
DEBATES

Doubles Entry Bookkeeping and Resident Marchants

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I

Some time ago Basil Yamey effectively attacked the assertion that double-entry bookkeeping « played an important part in releasing, activating, stimulating or accentuating the “rationalistic pursuit of unlimited profits”, an essential element in the capitalistic spirit ».¹ Recently in this JOURNAL he pursues the same lines of thought in challenging assertions that double-entry bookkeeping contributed to the transition between 1200 and 1400 from the traveling or itinerant merchant to the resident or sedentary merchant.² In challenging the association of double entry with rationalistic pursuit of profit, Professor Yamey emphasized 1) how little calculation of the rate of profit, through either balance sheets or profit-and-loss and capital accounts appears in early examples of double entry, 2) how dependent such calculations were, if useful, on information (such as inventories) not in the double-entry accounts, and 3) how successfully these calculations could be made without double entry. In regard to the control by stay-at-home merchants over agents overseas Professor Yames somewhat similarly argues that double entry as such made no contribution.

A purely negative approach seems likely to deaden what little survives of the interest in the history of accounting stimulated by the exaggerations of Werner Sombart. Although loose use of the tag “double-entry” is open to criticism, conflict sparked by use of that term invites further analysis of the

¹ BASIL S. YAMEY, *Accounting and the Rise of Capitalism: Further Notes on a Theme by Sombart*, in « Studi in onore di Amintore Fanfani », VI, 833.

² B. S. YAMEY, *Notes on Double-Entry Bookkeeping and Economic Progress*, in « The Journal of European Economic History », IV, 3 (Winter, 1975), 717-723.

role of accounting in the genesis of capitalism. Aside from its direct psychological connections with the "spirit of capitalism", accounting as a tool of management played a role in changing the structure of business organization. The aim of this note is to examine one aspect of that role.

The changes in commercial methods and business organization between 1200 and 1400 are widely recognized. They were characterized by Raymond de Roover as the Commercial Revolution of the Thirteenth Century. Although the term "Commercial Revolution" had been traditionally applied to the oceanic expansion of commerce which preceded the "industrial revolution",³ and is presently being applied, as by Robert Lopez, to the more profound social changes attendant on the expansion of commerce within western Europe in the eleventh and twelfth centuries,⁴ a good argument can be made for applying it also to the changes of the late thirteenth and early fourteenth centuries, at least if it is used in such a way as to make clear that the "revolution" referred to was not a basic change in social structure like that which had occurred in western Europe in the eleventh and twelfth centuries, but was a "revolution" within commercial practices. It was a change within business organization which Professor N.S.B. Gras characterized as the emergence of commercial capitalism out of petty capitalism and the displacement of traveling merchants by sedentary merchants, as suggested by Benjamin Kedar's snappy title: « From the Poop to the Desk ».⁵ Raymond de Roover summed up the concept neatly: ⁶

"By a commercial revolution I understand a complete or drastic change in the methods of doing business or in the organization of business enterprise just as an industrial revolution means a complete change in the methods of production, for example, the introduction of power-driven machinery. The commercial revolution marks the beginning of mercantile or commercial capitalism, while the industrial revolution marks the end of it".

³ For example, HARRY ELMER BARNES, in *Economic History of the Western World* (New York: Harcourt Brace, 1942), p. 229.

⁴ Initially in *The Cambridge Economic History of Europe*, Vol. II (Cambridge, 1952), p. 289, more recently in ROBERTO S. LOPEZ, *La rivoluzione commerciale del medioevo* (Turin: Einaudi, 1975). An earlier label, « The Revival of Commerce », implied a view of « the dark ages » no longer acceptable in 1952.

⁵ N. S. B. GRAS, *Business and Capitalism* (New York, Crofts, 1939), chap. III and *Capitalism — Concepts and History*, in « Enterprise and Secular Change: Readings in Economic History », Frederic C. Lane and Jelle C. Riemersma, eds. (Homewood, Illinois: Irwin, 1953), pp. 72-75, reprints from « Bulletin of the Business Historical Society », XVI (1942), 21-34. BENJAMIN Z. KEDAR, *Merchants in Crisis: Genoese and Venetian Men of Affairs in the Fourteenth-Century Depression* (New Haven and London: Yale University Press, 1976), chapter 2.

⁶ RAYMOND DE ROOVER, *The Commercial Revolution of the Thirteenth Century* in the above cited « Bulletin », pp. 34-39, and in the above cited « Readings », p. 80. Compare R. DE ROOVER'S chapter in *The Cambridge Economic History of Europe*, vol. III (Cambridge: the University Press, 1963), pp. 40-46, 70-74; and YVES RENOUARD, *Les Hommes d'affaires italiens du moyen âge* (Paris: Colin, 1949), pp. 173-176.

