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NOTES ON THE ORIGIN OF DOUBLE-ENTRY BOOKKEEPING

BASIL S. YAMEY

THE FACT THAT THE origin of double-entry bookkeeping remains shrouded in mystery does not detract from the merits of the valuable researches into the early history of accounting made by several scholars. In the nature of things attempts to probe the origins of the technique are at best intelligent guesses or inferences. The search provides an interesting pursuit for the historian even if he knows that the spoor will disappear, sooner or later, in a confused tangle of speculation and conjecture, with the scent of red herring always present. The following notes deal with one of the possible trails to the unknown origin; or rather, a possible trail provides a tenuous central theme about which some observations are presented.

A POSSIBLE LINE OF APPROACH

Accounting resembles crafts in so far as it consists of techniques designed to serve certain practical ends. The methods and instruments of crafts generally undergo a continual though often almost imperceptible process of change. The discovery of new media,¹ the influence of particular craftsmen,² chance circumstances, or the

¹ As an example of a new medium, the possible effects of the introduction of Arabic numerals upon bookkeeping technique may be mentioned. The view has even been expressed that Arabic numerals are indispensable for systematised bookkeeping, since the earlier Roman numerals were, allegedly, unsuitable for tabular recording and computations. On this view Spain, where the use of Arabic numerals was first introduced to Europe by the Moors, has been claimed as the birthplace of double-entry. (See Theodor Drapala: *Die Buchhaltungskunde in ihrer wissenschaftlichen Pflege*, 1889, p. 68.) That this view is scarcely plausible may be gathered from the fact that Roman numerals were used in double-entry records for some time after the adoption of the Arabic system of numeration, apparently in order to make the fraudulent alteration of records more difficult.

² Thus the use of the "opening balance account," which "has since become a regular feature of the bookkeeping methods of practically the whole of Continental Europe" has been ascribed to Alvise Casanova

coercive urge of unfilled requirements, may be the cause of these changes. Rarely, one would imagine, are the changes so radical that the continuity of the development is broken. Inertia and the belief in the sanctity of earlier procedures often lead to the adherence to earlier practices long after they have ceased to serve any useful purpose.³ It is likely that the majority of changes, when they do occur, take the form of variations on the existing practice, by omission, simplification, addition or adaptation: the newly-evolved techniques closely resemble the ones previously used, and their character is largely determined by them.

Is it not possible or likely that mercantile accounting has evolved along the lines sketched in the previous paragraph? And that the appearance of double-entry bookkeeping is to be explained as one event, albeit a momentous one, in a gradual evolutionary process of development? Row Fogo has expressed this view that bookkeeping "is neither a discovery . . . nor the inspiration of a happy moment, but the outcome of continued efforts to meet the necessities of trade as they gradually developed."⁴ Elsewhere I have queried this thesis that double-entry developed in direct response to some particular business need(s), which was not adequately served by earlier methods of accounting.⁵ But

in his *Specchio lucidissimo* (1558). (P. Kats: "James Peele's Maner and Fourme" in *The Accountant*, Vol. LXXXII, 1930.)

³ Professor H. R. Hatfield has collected some of the "folk-lore" of double-entry bookkeeping, procedures still practised for no other reason than the magical influence of custom, in his article, "Accounting Trivia," in *Accounting Review*, September, 1940.

⁴ In Brown's *A History of Accounting and Accountants*, 1905, p. 93.

⁵ In *The Functional Development of Double-Entry Bookkeeping*, Publication No. 7 of the Accounting Research Association, 1940, reprinted in *The Accountant*, November 2, 1940.

even if my doubts are accepted as valid, the possibility of the emergence of double-entry as the product of a gradual process of change still remains open; for changes in the technique of a craft are not necessarily nor solely caused by the stimulus of novel problems awaiting solution. At the other extreme changes may be initiated almost by accident.

