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Kiyoshi Inoue

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Kiyoshi Inoue
ASSOCIATE PROFESSOR
SAITAMA UNIVERSITY

THE OLDEST GERMAN BOOKKEEPING TEXT*

A Commentary to Recognize the Neglected Contribution of Grammateus to Bookkeeping

Abstract: This article brings to light the neglected contribution of Grammateus, the author of *Ayn New Kunstlich Buech* (A New Skill Book) which, although basically a mathematics text, contained a section on bookkeeping in the style of Paciolo's *Summa*. His work is analyzed to prove the technical competence and the historical nature of the bookkeeping system which he propounded. In order to substantiate the conclusions, the full translation of the first edition (1521) is included in modern English.

Some eight hundred years ago the seed of modern bookkeeping was sown in Florence, Italy. Fragments dated 1211 of the account book of a Florentine banker present the earliest known evidence of the double entry system.¹ From this time the art of bookkeeping began to bud and continued to grow in the fertile soil of commercial practice in Italy. About three hundred years later the double entry concept came to full fruition in Venice.

In 1494 an Italian monk published a book on mathematics which included 36 chapters explaining double entry bookkeeping. In his book, *Summa*, Luca Paciolo wrote "we describe the method employed in Venice."² Paciolo thus made no claim to the invention of the double entry system, but its inclusion in his book has resulted in his being generally recognized as the author of the first published double entry bookkeeping text. Benedetto Cotrugli is believed to have written the first double entry bookkeeping book in 1458. It and other hand written manuscripts seem to have circulated in the Italian city states during the 15th century. Cotrugli's book was not published until 1573 so Paciolo may claim the first published text. Hatfield wrote "it is seldom the case that a first book on a subject has so dominated its literature as was the case with Paciolo's *De Computis et Scripturis*."³

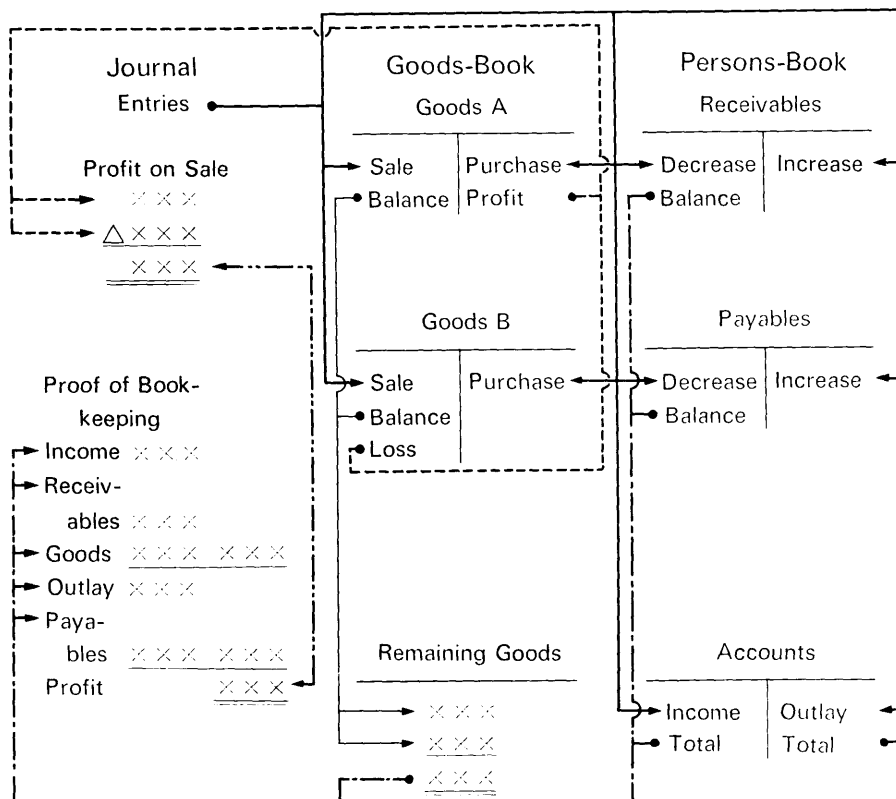
*Based upon Working Paper No. 24, The Academy of Accounting Historians. The author expresses his appreciation for the assistance of Professor A. R. Roberts of Georgia State University and Professor W. E. Stone of The University of Florida.