Among five new techniques which Raymond de Roover listed as causes of the new forms of business organization one was improved bookkeeping. « Good methods of bookkeeping were essential », he wrote, « in order to keep accounts straight when two persons, residing in different cities, had numerous dealings with each other ».⁷ The latter part of this essay will consider whether the "good methods" were "real double-entry" and whether, if so, their being double entry was what made them good. But lest the discussion seem concerned merely with the meanings of a technical term, it seems better to focus first on some aspect of the way merchants kept and used their accounts.

II

The kind of accounting fully illustrated in the books of Venetian merchants of the early fifteenth century is called venture accounting because it showed the profit or loss on each investment or "venture" separately. It recorded commercial investments through merchandise accounts which were debited for wares purchased or received from agents overseas. It recorded financial ventures in bills of exchange through exchange accounts. Moreover, it used "viaggio" or shipment accounts which were debited for wares to a specified place and agent, the appropriate merchandise account being then credited for the same amount. The sum realized from the shipment was credited to the voyage account and debited to the personal account of the agent. The voyage accounts was then closed through a profit-and-loss. The agent's personal account was closed by crediting him for return shipments or remittances.⁸

This venture system of double-entry bookkeeping forms one basis for such claims for the value of double-entry as my assertion: « This way of grouping and checking the records of every transaction made it easier for a resident merchant to keep track accurately of what his partners or agents were doing ». Yamey says that such claims and those similarly made by Hermann Kellenbenz « cannot stand up to examination ». He objects that a system of bookkeeping gives a merchant no independent information about what partners or agents abroad are doing, he is dependent on them for information about their disposal of the assets entrusted to them, the soundness of outstanding debts, and the acquisition of assets on the merchant's behalf. He concludes « The particular system of accounts he adopts makes no contribution here ».⁹

⁷ In the above cited « Readings », p. 81.

⁸ FREDERIC C. LANE, *Venture Accounting in Medieval Business Management in Venice and History: The Collected Papers of Frederic C. Lane* (Baltimore, Johns Hopkins Press, 1966), pp. 99-108, reprinted from « Bulletin of The Business Historical Society », XIX (1945), 164-72.

⁹ YAMEY, *Notes*, in « Journal of European Economic History », IV (1975), 718.

I readily grant that a merchant resident in Venice was dependent on the overseas agent for knowledge of the prices at which his shipment had been sold, and the prices paid for the commodity sent back in return; but having from his agent a balanced account with precise figures for specified items of expense or receipt, he could compare his agents' reports one with another and with the reports of other agents. That assumes, of course, as was stated on the same page with the sentence to which Yamey objects that « a constant stream of letters » made a merchant in Venice... sufficiently well informed about prices so that he could send instructions to his agent and check up afterwards to see how advantageously his agent had traded for him ».¹⁰ Merchant manuals advising on standardized charges should also be mentioned. Venture accounting did not prevent an agent or partner from reporting falsely on prices and expenses, but neither have modern methods used by big accounting firms of high reputation prevented falsified inventories. Even if the Certified Public Accountants did not look into the tanks to see if the salad oil was really there, or check the weight of the steel reported as shipped or delivered to the shipyards, that does not prove that accounting makes no contribution to modern business management.

Cannot an accounting system be said to make a contribution if it focuses attention on what needs to be checked from sources not in the accounts themselves? In that way it may reveal not only simple mathematical errors and omissions but discrepancies, inconsistencies, and falsifications. The kind of venture accounting used in fifteenth-century Venice seems to me to have served these purposes, and those more familiar with Tuscan partnership accounting indicate that their accounting did also.¹¹ Accepting Yamey's statement that: « The efficacy of the merchant's control over his distant factors depends, in turn, on his success in his choice of factors, the training he gives them and the sanctions he is able to apply *ex post facto* », ¹² I will try to show how the accounting used by the Venetians contributed to the training of factors, choosing among them, and applying sanctions against them.

In regard to the training of young merchants at Venice we know little except that it involved working under older men, chiefly relatives, voyaging, and attending schools "of the abacus" which taught accounting as well as arithmetic.¹³ Judging from the results, many stylistic practices in keeping accounts were standardized by the early fifteenth century. Voyage accounts and merchandise accounts were used in standardized ways, while there was

¹⁰ FREDERIC C. LANE, *Venice, a Maritime Republic* (Baltimore: Johns Hopkins University Press, 1973), p. 140.

¹¹ FEDERIGO MELIS, *Aspetti della vita economica medievale (Studi dell'Archivio Datini di Prato)*, I (Firenze: Olschki, 1962), p. 452 and see here below, notes 35, 41.

¹² YAMEY, *Notes*, p. 718.

¹³ On the education of merchants generally see ARMANDO SAPORI, *La cultura del mercante medievale italiano* in his *Studi di storia economica medievale* (2nd ed. Florence: Sansoni, 1946), pp. 297-310.

more variation in use of profit and loss accounts, expense accounts and accrued income accounts. But the similarities between the early fifteenth-century ledgers of Andrea Barbarigo, Jacomo Badoer and some other Venetian merchants indicate a high degree of standardization in those accounts most useful in handling agents, namely: Viaggio Accounts which recorded shipments out, Merchandise Accounts which recorded shipments received, and the personal accounts of the agents or partners sending and receiving.¹⁴ Whether the consignee was a full partner or the contributor of labour in a *Collegantia* (*commenda*), or a commission agent paid a percentage of the turnover he handled, the form used in accounting for shipments received and sent was much the same.