Here two sorts of bookkeeping, which it is reasonably certain were practised before the appearance of double-entry, will be examined to throw light on the question whether it is possible that double-entry developed as an improvement or expansion of them, taking over some of their basic features but representing a further stage in the process of adaptation and change. The two sorts of bookkeeping are single-entry and agency or factors' bookkeeping, the main emphasis being placed on the second.

SINGLE-ENTRY AND DOUBLE-ENTRY

It seems as if, before double-entry appeared, accounting records of proprietorships, whether single or multiple, were confined to records of dealings involving the granting or receiving of credit. The records assumed various forms and often the "books of account" were mere scraps of paper. Sometimes there were entries in diaries or journals, where the settlement of debts was indicated by the effective though untidy method of deletion. Sometimes the entries in the journal were reclassified into accounts, the beginnings of the modern ledger.

Though there is evidence that other transactions were sporadically recorded, the scope of the early bookkeeping efforts was very similar to that of what is now known as single-entry bookkeeping. But as the records were in no way systematized, it is perhaps incorrect to describe them as single-entry, which term today implies the presence of some system in the

records. Indeed, single-entry as a *system* is more likely to have been a development from double-entry.

Dr. Jäger has stated that single-entry, as a *system*, developed out of double-entry through the gradual omission of all impersonal accounts.⁶ Schmalenbach says that "there existed in Germany, particularly in the Hanseatic towns and in the South German trade centers, before the adoption of the Italian bookkeeping, a system of commercial accounting with a fairly well-developed technique and nomenclature." He continues that double-entry considerably influenced this native brand, "so that the single-entry bookkeeping methods of today have the appearance of being stunted versions of double-entry bookkeeping."⁷ Also Flügel in his text, *Der getreue und aufrichtige Wegweiser* (1741) states: "Here I have purposely described double-entry first, because this is the chief source from whence single-entry has sprung."⁸

Professor Hügli disagrees with this opinion that single-entry as a system is derived from double-entry by a process of attenuation. It is his view that "single-entry is no mere fragment, but in form and for its purpose a complete and satisfactory whole," and that "the natural development can indeed have been no other than that double-entry grew out of single-entry after the latter had matured into a complete system."⁸ A subsidiary argument of Hügli's is that Luca Pacioli mentioned by name both single- and double-entry in the thirteenth chapter of his *Particularis*, the first printed work treating of accounting, thereby indicating at least the co-existence of the two systems at an early date. However, it is clear that in the chapter concerned Pacioli was merely referring to two

⁶ *Alles und Neues aus der Buchhaltung*, 1889, p. 3.

⁷ *Dynamische Bilanz*, 5th. edition, p. 56.

⁸ "Ueber die Geschichte der Buchhaltung in Italien" in *Zeitschrift für Buchhaltung*, 1894.

sorts of registers or indexes to the ledger, and not to two sorts of bookkeeping.⁹

But even if a system of single-entry bookkeeping had existed before the emergence of double-entry, there is still a very wide gap between the two methods both in scope and technique. The latter contains nominal and real accounts which the former does not. The cohesion of the accounts in the latter is without counterpart in the former. It would require the introduction of *deus ex machina* of considerable proportions to explain how the two widely dissimilar systems are actually successive stages in the evolution of accounting methods. Professor Littleton has suggested one way in which the gap may have been crossed: the automatic, unreasoned extension of the practice of making dual entries for some transactions to all transactions. If a cash account is kept in conjunction with the personal accounts in a system of single-entry, then the receipt or payment of cash in settlement of debts would require two entries. Similarly, even in the absence of the cash account, the substitution of one debtor or creditor for another would require two entries in the personal accounts. In Professor Littleton's words: "Once the practice of dual entries upon opposing sides of bilateral accounts had become established, it would not be difficult to extend it by analogy to new accounts. No one would have to stop and reason out the philosophy of the matter first."¹⁰

AGENCY BOOKKEEPING

It is the contention of Dr. de Waal, supported to some extent by the views of Professor Littleton and Mr. Kats,¹¹ that

⁹ See Kheil's "Ueber einige Bearbeitungen des Buchhaltungs-Tractates von Luca Pacioli" in *Zeitschrift für Buchhaltung*, 1895.

