schiuma.*

7. The original text reads:

*Parvula (nam exemplo est) magni formica laboris,
Ore trahit, quodcunque potest, atque addit accervo,
Quem struit, haud ignara ac non incauta futuri
Horace Satires 1, 1, 33*

which is translated by Conington as:

E'en so the ant (for no bad pattern he)
That tiny type of giant industry,
Drags grain by grain and adds it to the sum
Of her full heap, foreseeing cold to come.

8. The King James Version of the Bible, Paul's Second Epistle to Timothy, Chapter 2, Verse 5: "And if a man also strive for masteries, yet is he not crowned, except he strive lawfully."

9. Ibid., Gospel of St. Matthew, Chapter 6, Verse 33.

CHAPTER 5

THE INTERNAL CONTROL SYSTEM

Its meaning for business – what it includes – the three principal books of account.



Section Two of this book describes the internal control system.¹ For the sake of clarity, this part is longer than Section One. Section Two is therefore divided between:

- (i) general requirements for business²
- (ii) particular requirements for the sole proprietor³

First of all, businesses require an accounting system. After taking inventory, three books of account are needed for proper accounts:

- (i) The Memorandum or day book⁴
- (ii) The Journal⁵
- (iii) The general Ledger⁶

Many small businesses use only the last two, the Journal and the general Ledger. First, the Memorandum is described, followed by descriptions of the contents and layout of the other two books.

Next, I define the Memorandum.

1. "Dispone"; literally, "the disposition."

2. "Corpo o vero monte de tutto el trafico"; that is, "business open to whatever is appropriate."

3. "Corpo o vero de botega"; that is, "business open to shop owners."

4. "Memoriale"; nowadays, in effect, loose leaf, being made up of individual data transaction vouchers.

5. "Giornale"; nowadays, loose leaf in the form of a computer printout analyzing the day's vouchers.

6. "Quaderno"; nowadays, loose leaf, the basis of the audit trail.

CHAPTER 6

THE MEMORANDUM OR SCRAP BOOK

*The Memorandum, also known as the scrap book¹ and the day book.²
Its purpose, who should make entries and what entries should be made.*



he purpose of the Memorandum or day book³ is to record all business transactions, regardless of size,⁴ in chronological order.⁵ The businessman records in the day books, in detail, every business transaction, purchase or sale, day by day and hour by hour, and every other transaction, every "jot and tittle," at the time it takes place.

As with the inventory record, so with the day book, no detail should be omitted. The questions "who, what, why, how, when and where" need to be answered. But note that it is not wise to enter any contract details or confidential information in the day book.

The day book is kept because of the sheer volume of transactions. In the businessman's absence, his agents, assistants or other employees should make entries, since a successful businessman never wants his employees to have to stop work. Businessmen and employees are frequently absent on business, perhaps in the marketplace, on visits, at a promotion; other employees who may not be well trained in bookkeeping are left at the home office. Those remaining must continue to sell and make collections and pickups, in order to satisfy customers, just as their employer would wish. Therefore, employees, not just their employer, must enter the details in the day books of every transaction that takes place. They should record details of the weights they make and the money they take in from cash sales or receivables. However, there is no need to standardize every entry into a single currency in the day book. This may be done later in the Journal and Ledger.

Whoever transfers entries from the day book to the Journal puts transaction details in order before entering them in the Journal. Then, when the owner returns, he will review the Journal entries and make any appropriate adjustments. That is why the books are so important for large-volume businesses. The day books provide complete double entry and offer full explanations, yet accumulate simple totals.

1. "*Squartafoglio*"; literally, "The fourth book" in reverse order of use, before the day book, or Memorandum, the Journal and the Ledger. This scrap book or "loose-leaf or household expense notebook" might be kept in addition to the Memorandum or day books, for similar entries (sales or purchases) and then noted in the Memorandum prior to posting to the Journal or Ledger. The modern equivalent would be the sales day book.

2. "*Vachetta*"; literally, "a leather-bound book," as opposed to a loose-leaf book.

3. Here, Pacioli repeats the other names by which the Memorandum book may be known.

4. Be they "*piccole e gradi*," literally, "small or large."

5. Or, more poetically, "*a giorno q giorno e ora q ora*"; literally, "day by day, hour by hour."

As with other accounting records, when the Memorandum is filled up or at the year-end,⁶ a distinguishing mark should be made on the book's cover. To keep all books and records in order, and to make them readily accessible, a separate identification mark should be placed on each book. For this purpose, use dates.

Among Christian businessmen, it is also common to mark the initial account books with the sign of the cross.⁷ The books that follow may be marked in alphabetical⁸ order. The initial books will bear the sign of the cross and those that follow alphabetical letters. Thus,

Memorandum †	Journal †	Initial book
Memorandum A	Journal A	Following book

The pages of account books should also be numbered. Businessmen of experience know that this is necessary even though other businessmen do not number pages. These other businessmen say that since all transactions are entered chronologically by date additional numerical control is not necessary. This would be true if daily transactions could always be limited to a single page, but this is not the case for large-volume businesses when more than one page may be needed per day. Then, without numerical control, a cunning person could remove a page from a series of pages having the same date, and the fraud would go undetected. For these and other reasons,⁹ numerical control of the pages of all books of account is wise.

6. Depending on a particular business's policy, some close all their books at the year-end; others, not wishing to waste unused pages, only close books when they are full.

7. Pacioli provides an interesting description of the practice of using the cross on the first account book: "*De quel glorioso segno dalql fuggi ogni nostro spiritual nemico: e la caterua tuuta infernal meritamente trema del segno*" or, literally, "the glorious sign from which enemies of the spiritual flee and before which evil spirits tremble" (that is, the sign of the holy cross placed on the first book).

8. They may also have been marked in numerical order, but alphabetical order was most widely used in keeping records of Journals and Ledgers right into the 20th century.

9. Other reasons include the identification of days when there is less than a page of activity and to control loose-leaf records.

CHAPTER 7

AUTHENTICATION OF BUSINESS BOOKS AND RECORDS

By whom and why.



It is the custom¹ in certain countries for all accounting books and records to be registered. The account books are taken and shown to a certain commercial officer.² He is told that these are the books and records in which employees of your business intend to write down the details of all business transactions. The currency and table of measures³ to be used should also be

stated.

The businessman should then copy these details on the first page of each account book and include the names of employees authorized to make entries in the books and have the record authenticated by the officer. Subsequently, if there are any changes or additions of employees authorized to make entries, these changes should be made at the office of the commercial officer. The businessman will check to ensure that the details copied match those of the commercial officer including details of:

- the date of the registration
- the books and their identification marks
- the number of pages in the books
- the names of employees keeping the books
- the name of the commercial officer

The commercial officer should also be asked to sign each book over the seal of his office to authenticate your records in the event of any future court action, when your records might be evidence.⁴

This practice is highly recommended as are the countries that register companies.

1. This comment confirms that the custom and practice of registering company records pre-date the formal registration and audit of company records (19th and 20th centuries), and offers historical evidence that the accounting profession believed in freedom of information and self-regulation.

2. Pacioli's words are "*como sonno consoli nela cita de perosa*"; literally, "such as the consuls in the City of Perosa's employ."

3. Pacioli offers examples: "*cioe a l de piccoli: m uero a L de grossi: o uero a duc e L etc.*"; literally, "whether in little pounds or large pounds, ducats or lire coins, etc."

4. This is still an important consideration worldwide. I recollect that in Milan, Italy, the procedure for authentication of all accounting records (including every inventory cardex, etc.) was required in 1980 when I was a European controller for a Fortune 500 company and observed this bureaucratic process.

Many businesses keep duplicate sets of books, showing one record to customers and one to suppliers, a bad⁵ habit that can lead to misrepresentation. The registration of business records prevents misrepresentation and fraud.

The books and records, once registered, should be kept at your place of business, and, once there, you are ready for business. Remember first to enter all items of inventory properly. Now follows an explanation of how entries should be made in the Memorandum or day book.

5. Pacioli writes "*che malissio sano*"; literally, "with malice aforethought."

CHAPTER 8

DAY BOOK ENTRIES AND EXAMPLES



As we noted in Chapter 7, any family member or employee should be able to make an entry in the Memorandum or day book. Since some will and some will not understand a full double entry, the simple day book entry is, by custom, as follows.

Example: You have purchased several pieces of cloth — 20 white silks¹ at 12 ducats each.

It is enough to make the entry as follows:

MEMORANDUM or DAY BOOK					
					Page ____
					Year: ____ AD
Date	Description	Price	Quantity	Reference	Amount
	Purchased from Phillip Ruffon – white silks at 12 ducats each.		20		240
	Goods are in the vault at St. Stephen Tagliapeter's Cloth description: Cloth - lengths: widths: Type: ² Method of payment: ³ Agents or brokers: Exchange goods: ⁴				

1. "Bianchibresani," known as "bresciani," literally, "white silks from Bresano."

2. Pacioli goes into some detail about the cloth description. In a modern day book, these entries, where needed, would be included in the columnar layout of the day book. Pacioli writes, "atre licio vero a la plana"; literally, "measurements of the width and length," which were not made in standard widths and lengths as they usually are now.

3. Cash, or one of the nine methods mentioned in Chapter 9.

4. In the event of an exchange, do not forget to specify each item given in exchange, the date of exchange, the quantity of items, their weights, measurements, unit prices, the date of payment and so on.

Whatever the type of cloth, be it from Bergamo, Vicenza, Verona, Padua, Florence or Mantua, note the source. For special transactions, you will keep a checklist; for special terms — such as “through a broker,” “for cash,” “for credit” — keep a note of the terms and the details. For example, in the case of a payment for imported goods, you will want a record of the time and ship,⁵ whether the payment is *f.o.b.* or *c.i.f.*, and which day the payment is to be made. The date may vary by custom. It may be a quarter day, Easter, Christmas or Resurrection day or upon harvest or carnival day: whatever was agreed when the transaction was made.⁶

Finally, remember that entries in the day book should omit nothing of importance. It may even be worth keeping a note of conversations, for businessmen never wish to miss ■ detail.

5. Pacioli writes, “whether from Baritto’s galleys, or from Flanders galleys, or on return of ships.”

6. Dates of payment varied by their nature into the mid-20th century, so that rent payments were often due on the quarter day, etc.

CHAPTER 9

THE NINE METHODS TO BUY AND SELL

Seasonal transactions.



When the subject is buying, take note of the nine principal methods of purchasing:

1. By cash
2. By immediate credit
3. By exchanging one item for another, usually called a trade
4. Partly in cash and partly with credit
5. Partly in cash and partly by goods
6. Partly by goods and partly by exchange
7. Partly by goods and partly on time
8. Partly by credit and partly by time draft
9. Partly by credit, partly by time draft, and partly by goods

These are the nine principal methods of buying. If you make some other purchasing arrangements, on your own behalf or as an agent for others, you will do well to make sure that you have the exact details entered in your Memorandum.

When you make your purchases on a seasonal basis, as is normal with butcher's offal, oats, wines or butcher's salt skins, a contract for the season is agreed upon. The supplier provides to the purchaser all the produce of that season. The price for butcher's offal usually includes specified prices for the hearts, skins, fats, etc., which he generates during the year. In the case of salt skins, there will be an agreed price for black sheep skins, another for white sheep skins. Same again with oats, the price is set per bushel and the bushel size specified as they do at Chiusi or Perugia. Note down the origin of the offal, from our city of Sansepolcro, or elsewhere.¹ For every entry, give full details in the Memorandum, either for your own information or for others when you make entries for them. Write the details simply: just what happened.

Then, a few days later, the accountant will transfer the daily entries from the Memorandum to the Journal. The only difference will be that the accountant will omit some of the explanations in the Memorandum. He reads the Memorandum entry and then need only record summary details of the Memorandum entry in the Journal. Those who keep three account books, as this book describes, will never enter a transaction in the Journal without first entering the details in the Memorandum.

1. Pacioli writes, "*Mercatello. Santagnilo.*"

This details the system for keeping the Memorandum, whether it is your own, or whether you write it up for others. Remember that there are as many ways for you to buy from others as there are ways which other people may purchase from you (that is, let you make sales to them).

For this reason, there is no need to go into an explanation of how to sell. Once you know how to buy, you also know how to sell.

CHAPTER 10

ACCOUNTING BOOK 2: THE JOURNAL

Its nature and contents.



he second accounting book kept by ordinary businessmen is the Journal.¹ The Journal's layout² is the same as the Memorandum's, and for each year a separate Journal is kept, marked as we noted in Chapter 6. On every page, first record the date; then, one after another, record each item of your inventory.

The Journal, or Private Ledger, should include the details of all items of real and personal property. Appropriate references to supporting documentation should always be included. The reference should clearly identify the location of the documentation.³

Each of the items of inventory is entered in the Journal in a neat and systematic way. Use brief descriptions along the lines I show in my few following examples. First note that you need two special terms to keep the Journal. These derive from their use in the great City of Venice as follows.

1. "Ditto giornale" is called the Journal.

2. "Segno"; literally, "design."

3. Pacioli refers to records of inventory "kept in some box, or tied up with string, in a pile or bag" as the usual methods of storage for files. Nowadays, clients keep such documentation, hopefully, in more appropriate storage.

CHAPTER 11

TWO SPECIAL JOURNAL TERMS: “TO” AND “BY”



As noted (in Chapter 10), there are two special terms used in the Journal. One is “To”¹ and the other “By.”²

“To” prefixes debit entries.

“By” prefixes credit entries.³

No transaction should be entered into the Journal without its proper prefix. Thus, in front of every transaction, we write first “To.” Details of the debit entry then follow, after which entry we write “By.” Then follow the details of the credit entry.

Then we separate one transaction from the next transaction by drawing two parallel lines, as you will see in the examples that follow.

1. “Per,” that is, “To.”

2. “A,” that is, “By.”

3. Hence, the age-old explanation, given to English-speaking apprentice accountants, of how Luca Pacioli provided accountants with a patron saint of accounting. The saint is known as St. Toby (or, more formally, as St. Tobias of Sansepolcro).