Venture accounting was especially well adapted to managing commission agents (who generally received 2 percent on sales, 1 percent on purchases) and it fitted also the needs of such agents. In the Barbarigo and Badoer ledgers, accounts of the men they used as commission agents are prominent and so are the accounts, especially in Badoer's ledger, which record his own activities as a commission agent. Their ledgers illustrate the frequency with which the man who was the principal in one transaction was the agent in another. For one set of transactions he kept accounts from the one point of view, for another set from the other point of view. Within the Venetian circle to which both the principal and the agent belonged there was « a commonly known "language" of accounting ».¹⁵

Each knew what ought to be in the other's books concerning a transaction in which both were involved. Both used the arrangement of debits and credits in parallel columns, debits left, credits right, and clarified the duality of entries by cross references to the matching debit or credit for each

¹⁴ For a general view of these books and the bibliography concerning them see RAYMOND DE ROOVER, *The Development of Accounting Prior to Luca Pacioli according to the Account books of Medieval Merchants* in RAYMOND DE ROOVER, *Business, Banking and Economic Thought in Late Medieval and Early Modern Europe*, ed. by Julius Kirschner (Chicago: University of Chicago Press, 1974), pp. 161-164, reprinted from: « Studies in the History of Accounting », eds. A. C. Littleton and B. S. Yamey (London: Sweet and Maxwell, 1956). Also TOMMASO ZERBI, *Le origini della partita doppia: Gestioni aziendali e situazioni di mercato nei secoli xiv e xv* (Milan: Marzorati, 1952), pp. 369-412. Extracts from the Sorenzo and Barbarigo books are presented in SALVATORE SASSI, *Sulle scritture di due aziende mercantili veneziane del Quattrocento* (Naples: Arti Grafiche La Novissima, s.d.) and, with expert explanations, in FEDERIGO MELIS, *Documenti per la storia economica dei secoli xiii-xvi*, Istituto Internazionale di Storia Economica "F. Datini", Prato. Pubblicazioni, Serie I Documenti (Florence: Olschki, 1972) documents 137, 138. On the Badoer ledger, see note 17 below. Some earlier books and a quaderno of a Giustinian fraterna, 1417-26, are mentioned by REINHOLD C. MUELLER, *The Role of Bank Money in Venice, 1300-1500*, a paper presented at the Settima Settimana di Studi at Prato, 1975.

¹⁵ Although YAMEY (*Notes*, p. 722) concludes that there was no « commonly known "language" » of accounting among sixteenth-century English merchants, the evidence concerning fifteenth-century Venice suggests that such a language did exist there.

entry. Both used venture accounts. The double entries they used in balancing them facilitated integrating the results reported by the agent into the systems of accounts used in the ledger of the principal. When handling wares for a correspondent, the consignee opened a merchandise account for each shipment received. It was credited for sums due from sales, debited for expenses, and balanced by debiting it for a "trato neto". The agent entered the trato neto as a credit on the account of the man from whom or on whose account the shipment was received or according to his instructions. It was part of the agent's functions to send the principal a copy of the merchandise account, as was clearly specified later in Jan Ympyn's Paciolan treatise quoted by Yamey.¹⁶ The principal then credits his appropriate shipment account for the amount of the trato neto, debiting the agent for the same amount. The detail on the merchandise accounts which the agent had opened for the wares received gave the principal much information which he could mull over in deciding whether he had chosen his agent wisely or should shift to another.

For example, Giacomo Badoer in Constantinople opened a Wine of Messina account for the 160 to 169 botti of wine of which one quarter belonged to the ship master who brought it, Todaro Vatazi of Messina, and three quarters to Piero Michiel and Marin Barbo of Venice.¹⁷ The first seven debit items, dated 20 August, are for expenses of a kind which the principals, even Michiel and Barbo who presumably were in Venice, could check, namely: 1) the tax per botte due to the bailo, 2) cost of transporting to a storeroom, 3) the fee to an appraiser (wine taster ?) at the sale, 4) the broker's fee, 5) the freight per botte, 6) the tax to the Greek emperor, 7) Badoers's commission, inclusive, he noted, of the wage he paid the youth in the warehouse. Whether Badoer actually paid out exactly the amounts listed can be doubted; there are some indications in his books that he sometimes satisfied creditors by various devices such as paying them in bad wine figured at a special price. But the expenses listed were those which he had a right to charge, they being the legal or going rates. And these legal or going rates were fairly well known to merchants resident in

¹⁶ *Ibid.*, p. 723.