In 1518, some twenty-four years after Paciolo had published his book a German mathematician named Henricus Grammateus (Heinrich Schreiber in German)⁴ completed a book on mathematics at Vienna and published it at Nuremberg in 1521. This book, *Ayn New Kunstilch Buech* (A New Skill Book) devoted a section to the subject of bookkeeping. The first edition was neither paged nor divided into chapters. If it had been paged, it would consist of 248 pages of which pages 187 to 216 are concerned with bookkeeping. This book is recognized as the oldest German text on bookkeeping and, following Paciolo, the second oldest printed text in the world.

Several historians have compared Paciolo's and Grammateus' texts to the detriment of Grammateus. For example, J. R. Fogo wrote about Grammateus' book ". . . the part dealing with bookkeeping is very brief, and so confused and bad that it proves the arithmetic-master's knowledge to have been very perfunctory . . . it is extremely improbable that he himself knew much about what he was professing to teach."⁵ B. Penndorf, a German bookkeeping historian, described ". . . his bookkeeping as neither single or double; he has known Paciolo's work, but not understood. So we will perhaps have to reduce the praise that Grammateus has hitherto received to the proper extent, as J. Row Fogo has already done."⁶ These comments by Fogo and Penndorf are followed by other historians. The view that Grammateus did not understand double entry bookkeeping is still widely held.

The "Era of the Fuggers"⁷ is symbolic of the economic prosperity of Germany during the Middle Ages. Bookkeeping is a method of accounting for capital and is closely related to economic conditions.⁸ Judging from the economic sophistication that Southern Germany had attained during this period, it seems doubtful that bookkeeping methods could have been as "underdeveloped" as the above comments imply. On the contrary, the high level of economic activity should have fostered a higher development of bookkeeping methods there than in other countries.

Using this hypothesis, the author cannot accept completely the criticism that Grammateus did not understand double entry bookkeeping. A review of his system in three respects: the system of records used, the entry rules and the closing procedure, leads to the conclusion that Grammateus' method was based upon a double entry concept. With respect to the "underdeveloped" charge, he was an exponent of "periodic accounting" as opposed to the so called "lot accounting", and there was a numerical connection between the journal and ledger. These are evidences of a well developed system.



- (1) Journalizing Entries
- (2) Posting
 - Journal → Ledger (Goods-Book and Persons-Book)
- (3) Closing
 - a. Ledger (Goods-Book) → Inventory (Remaining Goods)
 - b. Ledger (Goods-Book) → Income Statement (Profit on Sale)
 - c. Inventory (Remaining Goods) and Ledger (Persons-Book) → Balance-Sheet (Proof of Bookkeeping)
- 4 Checking
 - P. L. (Profit on Sale) ↔ B. S. (Proof of Bookkeeping)

Fig. 1 FLOW-CHART OF BOOKKEEPING BY GRAMMATEUS

The flow chart of the system propounded by Grammateus (Fig. 1) in his 1521 edition discloses that periodic accounting was followed. The process is indicated by the use of a remaining goods record and a proof of bookkeeping. This and relating the journal to the ledgers with a numerical connection are approaches which were not well defined in Paciolo's work.

Simon Stevin has been given credit for introducing the annual settlement (periodic accounting) and the numerical connection in his text of 1605-1608. It is clear that Grammateus precede Stevin in both of these concepts. In addition, he explained the compound transaction as can be seen in the transaction journalization of the 7th of February on page 192 in the following translation. The introduction of the compound transaction has generally been attributed to James Peele (1569).

Grammateus' contribution in emphasizing the periodic accounting method is particularly notable. It is apparent that the lot accounting method (venture accounting) and the periodic accounting method had co-existed in the general practices of double entry bookkeeping at the beginning of the 16th century. The term "co-existed" is used since, passively, an author may not be able to discern, in a simple manner, the shift from the "lot method" to the "periodic method" as bookkeeping developed. Actively, an author may be able to recognize a homogeneous conception within both methods, and this would lead him to seek for something other than mere difference in method.

"Guided by a conception of the kinds of events that will be relevant, the historian may attempt to trace the origin and development of a particular idea or practice."⁹ In this case the underlying conception rests on the objective of bookkeeping. Simply, it was caused by a need to account for invested capital. This capital is employed to seek profits and bookkeeping must follow the activity. By itself, the amount of profit is meaningless and must be measured in relation to a time cycle of capital movement. That is, profit (or loss) must be measured as a factor of the efficiency of the use of capital as well as an absolute increase (or decrease) of capital.