¹⁰ *Accounting Evolution to 1900*, 1933, pp. 38-39. An interesting conjecture on similar lines is put forward in the article on Bookkeeping in McCulloch's *Commercial Dictionary* (New Edition, 1859).

¹¹ P. G. A. de Waal: *De Leer van het Boekhouden in de Nederlanden tijdens de Zestiende Eeuw*, 1927. A. C.

"factor" or agency bookkeeping played a significant part in the emergence of double-entry. Briefly, the view appears to be that agents had to keep accounts to show their indebtedness to their principals; that these accounts assumed a distinctive form; and, that double-entry is a lineal descendant of that system.

The bookkeeping aspects of agency may be summarized by saying that the agent must be able at all times to show to what extent and for what reasons he is indebted to his principal, or vice versa. The bookkeeping technique amounts to the keeping of a personal account in the name of the principal, debiting it with all expenses incurred by the agent on the principal's behalf, and crediting it with all the proceeds of the agency business received by the agent. There would be no profit calculation, partly because the agent would not necessarily know all the relevant facts (e.g., the cost of the goods he may receive from the principal), and partly because the profit calculation would be irrelevant from the agent's point of view. The receipt of goods from the principal would not give rise to an entry in the principal's account until the sale of the goods. The agent would find a stores book with details of *quantity*, disposal instructions, etc., useful to keep track of different consignments. He would also find it useful to keep accounts of his cash transactions and credit dealings in connection with the agency.

Dr. Mickwitz in an interesting study has shown¹² that this type of agency accounting is most suited for another type of trading, which appears to have been common among the traders in the Hanseatic towns. He has described the practice as it prevailed in Reval in the fifteenth and sixteenth centuries. The form of trading was a type of partnership between two

Littleton: *op. cit.* P. Kats: "Early History of Bookkeeping" in *Journal of Accountancy*, Vol. XLVII, 1929.

¹² *Aus Revaler Handelsbüchern*, 1938.

merchants, each in a different town, and each sending goods to the other to be disposed of at the best price, profits being shared in a pre-arranged ratio. In such circumstances each partner was virtually the factor for the partnership. There was no single centralized set of books, but each partner kept records of partnership transactions in which he had taken part. Each partner kept records of his expenses on account of the partnership, and his receipts from the partnership business. A balance of receipts over payments would be of almost the same significance as the excess of an agent's receipts over his payments, viz., indebtedness to an external entity. The only difference would be that the partner-factor had an interest in the profits made by the external entity, which was calculated periodically by combining the separate records of the two partners. Undoubtedly the bookkeeping adopted resembles that of agents, and Dr. Mickwitz objects to the name "agents' bookkeeping" as a description of the common system, as being incorrectly restrictive in its title.

Whether or not agency bookkeeping has been a stage in the evolution of double-entry has been made by Dr. de Waal to depend largely, but by no means exclusively, upon the interpretation given to the works of Valentin Mennher von Kempfen, who wrote several texts on accounting published in Antwerp between the years 1550 and 1565. But before discussing these works it is useful to go back to the works of the earliest German writers on bookkeeping, Heinrich Schreiber and Johann Gottlieb. It has been variously suggested by some historians that the system described in their volumes antedates the Venetian double-entry method, and is quite independent of it; that their work describe agency bookkeeping, and that Mennher borrowed from them.¹²

SCHREIBER AND GOTTLIEB

Schreiber's *Ayn new kunstlich Buech*, published in Nürnberg in 1518, is the earliest known book on bookkeeping in German, and the earliest treatise in any language devoted solely to bookkeeping. It describes a system of accounts that requires three main books: a journal (*Zornal*), a ledger (*Schuldibuch*), and goods-book (*Kaps*). All transactions are first recorded in the journal. The ledger contains only personal accounts and a cash account. The goods accounts, one for each type of merchandise, are placed in the goods-book. For each transaction a double entry is made, though each of the two entries may be made in a different book. On the purchase, say, of wine for cash, two entries would be made, one in the cash account in the ledger, and the other in the wine account in the *Kaps*. The entries are made in a peculiar way, because the receipt of goods would be entered on the right-hand side of the goods account, while the payment of cash would be recorded on the right-hand side of the cash account—so that the purchase of goods would give rise to two entries, both "credits" to modern eyes.