¹⁷ GIACOMO BADOER, *Il libro dei conti* (Costantinopoli, 1436-1440), testo a cura di Umberto Dorini e Tommaso Bertelé, in « Il Nuovo Ramusio, Raccolta di viaggi, testi e documenti relative ai rapporti fra l'Europa e l'Oriente » a cura dell'Istituto Italiano per il Medio ed Estremo Oriente, III (Rome: Libreria dello Stato, 1956), carte 98, 132. The ledger as a whole is described in TOMMASO BERTELÉ, *Il libro dei conti di Giacomo Badoer*, « Byzantion », XXI (1951), 126-29. On Badoer's general activity and the dozens of Venetian nobles with whom he had business see GINO LUZZATTO, *Storia economica di Venezia dall'xi al xvi secolo* (Venezia: Centro Internazionale delle Arti e del Costume, 1961), pp. 172-179; On legal aspects, G. ASTUTI, *Le forme giuridiche delle attività mercantili nel libro dei conti di Giacomo Badoer (1436-1440)* in « Annali di storia del diritto », XI-XII (1968-69), 69-85.

Venice, not only through a constant stream of letters but also through merchants' notebooks or manuals. Pegolotti's is the best known of such manuals, but many of various degrees of completeness were compiled, not only in Tuscany and Genoa, but also in Venice.¹⁸ Indeed some of the very earliest examples are Venetian. The charge for freight from Messina to Constantinople was presumably variable but the charge in this case could be checked through the shipmaster who had a variety of other dealings with Michiel and Barbo.

The credits on this wine of Messina account, 28 August through 4 November, records its disposal in 22 small sales and one big sale of 87 botti giving in each case the amount and the price per "zentener" and various terms of payment. A couple of entries account for a few botti of spoiled wine. Credits totaled 2867 perperi, 3 karati. Deducting from that the total of debts for the expenses mentioned — 1210 perperi, 19 karati — left 1656 perperi, 8 karati, which was the *trato neto*, balancing the wine account.

Three quarters of this *trato neto* from the wine was entered as a credit on the account, not of Michiel and Barbo, but of a Messinese merchant to whom Badoer had been instructed by Michiel and Barbo to make payments on their behalf. The other one quarter was paid similarly as directed by the shipmaster, Todaro Vatazi. In both cases the credits to those accounts were set against debits from other transactions. For example, the merchant in Messina, named Nofrio da Chalzi, was debited on Badoer's books for shipments Badoer had made to him of pepper and slaves.¹⁹

Before examining the utility of Venetian venture accounting in keeping track of such offsetting, let us consider how the commodity account which Badoer kept as a commission agent, and which was of the kind that was standard practice, could have contributed to the control of an overseas agent by a merchant resident in Venice. After a year or two of receiving such accounts of the returns from his shipments out and of the cost of return shipments, the resident merchant could check:

- 1) The arithmetic of the agent.
- 2) Whether he had added expenses of handling beyond what was customary, as compiled in manuals.
- 3) Whether the freight was the amount actually paid.²⁰

¹⁸ Similar charges are mentioned in FRANCESCO BALDUCCI PEGOLOTTI, *La pratica della Mercatura*, ed. Allan Evans (Cambridge, Mass.: Medieval Academy of America, 1936), pp. 46-47. On other manuals see UGO TUCCI, *Le tariffe veneziane e i libri toscani di mercatura* in « Studi Veneziani », X (1968), pp. 65-108.

¹⁹ In *Libro dei conti*, carte 97, 98, 117, 130.

²⁰ On « regulated voyages » of Venetian ships, freight rates were fixed by the Senate and were common knowledge. FREDERIC C. LANE, *Merchant Galleys, 1300-1334: Private and Communal Operation in Venice and History*, pp. 196-208; IDEM, *Navires*

4) Whether the prices of sale or purchase in the market were above or below those at which other merchants at the same place overseas had been able to buy or sell at that time.

If the discrepancies in these regards were minor, they might still be taken into consideration by the resident merchant in deciding whether to give more business to that agent or pick a different one, whether or not to renew a partnership, etc. If he found grave errors or inconsistencies within the agent's reports, or between those reports and the other news which he picked up on the Rialto and in letters from correspondents, he might take legal action against the agent. In that case the account books became a vital part of the evidence. The agent could be called on to produce books to disprove charges against him.

Examples of how a merchant resident in Venice could check on what agents overseas were doing with his commissions are furnished in the books and letters of Andrea Barbarigo. When he went to law, letters and accounts both served to establish his case and even when he did not go to law, his discontent with an agent, although it was based mainly on the agent's exercise of his choices within his legal rights but in ways that denied Barbarigo expected profits, roused Barbarigo to go over such items as those Badoer listed in the above analyzed wine account. Barbarigo then accused his agent, who was buying cotton in Palestine, of exaggerating the dues paid the local consulate, of not accounting for the full yardage of the cloth that had been sent him, of not stating accurately the weight of shipments made, and of deducting for wastage although there could have been no wastage. He also contrasted the prices which the agent himself had reported in earlier letters with the higher prices his accounts showed he had paid for cotton.²¹ The accounts were only one element used in this kind of checking, but they made a contribution.