CHAPTER 12

THE POSTING PROCESS, USING DOUBLE ENTRY¹

Two Ledger expressions, "cash" and "capital," their meaning.



he first entry into the Journal following the date AD is detail of the amount of cash you possess. To do this, you need to know the meaning of two expressions: "cash" and "capital." Cash includes cash and credit. Capital means the full amount of your equity in the business. Capital is always a credit in business Ledgers and Journals. Cash is always a debit.²

Never at any time in the management of your business should cash be a credit account; only a debit keeps you in balance. If, when you extract the trial balance, your cash account has a credit balance, it shows an error in your transaction entries, and I will remind you of this again later. Transactions should be entered in the Journal in this way:

JOURNAL					Page 2
Year: 1493 AD					
Date	Description	Reference	Debit	Credit	
08 Nov	To: Cash By: Capital Being gold, silver and copper coins recorded on the inventory; also gold ducats, gold Venetian coins, at the exchange rate.		24	24	
08 Nov	To: Jewelry By: Capital Being sets of balassi weight ____ ozs ____ exchange value ____: sapphires, etc. weight ____ ozs ____ exchange value ____: rubies & diamonds weight ____ ozs ____ exchange value ____: (Including appropriate additional details for identification, etc.)		Estimate	Estimate	

1. "Del modo a saq ponere e dittare le pte i lo giornale del dare e de lauere co molti exepli"; literally, "how to enter and put in order debit and credit items in the Journal."

2. Compare Pietro Crivelli, *Double-Entry Book-Keeping* (London: The Institute of Book-Keepers, 1924), 85.

Examples are here continued:

JOURNAL				
Page 2				
Year: _____ AD				
Date	Description	Reference	Debit	Credit
08 Nov	To: Silverware By: Capital Being all kinds of silverware, basins, coppers, cups, pironi, cosileri (Including detail references to the appropriate inventory records; value at the average price, adding about 20 percent.)		24	24
08 Nov	To: Clothing By: Capital Being clothes, according to the inventory details, valued at current estimated value according to the list prepared.		Est	Est
08 Nov	To: Linen By: Capital Being bed sheets, etc., according to the inventory details, valued at current estimated value.		Est	Est
08 Nov	To: Feather beds By: Capital Being bedding, according to the inventory details, valued at current estimated value.		Est	Est
08 Nov	To: Ginger By: Capital Being ginger, according to the inventory details, valued at current estimated value.		Est	Est

You continue on your own. You will enter all the other inventory items, singularly (as for ginger) with appropriate notes of your methods of valuation, and reference to the numbers, marks and weights as they appear on the inventory sheets. When you summarize an appropriate number of inventory items, only one unit of currency need be used.

Each Journal entry has been contained between double lines. In just the same way, you separate entries in the Memorandum.

Then, when you transfer entries from the Memorandum to the Journal, use an appropriate tick mark³ to note that the item has been transferred. Use the marks from the set of tick marks and signs that are customary in whichever country you find yourself. This will show that you are not ignorant of international business procedures.

3. Pacioli writes "a line." Current audit practice is for the line to constitute one of a number of forms of tick marks, which are international standards among international firms.

CHAPTER 13

ACCOUNTING BOOK 3: THE LEDGER

How to keep the Ledger and maintain its index.



nce entries in the Journal have been written up, they are posted to a third book of account called the Ledger.¹ The Ledger contains at least twice as many pages as the Journal. The Ledger, therefore, must have an index² and provide a chart of accounts.³ In Florence, this is called the layout.⁴ The index lists the name of each debit and credit account in appropriate order,⁵ together with the respective page reference. Thus, the first account beginning with an A will be on the first page of the Ledger.

Number the pages of the Ledger so that, as previously noted, these page numbers cross-reference those in the Journal. As before, put the year at the top of each page.

On the very first page⁶ of the Ledger, enter the cash account, which normally has a debit balance. As in the Memorandum book and the Journal, cash entries are the most frequent entries made, reflecting this activity in the business cycle.⁷ The Ledger page should be ruled with columns⁸ as follows:

LEDGER ACCOUNT: Cash				Page C-1
Year: _____ AD				
Date	Description	Reference	Debit	Credit

This book will bear the sign of the cross, as with the others.

1. "Qderno Grade"; that is, "the big book," which we now call the Ledger.
2. "Alfabeto," a list in alphabetic order which provides an index. Also mentioned is a "repertorio," which is another word for an index.
3. "Trovarello," a finding key, or chart, for finding accounts.
4. "Al fioretina le dici lo stratto," that is, "in Florence they call it the layout."
5. When I was an apprentice accountant, many companies with manual records still maintained the index alphabetically by account titles, in exactly the manner Pacioli suggests. Nowadays, since the 1960s, charts of accounts are normally alpha-numeric.
6. "E in la prima sua carta dentro o porrai debitrice la caisa," which by tradition remains, even in alpha-numeric charts of accounts, as the first item(s) in a classic chart of accounts.
7. "E in dar ne i havere," that is, cash entries reflecting money "coming in and being paid out."
8. Pacioli's text describes the ledger layout above, with the exception that he has columns for lire, soldi, denari and piccoli. These columns have been omitted and a single-currency column used throughout this text.

CHAPTER 14

DOUBLE ENTRY¹

Posting entries from Journal to Ledger: how, from each entry in the Journal, you have to make two for the Ledger; how to cross-reference your entries.



s to each entry you have written in the Journal, you must always write up two entries in the Ledger.² In the Journal, each debit entry is preceded by the word “to” and each credit entry by the word “by.”³ In the Ledger, you write up a record for each of them. The debit entry must always be put on the left; the credit entry always on the right.⁴ By the debit entry, you write in the reference page of the corresponding credit entry. In this way, you cross-reference all the entries in the Ledger, and you must never make a credit entry without a balancing debit entry.⁵ The extract of a trial balance⁶ depends upon adherence to this rule.

No final balance⁷ can be agreed when the total of the debit balances does not equal the total of the credit balances. Were you to add up all the debit entries, perhaps more than 10,000 of them on a separate sheet and, in the same way, add up all the credit entries, they should total the same amount. Otherwise, an error has been made posting to the Ledger. This is explained in detail when the trial balance is explained.⁸

When an entry is posted from the Journal, since the entry becomes two entries, double underline⁹ the Journal entry. The first line represents the transfer of the debit-line item; the second line represents the transfer of the credit-line item. If, by chance, the accountant posts two or three debit items from the same Journal page, to save time, the first line will show that the debit entries in the Ledger have been made. The two lines are illustrated below.

1. “*De una in giornale lene facia doi i quaderno*”; that is, “from one in the Journal without delay make two in the Ledger.” There are more than five centuries of magic in these remarkable words.

2. “*Tutte le pite che tu harai poste in logiornale al quaderno grade te ne coue sepre fare doi*”; that is, “for all the entries that you would write from the Journal to the Ledger, always make two.”

3. See Chapter 11, footnote 3.

4. “*Qlla del debitore. ponere ala man sinistra. E qlla del creditore. ala man dextra*”; that is, “that which is a debit item place on the left-hand side. And that which is a credit item on the right-hand side.”

5. The First Law of double entry.

6. “*El di qua nasci. poi. albilancio che de lib*”; that is, “the action required to take a trial balance from the book.”

7. “*Suo saldo*”; “your final agreed balance.”

8. In Chapter 32.

9. “*Farai doi righe a trauerso*”; that is, “make two lines across.”

JOURNAL					Page ____
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	To:	Ref 1			
	By:	Ref 2			
	Explanation:				

The credit line shows that the credit items from the Journal have been posted to the Ledger.¹⁰ In the reference column, record two references. The first indicates the page of the Ledger entry recording the debit item; the second, the page of the Ledger entry recording the credit item. Do not put a line between the references, as some do, for then they look like fractions; for example,

Ref 1
Ref 2

Take care to be neat when you write. Laying out references in lines gives your work a smart appearance. Everywhere you make records, write precisely; the appearance of your work can be spoilt by the dates being out of place, and you can then actually have difficulty finding the dates.

All the rules of accounting cannot be explained in this text. Accountants rely on natural ingenuity. Try always to post credit entry after debit entry; do not leave blanks or omit lines.

The very day a debit is born, it has a twin credit. So it is quite natural for them always to go together in your books.

10. This is a masterful use of the available resources of the time. Manual posting still suffers from the telephone and other interruptions. Those who have read Pacioli and remember this rule know exactly where they are in the posting process when they observe this rule.

CHAPTER 15

CASH AND CAPITAL ENTRIES¹

How to post them, the usual records and changes of dates, arranging different-sized accounts.



aving explained the details of Journal entries, we can now post that first entry — debit cash and credit capital — into the Ledger. Before posting the entry, first write the date in the traditional way: 1493 (that is, the year only).² Note that the full date is usually recorded at the top of the page in the Journal.³ The year is left on its own at the top of the page in the Ledger. This is because a Ledger account may have several entry dates, and the full date at the top of the account could be misleading. So the day and month appear in the body of each entry, as shown below.

The date is put at the side, just before each entry. Sometimes, a transaction takes place in a year different from the year written at the top of the Ledger page. Usually, this happens when no annual balance and no transfer of accounts have been made. On such occasions, the year is written in the margin by the side of the entry. This only happens in the Ledger, not in other books of account. When the entry is made, use numerals,⁴ as they are neater; however, it does not matter much.

Thus, your posting in the Ledger looks like this:

LEDGER ACCOUNT: Cash				Page C-1
				Year: 1493 AD ⁵
Date	Description	Reference	Debit	Credit
08 Nov	By: Capital for gold and other coins	J2	24	

Try to make the description here precise, for the detailed explanation is already in the Journal.

1. "La cassa e caudale"; literally, "cash and capital."
 2. In 1494, it was "MCCCCLXXXIV." Pacioli, who was writing his text in 1493, actually used "MCCCCLXXXIII."
 3. When you expect to use at least a page each day.
 4. That is, do not bother to write the date out in full narrative.
 5. Here, Pacioli writes "yhs," abbreviation for "the year of Jesus," which I have modernized to AD, abbreviation for "the year of Our Lord."

Then, after you have made the entry, cancel it in the Journal, as I explained,⁶ and then post the credit entry like this:

LEDGER ACCOUNT: Capital				Page C-2
				Year: 1493 AD
Date	Description	Reference	Debit	Credit
08 Nov	To: Cash, various gold and coins	J2		24

Again, as before, a brief entry is quite sufficient. When other similar entries are made in the same Ledger account, you may ditto⁷ the date and explain briefly when there is little change. There are examples at the end of the book.⁸ So continue to describe transactions briefly in the Ledger, particularly on private matters for which no detailed description is appropriate.

As a general rule, when you are accountable to others, be explicit, and, for detailed explanations, rely on the Journal. Then cancel the credit entry by drawing a line, as explained in Chapter 12. Enter appropriate Ledger account references in the Journal, locating the Ledger entries in the reference column with the debit above and the credit below, as we did for the Journal cash entry. Finally, make sure the Ledger accounts correspond with the Ledger index and, when you have an alphabetic index, cash will be C-1 and capital will be C-2. In this way, entering every account in the Ledger index, you will always be able to find them easily.

If, by chance, your Ledger is lost, in a robbery, fire or flood, remember that if you still have either the Memorandum or the Journal you can reconstruct another Ledger, with the same day-to-day entries, in the same Ledger accounts as are lost. It is easy when you have the Journal in which you have recorded the dates and both Ledger account references, one above the other, for all the double entries made. These are the sources for reconstructing a lost Ledger, and they underline the importance of the process of posting Journal entries to the Ledger.

Now, to the following entries,⁹ the next deal with jewelry: post them to the Ledger. First of all, as a matter of habit, write down the date at the top of the page, unless it is already there from a previous entry.¹⁰ Watch how much space you leave between accounts, deciding whether you expect to have many entries in the account or few.

6. In Chapter 12.

7. A word used in lists, etc., meaning "same as above." *New Expanded Webster's Dictionary* (1989), s.v. "ditto." Pacioli's appears to be the first printed example of this English word.

8. Note that the examples at the end of the book (i.e., Chapter 37) are of entries in the Ledger account, not the Journal.

9. Which follow the cash/capital entry in Chapter 12.

10. By implication, check the date as a matter of habit.

Sometimes you know you only need room for a few entries, so leave a small space; otherwise, use the procedure described in Chapter 13 for cash and capital. When many entries are expected, take a full Ledger page for one account. Judgment can limit

LEDGER ACCOUNT: Jewelry				
Page J-1				
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
08 Nov	By: Capital for mounted rubies Qt ____ Wt ____ for sapphires Qt ____ Wt ____ for unset rubies Qt ____ Wt ____ for uncut diamonds Qt ____ Wt ____ Current value in ducats	J2	Estimate	

the number of carryforward transfers needed.¹¹ Find the appropriate Ledger account and post the debit entry on the left.

LEDGER ACCOUNT: Capital				
Page C-2				
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
08 Nov	To: Cash, various gold and coins	J2		24
ditto	To: Jewelry, various items	J2		Estimate

Then, after drawing the debit line in the Journal, go to the capital account and post it after the entry already there.

Then, draw the credit posting line in the Journal. In the Journal entry, place the appropriate Ledger account page references in the reference margin.

For example, if you have a debit entry to make on page 3, and the capital account still remains on page 2 because it is not yet full, then, before you enter any other item, follow these instructions. Review your entries in the Journal (for Ledger account requirements) and create an alphabetic index. Jewelry will be placed under the letter J, or whatever letter is customary (Z is used in Tuscany), so allow space and place jewelry under J-1.

11. See Chapter 28 on carryforwards.

CHAPTER 16

WRITING UP INVENTORY

Posting inventory debits and credits to the Ledger.



he four private inventory items discussed in Chapter 6 (silver, linen, bedding and clothing) are easily posted from that inventory record to the Journal. As explained,¹ these private inventory items are not recorded in the Memorandum. I count on you and your ingenuity to be able to enter and index these items in your Journal and Ledger.²

Let us proceed to the seventh item of inventory (in Chapter 6), namely, the ginger. The recording of this item provides a general guide to the entry of all other inventory items. Always keep in mind the customs for recording purchases and sales by quantity, weight, measurement and value. These may differ among businessmen in the Rialto and abroad.