To view the change from the lot method to the periodic method as simply a major event in bookkeeping history emphasizes a change in format (or technique) rather than the more fundamental function of bookkeeping to conform to social or economic change. When we recognize a homogeneous conception within both methods, we may be able to discern the difference between bookkeeping and account-

ing, not as a difference between form and procedure, but as a difference between the functions of bookkeeping and accounting as a capital calculation at different social stages.

To illustrate that periodic accounting considering the absolute amount and the time cycle for invested capital must have been of interest to merchants, the following algebraic problem was posed by Grammateus:

Three men form a company. The first man invests 60 florin and stays 12 months. The second man invests some money and stays 4 months. The third also invests some money and stays 5 months. They have gained a total of 1250 florin. The first man is given 180 florin, the second man, 780 florin, and the third man 290 florin. This is the question: how much had the second man and third man invested? (p. 144 of the 1521 edition).

Grammateus maintained that bookkeeping is, by its very nature, always periodic. It was only a short interval between the publication of Paciolo's work and the publication of his own text. However, during that interval he recognized a new importance of the periodic method and by his illustrations and explanations gave us a new light to see the history of bookkeeping and accounting. Grammateus has often been esteemed as the first German author to write on bookkeeping and the author of the text published second only to Paciolo's in the world. However, it has not been until recent times that he has been credited with being the first author to recognize and explain the increased importance of the use of periodic accounting; a concept that still governs much of accounting theory and practice today.

TRANSLATION OF GRAMMATEUS FROM MIDDLE GERMAN TO MODERN ENGLISH

The following translation into English is from the original 1521 edition,* which has fewer misprints than in later editions. It is hoped that this translation will contribute to the body of material available and lead to a better understanding of the evolution of bookkeeping.

(p. 187)

Bookkeeping with Journal, Goods-Book
and Persons-Book for All Merchants

*Source: Original edition at Germanisches Nationalmuseum, Nuremberg.

**Buechhalte durch Zornal Kap
vnd Schuldbüch auff alle kauffmanschafft**



(p. 188)

For all bookkeeping, three books are useful. The journal, where a man writes the transaction daily, word by word of everything as it occurred. The goods-book, in which a man makes an entry on two sides. On the right hand side of each goods (account) when they were "purchased." On the other side, add to the item when they were "sold." The last is the persons-book, in which outlay and income accounts are contained. Take several pages for you(r personal account). For that which you owe, write on the right side "I must pay," and on the left side "I have paid." Take several additional pages or leaves for you(rself). For the debt which a man (must) pay you, record on the right side "Must pay me," and at left side "Has paid." Toward the end leave some pages for outlay and income accounts. Write "Outlay account" at the right hand and "Income account" at the left hand, as above. Record in numbers in each of these three books as will be shown later. Draw some lines from top to bottom for the amounts on each folio. Also make an entry of the year-number before the beginning of each book. Then follow some rules, whereby (you) must note what may be generally given at the commerce of purchase and sale, (or) exchange and (p. 189) received in exchange.

(p. 189 continued)

The first rule.

When you purchased some (goods) and cash is already paid, enter the item in the journal. Turn therefrom to the goods-book and the side (designated as) "Purchased," indicate where a man would find it in the journal. Again turn to the journal, write in the margin "G" with the number of the page or leaf. Then proceed to the "outlay account," also make an entry of the item and indicate where a man would find it in the journal. Again turn to the journal, write in the margin "A" together with the number where it stands on the account.

To note much with few words.

When you turn from the journal to the goods-book, (income or outlay) account or persons-book, always write the place where it stands in the journal. And then turn to the journal, write in the margin the order where it is found in the goods-book, (income or outlay) account or persons-book.

The second rule.

When you "purchased" but did not pay, (first) turn to the goods-book, and then to the persons-book "I must pay."

The third rule.

When you "purchased" and paid part, turn to the goods-book, "outlay account" and persons-book "I must pay."

The fourth rule.

When you exchanged the equivalent for the equivalent,

(p. 190)

write on the goods-book "Sold."

The fifth rule.

And, if you received some goods on exchange then, proceed to the goods-book "Purchased."

The sixth rule.

If exchanged goods are each not equivalent in value, and a man must pay or deliver to you later, (you) must give attention to the persons-book "Must pay me."

The seventh rule.

On exchange, if you are paid part and the rest is to be paid later, (you) have to turn to the "income account" and then to the persons-book "Must pay me."

The eighth rule.

When you remain indebted on exchange, turn to the persons-book "I must pay."

The ninth rule.