The way the accounts were organized was also important in keeping track of the return payment, or, to put it in more inclusive but more realistic terms, in keeping track of all the obligations incurred or claims created, that is, all the debits and credits to personal accounts created by the series

et Constructeurs à Venise pendant la Renaissance, Ecole Pratique des Hautes Etudes - VI Section, Centre de Recherches Historiques, Oeuvres Etrangères, V (Paris: S.E.V.P.E.N., 1965), p. 257. IDEM, *Progrès technologiques et productivité dans les transports maritimes de la fin du Moyen Age au début des Temps Modernes*, in « Revue historique », 510 (Avril-Juin, 1974), p. 301, n. 3. Even on a shipment from Constantinople to Beirut on a Cretan ship (nave) Jacomo Badoer felt able to spot an overcharge reported by a correspondent in Beirut. He added his correction as a debit on the agent's account. BADOER, *Il libro*, carte 291, 350, 351. Even when the consignee paid the freight, the shipper would in many cases have known what the consignee should have paid, either because the shipper had negotiated with the shipmaster on whose vessel he loaded or because he heard of the rate charged other shippers. So many shipments were jointly owned that rates must have been widely reported.

of transactions. "Return payment" is in many cases hard to identify.²² "Payment" often consisted in crediting someone to whom the principal was indebted. The debt may have originated from entirely independent ventures. They may have been joint ventures with third (or fourth and fifth) parties. In the case of the wine that Badoer sold as commission agent, three-fourths of his payment took the form of crediting the account of Nofrio da Chalzi. One large item on the debit side of Chalzi's account was the cost of a shipment of copper which Badoer had made or was making on Chalzi's order. The copper was sent to Luca and Andrea Vendramin (the later doge) but for whose account Badoer did not know (« de che chi raxion el sia non 'l so »).²³ Other entries in Badoer's books show that Chalzi participated in many other joint ventures with Piero Michiel and Marin Barbo. At the same time Jacomo's brother Jeronimo in Venice was making investments in Jacomo's name in the « chompagnie che avemo chon Miser Piero Michiel e Ser Marin Barbo ».²⁴ For any merchant dealing in this maze of relationships, entering a debit and a credit for each transaction, with cross references between them, must have been a help in keeping track of his obligations and of accounts receivable.

III

But, it may be objected, what does this have to do with « double entry »? The answer depends on what is meant by double entry. Experts have given various definitions. Federigo Melis went to one extreme. His definition assumed the existence of the business enterprise as an independent profit-seeking enterprise, "independent" in that the profits and assets of the enterprise were calculated as distinct from the income or assets of individual persons. « Having explained the roots of double-entry », he wrote, « I feel justified in defining it as the accounting method that is based on the two aspects — analytical and unitary — of the wealth active in the business, from which arises two series of accounting entries, in which every operation

²¹ FREDERIC C. LANE, *Andrea Barbarigo, Merchant of Venice, 1418-1449* (Baltimore, Johns Hopkins Press, 1944, reprint: Octogan Press, 1967), pp. 98, 105-112.

²² As is illustrated in my attempt to trace through his accounts the payments received by Andrea Barbarigo for the shipment he received from England in 1441 so as to receive a new large shipment in 1443. See my *Ritmo e rapidità di giro d'affari nel commercio veneziano del Quattrocento*, in « Studi in onore di Gino Luzzatto » (Milan: Giuffrè, 1950), I, 262-268, translated in my *Venice and History*, pp. 118-125.

²³ BADOER, *Il libro dei conti*, carta 142. Commenting on the election of Doge Andrea Vandremmin in 1476, Domenico Malipiero wrote: « L'è stà gran marcadante in zoventù; e quando l'era in fraterna con Luca, i soleva fare el cargho d'una galia e meza in do per Alessandria: e ha havuto molti fattori che ha fatto facultà con le so facenda; ... », *Annali veneti dell'anno 1457 al 1500*, ed. Tommaso Gar and A. Sagredo in « Archivio storico italiano », ser. I, vol. VII (Florence, 1844), p. 666.

²⁴ BADOER, *Il libro*, carte 164, 270, 295, 306, 317.

is invariably registered with entries of equal value having the antithetical labels debit and credit...»²⁵ He did not regard any particular arrangement of entries as essential but did consider essential a set of accounts which recorded all changes in the value of what the firm possessed, including changes in the value of its equipment. A capital account was not essential in his view, so long as the profit-and-loss account was consistently used and combined with other accounts to produce balance sheets which took the place of a capital account in showing the growth or decline of assets in a given period.²⁶