Here, it seems inappropriate to provide detailed examples of each and every possibility. Instead, sufficient examples are selected to enable you to make entries in any given case. For if every merchant's weights and measures, from Trani to Lecce and Bari to Bitonto, were included, this book, which is intended to be brief, would indeed be very long.

The seventh item, the ginger, is entered in the Journal this way:

JOURNAL					Page 3
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	To: Ginger ³	G-1	100		
	By: Capital	C-2		100	
	Being				
	Quantity: so many lbs ___/ pkgs ___/ bulk ___				
	Price: at current market price or other value.				

1. For reasons of privacy and confidentiality.

2. Selecting appropriate nomenclature that is clear to you, the owner, but not necessarily clear to your employees.

3. "In bulk" or "by box" — select whichever is appropriate.

After posting the entry in the Journal, cancel the entry in the Memorandum or inventory in the same way as the items were canceled previously.⁴

For each entry in the Journal, always post a double entry in the Ledger: first an entry to a debit Ledger account, then an entry to a credit Ledger account.⁵ When you post entries, always remember to include only the year at the top of the Ledger account page because on each Ledger account page more than one entry is likely to appear. Therefore, the day and month are recorded against each individual transaction entry, even when only one entry appears on the page. This is the reason skilled accountants reckon that putting the day at the top of pages in business Ledgers is never justified.

Now, in the Ledger you post the ginger as follows:

LEDGER ACCOUNT: Ginger				Page G-1
				Year: 1493 AD
Date	Description	Reference	Debit	Credit
08 Nov	By: Capital Being so many packages, weighing so much, which I inventoried today, which according to current market prices is worth 100.	J3	100	

Then, tick the Journal entry to note that you have posted it to the Ledger and then continue as follows:

LEDGER ACCOUNT: Capital				Page C-2
				Year: 1493 AD
Date	Description	Reference	Debit	Credit
08 Nov	To: Ginger Being so many packages, weighing so much, which I inventoried today, which according to current market prices is worth 100.	J3		100

Then, again tick the Journal entry on the credit side to note that you have posted it to the Ledger. Write down the page references in the Journal and enter the Ledger accounts in the Ledger index as before, selecting appropriate letters as we did for jewelry in the previous chapter.

4. See Chapter 12.

5. See Chapter 14.

CHAPTER 17

TRANSACTIONS WITH GOVERNMENTAL AGENCIES¹

District management of federal banks.²



here is no need for further rules for the other items listed in Chapter 6, i.e., for plain and tanned leather covers, etc. Each item is entered into the Journal and then posted to the Ledger, with careful attention to written explanation, never forgetting any detail. The businessman's approach is somewhat different than the simple butcher's.³

If you have transactions with federal banks, other such banks in Florence, the Monte delle Dote in Genoa, or similar agencies abroad, remember to account for every detail in your records, keeping original⁴ documents to support all debit and credit entries in your Ledger. It really is very important to be precise and clear. There is more about record-keeping in a following chapter, which deals with documents and letters.⁵

The turnover of employees in public offices is high. Each employee has his own method of recording accounting transactions. As a result, incumbents, preferring their own ways, frequently blame record-keeping mistakes on their predecessors. This frequently leads to mistakes at public offices for which there is no supporting documentation. Take care if you deal with these people. Be just as careful as you are at home and stay on top of the situation. Civil servants may mean well, but they lack experience.

In the same way, pay particular attention when dealing with revenue officials. Note the nature of what you buy and sell, things grown and planted. For, in Venice as elsewhere, the tax rates vary,⁶ and sales records are filed with the local tax office.

Ask for and make a note of the name of your supplier and his tax identification number, his official registered number, found in the local tax office: for example, the Chiaman's Building in Venice. Each market trader must be registered and has to report details of his sales both to local citizens and visiting foreigners. Failure to report would lead to a fine or dismissal.

Quite rightly, His Excellency⁷ punishes tradesmen and their clerks who fail to comply. I know of many who, in the past, were punished. It is important to employ officers to control the market and to ensure that business books are kept properly.

1. "*Li uffici publicii*"; that is, "public (as opposed to private) offices."

2. "*La camera de limpresti*," or "municipal loan bank." The nearest equivalent in the United States would appear to be federally controlled FDIC and FSLIC banks.

3. "*Quan di gaiardi*," or "than the butcher."

4. "*A qsti tali officii*," or, "in the official's handwriting."

5. Chapter 35.

6. From 1 percent to 4 percent.

7. "*Exelsa S.*," i.e., His Excellency, the Doge, or one of his representatives in Venice, the Duke in Urbino, etc.

CHAPTER 18

TAX ACCOUNTING¹

*Appropriate entries in the Memorandum
Book, Journal and Ledger.*



As you pay taxes, debit your tax account with the appropriate percentage tax for reportable property, and note your tax district.² Keep detailed records of all purchases and sales, both on your own behalf and on behalf of others, just the way that it's done in the Rialto.³ Note carefully the name of each party who pays and his tax district. Then, when you bank your funds, you can, at the same time, pay taxes district by district.

Keep records for the tax authorities of the total of taxable goods, keeping separate accounts for each of the 2 percent, 3 percent and 4 percent rates. In this way, a buyer, when transacting business with a seller, identifies the appropriate tax liability on the transaction, regardless of whether payment is by cash or credit. The tax authorities are not interested in the method of payment, just the amount of tax that is due to them.

Stall holders in the market keep records of their transactions, the amount of purchase or sale and the customer, so they have clear records in case, as sometimes happens, any questions arise.

Remember the saying, "Nothing ventured, nothing gained."

When questions arise in the marketplace, reference is made to the stall holder's records. Such records are, by law, the prime records. They are public documents, duly authenticated (Chapter 7) and are therefore considered strong evidence by any court.

Whenever you buy anything, make sure that you know how much tax to include. Retain the half portion due from the seller. For example, where the tax is 4 percent, retain 2 percent, following the public decree.

You are now in a position to pay to the tax office everything due to it, and you should credit the amount in your books if you keep an account with them and debit the amount as part of the cost of the goods you purchased. Remember that the payment of the buyer's and seller's tax is your responsibility.

Once the tax is paid and the transaction recorded in the authorities' books, the buyer has the right to take appropriate goods from the warehouse in one or more lots as is convenient.

1. With the "Mesetaria," or tax authorities.

2. Residence, for tax allocation purposes.

3. New York has its Wall Street; Venice had its Rialto.

Therefore, it is very important to keep proper accounts with the tax offices, to know exactly how much merchandise can be exported, because buyers are strictly limited to exporting only goods for which the appropriate percentage tax has been paid. If tax is unpaid on the amount they purchased, extra dues have to be paid. I set out below examples of business transactions with the tax office.

MEMORANDUM						Page 23
						Year: 1493 AD
Date	Customer	Description	Price	Qty	Reference	Amount
	Giovanni Antonio, of Messina	Palermo sugar cases ____:	50	2		100
		Loaves net weight ____:	2.5	40		100
		(excludes wrappers, boxes, ropes and straw)				<u>200</u>
	Agent: Giovanni de Giardi	Messetaria ⁴ tax at 2%				(4)
		Amount paid in cash				196
		Amount due Messetaria				<u>8</u>
		Total cost				204

and the corresponding entry in the Journal will be as follows:

JOURNAL					Page 34
					Year: 1493 AD
Date	Description	Reference	Debit	Credit	
	To: Palermo, sugar and loaves	P-1/M23	204		
	By: Messetaria tax payable	M-1/M23		8	
	By: Cash	C-1/M23		196	
	Being purchase of sugar and loaves from Giovanni Antonio of Messina paid \$200 current market price less \$4 seller's taxes. Agent Giovanni de Giardi.				

4. "Messetaria"; literally, "midland," a sales tax

In the Ledger, this same transaction will appear as follows:

<div> <div>LEDGER ACCOUNT: Palermo Sugar</div> <div>Page P-1</div> </div>				
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
	By: Giovanni Antonio of Messina	J34	204	

and:

<div> <div>LEDGER ACCOUNT: Cash</div> <div>Page C-1</div> </div>				
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
	To: Palermo sugar, loaves	J34		196

and also:

<div> <div>LEDGER ACCOUNT: Messetaria Tax Payable</div> <div>Page M-1</div> </div>				
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
	To: Palermo sugar purchase	J34		8

This first example deals with a cash payment.

Next, consider a transaction made partly for cash and partly for credit.

MEMORANDUM						
						Page 33
						Year: 1493 AD
Date	Customer	Description	Price	Qty	Reference	Amount
Nov.	Giovanni Antonio, of Messina Agent: Giovanni de Giardi	Palermo sugar cases ____:	50	2		200
		Loaves net weight ____:	2.5	40		200
		(excludes wrappers, boxes, ropes and straw)				
		Messetaria tax at 2%				400 (8)
		Amount due seller				392
		Amount due Messetaria				16
		Total cost				408
		TERMS AGREED: 50% payable August next + 50% cash				

You need no other written receipt for the business because your broker, Giovanni de Giardi, will keep a record; still, it is wise to take that precaution.

Now, the entry appears in the Journal as follows:

JOURNAL				
				Page 35
				Year: 1493 AD
Date	Description	Reference	Debit	Credit
	To: Palermo, sugar and loaves	P-1/M33	408	
	By: Messetaria tax payable	M-1/M33		16
	By: Cash	C-1/M33		196
	By: Accounts payable	P-12/M33		196
	Being purchase of sugar and loaves from Giovanni Antonio of Messina paid 50% cash, 50% on account with Agent Giovanni de Giardi.			

Then, in the Ledger, these accounts will be needed.

LEDGER ACCOUNT: Palermo Sugar				Page P-1
Date	Description	Reference	Debit	Credit
	By: Giovanni Antonio of Messina	J35	408	

and

LEDGER ACCOUNT: Giovanni Antonio de Messina				Page P-12
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
	To: Palermo sugar, loaves	J35		196

and

LEDGER ACCOUNT: Messetaria Tax Payable				Page M-1
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
	To: Palermo sugar purchase	J35		16

Note that the tax is payable as soon as the transaction takes place.

LEDGER ACCOUNT: Cash				Page C-1
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
	To: Palermo sugar, loaves	J35		196

Then, when you pay Giovanni Antonio, you will make the appropriate Journal entry as follows:

JOURNAL					Page 46
					Year: 1494 AD
Date	Description	Reference	Debit	Credit	
August	To: Giovanni Antonio of Messina By: Cash	P-1/M33 C-1/M33	196	196	
	Being payment of 196 due Giovanni Antonio of Messina.				

and so you will account for a transaction that is partly for cash and partly on credit.

CHAPTER 19

PAYMENTS

The principal book entries for direct and indirect payments.¹



The following guide describes the entries when payment is made for purchases:

- all in cash
- part in cash, part on credit
- part in cash, part by letter of credit²

- all by check
- part by check, part by cash
- part by check, part by credit
- part by check, part by letter of credit

- all by letter of credit
- part by letter of credit, part by cash, part by check, part on credit

- other combinations³

This list covers all the customary methods for making payments for purchases.

In each case, you record the details — first in the Memorandum or day book, then in the Journal and then in the Ledger — just as in the previous⁴ example.

When a payment is to be made in part by check and in part by letter of credit, it is wise to deliver the letter of credit to the bank before you agree to the final amount of the check.⁵ Take this precaution even when part is paid by cash, as is often done, and so prevent mistakes.

When payment is made in part by either cash, on credit, by goods or by letter of credit, whatever the method, the sum total of the payment is debited to the supplier's account, and credit entries are made in the account of each of the constituent parts. If you purchase using any other method, carry on in the same way.

1. "Pagamento"; that is, payments.

2. Pacioli refers to negotiable instruments (other than checks), such as bills of exchange and other time drafts.

3. Including the other methods listed in Chapter 9.

4. In Chapter 18.

5. This is so that you ensure the letter of credit is accepted and take account of the discount and fees (if any) before the check for the balance is written out.

Now you know the way to record a payment; the way to record a receipt follows. The total of the amount received from customers is credited to their account, and the debit entries are made in the appropriate receivable accounts. Then, when proceeds are received, you debit cash and credit the receivable accounts.

Do not forget to credit all the accounts affected when a payment is received.⁶
This is all you need to know on this subject.

6. This is a frequent omission in manual accounting. Fortunately, in the computer age, journal entries must balance before they are accepted by the software system, so these human errors are prevented.

CHAPTER 20

PARTNERSHIP AND OTHER SPECIAL VENTURES

*Book entries for simple and complex
trades, with examples.*



his chapter deals with a number of very important commercial ventures for which the accounts are usually kept separately, for cost accounting purposes. They include trade ventures, partnerships, business and private travel, commission accounts, documentary credits and individual cost centers. Brief instructions for these accounts follow so that

you have accurate accounts of such activity.

Let us begin with trade ventures. Trades are usually divided into three kinds.¹

As always, regardless of which type of trade, first enter the details, terms, conditions and, where appropriate, the agent in the Memorandum book. After these details, record the true market price exactly as it was made.² This may then be adjusted³ to the currency of your accounts by your accountant.

The true market price is recorded because otherwise, and except with difficulty, your accounts would not give you a reliable account of profit and loss.

You choose the level of detail in your accounts. You may, for example, decide to cost separately⁴ each job lot of inventory received so that you keep a record of profit or loss on each lot; or you may decide to cost lots of similar produce together in a single account.⁵

For example, let us say you maintain an inventory of ginger and you buy some more. The entries in the Journal would be:

1. Pacioli refers to simple trades (cash), complex trades (part cash) and time trades (using documentary credits).

2. Perhaps the vital key to proper accounting is that transactions are recorded at historical cost, that is, the exact price paid.