When you were indebted for part on exchange and paid the rest, enter the item (paid for) on the goods-book in "outlay account" and then (enter the balance) in "I must pay" on the persons-book.

The tenth rule.

Write those (items) concerned with goods, expenses, taxes or other things in the goods-book and "outlay account," then it will be clearly seen later.

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It is necessary that you have a register of the goods which you purchased, in which a man may find the leaf in the goods-book. Also (there necessary is) a special register of the names of persons to whom you are indebted, and also who are indebted to you.

Write such items in the journal as "*Adi pri*" (on the . . . day) etc. (of . . . month), that you purchased. Also (indicate), from who, as far as necessary, how costly, and whether you paid for part or all. Also record the place and the person who had been there. Further note whether you gave bond, and many other similar item. Also it is (necessary) to know on a sale whether a man paid you part or all etc., and also on exchange etc.

Some write the items in Latin, some in Italian, but this adds nothing. Write things in the best way one can in one's language. Then I was not educated in the Italian language, and man seldom keeps the books in Latin. But it is noted that some Italian words still remain. (Words) such as *Adi*, that is "on the day," (and) *Contto* that is "account." So these are often set in this small book.

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PICTURE

Note: The same woodblock print as on p. 187 is inserted here, but without printing.

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Journal.

1521

Note: Currency and Weight in Journal
1 florin = 8 shillings or 60 groats
1 shilling = 30 pence (d.)
1 centner = 100 pounds (lb)

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	fl	sh	d.
On the first of January, I purchased			
G1*	9 barrels of Austrian wine, 20 fl. at		
*Journal references are:			
G—Goods-book			
A—(Income/Outlay) Accounts in Persons-book.			
P—(Receivables/Payables in) Persons-book.			
A3	1 barrel, paid the cash.		
	Total	180	— —
On the seventh of February,			
G1	I purchased 8 tons of herring from		
A3	Hans Schmit, at 6 fl. one ton, paid		
P1	a quarter and must pay the rest on		
	the coming Whitsuntide. So he		
	has my bond.	48	— —

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	fl	sh	d.	1
On the 20th day of February,				
G1	I exchanged 6 tons of herring,			
	at 7 fl. 1 ton. Total	42	— —	
On the same day, I received				
G1	1 centner and 68 pounds of wax,			
	at 15 gr. 1 pound. Total	42	— —	
On the first of March, I ex-				
G1	changed 1 center of wax for			
	pepper, at 30 fl. the centner. Total ..	30	— —	

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	fl	sh	d.
On the same day, I received			
G2	24 pounds of pepper in exchange,		
A3	at 5 sh. 1 pound. This made man		
	give me 15 fl. Total	15	— —
On the seventh of April, I ex-			
G2	changed 12 pounds of pepper		
	with Hans Kesler for linen, at		
	6 sh. 1 pound of pepper. Total	9	— —
On the same day, I received			
G2	2 rolls of linen in exchange from		
P2	Hans Kesler, at 3 fl. 1 roll. This		
	made him owe me, so give me 3 fl.		
	He must pay at the market of the		
	nearest Whitsuntide. Total	6	— —

G2	Sigmund Wiener 1 roll of linen at			
A3	6 sh. He paid the half and must			
P2	pay the rest within eight days			
	after the date. Total	—	6	—
	On the 27th of September, I paid			
A3	Hans Schmit 18 fl. Sirtus of			
P1	Nuremberg was there. Total	18	—	—
	On the 6th of November, Peter			
A3	Weckauf paid me 2 fl.			
P2	Total	2	—	—

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fl sh d. 4

On the 18th day of December,
I closed my accounts, and found
profit and loss as follows.

At wine profit	—	—	—
At herring profit	6	—	—
At wax profit	5	—	—
At pepper profit	1	4	—
At linen loss	—	2	—
At knives profit	1	—	—
At soap loss	1	4	—
Total profit	11	6	—

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To determine the profit or loss at each goods

Inspect at the first whether goods were sold or exchanged, all or part. If they were all sold or exchanged, put the amount that was written for them on sale or exchange. But if some of them still remain, estimate them at their purchased value and add the amount to other (sold or exchanged). And then turn to the purchase (side) and observe the amount. Thus you have two amounts, one for sale and another for purchase. Subtract one from another, loss or profit is left. If you can subtract the amount of purchase from the amount of sale, you have profit. But if you subtract the amount of sale from the amount of purchase, you have loss.

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Goods-Book.