At the other extreme is the view of Japanese scholars who have the benefit of what might be called an outsider's view of the semantic problem. Wasaburo Kimura makes a point of distinguishing between "Double-Entry Bookkeeping" and "Business Bookkeeping". «The former is the mere reckoning form and the super-historical and technical concept. But the latter is the substantial, historical and economical concept on the basis of the recorded matters of the enterprise».²⁷ He particularizes the distinction by quoting as misleading a definition given by W.A. Paton in 1922, which is much like that of Federigo Melis: «The double-entry system is any scheme of accounting which exhibits all the property and equity facts of the business enterprise and registers, at least periodically, the changes therein». To this, Professor Kimura objects that «...it is not right to explain its essence in terms of economic meaning such as property, capital, profit and loss... Absolutely, the essential character of double-entry bookkeeping is only a form of recording and reckoning». What characterizes this form is the division of a page into a left-hand (debit) side and a right-hand (credit) side, and the balance of the debit and credit side of each account. «The accounting form is the mere reckoning form and does not have any economic meaning in itself».²⁸

B.S. Yames takes an intermediate position which I judge to be practically the same as that staked out by Raymond de Roover and recently clearly applied by Florence Edler de Roover. They consider the duality of entries linked by cross references as a prerequisite but consider bookkeeping not an example of double-entry unless it provides for balancing all accounts. Balancing merchandise accounts requires a profit-and-loss account, and balancing a profit-and-loss account requires a capital account. At least,

²⁵ MELIS, *Documenti* (cited above in note 14), p. 57.

²⁶ *Ibid.*, pp. 49-58. In his *Aspetti* (cited above in note 11), pp. 391-403, Melis presented a sweeping general view of the nature and development of double entry, with critical comments on interpretations by Zerbi and de Roover.

²⁷ WASABURO KIMURA, *Double-Entry Bookkeeping and Business Bookkeeping*, in «Historical Studies of Double-Entry Bookkeeping (English Summary)», ed. Osamu Kojima (Kyoto: Daigakudo Shoten Limited, 1975), p. 259. Translation into English by the Editor.

²⁸ *Ibid.*, p. 260.

accounts which have these functions are essential although they may have different names.²⁹

Tommaso Zerbi's position is similar but he emphasizes that double entry developed out of the form in which the duality of entries was arranged in the early Lombard accounting, which he calls the "sistema tabulare", and which he treats as a prerequisite.³⁰ He hailed the ledger of 1395 of the Lombard merchant Marco Serrainerio's Catalan company as « the oldest example yet discovered of the complete application of double entry to the returns of a commercial enterprise », and said that the Venetians who composed the Soranzo, Barbarigo and Badoer books showed « secure mastery of the techniques of double entry ».³¹

Melis in contrast considered those Lombard and Venetian ledgers only a « lame form of double entry » at best, but finds the full use of double entry in Tuscany already at the very beginning of the fourteenth century.³²

Faced with this diversity, the student of social and economic history may be pardoned for avoiding a black and white distinction and describing account books as more or less in double entry. As a practical matter, in research, he may regard any accounts with duality of entry as being an elementary form of double-entry. Duality of entry being, as Raymond de Roover said, « not just a formal matter », but corresponding « to a fundamental reality », could well have evolved out of varying antecedents.³³

²⁹ YAMEY, *Notes*, p. 722; RAYMOND DE ROOVER, *The Development of Accounting*, in *Business, Banking . . .*, pp. 119, 130, 132. The standard is clearly stated and applied in Florence EDLER DE ROOVER, *Andrea Bianchi, Florentine Silk Manufacturer and Merchant in the Fifteenth Century*, in « *Studies in Medieval and Renaissance History* », vol. III, ed. by William M. Bowsky (Lincoln, Nebraska: University of Nebraska Press, 1966), p. 236. She says of Bianchi's books, « The ledgers and libri segreti are kept in bilateral form; that is, the debits and credits of each account are on facing pages. Usually the entries give a cross-reference to another page in the ledger — in the quaderno di cassa or in one of the auxiliary books. However, there are no accounts for operating results . . . Profits were not determined by balancing and closing the books but by the more laborious process of deducting liabilities and initial investment from assets (receivables, cash, and inventories of raw materials, goods in process, and finished products ». By this analysis she justifies her judgment: « Andrea Bianchi did not use double entry bookkeeping ».

³⁰ ZERBI, *Origini*, pp. 14-17, 29, 42-51, 67.

³¹ *Ibid.*, pp. 236, 376, 378, 412.

³² MELIS, *Aspetti*, pp. 399-400; IDEM, *Documenti*, p. 59. His reasons for calling them only a limping or rickety (zoppicante) kind of double entry stresses their failure to separate from household expenses a record of the expenditure on the equipment of the firm and to count the depreciated value of such equipment among its assets.

³³ RAYMOND DE ROOVER, *New Perspective in the History of Accounting*, « *The Accounting Review* », XXX (1955), p. 412, in a general critique of the discoveries and judgments of Melis and Zerbi. In his chapter in the *Cambridge Economic History*, III, Raymond de Roover, after using "double-entry" in a broad undefined sense on p. 91, defined it restrictively on p. 92 in a way which treats the « bilateral or "tabular" form » as of « little importance » and stresses the ascertaining of profit or loss.