3. Or translated.

4. For job costing.

5. For process costing.

JOURNAL					Page ____
Year: ____ AD					
Date	Description	Reference	Debit	Credit	
	To: Ginger By: Sugar		XXX	XXX	
	Being for ginger received: quantity ____, weight ____, price ____, etc. Traded sugar: quantity ____, weight ____, price ____, etc. ⁶				

If you do not know the exact breakdown⁷ of the sugar you exchanged for ginger, it is not too important, for you can correct the details when you enter them in the Ledger. Since you have entered the total amounts received and the total value of the trade, you need not know the exact breakdown. It is not always possible to keep an account of the *de minimis* items.

You debit cash for any cash received in exchange for sugar, crediting sugar as follows:

JOURNAL					Page ____
Year: ____ AD					
Date	Description	Reference	Debit	Credit	
	To: Cash By: Sugar		XXX	XXX	
	Being the cash value received for traded sugar: quantity ____, weight ____, price ____, etc.				

6. I have omitted certain sample details of the bargain such as "sugar 24 ducats per 100 lbs. with one-third paid cash on deposit; and ginger per so many lbs. at 20 ducats per 100 lbs." Since this is for example only, and Pacioli does not bother to give enough details to calculate the actual value of the example transaction, I do not believe it adds anything in translation.

7. Sugar was received in bags and loaves of different contents. Thus, while the total weight would be known, the details of the breakdown might not. As long as the overall totals were known, the detailed breakdown could be added in the inventory records later.

Similar produce (here, ginger) is entered directly into the Journal, but if you want to keep an account of each lot then the appropriate entry would be:

JOURNAL				
				Page ____
				Year: ____ AD
<i>Date</i>	<i>Description</i>	<i>Reference</i>	<i>Debit</i>	<i>Credit</i>
	To: Special lot of ginger By: Sugar Being same as before		XXX	XXX

Then, in the Ledger there would be separate accounts for each lot of ginger. This is all you need to know on the subject of trades.

CHAPTER 21

PARTNERSHIP

Proper book entries.



nother celebrated process is accounting for a partnership.¹ A partnership involves two or more people in any trade, be it silks, spices, cotton, dyes or finance.

Partnership accounts must be recorded with separate accounts in the usual set of accounting books.²

Begin in the Memorandum and, after the date, simply set down the terms and conditions of the partnership and where the agreement and supporting documentation are filed. Your record should include:

- the partnership objectives
- the terms³ of the partnership
- the partners' shares
- employees and apprentices required
- each partner's capital contribution
- any assets or liabilities assumed by the partnership

Then, credit each partner with the value of his individual contribution and debit cash, but only if you commingle the partners' accounts with your own. For clarity, a completely separate set of books should be kept for the partnership, especially if you have your own separate business.

If, perhaps for convenience, you decide to keep the partnership accounts in your own books, you will have to open new accounts. These accounts are notorious because they must be kept separate from your other accounts. Instruction follows for entries in your Memorandum, your Journal and your Ledger in this case.

If you decide to keep a completely separate set of books for the partnership, then you need no further instruction on this subject.

Let us say, according to your Memorandum, a three-partner venture has been formed for the purchase of wool, for so many years, under terms and conditions specified in such-and-such agreement. One partner has contributed cash, another so many bales of French wool, and the third letters of credit, all valued in ducats.

1. "Le com"; that is, an abbreviation for either "*compra*" or "*compagnie*," referring to either partners or companions in a joint venture.

2. Separate Memorandum, Journal and Ledger.

3. Commencement, period and termination.

Now, in your Journal, you make appropriate records of the partners' cash and capital so that every partnership entry can be distinguished from your own separate business's entries.

First, make the cash entry. The others follow in chronological order.

JOURNAL					Page ____
					Year: ____ AD
Date	Description	Reference	Debit	Credit	
	To: Cash By: Partner 1's share Being the opening partnership (reference file) cash contribution.		XXX	XXX	

Then, enter the other items contributed.

JOURNAL					Page ____
					Year: ____ AD
Date	Description	Reference	Debit	Credit	
	To: French wool: bales ____ By: Partner 2's share Being the opening partnership (reference file) wool contribution, as examined.		XXX	XXX	

Continuing, you include the letter of credit contributed:

JOURNAL				
				Page ____
				Year: ____ AD
Date	Description	Reference	Debit	Credit
	To: Letter of credit By: Partner 3's share Being the opening partnership (reference file) letter of credit contribution.		XXX	XXX

With this introduction, there is no need to continue. To do so would be tiresome and repetitive.

I really do not need to provide examples of the entries into the Ledger. You just follow the debit and credit Journal entries and post them to the Ledger. Follow the instructions from Chapter 15 and preceding chapters, never forgetting Chapter 12 and the need to record the Ledger account page numbers in the Journal after they have been posted and in the Ledger index, as noted.

CHAPTER 22

EXPENSES IN GENERAL

Including ordinary and extraordinary household expenses, business expenses and the wages of clerks and apprentices.



Besides the entries so far covered, you need accounts for the following items:

- miscellaneous business expenses
- general expenses
- extraordinary household items
- receipts
- expenses
- profit and loss¹

These accounts are always needed so the businessman can extract a balance, make financial statements and find out how his business is doing.

Here, quite clearly, I will show how these entries are made.

The "miscellaneous business expenses" account is kept because it is not necessary to account for every little expense as if it were an inventory item. For example, when you buy goods, you may tip a porter, a weigher, a packer, a shipper, a delivery man or others, paying out very small sums of money. You do not want to keep a separate account for each such small item of expenditure because to do so is not cost effective. As the saying goes, these are "the little items that don't contribute knowledge to the owner."²

You may also have to employ tradesmen — porters, packers, shippers, drivers — for other purposes. For example, to load different goods at a port, you may have to pay for all these services for the same consignment. You hardly want to cost each expense directly to the goods concerned. So, you open an account called "miscellaneous business expenses" that, like all expense accounts, has a debit normal³ balance. In this account, you can enter your indirect labor, though some businessmen keep this particular item in a separate account. The account normally has a debit balance, so if it appears with a credit balance you have made a posting error.

1. Various descriptions are used in the text. "*Pro e danno*," "*avanzi e desavanzi*," "*utile e danno*," "*guadagno e eredita*"; that is, respectively, "in favor or given," "income and expense," "surplus and deficit," "gain or loss." All this is to say a profit and loss by any other name is a profit or loss.

2. "*De minimis no curat Praetor*"; that is, "the little items that don't contribute knowledge of the business to its owner."

3. The concept of normal balances.

In the Memorandum, you note “on this day, we have paid to drivers, shippers, packers, weighers, etc., who loaded and unloaded such and such goods so many ducats.” Then, in the Journal, you write:

JOURNAL					Page 21
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	To: Miscellaneous business expenses By: Cash		XXX	XXX	
	Being cash paid for loading and unloading goods.				

and, in the “Miscellaneous Business Expenses” Ledger account, you record:

LEDGER ACCOUNT: Miscellaneous Business Expenses					Page M-3
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	By: Cash	J21	XXX		

We cannot avoid an account for ordinary household expenses. They are made up of purchases of grain, wine, oil, salt, meat, shoes, hats, stockings, cleaning cloths, tips, tailoring, barbers, bakers, cleaners, etc., and kitchen utensils, vases, glasses, casks, etc.

Many may keep separate accounts for some or all of these things so that they can see at a glance the current state of affairs for selected items. You can do so, too, if you wish, and open other accounts you consider appropriate. At a minimum, you need at least one account for these expenses. This account is kept in just the same way as the “miscellaneous business expenses” account, making entries daily or when expenses are actually incurred.

Many will open separate accounts for certain items when they want to know, at the end of the year, just how much they spent on a particular item. For very small accounts, you can even set aside small floats.⁴

4. For imprest accounts.

It really is impossible to account for all these very small items. In the Journal, you write:

JOURNAL				
				Page ____
				Year: ____ AD
Date	Description	Reference	Debit	Credit
	To: Ordinary household expenses By: Cash Being cash float for _____		XXX	XXX

Expenses — for amusements, a lost wager, lost money, theft and fire losses — normally classified as “extraordinary expenses” may be included in “ordinary household expenses.” However, if you want to keep an individual account of such expenses (including gifts and presents given) so that you know their annual cost, you will need to keep an individual account of each such expenses in the Ledger.

Of these accounts, no more need be said. Keep in mind what has already been said, for you already have sufficient knowledge to make the necessary entries. The next subject is subsidiary accounts, the way to open them in the Ledger and the other books, so that you can manage a subsidiary. Please pay careful attention: it’s a useful subject to know about.

CHAPTER 23

SOLE TRADER ACCOUNTS

Post the entries in the books of a shop and its owner.



If you own a shop¹ that you supply from your own home, then, for accuracy, you must keep the entities separate. Thus, the goods you supply to the shop will appear in your own books as:

OWNER'S JOURNAL				
			Page ____	
			Year: ____ AD	
Date	Description	Reference	Debit	Credit
	To: Shop-goods-supplied account		100	
	By: Particular goods			15
	By: Particular goods			22
	By: Particular goods			20
	By: Particular goods			23
	By: Particular goods			20
	Being goods supplied to my shop.			

Note that you transfer the total value of the goods to the shop (imagining that it is a separate subsidiary entity)² but account for each of the particular goods by item in your own books.

Per contra,³ for items you receive from the shop:

-
1. "Botega"; that is, a shop.
 2. The concept of separate entities.
 3. The same phrase, "per contra," is used contemporarily when entries are reversed, or when one debit entry exactly mirrors itself in a credit entry. This is the source of that term.

OWNER'S JOURNAL					Page ____
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	To: Cash By: Shop-goods-supplied account Being cash payment received for goods supplied to my shop.		100	100	

In this way, you are able to examine the state of affairs of your shop at any time, whether it is good or bad; and, in this way, you will provide yourself with the management information that is necessary.

Many shopkeepers merely debit the manager-in-charge at the shop, without getting his consent. Yet you should never record as a debtor or a creditor someone who has not consented to be put in that position. If you keep your records this way, you are going to get a reputation for keeping false records.

In the case of furniture, fixtures and fittings,⁴ once again you debit these items to the shop account or to the manager-in-charge's account (if he agrees). Examples of furniture, fixtures and fittings would be all the laboratory equipment supplied for a drugstore.

When he receives the equipment, the manager of the shop should then take a proper inventory and record it in the shop's books so that the transaction is recorded properly.

This provides you with the information you need to separate the records of a shop that is managed for you by a manager or one of your employees. If you decide to carry on business at the shop yourself, this is the best way.

Suppose that you supply the shop with all the goods it sells, and this is your sole occupation. Still keep books for separate entities as before. When you record supplier transactions, debit appropriate accounts for the goods supplied and cash (if you buy for cash) in the shop's books.

4. "Masarie," which I translate as "furniture, fixtures and fittings."

OWNER'S JOURNAL				
				Page ____
				Year: ____ AD
Date	Description	Reference	Debit	Credit
	To: Shop-goods-supplied account By: Cash Being payment for goods supplied to my shop.		100	100

Then, when you sell the goods retail, for small amounts, keep a petty cash box and periodically debit cash with the amount of accumulated cash and credit the shop-goods-supplied account as follows:

SHOP'S JOURNAL				
				Page ____
				Year: ____ AD
Date	Description	Reference	Debit	Credit
	To: Cash By: Shop-goods-supplied account (or record details of each of the individual supplies that are affected) Being petty cash payment received for goods supplied.		150	150

The information above seems to me to be sufficient explanation of how to keep separate accounts for a shop. Now you understand how to carry on yourself. Accounts are no more than keeping order, in the way a shopkeeper wishes, so that he stays aware of what is going on and is easily able to determine whether he is making a profit or loss. As the proverb says, "The ignorant businessman is as blind as a bat."

With financial information, the businessman is able to control his business. He is free to add information where he deems it appropriate; but this is sufficient detail for the time being.

CHAPTER 24

BANKING TRANSACTIONS

*How to post bank entries in both Journal and Ledger.
The purpose of Bills of Exchange; acting as bank customer or banker;
the purpose of checks and the reason they are made out in duplicate.*



dealing with banks at home or abroad,¹ care must be taken to keep your accounts very accurate.² It is usual to make arrangements with a bank. There, your money may be deposited with greater security than at your place of business. Out of your deposits at the bank, individual payments may be made by check³ to anyone.⁴ A check is a formal legal document under federal law.⁵ When money is deposited at your bank, you debit the bank (its owners or partners) and credit cash, making a journal entry as follows:

JOURNAL				Page ____
Year: ____ AD				
Date	Description	Reference	Debit	Credit
	To: Bank of Limpani By: Cash Being cash ⁶ deposited by _____		XXX	XXX

It is also common practice for the banker to give you a written deposit slip as a written record for each individual deposit. If you withdraw any funds, you are expected to provide a written withdrawal slip for each individual transaction in the same way. This is the way to keep a clear record of each individual banking transaction. Sometimes, written

1. "Quali se ne troua oggi di in venetia i bruggia i auer sa e barceloa ■ certi altriluogbi famoli e traficati a couielay co loro libri scotra"; literally, "which are found today in Venice, in Bruges, in Antwerp, Barcelona, and other places familiar to the world of commerce."

2. "Gradissima diligeria"; that is, "with the utmost diligence."

3. "La ditta del banche"; literally, "the bank's statement (draft or note)."

4. "A piero sioani e martino"; perhaps, "Peter, John and Martin" who were most probably the equivalent of "John (Tom), Dick or Harry."

5. "Per li dominij"; that is, "under the control of federal law."

6. Or cash equivalent (for example, gold or currency).

deposit and withdrawal slips are not given out. Because bank books and bank records are independent original third-party documents,⁷ however, it is better to keep these written records so that each transaction is clear.

In your books, the bank account may be kept in the names of the owners or partners of the bank or in the name of the bank; they are interchangeable.

Thus, the above entry, using names, would be:

JOURNAL					Page ____
Year: ____ AD					
Date	Description	Reference	Debit	Credit	
	To: Mr. Girolimo Limpani and Co. ⁸ By: Cash Being cash deposited by _____.		XXX	XXX	

Always keep files of all contracts, terms and conditions and any other important documents. Also keep a list of the places⁹ where the files are kept. Then it will be easy to find these permanent¹⁰ records, and the reward for diligent filing will be complete records.