To verify the accuracy of the books, a "Proof of the Bookkeeping" (*Proba*) has to be carried out. The total profit has to be calculated in the goods-book, by summing the profits on each goods account, after introducing the closing stocks. Then "add together the cash receipts, what others owe you, and the goods on hand; and from the total subtract the cash payments, and what you owe others; and then if the balance equals the profit, it is correct." Schreiber did not illustrate the *Proba* or the closing of the books. But if the journal

¹² For opinions about these early works, see: Mickwitz: *op. cit.*, p. 200; Kats: *op. cit.*, p. 12; Row Fogo in

Brown: *op. cit.*, p. 123; A. H. Woolf: *A Short History of accountants and accountancy*, 1913, pp. 124-125; B. Penndorf: *Geschichte der Buchhaltung in Deutschland*, 1913, p. 113; de Waal: *op. cit.*, pp. 77-78; Jäger: *op. cit.*, p. 71; D. Murray: *Chapters in the History of Bookkeeping*, 1930, p. 207.

entries in his example are correctly posted (there are several typographical errors in the 1544 edition), the proof naturally holds.

Schreiber's system is certainly based on the double entry for each transaction, though the arrangement of the books is strange (about which there are some comments below). The *Proba* is based on the fact that the increase in the net assets is equal to the profits. In Schreiber's example there is no opening capital, so that the closing net assets equal the profits. His equation:

$$\begin{aligned} \text{Receipts} + \text{Debtors} + \text{Goods} - \text{Payments} \\ - \text{Creditors} = \text{Profits} \end{aligned}$$

may be transcribed as:

$$\begin{aligned} \text{Cash balance} + \text{Debtors} + \text{Goods} - \text{Creditors} \\ = \text{Profits} \end{aligned}$$

$$\text{or, Net Assets} = \text{Profits}$$

$$\text{or, Increase in Net Assets} = \text{Profits (where there is no opening capital).}$$

The last equation is of course one of the fundamental equations of double-entry bookkeeping.¹⁴

Gottlieb's *Ein Teutsch verständig Buchhalten* (1531) and *Buchhalten* (1546) describe a system very much akin to that of Schreiber. The same three books are used. In the 1531 volume the closing of the books is not described, because Gottlieb believed that it was advisable to give oral instruction on that difficult subject. In the later work this omission is rectified. The profit-and-loss calculation is appended to the goods-book, just as in the case of Schreiber's system. The proof of the accuracy of

the books is the proof provided by double-entry bookkeeping. The increase in the net assets is calculated and is checked against the profit as calculated in the rear of the goods-book.

It appears quite clearly that Schreiber and Gottlieb had come into contact with double-entry bookkeeping, but that they had given imperfect and confusing renderings of it. Their system is based on the dual entry for each transaction. The profit is calculated in two ways from the entries made; but the two calculations are not linked together as in double-entry bookkeeping. Dr. De Waal's contention that the system is single-entry is incorrect, because impersonal accounts have no place in single-entry.¹⁵ Penndorf's judgment that it is neither single-entry nor double-entry is nearer the mark, though its double-entry basis should be stressed.¹⁶

As both Schreiber and Gottlieb appear to have described some modified form of double-entry proprietorship bookkeeping, complete with a profit calculation, it is difficult to see how their system can be referred to as agency bookkeeping. The confusion may have arisen because in the 1546 volume Gottlieb gives two worked examples, one for a single proprietor and one for an agent. As the system is exactly the same in both cases, and identical with that described in the 1531 volume, which was expressly intended for "masters and partners," it seems, if anything, that the modified double-entry had been adapted for agency bookkeeping, and not the other way about. The works of Schreiber and Gottlieb appear to be interesting historical curiosities, without any great significance for the emergence, development, or spread¹⁷