1521

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	fl	sh	d.
Wine sold			
Herring sold			
On the 20th of Feb., exchanged, 6 tons, in journal 1. Total	42	—	—
Wax sold			
On the 1st of March, ex- changed, 1 centner, in journal 1.			
Total	30	—	—

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	fl	sh	d.	1
Wine purchased				
On the 1st of January, 9 barrels, in journal 1. Total	180	—	—	
Herring purchased				
On the 7th of February, 8 tons, in journal 1. Total	48	—	—	
Wax purchased				
On the 20th of February, 1 centner and 68 pounds in exchange, in journal 1. Total	42	—	—	

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	fl	sh	d.
Pepper sold			
On the 7th of April, exchanged, 12 pounds, in journal 2. Total	9	—	—
Linen sold			
On the 6th of May, exchanged, 1 roll, in journal 2. Total	5	—	—
On the 1st of August, one roll, in journal 4. Total	—	6	—
Knives sold			
On the last of May, exchanged, 60 pieces, in journal 3.* Total	4	—	—
Soap sold			
On the 7th of July, 20 pounds, in journal 3. Total	2	—	—

*The original is 2, but corrected in accordance with the journal.

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	fl	sh	d.	2
Pepper purchased				
On the 1st of March, 24				
pounds in exchange, in journal				
2. Total	15	—	—	
Linen purchased				
On the 7th of April, 2 rolls				
in exchange, in journal 2. Total	6	—	—	
Knives purchased				
On the 6th of May, 120 pieces				
in exchange, in journal 2. Total	6	—	—	
Soap purchased				
On the last of May, 120 pounds				
in exchange, in journal 3. Total	20	—	—	
On the 6th of June, expenses,				
in journal 3. Total	1	—	—	

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	fl	sh	d.
The remaining goods			
Wine 9 barrels. Total	180	—	—
Herring 2 tons. Total	12	—	—
Wax 68 pounds. Total	17	—	—
Pepper 12 pounds. Total	7	4	—
Knives 60 pieces. Total	3	—	—
Soap 100 pounds. Total	17	4	—
Grand Total	237	—	—

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Persons-Book.
1521

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	fl	sh	d.
I have paid			
On the 27th of September, Hans			
Schmit, in journal 4. Total	18	—	—
Balance to pay. Total	25	—	—

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	fl	sh	d.	1
I must pay				
On the 7th of Feb., Hans				

Schmit, in journal 1. Total	36	—	—
On the 6th of May, George			
Pfeil, in journal 2. Total	1	—	—
On the last of May, Hans			
Schmit, in journal 3. Total	6	—	—

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	fl	sh	d.
Has paid			
On the 6th of November, Peter			
Weckauf, in journal 4. Total	2	—	—
Balance to pay. Total	3	3	—

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	fl	sh	d.	2
Must pay me				
On the 7th day of April, Hans				
Kesler, in journal 2. Total	3	—	—	
On the 7th of July, Peter				
Weckauf, in journal 3. Total	2	—	—	
On the last of August, Sigmund				
Wiener, in journal 4. Total	—	3	—	

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	fl	sh	d.
Income account			
On the 1st of March, in			
journal 2. Total	15	—	—
On the 1st of August, in			
journal 4. Total	—	3	—
On the 6th of November, in			
journal 4. Total	2	—	—
Grand Total	17	3	—

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	fl	sh	d.	3
Outlay account				
On the first of January, in				
journal 1. Total	180	—	—	
On the seventh of Feb., in				
journal 1. Total	12	—	—	
On the last of May, in				
journal 3. Total	10	—	—	

On the 6th of June, in journal 3. Total	1	—	—
On the 27th of September, in journal 4. Total	18	—	—
Grand Total	221	—	—

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Proof of Bookkeeping

Add the income, that man is due you and the remaining goods in all. From the total amount, subtract the outlay, (and) that which you still owe. When the figure of profit remains then, it is right.

The End of Bookkeeping

FOOTNOTES

¹Original reproduced in Inoue, *Accounting History*, p. 8.²Geijsbeek, p. 33; Crivelli, p. 2; Brown and Johnston, p. 26; Kataoka, p. 47.³Hatfield, p. 6.⁴Heinrich Schreiber was born at Erfurt, Germany at the end of the 15th century. He named himself Henricus Grammateus in Greek and wrote some books in Latin under this name. In English he might have been called Henry Writer.⁵Fogo, p. 123.⁶Penndorf, p. 113.⁷Ehrenberg, p. 132 ff.⁸Inoue, "History of Bookkeeping", p. 69 ff.⁹Deinzer, p. 2.

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