You may have several different banking activities for yourself and for others. Separate accounts should be kept for each different activity to avoid mixing activities and to avoid confusion. The written explanation for book entries will be:

- being on account of such and such a thing
- being on account of so and so
- being on account of goods
- being on account of cash deposited

Where appropriate, names will be included. Then appropriate explanation will be clear to you. Continue in the same way. If you receive money, charge it to the bank account in your books. In this way your entries will be correct.

7. "*Sempre sono publichi e autentichi*"; literally, "always public and authenticated."

8. "*Copagni*," so perhaps "companions" or simply "and Co."

9. Whatever and wherever be they: files, boxes, pouches or trunks.

10. "*Ad ppeptuam rei memoria*."

JOURNAL					Page ____
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	To: Cash By: The person who gave you the money Being part payment or full payment by _____.		XXX	XXX	

When you withdraw money from the bank to make a partial or full payment to a debtor at home or abroad, you write the reverse entries to those above. Thus, if you withdraw money, you debit cash and credit the bank or its owners for the amount withdrawn. If you write a check, you debit the payee and credit the bank or its owners and make appropriate explanation. Thus, for the first case, your journal entry is:

JOURNAL					Page ____
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	To: Cash By: Bank of Limpani or Mr. Girolino Limpani and Co. Being withdrawal for needs _____.		XXX	XXX	

If you write a check in favor of Mr. Martino, for example, your entry is:

JOURNAL					Page ____
Year: ____ AD					
Date	Description	Reference	Debit	Credit	
	To: Mr. Martino of somewhere By: Bank of Limpani Being payment in part or in full or for a loan _____.		XXX	XXX	

Always post these entries from the Journal to the Ledger, with appropriate description. Add another account¹¹ if necessary and cancel the entry in the Memorandum and Journal.

The same entries are used to record international drafts¹² transferred to London, Bruges, Rome, Lyons and elsewhere. To prevent misunderstanding, such documentary credits, by custom,¹³ include specific written instructions. Such instructions may specify details of the currency, the validity of the credit, whether partial shipments are allowed, detailed advice of commissions, interest and other costs, and any other details that might be needed in the event of a protest. In other words, every what, why and how needed to support the transaction ought to be recorded.

So far, I have explained how to deal with a bank. If you deal as a banker, the process is completely changed. As a banker, when you make a payment, you debit the payee and credit cash. If one of your creditors issues a draft to a third party without withdrawing cash, then your record in the Journal is as follows:

JOURNAL					Page ____
Year: ____ AD					
Date	Description	Reference	Debit	Credit	
	To: The particular creditor By: The draft's assignee Explanation		XXX	XXX	

11. To the Chart of Accounts.

12. Or remittances, letters of credit or documentary credits.

13. The custom continues under the Uniform Customs and Practice code of the International Chamber of Commerce.

Thus, a transfer is made from one creditor to another while you remain the debtor. In this way, you act as agent to both parties. For such a transaction, an appropriate¹⁴ commission is received to cover the costs of your overhead¹⁵ expenses. This is appropriate in spite of the reduced costs for any travel, limited currency exchange risks and limited liability to third parties, all costs that may be applicable in currency exchange.

If a banker, always remember to have your original documents returned whenever you close an account. A list of such documents should be kept on file from the date of issue so that, when the time comes, you remember to recover these documents and have them canceled. This prevents anyone from appearing with these documents and asking for payment ■ second time!

Always require the properly authenticated receipts customary in banking. For example, you travel from Geneva to Venice bearing a valid draft that the drawer in Geneva has drawn on Messrs. Giovanni Frescobaldi and Company of Florence for 100 ducats (the same amount you paid the drawer of the draft). When Messrs. Giovanni (Frescobaldi) and Company honor the draft and pay you cash, by custom, they will expect to be given duplicate¹⁶ receipts.¹⁷ Duplicate receipts are necessary so that one copy may be sent to the issuing bank in Geneva and the other may be kept by the bank (Frescobaldi and Company) on file as evidence of the transaction for reconciliation purposes. Should you then make a complaint against the bank in Geneva or Messrs. Giovanni and Company, you will be embarrassed! Such precautions are necessary in view of today's untrustworthy behavior.¹⁸

From this example, two Journal entries ought to be posted to the Ledger. The first is an entry in Messrs. Giovanni and Company's account, debiting the drawer of the draft. The second is an entry in your Geneva agent's account, crediting Messrs. Giovanni and Company with the 100 ducats. The receipt you have given is the support document for these entries.

This uniform code is used by international bankers so that their transactions are clear. Therefore, care must be taken to enter every detail in its proper place.

14. And "sepre licita," or "always legal."

15. Described in detail, "*tuo inchiostro carta fitto fatiga e tempo fiche*"; that is, "ink, paper, rent, stress and time taken."

16. From the traveller for the cash he receives, and acknowledging receipt of the funds from Frescobaldi and Co.

17. Pacioli notes that if you do not write the receipts yourself, a notary or third party can make them out for you.

18. "*Poca fede si troua oggi*"; literally, "untrustworthy behavior found today." Again, times change, but some things remain constant.

CHAPTER 25

MISCELLANEOUS INCOME AND EXPENDITURE ACCOUNT

*Sometimes kept in the Ledger,
sometimes placed in a separate book.*



By custom, some proprietors keep a summary of their income and expenditures in a separate account. Some proprietors include extraordinary items and other appropriate items in this account. Other proprietors maintain a separate account for extraordinary items and, in that account, record special items such as donations. In this account, they maintain a record — debits and credits — of other special items that they give and receive. At the end of the year, when closing the accounts, they transfer any balance to the capital account.

Really, as noted previously, the household expenses account could also be used for this purpose, unless you like to keep a separate record of miscellaneous items for information. You could, for example, keep a separate account for shoes,¹ but what is the point?

In general, the number of Ledger accounts should be as few as possible.

Depending on where you are, it may even be the custom to keep the income and expenditure account in a special Ledger.² This Ledger is then balanced with the other account books at the year end. The custom need not be criticized, but it does require more work.

1. "Even to the tip of a bootlace."

2. Often called the private Ledger and maintained by the proprietor himself, or a loyal employee, so that the information was kept confidential.

CHAPTER 26

ACCOUNTING FOR FIELD SALES AND OTHER TRIPS¹

The need for duplicate records.



Regular² field sales trips are made by your sales representatives³ or yourself. Although there may appear to be several ways to keep records of field sales trips, duplicate records should be maintained for each trip, regardless of who is in charge. One copy of the records should be left at the office, the second taken on the trip. Even if you make the trip yourself, prudence⁴ requires that an inventory be taken of all the sales items you take with you. Also take with you an inventory notebook⁵ and a trip record,⁶ so as to keep a proper detail and double-entry analysis.

When goods are sold, bought or exchanged, make debit and credit entries in your trip records. Also record details of customers, goods, cash, capital, mark-ups and other appropriate matters. This is the most effective way, no matter what others may say.

You will be keeping a record for your trip sponsor on each particular trip you make. So you will credit your sponsor with the goods you take, making debit entries for each individual item you take. In this way, you will have set up double-entry records for inventory and capital just as you would in the main accounting records.

When returning safe and sound, you can readily identify the total of cash receipts, profit and inventory items to be recorded in the main Ledger. This is the way to keep your trip records clear.

If you consign part of the sales trip to someone else, then you should record the goods on consignment just as you would if the consignees were customers, and keep records of all cash and goods separately. Your consignee will keep his own separate set of records, in which you will appear as creditor. Upon his return, he will agree accounts with you. And, even if your field salesman is for some reason detained, the trip records will speak for themselves.⁷

1. "Viaggi" in the chapter title but reference to "saldara" (literally, "field salesmen" in the text).

2. "Costumano," literally, "customary."

3. "Recomandato," literally "upon your recommendation."

4. "Bo ordie de cioche"; literally, "for the sake of good order."

5. "Ivetario qdernetto"; literally, "a small ledger."

6. "Giornaletto"; literally, a "small ledger."

7. John B. Geijsbeek in his translation of Pacioli, *Ancient Double-Entry Bookkeeping*, notes: "Sentence remains unfinished in the original." Pietro Crivelli, in his translation *Double-Entry Book-Keeping*, writes: "This sentence was not completed in the original." R. Gene Brown and Kenneth S. Johnston, in their translation *Paciolo on Accounting*, footnote their added phrase: "Paciolo did not complete this sentence." The meaning here is clear, so the sentence was not, in fact, incomplete.

CHAPTER 27

THE PROFIT AND LOSS ACCOUNT

How to post entries to the profit and loss account.



he profit and loss account, also known by other names,¹ is the account into which the remaining balances of all other Ledger accounts are entered. The account is kept in the Ledger, not in the Journal. The account provides a figure by which to balance the total of the accumulated debits and credits in the Ledger.

The profit and loss account is made up at the end of the accounting period by transferring the outstanding debit and credit balances from each trading² account in the Ledger to the profit and loss account. Entries are made with an appropriate description: "By or to the profit and loss account." You should also make appropriate ticks to ensure that you have transferred all outstanding balances. For example, if you have a Ledger account as follows,

LEDGER ACCOUNT: Q				Page Q-5
				Year: ____ AD
Date	Description	Reference	Debit	Credit
	Accumulated balance	Sub		295
	By: Profit and loss account	PL-1	295	
	Totals		3,295	3,295

-
1. Assets and loss account, savings and deficit account.
 2. That is, current, as opposed to long-term, account.

you then transfer the balance to the profit and loss account:

LEDGER ACCOUNT: Profit & Loss				
				Page PL-1
				Year: ____ AD
<i>Date</i>	<i>Description</i>	<i>Reference</i>	<i>Debit</i>	<i>Credit</i>
	To: Trading account	Q-5		295

In this same way, you enter each of the outstanding balances one by one, regardless of whether they are debits or credits.

In the end, your Ledger will have all its accounts balanced, with the outstanding balances all accumulated in the profit and loss account. This account, in turn, will have a remaining balance. This remaining balance enables you to see clearly and timely your results for the period.

The remaining balance is then transferred to the owner's capital account, which is the last account in the Ledger, the last account into which entries can be made.

CHAPTER 28

CARRYFORWARDS¹

*How to transfer Ledger balances, with no loss² of information,
when space permits no further account entries.*



If a Ledger account is full and there is no more space for either debit or credit entries, it is time to carry this account forward to the next available unused page in the Ledger. To avoid the appearance of fraud, no spare pages should be left.

In much the same way as balances are transferred to strike a balance in the profit and loss account,³ appropriate debit and credit entries are made, but these need not be recorded in the Journal. Records of transfers may be recorded in the Journal, if so desired, but such records are not worth, nor do they require, the trouble of a Journal entry.

Instead, make an entry for the small difference so that, if the Ledger account has a larger total for debit entries than credit entries, the small difference would be posted as a credit entry.

Take the case of a Ledger account for Martino. Let us assume that the account has so many entries on page 30 of the Ledger that there is no room for any more. In this Ledger, the last page currently in use is page 60.

Now suppose the debit-side entries total 80 and the credit-side entries total only 72. Deducting the credit side from the debit side, the small difference is 8. This is the amount that needs to be carried forward to the debit side of the new page, while a balancing entry on the credit side will leave page 30 balanced. In effect,

1. Prior to computerized accounting or the use of loose-leaf Ledger systems, the number of entries in any ledger account was limited to the physical space available on the page of a (frequently leather) bound ledger. It was then customary to transfer the "resto" or "remainder" (the cumulative balance in the account) to the next available page in the ledger. The balance was carried ("portare el resto") forward. Computerized and loose-leaf ledgers have, to a great extent, eliminated the need for carryforwards, but they are still to be found where manual accounts are kept.

2. "Malita"; literally, "badness."

3. In Chapter 27.

JOURNAL					Page ____
Year: ____ AD					
Date	Description	Reference	Debit	Credit	
	To: Ledger debit balance brought forward	M-60	8		
	By: Ledger debit balance carry forward	M-30		8	
	Being the small difference brought forward to Ledger account page 60 from Ledger account page 30.				

When you post the entries, you first cancel the debit side, then the credit side, with a line. When you write up the new account on page 60, do not forget previous instructions to write up the account name "Martino" or AD the year, and then enter the small difference in the debit column.

In the same way, make all transfers: leave no spare page between Ledger accounts; open carryforwards in the order they occur. As a result, no one can gainsay your accounting records.

CHAPTER 29

YEAR CHANGES

*How to change the year between successive entries
when books are not balanced annually.*



ometimes, the date of the year has to be changed before you balance the Ledger. When this happens, you write the year in the margin (not at the top of the page as required in Chapter 15) before the first entry in the new year. Then, all successive entries are understood to be for the new year.

Given the choice, always close the books at the end of the year. This is most important in business. As the saying goes, "Regular accounting leads to lasting friendship."¹ Here's good reason to keep the mailing of statements of account up-to-date.

1. "*Ragion spesia amista loga*"; literally, "the special reason for lasting friendship."

CHAPTER 30

STATEMENTS

*How to present a statement of account to a supplier on request
or to your principal as the administrator of his estate.*



statement of account you need to know of is the statement you send out in response to a supplier's request for account information. As a matter of courtesy, there is no reason to refuse, particularly when an account has been maintained for a long time.

Begin your statement either with the earliest transactions to have taken place or with the transactions immediately following the most recent reconciliation. You should make no charge for this. Copy each transaction on an appropriate piece of ledger paper. If you need more than one page, carry forward the balance from one page to the next, as instructed in Chapter 28.

Continue until you get to the most recent transaction and there show the overall balance, debit or credit, as the transactions determine. When you make out these statements, take the greatest care. This, then, is the way to proceed with the business of supplier reconciliation.

Should you act as agent or on commission, then your statement will be a copy of the Ledger account showing commissions accrued in accordance with agreements. At the end of the account, the net remaining balance will show who owes how much to whom.

Your principal will then reconcile your account with his own. If he agrees with your statement, his trust in you will be confirmed. So, for this reason, personally check all goods from principals upon receipt. Take great care in such cases.