Once launched into double-entry, merchants saw advantages in developing it. Benefits that might have been gained from well organized systems of single entry, as Yamey insists, were in fact realized through the development of double entry. It embodied principles of growth. As Yamey himself has written: «... the merit of the double entry system lies in its comprehensiveness and its possibilities for the orderly arrangement of data. In a sense the adoption of the system compels a certain degree of comprehensiveness and orderliness because, as every schoolboy knows, for every debit there must be a credit». This merit applied, he specified, not to its use in analyzing entrepreneurial innovations, but in « routine administration and the control of assets ».³⁴

Necessary preliminary and imaginative steps towards comprehensiveness were the personifications of the cash box and then of particular kinds or lots of merchandise, the personification that were implied in writing « Cash box should give (Cassa d' dare) » and « Cash box should receive (cassa de avere) » and then « Wine should give » and « Wine should have » or « Wine has given ». The merchandise accounts thus created could be balanced only by some method of computing profits and losses, whereas in contrast the personal accounts were all self-balancing (unless there were errors or bad debts). Merchandise accounts were crucial in making double entry useful for the calculation of profit and losses.

That double-entry had developed to this extent before 1340 has long been well known through accounts of the Comune of Genoa where one finds, for example, a pepper account balanced through a profit-and-loss account. By that time the lines of development in Tuscany on the one hand, and Lombardy and Venice on the other, were already diverging. Tuscan business accounting focused primarily on the needs of partnerships which were legally short-lived to calculate profits during a specified period and distribute them among the partners according to the terms of the partnership. Tuscan accounting distinguished between the capital of the partnership as an abstract entity, the firm or business (Azienda) and the personal wealth of the partners. It furnished materials for periodic balance sheets of the firm. Venetian account books on the other hand refined and expanded venture accounting. To merchandise accounts they added shipment or "viaggi" accounts to record more analytically the results of shipments for sale through agents.³⁵ They similarly recorded investments in temporary partnerships of

³⁴ YAMEY, *Accounting*, in « Studi ... Fanfani », VI, 854.

³⁵ From a Venetian point of view one is tempted to identify venture accounting with the use of "viaggio" accounts, but it may be defined more broadly and correctly as the « opening of a separate account for each venture » as by RAYMOND DE ROOVER, *Rise and Decline of the Medici Bank, 1397-1494* (Cambridge, Mass., 1963), p. 148. He describes merchandise accounts of the Medici in chapter VII.

Neither the Datini firm nor the Catalan company of Marco Serrainerio used viaggio accounts. In Datini's centrally controlled organization, the full record of ship-

limited scope, such as for the chartering and operation of a galley for a specific voyage. Such joint ventures were registered in the books of investors much as was the ownership of shares in jointly owned merchandise.³⁶ The Venetian books record the profits and losses on the various investments without any concern with assigning profits and losses to specified periods of time. None as yet discovered and studied record the capital and profits (or losses) of a general, terminal partnership as distinct from the wealth and income of the partners, although some such partnerships seem to have existed in Venice.³⁷ The theoretical treatises of the sixteenth century provide examples of closing books within a short period only by depicting unrealistic

ments was distributed through many interconnected books. When goods which had been bought for shipment were shipped, the costs, which had been debited to a merchandise account, were debited to the branch to which the merchandise was shipped (MELIS, *Aspetti*, pp. 387, 435-451); or else, as in a joint venture for sending cloth from Pisa to Palermo, the merchandise account, after being debited for the costs, was credited for the sums received from the sales in Palermo, sales made by the participant in the joint venture. The merchandise account was closed by figuring the profit, of which half was entered as a credit on the account of the joint owner. See Document 127 in FEDERIGO MELIS, *Documenti*. The page reproduced is probably a good example of a bit of accounting which would be considered "double-entry" by Melis but not by Kojima.

Similarly in the ledger of the Catalan company of Serrainerio, merchandise accounts were debited not only for costs of acquiring the commodity but also the costs of shipping them. They were credited with the sums due from the sales of the merchandise with corresponding debits to the account of the agent, who was debited also for costs incurred by a transmitting agent along the way. TOMMASO ZERBI, *Il mastro a partita doppia di una azienda mercantile del Trecento*, Università Commerciale L. Bocconi: Istituto di Ricerche Tecnico Commerciali (Como, 1936), pp. 70, 72-3, 122-3; *INDEM, Origini*, 26, 135, 251. When a loss was incurred on a shipment of fustian, the account of the agent, a brother, was credited, while profit-and-loss was debited. When gain was made on a shipment of lead, the agent was debited and profit-and-loss credited. *Ibid.*, pp. 256-57. In some cases the agent was debited for the cost of the wares shipped, the corresponding credit being to the merchandise account. ZERBI'S *Origini*, pp. 262-4, notes the disadvantages of the heterogeneity of the entries on the agents' accounts.