¹⁴ Proofs of the accuracy of accounts kept on a double-entry basis have taken a fascinating variety of forms. Here it may be of interest to mention one other variation on the basic theme, that of J. Sedger in *An Introduction to Merchants' Accounts* (1807-08). His formula is:

Opening assets + profits balances + closing liabilities
= Opening liabilities + loss balances + closing assets.
Of this Proof Sedger says: "Note—That this kind of Proof, which is most concise, has not been observed before, except by an intimation in my former production." He also gives "The usual Proof of Book-keeping": opening "neat estate" plus profit equals closing "neat estate."

¹⁵ *Op. cit.*, pp. 77-78.

¹⁶ *Op. cit.*, p. 113.

¹⁷ The main influences which spread the knowledge and use of the Italian bookkeeping to Germany seem to have been: (i) The commercial contacts between German merchants (and their subordinates) and merchants in the Italian cities and the Low Countries. Matthäus Schwarz, the head bookkeeper of the Fuggers, spent

of double-entry bookkeeping.

Before leaving Schreiber and Gottlieb, some comments on their treatment of goods accounts by segregating them in a separate "ledger" (the *Kaps*) may be of interest. The exclusion of goods accounts from the general ledger seems to have been a common practice in parts of Germany, difficult to eradicate and therefore probably a relic of earlier methods.¹⁸ Gottlieb, though not abolishing it, does not approve of the practice. He likens the split ledger to a room which is divided in two for no reason. He shows how it makes posting and cross-reference difficult, and that it requires two indexes. Also, "many books, many errors." Both Kaltenbrunner in *Ein newgestell't kunstlich Rechenbüchlein* (1565) and Schultz in *Arithmetica oder Rechenbuch* (1611) maintain the division of the ledger in two parts, *Schuldbuch* and *Kaps*.

It is possible that this practice was borrowed from agency bookkeeping, except for the important difference that in agency bookkeeping it is unlikely that the agent would have recorded monetary values in his "goods book," if he kept one, as did Mennher's "agent" (*infra*). An agent would have greater need of detailed merchandise records than the owner of a business, since the agent is accountable to another for the disposal of the merchandise entrusted to his care. At the same time he would have no need to keep his merchandise records on the same basis as his cash

or personal accounts, as his interest in the merchandise, until sold, is confined to quantitative control. Hence it is likely that merchandise records in agency bookkeeping may have preceded merchandise accounts in proprietorship bookkeeping; and that a separate account-book for detailed merchandise records may have been one feature of agency bookkeeping, taken over in double-entry bookkeeping.¹⁹

VALENTIN MENNHER VON KEMPTEN²⁰

Mennher's first work on accounting, his *Practique brisue pour cyfrer et tenir Liures de Compte*, was published in 1550 in Antwerp, and his later work, *Practique pour brievement apprendre a Ciffrer, & tenir Liure de Comptes*, in the same city in 1565. A Spanish translation by Antich Rocha appeared in Barcelona in 1565, and German editions were published in Antwerp in 1560 and 1563. An important work in Dutch, Pietersz' *Practique Omte Leeren Rekenen Cypheren ende Boeckhouwen* (1596) is a version of Mennhers edition of 1565; and in turn the English *Pathway to Knowledge* by "W.P." (1596) is a translation of Pietersz' work.

Mennher explains why he wrote his books, and in so doing expresses sentiments, for the first time I believe, which have often been repeated quite independently by writers of later manuals, either by way of prefatory explanation or of advertisement. He says he wrote his books

¹⁹ A further speculation arises out of these observations. The suggested influence of agency bookkeeping may explain why in the early practice of double-entry there were no single aggregated purchases, sales, and "unsold merchandise" accounts, but instead a number of separate "trading accounts" for each type or lot or parcel of goods, each "trading account" combining the purchase, sales, unsold stocks, and profit or loss for the batch concerned. This practice appears to have died out, in Britain at least, somewhere in the nineteenth century.