If you are yourself principal and have employees prepare statements, check the statements very carefully with appropriate entries in your Ledgers, Journals, Memorandum books and other relative documents to avoid errors.

CHAPTER 31

ERROR CORRECTIONS¹

How to correct wrong and missing entries.



It is necessary for every accountant² to know how to correct³ posting errors. Such errors would include when you post⁴ an amount as a debit instead of a credit; when you post to one account instead of to a different account and vice versa; when you post to Mr. Martino's Ledger account instead of to Mr. Giovanni's⁵ account.

We all make some mistakes. As the proverb says, "Nothing ventured, nothing gained."⁶

Such mistakes are corrected in this manner. Take a debit entry that should have been a credit entry. Make the following adjustment in the Journal:

JOURNAL					Page ____
Year: _____ AD					
Date	Description	Reference	Debit	Credit	
	To: Correction (oppo Debit error) By: Original entry amount	G-1 M-2	Amount	Amount	
	Being for the amount entered opposite (marked C), which should have been entered as a credit.				

In front of both the wrong entry and the first entry above in the Ledger, you place a C⁷ so that when you make any abstract or statement from this account you omit these entries.

1. "O vero istornare . . . che q errore"; literally, "or true past variations . . . by mistake."

2. "Bon quadernieri," or "the good bookkeeper."

3. "Retrattare.o voi dire stornare ala florentina"; literally, "to take back, or deviate, as the Florentines say."

4. "Posta."

5. Geijsbeek, Crivelli, and Brown and Johnston also take "guani" to be an abbreviation of Giovanni.

6. "Cioe chi non fa non falla e chi non falla non impara"; or, literally, "he who does nothing makes no mistakes; he who makes no mistakes learns nothing."

7. "C" for the Latin "contra," or opposite.

CHAPTER 32

BALANCING¹ AND CLOSING THE BOOKS

Transferring old Ledger balances to a new Ledger.



If all the instructions so far are understood, the time comes to carry forward remaining balances from one Ledger to another. This even occurs when either the old Ledger is filled or at the beginning of a calendar year. For it is customary in financial centers for leading merchants to close their books every year. When this closing and the connected operations take place, the event is known as balancing² the books. To do it well requires the greatest care and good order and means you need to have an assistant, for it can hardly be done alone. You give your assistant the Journal and you take the Ledger. Then, starting at the first entry in the Journal, he calls out the page numbers of the Ledger where the entries should have been made, first the debit and then the credit. You, in turn, hear him and check the Ledger page and respond with the details, the kind of entry, the amount, to whom and for what. When the amount is correct, call it out and when it is the same in the Ledger as in the Journal mark it with the appropriate accountant's check mark so that you know which items have been checked.³ You ask your helper to make the same check mark⁴ in the Journal for the same entry.

Care must be taken to ensure that no item is only check marked by one of you, for the check mark establishes the integrity of the records.

Exactly the same degree of care is taken when preparing statements for your suppliers⁵ before you deliver them. The entries from the Journal should always be compared to those in the Ledger, or to any other appropriate documentation, as mentioned in Chapter 30.

After you have completed this process for all the accounts in the Journal and Ledger and agreed the balances in these books, you can be sure that all the accounts and their entries are correctly entered.

Take care that your helper makes two marks, one for each entry, in the Journal. You make two marks, one against each corresponding entry in the Ledger. Thus, every transaction requires two dots or marks in the Journal and one for each entry in the Ledger.

1. "Elblancio"; literally, "balancing."

2. "E detto elbilancio del libro"; literally, "known as balancing the books."

3. A vivid reminder of the pre-computer audit process, when one apprentice would call out Journal entries to a colleague, who would check them into the Ledger.

4. "Segno."

5. See Chapter 30.

For this audit process, make check marks only in the debit column in the Journal so that you can see that both check marks are there for each entry. This will mean that the complete Journal entry is correctly posted to the Ledger. Some make the check mark twice on the Ledger account, once under the description and once in the debit column. Both customs are acceptable.

The process can also be done with just a single mark in the Journal. In this way, you only mark the debit item after you have checked that the item is in the Ledger. This way directs you only to the pages in the Ledger. But it is more convenient to use a helper and call out the entries as outlined above.

When you have finished the process, you may find in some accounts an entry that has not been check marked either on the debit or the credit side of the Ledger. This indicates an error in the Ledger, and the error must be corrected by posting a corresponding entry to the appropriate side of the Ledger.

For example, if there is an unmatched entry on the debit side of the Ledger, you make a balancing entry on the credit side; that is, you make a contra entry as described in the previous chapter, and it makes the books balance. You do the same thing if your assistant finds an entry in the Ledger that is not in the Journal, thus indicating an error in the Ledger. This time, the correction is different. You just make the appropriate entry directly into the Ledger, with an explanation of the fact that the entry date is much later than expected.

A good accountant, like a good notary, always keeps notes of such differences and an explanation for them. This ensures that his books of accounts present the financial state of affairs of the business fairly. Such actions add to the reputation of the accountant so that his business reputation continues untarnished.

Thus, if an entry is missing from either the debit or credit side, the appropriate action to be taken is to write up an entry where an entry is missing, noting the circumstances. This is the way to adjust errors so that when the Ledger balances you know that your Ledger is accurate and properly kept.

Be aware that sometimes many entries will be included in the Ledger that were not entered in the Journal. Often these are the entries that balance carryforwards in the Ledger (see Chapter 28). If that is the case, find these entries and make sure that balancing entries were carried forward. When appropriate correcting entries have been made and the Ledger balances, you may conclude that the Ledger is correct.

This process for closing the accounts is essentially the same as the daily process of making sure that all entries in the Memorandum have been posted to the Journal, a process described at the beginning of this book. You should do the same thing with any other books you may have; just remember that the last two books compared are the Journal and the Ledger.

CHAPTER 33

CLOSING PROCEDURE

How to record transactions that take place while you are balancing the books and why not to record them in the old books.



nce you have balanced your account books, make sure that you make no further entries in the Memorandum, Journal or Ledger because the closing procedure is expected to be completed in a single day.

When transactions actually take place during the closing, record them in a new Memorandum and a new Journal, but wait until the balances from the old Ledger have been carried forward to the new Ledger before posting them to the new books. If you have not yet set up new books of account, keep appropriate records until new books are ready.

When the new books of account are set up, enter the new transactions in the new books. The new books of account will then be identified with an appropriate mark.¹ Thus, if you close your first set of books, marked with the sign of the cross, then the new books will bear the letter A.

1. Pacioli notes that if the old set of books was marked with the sign of the cross (the mark for the opening set of books for a business), then the next set of books would be indexed with an A. Since Roman numerals were still in use, this would be simpler than using the date (e.g., A instead of MCCCCLXXXIII). Once Arabic numerals were widely adopted, the year replaced the alphabet.

CHAPTER 34

YEAR-END CLOSING

How to close old Ledger accounts, total all debit and credit entries and prepare the trial balance.



nce you have balanced your trial balance, you close the old Ledger. Starting with the asset balances, cash, accounts receivable and inventory, transfer these balances to the new Ledger. These transfers, as already noted, are not entered in the new Journal.

Total both debit and credit entries in each account, determine the difference between the larger and the smaller total and, as with transfers and carryforwards, carry forward the balance. The only difference is that with carry forwards and transfers the balance was carried forward or transferred from Ledger page to Ledger page in the same Ledger; at the closing, the Ledger balance is carried forward from old Ledger to new Ledger. Just as cross-reference was made to pages in the old Ledger, now cross-reference will be made from an old Ledger page to a page in the new Ledger. This cross-referencing is unique to the closing process.

Let us suppose that in your † Ledger¹, on page 60, you have Mr. Martino as a debtor balance as follows:

LEDGER ACCOUNT: Mr. Martino					Page M-60
					Year: 1493 AD
Date	Description	Reference	Debit	Credit	
31 Dec	By: Year-end balance	Total	60		
31 Dec	Carryforward to A Ledger	M-8		60	
31 Dec	Totals		12,560	12,560	

You write up the credit entry in the † Ledger as above and transfer the balance to the new A Ledger as follows:

1. That is, in your first Ledger: the one which is marked with the sign of the cross.

LEDGER ACCOUNT: Mr. Martino					Page M-8
					Year: 1494 AD
Date	Description	Reference	Debit	Credit	
01 Jan	Brought forward from † Ledger	M-60	60		

This is the way you close each one of the accounts in the † Ledger and transfer it to an appropriate place in the A Ledger. Accounts will include cash, capital, merchandise, furniture, fixtures and fittings, buildings, debtors and creditors, offices, agencies, and taxes (since by custom these capital accounts are not normally settled until after the year-end).

Certain other accounts are not transferred to the new Ledger. These include business, household and extraordinary expenses as well as rents, pension and other income accounts. These are transferred within the same Ledger to the profit and loss account (also known as the savings and deficit or the gains and loss account).

You transfer debit (that is, expense) accounts to the debit of this account and credit (that is, revenue) accounts to the credit. Then you close this profit and loss account by determining which side is the greater and adding an appropriate balancing entry. If the debit side is greater, a loss has been realized, but if the credit side is greater then a profit has been made.

Once you have determined the balance in this account (in the old Ledger), you follow the closing process and transfer the remaining balance to the owner's capital account (still in the old Ledger). The capital account is the same account you opened and into which you placed the value of your inventory of property.

You close the account by transferring the balance. If a loss has been sustained, and God protects good Christians from such an eventuality, then you make a balancing entry on the credit side of the profit and loss account and transfer that balance to the capital account as, for example,

LEDGER ACCOUNT: Owner's Capital					Page O-2
					Year: 1493 AD
Date	Description	Reference	Debit	Credit	
31 Dec	By: Profit and loss account - loss	PL-1	150		

But when the credit side of the profit and loss account exceeds the debit side, then you make a balancing entry on the debit side of the profit and loss account and transfer that balance to the capital account as follows:

LEDGER ACCOUNT: Owner's Capital				
				Page O-2
				Year: 1493 AD
Date	Description	Reference	Debit	Credit
31 Dec	To: Profit and loss account - profit	PL-I		150

So much for this part of the closing procedure. Always remember to write in any appropriate cross references.

Then, you continue the closing procedure with the capital account. This should be the last Ledger account you close. When it is closed, you should know the total value of your investment.

When it is closed, as with the other accounts, the balance is transferred from the † Ledger to the new A Ledger. At this time, it is customary to make a list of the balances transferred. Then you, the owner, get a complete picture of your business when the transfer is made.²

You are reminded to number the pages and make an index in the A Ledger, keeping each Ledger account in its proper place, as described in Chapter 5, so that you can always find Ledger accounts easily.

This, then, is the closing process. You close Memorandum, Journal and Ledger.

Then, to make everything really clear as noted, you will record on one sheet of paper all the balance items from the † Ledger and summarize them, making a single total of all the debit items and a single total of all the credit items, and the totals will balance.³ When the totals balance, then you are sure that your Ledger has been well kept and now closed for the reason stated in Chapter 14.

When the totals do not balance, an error has been made in the Ledger. Then, you must use the talent God has given you and your reasoning skills that you learned⁴ to find the error. Otherwise,⁵ as we said at the start of this book, you will not have the skill to manage your business. For, if you are a poor accountant, you will be led by the blind and suffer the losses that follow; therefore, work hard and make every effort to be a good accountant.

Now, I have provided a full description for you of the way to become a good accountant. This excellent text includes all the rules of accounting in their appropriate place so that you can find everything using the index at the beginning of this book. Furthermore, as I promised in Chapter 12, in the following chapter I summarize the main points. This summary is essential and will no doubt be very useful.

Now please remember to pray to God for me, too, so that I may continue to improve my work, to His praise and glory.

2. Hence, the Balance Sheet, this list of balances.

3. A more detailed description of the balance sheet process. Pacioli appears to create two vertical balance sheets, one for the old † Ledger, another for the new A Ledger. I have omitted the full details.

4. By reading earlier chapters in Pacioli's *Summa*.

5. That is, without basic mathematical skills.

CHAPTER 35

DOCUMENT RETENTION

How to file original documents, payment receipts, confidential letters, policies, processes and other documents, and the Letter Register.



he retention and filing of documents is very important to successful businessmen. There is considerable risk that important papers, goods-received notes from customers and receipts from suppliers, and confidential letters might be mislaid. Observe these rules.

1. *Confidential letters* Always record the date of receipt and date of reply. Keep confidential letters, in date-of-receipt order, in a small desk until the end of the month. Then, at the end of the year, file them in appropriate order. In this way, you can refer to letters by date.

2. *Mail* If you send mail for friends with your own mail, keep a set of pigeonholes with appropriate destinations marked.¹ Thus, letters for Rome or Florence would go in the Rome or Florence pigeonholes. Provision of this service is good sales promotion. Also, remember to provide the courier² with clearly addressed mail.

3. *Incoming/outgoing mail* When you answer letters, always date them and keep a copy³ of the reply. Keep a list of all incoming and outgoing mail, including all business transactions, in date order.

4. *Letters* As is the custom, begin letters with your address. Always date letters (month, day and year) and include, at the end, your signature and the address to which the letter is sent (customarily in the bottom right-hand corner).

† This 17th day of April AD 1494, at Venice

My Dear _____,

and then continue with what you want to say

1. Destinations where you do your business. In the text, Pacioli mentions Rome, Florence, Naples, Milan, Genoa, Lyons, London and Bruges.

2. Pacioli refers to manual mail delivered by messengers, who were tipped and travelled to various distribution centers. Today, private international courier services offer similar services.

3. Pacioli writes, "a note."

As a good Christian, always write the date of the year, AD, with a proper acknowledgement of our Savior, Jesus Christ (or prefix the date with the sign of the holy cross) in this manner:

Students and non-business people such as priests usually put the date at the end of their letters while, as mentioned above, businessmen put the date at the start.

If you were to fail to write down the date, confusion might arise, and you could be made fun of. People might say that a letter without a date was written at night; or a letter without an address was written in another world; and, besides the joke, there would be the confusion, as I already noted.