³⁶ As shown by entries in the sixteenth century Journal of Lorenzo Priuli quoted in notes to my *Family Partnerships and Joint Ventures*, « Journal of Economic History », IV (1944) and reprinted in *Venice and History*, pp. 47, 48, 50. See *ibid.*, pp. 44-45 on the characterization of most Venetian partnerships as joint ventures, in contrast to the Tuscan terminal partnerships. In these Venetian joint ventures, the rights and obligations of the partners were limited by reference to some particular thing, such as: (a) specified merchandise, or (b) a ship or shipping charter, or (c) a loan or contract for farming taxes.

³⁷ Zerbi shows, however, *Origini*, pp. 406-612, that Badoer treated his activity in Constantinople as an accounting entity distinct from the rest of his wealth and income. Books recording separately the assets and operations of companies that were subsidiaries or affiliates of the Pisani brothers in 1528 are implied by entries in a book compiled by executors of Almorò Pisani. LANE, *Family Partnerships*, pp. 39-44.

operations.³⁸ Because of the way Venetian commercial enterprise was organized, Venetian accounting did not provide the material for periodic preparation of balance sheets.³⁹

While the Venetian development of venture accounting had this disadvantage, it had other advantages. The effect of personifying the "voyage", just as the cash box and the lots of merchandise had been personified, was to separate records of changes in the value of assets through shipment and sale from the record of the costs of acquiring and shipping the commodity, on the one hand, and, on the other, from the record of the claims on the agent for the proceeds from the sale. The personal account of the agent presented a clear picture of what he owed for shipments he had received and what he was owed for shipments that he had sent and of which the detail appeared as debits on appropriate merchandise accounts.

What were the advantages of thus grouping the debits and credits to the shipment or "viaggio" account separately from the debits and credits to the agent's account? Did it help in making decisions about future investments to have grouped thus the record of costs and returns of previous shipments of specified commodities to specified places? This possibility was considered and rejected by Yamey many years ago and Stuart Bruchey has shown that even as late as 1800 an American merchant who for a considerable period kept very complete and careful accounts of overseas ventures used them, not to guide investments, but to keep careful record of his debts and assets.⁴⁰ When the venture system originated, even less guidance regarding places for future investment could be gained by looking at losses or gains on particular voyages in the past. Commercial conditions changed too rapidly.

A more likely purpose of the viaggio account was to unburden the agent's personal account so as to give a clearer view of his operations and obligations. Unencumbered by detail about expenses of shipping, his personal account tabulated in opposing columns the agent's own report of what he owed for shipments received and what he was owed for shipments he had sent or payments he had made either by bills of exchange or by transfers to third parties according to instructions he had received. On the agent's personal account also were entered debits for errors that a shipper might detect in his agent's report of sales or purchases, of which the full record was in the appropriate venture or merchandise account.

³⁸ FLAVIO PILLA, *Il bilancio di esercizio nelle aziende private veneziane*, in « Studi veneziani », XVI (1974), pp. 260-263.

³⁹ *Ibid.*, pp. 253-256 on the Tuscan books; pp. 266-272 on the Venetian.

⁴⁰ YAMEY, *Accounting*, in « Studi... Fanfani », pp. 846-853; STUART BRUCHEY, *Robert Oliver, Merchant of Baltimore, 1783-1819*, The Johns Hopkins University Studies in Historical and Political Science, series LXXIV, No. 1 (Baltimore: Johns Hopkins Press, 1956), pp. 135-141.

In short it seems possible that *viaggio* accounts were devised expressly as a tool of management in handling agents. They could have been used to guide future investments, not in regard to places or commodities, but in regard to the choice of a commission agents to whom to ship. Their usefulness for that purpose would of course depend on there being a number of commission agents residing in distant markets. In addition, they were useful in clarifying claims in case of a legal dispute, and, above all, in case of the death of one of the parties. In the fourteenth and fifteenth centuries, death was a contingency which good business management had to take into account.

The large role of commission agents and joint ventures in Venetian business organization made *viaggio* accounts especially useful there. Firms that had their own dependent branches abroad, such as the Medici of Florence or the Borromei of Milan, depended on other accounting methods.⁴¹ The above discussion of bookkeeping is designed to analyze only one of several ways in which double entry contributed to the control of interregional trade by resident merchants. It is presented in the hope that historians of accounting will enlarge the picture and improve on the suggestions made here.

These developments of double entry were to be sure as much a result as a cause of the transition from traveling merchants to resident merchants. The expansion of trade and of the number of investments in which an individual merchant was simultaneously involved created a need for the « comprehensiveness and orderliness » which double entry did in a sense “compel». But as in the connections between technical improvements in navigation and the expansion of trade, the causal relations were reciprocal. While more trade called for better business management, better business management was a factor in increasing trade.

⁴¹ R. DE ROOVER, *Medici Bank*, pp. 96, 100. On the Borromei see ZERBI, *Origini*, p. 320 et seq.