²⁰ Discussions on Mennher's works may be found in the works of de Waal and Kats cited in footnote 11, and in articles by Berliner and Kheil in the *Zeitschrift für Buchhaltung*, 1895 and 1898, resp. An at times acrimonious controversy between Berliner and Kheil is in the latter volume of the *Zeitschrift*.

some time in Venice, and on his return brought out an unpublished manuscript on double-entry, which may have been influential, (ii) The publication of German text-books, of which Schweicker's *Zweifach Buchhalten*, (1549), based on Manzoni's *Quaderno Doppio* (1540), was the first satisfactory exposition of double-entry. (iii) Joachim Rademann in *Der Wehrt-geschützte Handels-Mann . . .* (1714) traces the practice of double-entry in Germany to the merchants of Brabant who were forced to flee to Germany when expelled by the Duke of Alva. One of these refugees, Passchier Goessens, wrote a book, *Buchhalten fein kurz zusammen gefasst . . .* (1594), which had considerable influence.

¹⁸ See Woolf: *op. cit.*, p. 124.

"because many books have been written about the noble art of arithmetic and about the way accounts are kept, by persons without practical experience in business, and who consequently use many examples and illustrations which are of little value, and are more diverting than useful."

Both Professor Volmer, who edited a re-issue of Mennher's first work, and Dr. de Waal, regard the system described in that work as agency bookkeeping, anterior in point of time to Italian double-entry bookkeeping. Dr. de Waal is of the opinion that the agency bookkeeping described by Mennher is "a remarkable and indispensable link necessary for a thorough understanding of the development of the system of double-entry." He has taken the historians, Penndorf and Kheil, to task for having paid insufficient attention to agency bookkeeping in the history of accounting, and for having regarded Mennher "rather as a peculiar, than as an important, writer."²¹

Mennher himself points out that his work is "*a la guise et mainiere italiana*," thus suggesting Italian influence. Dr. de Waal attempts to explain this away by his assertion that Mennher followed one of the many methods other than double-entry which existed in Italy; and, by way of substantiation, he refers to Johann Gottlieb's remark that he knew of 40 varieties of bookkeeping. But this reference is unfortunate. In his 1531 volume, Gottlieb says:

"As there are different kinds of business, so there are different kinds of bookkeeping (of which I have met with some forty varieties); however, all are grounded on the same principle. If one knows this fundamental principle of bookkeeping, then not only does one understand all kinds of bookkeeping, but one is also able to adapt the bookkeeping to each kind of business and as the circumstances require; like a piece of wax, which allows itself to be moulded into any shape."

²¹ *Op. cit.*, p. 140, note.

A similar remark appears in George Thomas Flügel's *Der getreue und aufrichtige Wegweiser* (1741): "One will find as many kinds of bookkeeping as there are counting-houses: but actually in the keeping of the books one uses not more than two methods, namely, single-entry and double-entry." It should be clear that Gottlieb was indicating the possibility of various ways of arranging the accounting records, all based, however, on double-entry.

In the 1550 edition Mennher advises the uses of three main books: a journal, a ledger containing personal accounts, and a goods-book containing details of consignments bought and sold. The resemblance to the system described by Schreiber and Gottlieb is striking; but an important difference is that Mennher's goods-book does not contain any "value" entries but only details of *quantities* bought and sold.

In the worked example the business and the bookkeeping is conducted by Pierre du Mot on behalf of his principal or master (*mon maistre*), Nicolas de Reo. There is an account in the latter's name.

The entries concerned with the handling of goods are of special interest. When goods are received by du Mot from de Reo, only a quantitative entry on the debit side of the appropriate goods account in the goods-book is made. When goods are sold, cash or the purchaser's personal account is debited, and the account of de Reo is credited. In addition, the goods account is credited with the quantity sold.

When a debtor goes bankrupt, his account is credited and the account of de Reo is debited. When expenses are paid, cash is credited and the master's account is debited. A similar double entry represents the payment of a salary to du Mot.