5. Making copies Once a reply to a letter has been sent, file the letter as noted above. If your reply is important, make a note in the outgoing-mail record book and, for the record, write out a copy of what you have written. Important letters would include documentary credits, goods-received notes from customers and receipts from suppliers, and a complete copy should be kept. Otherwise, keep brief notes of the most important details.⁴ For example, you might note that on this day we sent a transmittal letter to So-and-so, in which we confirmed his order for certain items set down in his letter dated such and such a date, which letter is filed in such and such file.

Once you have sealed the outside of the letter you are sending and addressed it, place upon it the appropriate stamp which shows that it is a business letter and ensures it better treatment, for it is businessmen who are the foundation of republics.

In the same way, the Cardinals place their distinctive titles on their envelopes so that nobody will dare to say they did not know it was an important letter; the Pope also does this with his special seal. Thus, papal mail can always be recognized because it has the Seal of St. Peter upon it.

6. Filing Month by month and year by year, letters that are carefully filed will accumulate in the files in good order. In this way, you keep good records that you can readily access. I think you understand my point.

7. Documentary credits Every documentary credit made by you or your debtors should be kept in a safe place, as I mentioned in Chapter 17. Keep your receipts just as carefully and keep a book to record all the receipts you give to others.

8. Policies and other important papers In just the same way, carefully file important policies from market brokers, notaries, sealed documents for goods on consignment, customs documents, judgments, legal papers and all other similar documents.

Keep correspondence with lawyers and attorneys listed in a separate book along with notes that you make of items you need to discuss and want to remember. Then, you can use the notebooks to refresh your memory in the evening before you go to sleep. You can make out a list of things to be done, goods to be sent, etc.⁵

4. Reminds us of the importance of writing out duplicates before carbon copies and photocopies were available.

5. The original "To Do" list.

When an item on the list is done, draw a line through it, and keep the list going daily so that you are reminded of things to do, getting back items you lent to neighbors such as vases, pans and tools.

It is up to you exactly how you decide to file your documents, how you decide to keep your filing system, and how you will add to your "To Do" list. Keep it as best suits you. It is not possible to give a foolproof rule for managing all these items. As said elsewhere, "There's more to the making of a good businessman than to the making of a Doctor of Laws."⁶

Now, follow up carefully all the details I have given. I feel sure that, like "The Pilgrim," you will succeed in your business.

6. See Chapter 4.

CHAPTER 36

SUMMARY

Summary of the rules and methodology¹ for business books of account.



entries in the Ledger

1. In the Ledger, all debits must be entered in the left-hand column and all credits in the right-hand column.
2. Entries posted to the Ledger must be double entries. Whenever you make a debit entry, you must also make a credit entry.
3. Both debit and credit entries must include three bits of data: the date, the amount and an explanation for the entry.
4. The total amount of the debit entry must equal the total amount of the credit entry.
5. The debit and credit entries should be posted to the Ledger on the same day.

The Trial Balance

6. A “trial balance” is prepared by extracting each debit Ledger balance and each credit Ledger balance and recording these on a separate sheet of paper. The purpose is to make sure that the total of the debit balances equals the total of the credit balances. When the totals balance, the Ledger is in good order.

7. The trial balance should balance. That is, the total of the extracted debit balances should total the same amount as the total of the extracted credit balances. If the totals are not equal, then there is a mistake in the Ledger.

8. The cash account should always show a debit balance. Otherwise, there is a mistake in the Ledger.

General Rules

9. No debtor should be recorded in the Ledger without debtor’s contractual consent; otherwise, the record is false. In the same way, terms and conditions cannot be added to a creditor’s contract without the consent of the creditor. Otherwise, the records are untrue.

10. The values recorded in the Ledger must be given in a single currency. In the explanation of a transaction, you may identify other currencies; but, when writing the amount in the Ledger columns, you must be consistent and use a single currency so that the currency you use is the same currency throughout the Ledger.

1. “*Summario de regole e modi sopra*”; literally, “Summary of the aforementioned rules and methods.”

11. Explanations of debit and credit cash entries, for the cash account only, may be shortened by simply noting the donor's or recipient's name since the reason for the entry is explained by the balancing entry.

12. When you need to open a new account, use a new page in the Ledger. Never go back in the Ledger, even if there is room.

13. To correct a wrong entry made in the Ledger (it happens sometimes through absentmindedness), do the following: Place a mark [C] in the margin to identify the wrong entry, then make a reverse entry.

For example,

LEDGER ACCOUNT:					Page ____
					Year: ____ AD
Date	Description	Reference	Debit	Credit	
	By: Wrong entry			50,106 C	

So make the following entry:

	To: Correcting entry		50,106 C	
	(Explaining that the first entry was entered by mistake and should not have been made.)			

Then mark this new entry with a mark [C]. That is all.

14. When all the space available for a particular account² has been filled up and you wish to make another entry, do the following: calculate the remaining balance on the account, whether it is a debit or credit balance. Transfer the balance to a new page. For example,

LEDGER ACCOUNT: Page ____				
Year: ____ AD				
Date	Description	Reference	Debit	Credit
Enter:	(You have a credit balance of 2,042)			
	Balance carried forward		2,042	c/fwd
	Being a carryforward credit, see page so and so. (Make a mark [c/fwd] so that you note that this is not an ordinary entry and it is done.)			

Then turn the pages until you find a new blank page and there, on page so and so, make the following entry,

LEDGER ACCOUNT: Page ____				
Year: ____ AD				
Date	Description	Reference	Debit	Credit
	Balance brought forward		b/fwd	2,042
	Being carryforward of a debit entry from a certain page. (Make a mark [b/fwd] so that you note that this is not an ordinary entry and it is done.)			

15. When the Ledger is full or old and it is time to open a new Ledger,³ and you want to transfer balances to a new one, then do as follows: first, check to see that your old book is identified on its cover with the letter A, for example. In this case, you mark on the cover of the new book a B because, as noted, business books must be kept

2. As would happen before the introduction of loose-leaf accounts.

3. For example, at the year-end.

in alphabetical order. Take out a trial balance of the old book and check that it is correct and balances as it should. Then, in the new book, transfer all the outstanding balances, in just the same order as they appear in the old book. Leave an appropriate amount of space between accounts for anticipated activity.

16. For each debit and credit entry, state the page reference in the old book marked A when you transfer the balance to the new book.

17. Now, to cancel the old book, make sure that every account is closed using a trial balance. Thus, an old book account with a credit balance will be listed on the balance sheet, and you will enter an appropriate debit item in the new book so that the credit balance is carried forward to the new B book. This is the way to close out your old books and open new books. When an old book account has a debit balance, you do as just noted for the credit balance. This time, the debit balance is carried forward by making a credit item entry in the new book.

Now my book is finished.

CHAPTER 37

CHECKLIST ONE¹

Checklist of key entries in the books of businessmen.

Debit Cash; Credit Owner's Equity All your accumulated cash from prior earnings — by inheritance from relatives, by gift from benefactors² — debit to cash and credit yourself, as owner.

Debit Inventory; Credit Owner's Equity All your inventory of goods and jewelry from prior activity — by inheritance or by gift — value in cash. Debit an account for each item or class of items³ at cash value and credit yourself, as owner. Remember not to bother with small entries.⁴ Since they are not cost-effective, they are not entered in the Ledger.

Debit Property; Credit Owner's Equity All your real property — land, buildings and warehouses — you appraise. Debit one or more property items at cash value and credit the total to yourself, as owner. This, as every entry, requires the date, the value and an explanation.

Debit Inventory; Credit Cash When goods or services are bought for cash, debit the account of the bought item and credit cash. But when you mean the purchase was made on your behalf by bank or friend, then you continue to debit inventory, but post the credit to the bank or to your friend.

Debit Inventory; Credit Part Cash/Part Creditor When goods or services are bought partly for cash and partly for credit, debit the inventory but credit cash and the creditor at terms agreed. Later, at settlement, debit the creditor and credit cash or an appropriate bank account.

Debit Cash; Credit Inventory When goods or services are sold for cash, the entries are reversed. Thus, when you buy goods, you debit inventory; but when you sell goods, you credit inventory. You debit cash with sales proceeds, or the debtor if sold for notes, or a combination when the sale is made partly for cash and partly on credit.

Debit Pepper; Credit English Wool If goods are exchanged, estimate the value of the contract in cash. For example, in a trade of 1,000 lbs. of your English wool for 2,000 lbs. of pepper, if the value of the pepper is 12 ducats per 100 lbs., then the contract is worth 240 ducats, and this is the value of the sale. So, in this case, you debit pepper and credit English wool, both for 240 ducats. This is the way to make all trade entries. Provide a detailed explanation with each entry.

1. Previous translators have referred to Chapters 37, 38 and 39. Pacioli does not do so. Pacioli prepared three checklists.

2. "O donati da qlche principe"; that is, "donated by some principals." The idea of gifts from princes (Geijsbeek; Brown and Johnston) seems somewhat exaggerated for businessmen living in papal duchies.

3. As many accounts as there are different items of inventory.

4. Of 10 ducats or less.

Debit A Friend; Credit Cash If you make a loan to a friend, debit that friend and credit cash. If you borrow from a friend, debit cash and credit your friend.

Debit Cash; Credit "Ship Insurance" When you receive 8, 10 or 20 ducats to insure⁵ a cargo, a ship or whatever, credit "ship insurance" and debit cash. Write a detailed explanation: the how, why and wherefore and the percentage charge.

Debit Consignor; Credit Cash Debit specific freight, duties and storage costs for goods on consignment (goods consigned to you for sale on commission) directly to the consignor's account and credit cash. Credit the accounts of all general expenses, such as transportation or brokerage, that you pay directly in cash and debit the consignor for the proportionate amount.

5. Like modern shipping insurance, insurance in 1494 was usually based on the route and cargo of the shipment.

CHAPTER 38

CHECKLIST TWO

Checklist of assets to be recorded by businessmen.

Record all the private and business assets you own in an appropriate order. Classify assets — for example, “iron products” — and leave enough space for new acquisitions. Also, leave room in the margin to note when goods are lost, stolen, spoiled or given away. But do not include notes on small items of little value. Separate brass and tin items from wood, copper, silver and gold; add obvious items that are not included and leave space between each class for additions.¹

Detail the beneficiaries of all accounts payable, notes and debt obligations. Detail the owners of goods in transit in your care and detail all your goods on consignment or in transit with associates. Put down the details very clearly, including all goods that are left in your custody or lent to you by a friend. Do the same thing for items you lend to friends.

Keep a register of all outstanding contracts for purchases and sales: for example, an agreement to pay an agreed price per hundred weight, or to exchange for so many pounds of cotton for so many bales of good English wool shipped on the next trade from England.

Keep a register of all property, tenants and rents² from your houses, lands, shops or jewels. Enter rent in the Ledger when it is collected, as already instructed.

However, short-term³ rents for jewels, a gold vase or silver table services⁴ are entered in a rental record because the items are returned in just a few days. In the same way, if you rent similar items, enter details in a record book noting the date on which you are due to return them.

1. Providing ample room for additional entries, the equivalent of including the last zero digit in a five-digit numerical index.

2. In lire and ducats, as appropriate.

3. “*Per otto o quindici giornale*”; literally, “for 8 to 15 days.”

4. As we find today at franchised rental centers.

CHAPTER 39

CHECKLIST THREE

Checklist of currency abbreviations and Ledger entries.

How to abbreviate lire, soldi, denari, piccoli, etc.

Lire: L	Picoli: p	Danarpesi: dp	Ducati: duc
Soldi: s	Libbre: libbre	Grani: g	Large Florin: Flo.lar
Denari: d	Ounce: oz	Carati: K	

Examples of the posting of debit and credit entries in the Ledger:

Ledger Entries ¹

LEDGER ACCOUNT: Ludovico Forestani ²				
Page F-2				
Year: 1493 AD				
Date	Description	Reference	Debit	Credit
14.Nov	To: Cash from loan	Cash-2 ³	44	
22.Nov	To: Martino Foraboschi	F-2	18	
22.Nov	By: Francesco Cavalcanti	C-3		20

1. Pacioli's entries are as in a manual Ledger, when the debit side of the Ledger (entry, explanation and amount) occupied the left-hand half of the Ledger page, and the credit side of the Ledger (entry, explanation and amount) occupied the right-hand side of the Ledger page. In old manual Ledgers, the Ledger page was ruled half-way across the page so that the left-hand side and the right-hand side were the same size. Together, the Ledger heading, and the spaces for left-hand side entries and right-hand side entries resembled a T. This explains the origins of the *T-account*. I audited such a ledger in the 1960s in a ship chandler's office at London on the Thames. The advent of the computer and the simplification of books of account, which came with improved adding machinery, led to entry descriptions being on the left-hand side of the Ledger page, with both debit and credit columns on the right-hand side. Balance columns have since been added for convenience.

2. I have omitted "Di," which means "son of" and simply used the surname, as is the modern custom.

3. The fact that these entries are transferred via the cash account (instead of directly) indicates that the accounts illustrated are those of an intermediary, presumably a banker.