The entries for the various transactions suggest agency bookkeeping in no uncertain manner. The omission of "money"

for goods, unless du Mot pays for them or received money for them, is characteristic of agency bookkeeping. The booking of expenses paid against the principal's account is also a typical procedure. The account of de Reo at any time *before the closing of the books* shows what du Mot owes him. There is no profit calculation.

On the closing of the books the cash balance and all the personal account balances are closed into the account of de Reo. As every transaction that has been recorded in the ledger has given rise to two entries in ledger accounts, one in the debit and the other in the credit, it follows that de Reo's account will be in equilibrium.²² Its contents, after closing, are:

Debits

Opening creditors	
Cash purchases	} incurred by
Credit purchases	} du Mot
Expenses paid	
Closing debtors	
Closing cash balance	

Credits

Opening debtors
Opening cash balance
Cash sales
Credit sales
Interest receipts
Closing creditors

As this account stands, it is very confusing and almost meaningless. (It is certainly meaningless in the context of agency accounts.) It was apparently not intended as a statement to be submitted to de Reo, because Mennher gives instructions for drawing up two statements, one showing the amount of the indebtedness to de Reo and the other the quantities of goods on hand, which together would have been an admirable, brief account of de Reo's position at the date of balancing. The reason for the curious balancing method is ob-

scure; but it does suggest that Mennher, who probably was well-versed in agency bookkeeping, had come into contact with double-entry bookkeeping and had attempted to graft the idea of balancing on to the former system, and in doing so robbed it of much of its clarity.

In his later volume of 1565 Mennher describes full-fledged, double-entry bookkeeping, with a profit and loss account and balance account. In the example the books are still kept by an "agent," Jacques le Beau, for his principal. Kheil convincingly explains the introduction of a bookkeeper apparently acting as agent for the proprietor as a common expository device, employed both by Ympyn (*Nieuwe Instructie*, 1543) and Wolfgang Schweicker (*Zweifach Buchhalten*, 1549) in their works dealing with double-entry. Having regard to the closing entries in the 1550 work, to the subsequent exposition of double-entry in 1565, and to Kheil's explanation, it does not seem as if Mennher's work can be used as strong support for the thesis linking agency bookkeeping with the development of double-entry. Mennher, even if he set out to describe agency bookkeeping in 1550, was already influenced by double-entry. And as Kheil points out in his detailed and knowledgeable study, there is reason to doubt whether he ever intended his work as a hand-book for agents, his view being that the 1550 work was intended as an elucidation of double-entry, and not a very successful one.²³

AGENCY AND DOUBLE-ENTRY BOOKKEEPING

The conclusions reached as regards Mennher's works do not, of course, imply that there cannot be any truth in the the-

²² This shows some similarity with the closing of the accounts in Manzoni's *Quaderno Doppio* (1540).

²³ Berliner (see footnote 20) has stated his view that Mennher in 1550 was dealing with agency bookkeeping. He regards the changes introduced in 1565 as evidence "that Mennher has taken a step out of the real world into the realm of theory, where one has to deal with speculative possibilities, whereas the merchant rejects all theories which produce no practical results."

sis that agency bookkeeping is an indispensable link in the process of change in accounting technique eventuating in the appearance of double-entry bookkeeping. It merely implies that some of the evidence advanced in support of this view appears to be faulty. Indeed, an analysis of some of the characteristics of agency bookkeeping alone suggests that there may be some validity in the thesis.

One may quite reasonably assume that some form of agency accounting, incorporating the essentials of the modern method, existed before the emergence of double-entry bookkeeping. The relationship of principal and agent was well-known in Western commerce from an early date; and where the relationship exists there is a pressing need for some form of detailed accounting—a much more urgent need for systematic records than in the case of single proprietorships or even partnerships. The earliest known proprietorship accounting records reveal a rudimentary “system,” confined to credit transactions. An agent would have required more detailed records; and almost certainly records of all transactions, whether cash or credit, would have been necessary. A well-developed system of agency bookkeeping may have been in existence side by side with a rudimentary system of proprietorship accounting. Even if there were no pressing need for improvements, there would have been a tendency for the more “advanced” form to influence the “backward” practice.