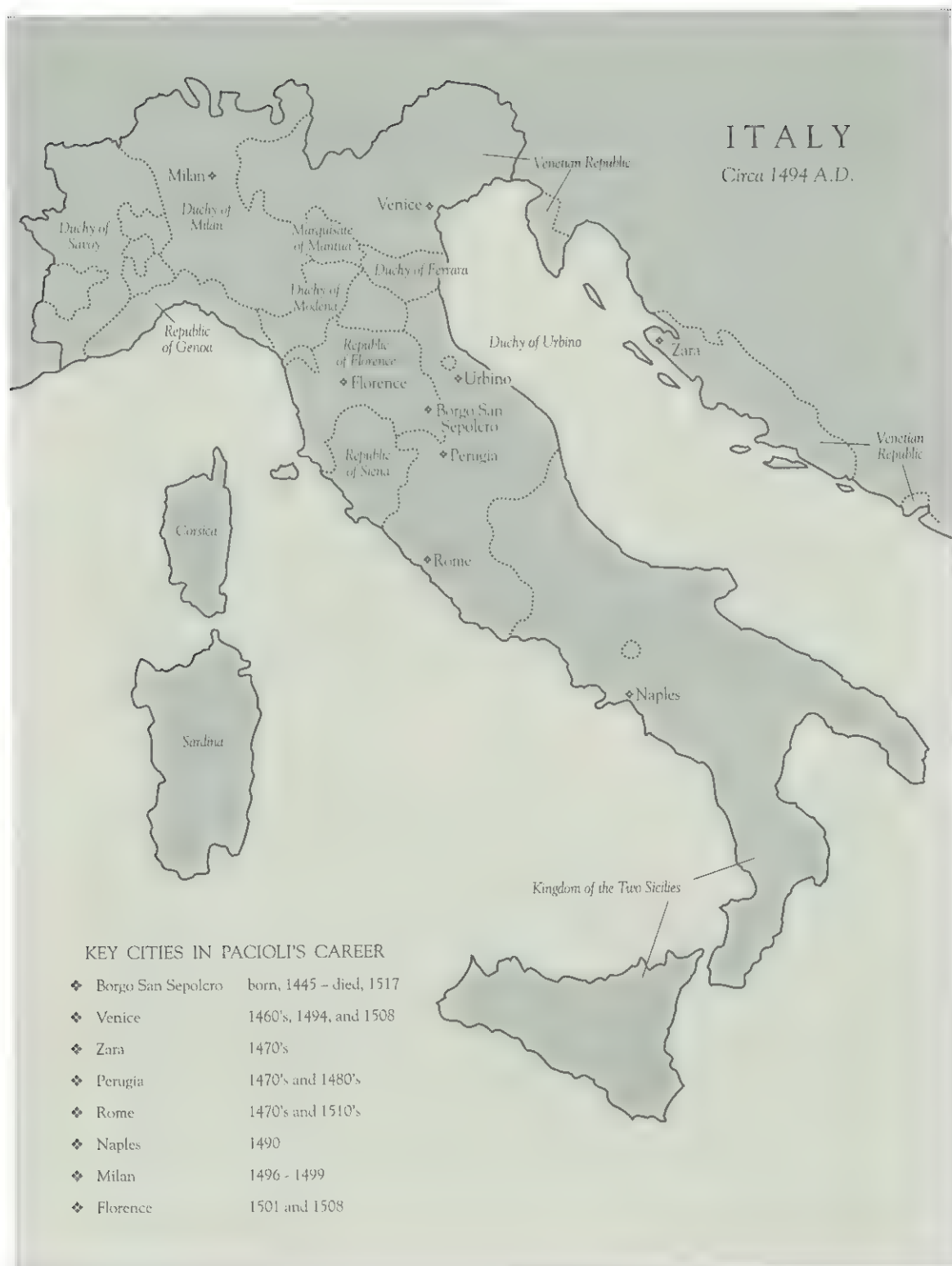
LEDGER ACCOUNT: Simone Bonbeni				
				Page B-1
				Year: 1493 AD
Date	Description	Reference	Debit	Credit
14.Nov	To: Francesco Cavalcanti	Cash-2	62	
14.Nov	By: Ludovico Forestani	Cash ⁴ -2		44
22.Nov	By: Martino Foraboschi	Cash-2		18

LEDGER ACCOUNT: Martino Foraboschi				
				Page F-1
				Year: 1493 AD
Date	Description	Reference	Debit	Credit
22.Nov	To: Simone Bonbeni	Cash-2	18	
18.Nov	By: Ludovico Forestani	F-2		18

LEDGER ACCOUNT: Francesco Cavalcanti				
				Page C-1
				Year: 1493 AD
Date	Description	Reference	Debit	Credit
12.Nov	To: Ludovico Forestani	F-2	20	
22.Nov	By: Simone Bonbeni	Cash-2		62

4. See footnote 3.

The manuscript ends.



Source: Map information on Pacioli's travels courtesy of the Institute of Chartered Accountants in Wales from their *Figures in Proportions: Art, Science and the Business Renaissance* (February 1994) by Edward A. Fennell.

Appendix 1

THE TABLE OF CONTENTS¹ OF THE PACIOLI SUMMA²

1. The Nature of Numbers; Their Measurement; How They Occur.
2. Proportion: Euclid's Principal Theorems and His Other Works.
3. Special Properties of the Number 13; the Proportions 6 and 7; Extracts from Euclid.
4. Basic Functions: Addition, Subtraction, Multiplication and Other Properties, Rotation Roots and Accumulations.
5. Mercantile Regulations and Fundamentals, with Examples; Loss Prevention and Investment.
6. Particular Methods of Multiplication and Division; Selected Roots and Products.
7. Special Rules for Catayn and its Origin.
8. Clear Proofs and Conclusions on the Number 66; Absolutely Every Case Using Rules Instead of Rumor.
9. Binomial Theory; Bases Other Than Euclid's Decimal.
10. Algebra: All the Rules and Applications for Engineering.
11. Accounting Books and Records.
12. Mathematics for Farming.
13. Mathematics for Other Professions.
14. Currency Exchange: Simple, Complex and Seasonal Rates.
15. Loans and Harmony.
16. Interest: Periods and Other Terms.
17. Remainders and the Time Value of Money.
18. About Silver Measurement: Refining and Carats.
19. Common Sequences in Various Activities.
20. Tariffs, Balances and World Trading Customs.
21. The Theory and Practice of Geometry: Fine Forms and Their Dependents.

After describing this Table of Contents, Luca Pacioli wrote that his text was divided into five principal parts as follows:

1. Numbers and the Nature of Numbers.
2. The Uses of Mathematics for Companies.
3. Rules for Reckoning and Moving Bodies.
4. General Business Applications.
5. Geometry.

1. Pacioli did not number each item; I have done so for clarity.

2. The full text of the *Summa* has yet to be translated into English. I hope that an English translation of the full text can be completed by the year 2000 AD.

Appendix 2

THE LANGUAGE OF LUCA PACIOLI

Renaissance Italian.

The Italian language is considered by many to be the most beautiful in the world. Like the Greek language, Italian is far less structured than the classical Latin of Rome. Latin is elegant, with a fixed vocabulary and grammar, and a disciplined structure and syntax. The Latin of Rome, like the Queen's English,¹ was the language of empire and the prose of government. That official language therefore spread throughout the Roman Empire. Among the upper classes, and in formal contracts, enacted legislation, speeches on major political occasions, and formal education, Classical Latin was used; it was little understood by or familiar to ordinary people. The Latin of Rome, as with the Queen's English, gave way to vernaculars all over the Roman Empire.

"Even before AD 1000, . . . Latin . . . began to find itself in approximately the same condition that it is in today: understood only by those who study it academically."² Alongside official Latin, vernaculars developed for everyday use. These vernaculars arose all over the Roman Empire and were termed neo-Latin; from them developed the Romance³ languages. Their origins remain obscure, for they developed over a long period of time.

Thus, Renaissance Latin⁴ was the product of a classical Latin that, over a long time period, gave way initially to city-state languages, and then developed nationally, following that cycle of language that seems to occur with countries devolving from empires.

Modern Italian, therefore, began to develop in cities and states and then developed a higher common vernacular.⁵ The first definitive version of that higher common vernacular is usually accorded to Dante, whom Pacioli quotes.⁶ Dante, the first major Italian poet to write in an Italian language common to all Italy, began a period of at least a century and a half of an Italian language renaissance. The result was that "in the development of a modern language, Italy showed less precocity than other European nations."⁷

The period that follows Dante, prior to the full development of modern Italian, included extraordinary writing talent: from the late fourteenth century of Petrarch and Boccaccio, through the fifteenth century of Lorenzo de' Medici and Pacioli, into the sixteenth century of Machiavelli. The final developments of modern Italian followed. The height of this development, when limitations were most

1. Named after Queen Victoria of England; also known as "the public school accent" and "BBC (British Broadcasting Corporation) English."

2. Eugenio Donadoni, *A History of Italian Literature*, Vol. 1, trans. Richard Monges (New York: New York University Press, 1969), 4ff.

3. From the Latin "*lingua romana*."

4. My term for the language of Pacioli.

5. The "*volgare illustre*"; that is, "higher common vernacular," Donadoni, 5.

6. In Chapter 4.

7. John Addington Symonds, *Italian Literature* (New York: Capricorn Books, 1964), vol. 1, 3.

explored, appears to have been during the period Pacioli wrote. Thus, his language combines classical Ciceronian words with an Italian vernacular in an extraordinarily rich exercise of individuality. I believe it is best described as Renaissance Italian.

During this period, the court at Urbino, though not perhaps as rich and fanciful as those in Milan and Florence, developed great fame for its art collections, library and grandeur. Urbino was clearly a fine stop on the route south to Rome from Venice. There, as tutor to Duke Guidobaldo's son, Pacioli wrote his work for the duke's private library. "Among private founders of libraries in the fifteenth century, mention is due to Federigo da Montefeltro, Duke of Urbino, who created there a great collection of classics, of theology, and of medieval and humanistic literature."⁸

On page 86, I have attached a map of Italy as it was in 1494 AD. The papal states were ruled by administrators of various courtly ranks, who owed allegiance to the Pope or were supported politically by one or more of the independent Italian states. The Duchy of Urbino was one of the papal states.

The year 1494 AD is important not only for the publication of *The Summa* but also because a long period of relative peace in Italy ended that year. Urbino was invaded and the Duke replaced as the balance of power in Italy shifted.

The survival of Pacioli's work, seen in this context and with the knowledge that Pacioli appears to have entered the Franciscan Order for self-sustenance and self-protection, seems remarkable. Many of the treasures of Urbino were lost in the post-1494 AD period of strife.

The language of Pacioli did not survive. His prose reflects a transitional stage in the development of modern Italian; hence, our technical inability to "translate" his work. I describe his language as Renaissance Italian. His timeless message, however, continues to delight us.

8. A. W. Ward, G. W. Prothero and Stanley Leathes, *The Cambridge Modern History* (London: Cambridge University Press), 553.

Appendix 3

THE SPELLING OF "PACIOLI"

When John Geijsbeek published his translation in 1914, he included a chapter entitled, "What was Pacioli's Real Name?" Geijsbeek listed references to Pacioli that included various spellings of his name.

At much the same time, a debate was going on in the pages of the *Accounting Review*, with scholars attempting to justify spellings other than "Pacioli." A number of authors decided that the name "Pacioli" derived from the classical Latin, *Patiolus*. If that is the case, then the "t" would have become a "c" and the "lus" might have become "lo."

While this may have been an exciting debate for academics at that time, names often change over time without adhering to grammatical rules. Over several centuries, the Latin name "Hieronymous" became "Jeremy," but the change did not follow changes in the rules of classical Latin grammar.

The facts concerning Pacioli's name are quite clear:

1. In the only book he published, *De Divina Proportione*, Luca Pacioli spelled his name "Pacioli."
2. The most authoritative researchers have all used "Pacioli."
3. Pacioli wrote in Renaissance Italian, not in classical Latin. Hence, suggestions about how he "ought" to have spelled his name are impertinent. It is, after all, his name and he spelled it "Pacioli." Those who follow several centuries later cannot know better than he.
4. A plaque was erected in Luca Pacioli's honor in 1878 in Sansepolcro and uses the spelling "Pacioli."
5. Of his five translators into English, four spell Pacioli "Pacioli." The exception, Brown and Johnston, refers to the *Accounting Review* debate (specifically, page 76 of the 1944 issue) and arbitrarily selects "Paciolo" — "to avoid confusion by adopting a uniform spelling."
6. Both the *British Library* and the Library of Congress use "Pacioli."

Appendix 4

SELECTED REFERENCES TO PACIOLI

"In pure mathematics the most eminent Italian was Luca Pacioli, one of Leonardo's few intimate friends, whose mathematical treatise, the first ever printed, appeared in 1494, forty years before that of Regiomantus."

C. W. Previte-Orton and Z. N. Brooke, eds., *The Cambridge Medieval History* (New York: The Macmillan Company, 1936), Vol. VIII, 781.

"When he was a lad, he knew, in the painter Piero della Francesca, a theorist who put his theories of perspective into practice and secured startling results."

R. Emmett Taylor, *No Royal Road* (Chapel Hill: University of North Carolina Press, 1942), 181.

"Because influences are not easily traced it does not follow that they were not present. Leonardo (Da Vinci) was in constant contact with the intellectual circles of many cities, especially Milan and Florence. He worked closely with the mathematician, Luca Pacioli, and with the anatomist, Marcantonio della Torre; and he frequented circles in which the works of fourteenth-century theorists of motion seem to have been easily accessible to him."

Peter Laven, *Renaissance Italy, 1464-1534* (New York: G.P. Putnam's Sons, 1966), 174.

"And she [Isabella d'Este] heard from her friends Leonardo da Vinci and Luca Pacioli, the great mathematician, who visited Mantua on their way to Venice."

"We know that he [Leonardo da Vinci] and his friend Luca Pacioli, who dedicated his *Book of Games* to the Marchesa de Mantua [Isabella d'Este], visited Mantua on their way to Venice at the close of 1499. It was on this occasion that Leonardo drew the beautiful portrait of Isabella, in pastels, which is now in the Louvre."

Julia Cartwright, *Isabella d'Este, Marchioness of Mantua, 1474-1539* (New York: E.P. Dutton, 1914), 155, 171.

"The work of Pacioli is worth noting. Like most others of his century he believed that mathematics is the broadest systematic learning and that it applies to the practical and spiritual life of all people."

"One of the geometric topics discussed by Durer, Leonardo, and Luca Pacioli (c. 1445 - c. 1514), an Italian monk who was a pupil of Piero della Francesca and a friend and teacher of Leonardo, was the inscription of regular polygons in circles."

Morris Kline, *Mathematical Thought from Ancient to Modern Times* (New York: Oxford University Press, 1972), 234, 236.

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1. Mentioned by both Geijsbeek and Brown and Johnston. The only available records appear to be the references and quotes included in Geijsbeek's text. The work is not included separately in the Library of Congress or the British Library.

2. Dated in Brown and Johnston, 8.

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