Moreover, if there is a cash account in the agency bookkeeping alongside of the personal accounts, each transaction would give rise to two entries. This would arise because the principal is the debtor or creditor of the agent. Every expense or item of revenue, whether in cash or on credit, decreases or increases the debt due to the principal, and also necessitates an entry in the cash account or a personal

account. Hence, one of the formal characteristics of double-entry may have existed in the earliest systems of agency accounting.

Double-entry bookkeeping may have developed through the slavish adoption of agency bookkeeping technique by proprietary business concerns. Following the analogy of the agent's records, each expense would be debited to the proprietor's (capital) account, and each item of revenue would be credited to the proprietor's account, would contain all revenues and expenditures as credits and debits, and the profit—here the analogy ends—would be reflected in an increase in the balance on capital account, allowing, of course, for capital additions and withdrawals. In other words, the owner of the business would be regarded as being outside the firm, a principal for whom the business was being conducted. (Here, incidentally, is one possible explanation of how the proprietor, in double-entry, came to be treated, formally, as a creditor of the firm.) Gradually it would become apparent that it would be useful to show each type of expense and revenue separately (or more realistically, in view of the facts, to show the expenses and revenues of each trading event separately). These separate revenues and expenses would be collected periodically in the profit-and-loss account to be closed in total to the capital account.

It may be argued that the idea of slavish adoption, followed by transformation, is not plausible. Both Dr. de Waal and Professor Littleton have suggested other ways which may be more acceptable. Dr. de Waal shows how the application and broadening of agency bookkeeping may have taken place if the agent became his principal's bookkeeper.

The agent, who has now entered the service of his master as bookkeeper, will have to deal not only with a part but with the whole of the proprietor's possession. The account of the prin-

cial would in this way acquire the characteristics of a capital account.²⁴

Professor Littleton postulates a change in the nature of trading organization. He suggests that the distinguishing features of double-entry bookkeeping "would grow quite naturally out of these 'agency' relations, as trading partnerships of more permanent nature replaced single ventures or occasional agreements."²⁵

A 'HAPPY MOMENT'?

These theories can account for the development of double-entry out of agency bookkeeping, though the necessary assumptions are large. Some, doubtlessly, will find the differences between double-entry bookkeeping and agency bookkeeping (and even more so, single-entry bookkeeping) too great to make the gradual bridging of the gap between them seem likely or plausible. Perhaps, it may be hazarded, it would be more realistic to regard the appearance of double-entry as a more or less complete break in the development of accounting methods, noting, however, that double-entry may have taken over many features of earlier techniques.

The latter consideration points to the suggestion that double-entry bookkeeping may have been the "inspiration of a happy

moment." Augspurg has expressed this more romantic view that double-entry is the product of one man's brain. His view is based upon "the definite conclusion, which will be reached by every competent judge after a thorough examination, that the scientific system based on mathematical principles could have had no other source than the genius of one individual (and he a mathematician well acquainted with commerce) from whose pen it must have flowed forth in one gush."²⁶ This theory poses the interesting questions of how and why the system was adopted by others, and who the mathematician was. Augspurg identified Luca Pacioli as the genius; but Pacioli himself disclaimed the honour, and there is evidence of double-entry records before 1494, and that Pacioli's work is a recension of an earlier Venetian manuscript. But whether or not double-entry is the brain-child of some mathematician, it is at least certain that double-entry was nurtured and encouraged in the high places of mathematical learning.

And so the probings into the origins of double-entry bookkeeping lead from one speculation to another. The true story is likely to remain as much of a mystery as double-entry itself must be to the uninitiated.

²⁴ *Op. cit.*, p. 282.

²⁵ *Op. cit.*, p. 38.

²⁶ "Die Irrthümer in den neuerlich verbreiteten Ansichten über die Erfindung der Doppelbuchführung und ihre Berechtigung" in *Zeitschrift für Buchhaltung*, 1897

