

# The Structural Development of Four-Element Bookkeeping Method as Double Entry Bookkeeping System in Korea

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## I . Introduction

This treatise aims to explain The Four Element Bookkeeping Method in ancient Korea to pronounce the historical event that Korea might have had a native double entry bookkeeping method which is developed by Songdo(now Kesung) merchants in the Koryo Dynasty several hundred years ago, to translate and interpret the Four Element Bookkeeping Method into English and modern accounting terms, and to explain that it may be better than the Italian bookkeeping method from the mediterranean age.

In the past, Koreans had a native bookkeeping method developed by kesung merchants, named sagechibubub. There are many theories on its time of development: the middle of the Koryo dynasty, the beginning, middle, or end period of the Chosen dynasty, and so on. Some people claim that it is not original, that it was copied from the western bookkeeping method. Some also say that it had originated from China or Manchuria, where such bookkeeping methods do not even exist.

The time of development can only be proven by real accounting books, so for now we can only conclude that it was definitely used in the end of the Chosen Dynasty, while leaving the possibility that it existed much before that. But it is certain that the method was developed originally in Korea. Looking at the accounting custom, bookkeeping style, and special characters in the books, one can be certain that it was an original method, modified from the methods handed down from before the Koryo Dynasty.

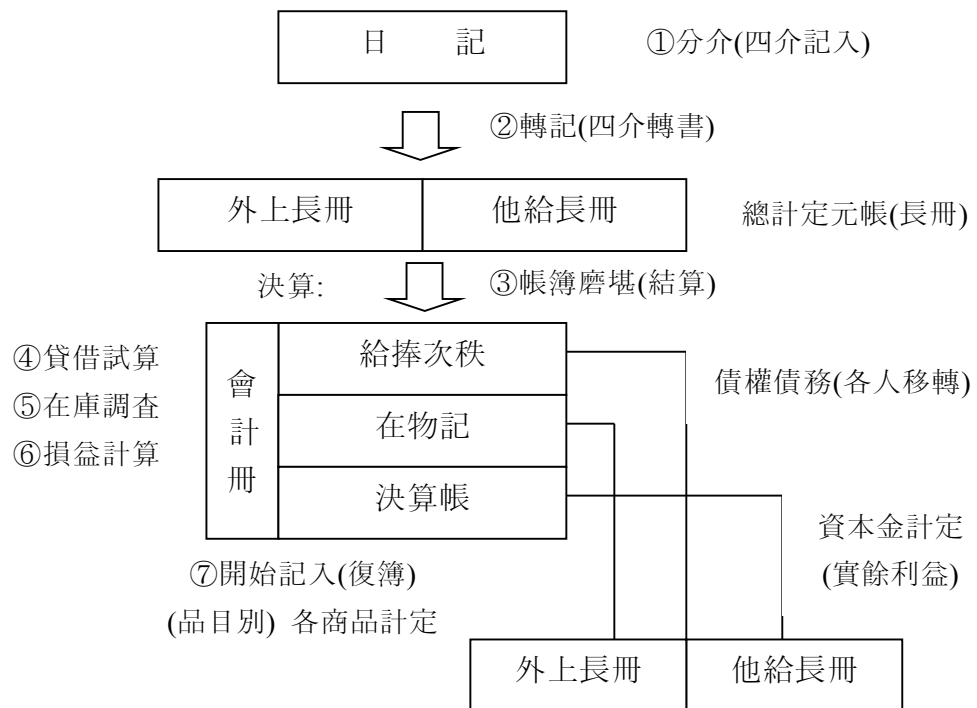
In fact it is hard to insist that this is a precise double entry method just like those of today. But the same can be said for the Venice method, which is approved as the origin of today's double entry bookkeeping. This thesis introduces the four element bookkeeping model established as a double entry bookkeeping method in its original form and in the English translation form as well.

## II. The Four Element Bookkeeping Principles

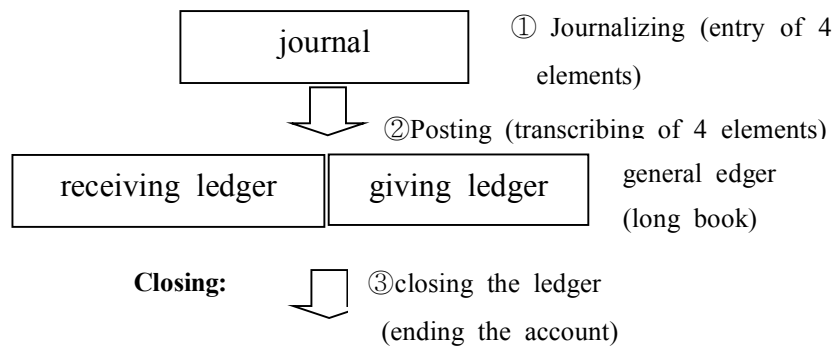
### 1. The Procedures of the Four Element Bookkeeping

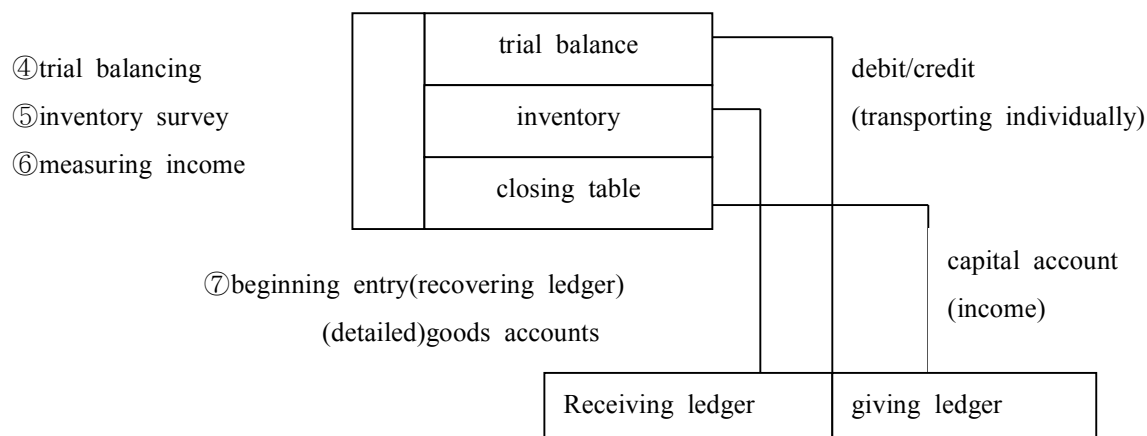
The overall process of FEBM is done in the order shown below. <Fig. 1> shows the process first in chinese characters and original terminologies, and <Fig. 2> shows it in modern English terminologies.

[Fig. 1] Accounting Process of FEBM (original terminology)



[Fig. 2] Accounting Process of FEBM in English





FEBM journalizes all the transactions in ilgi(日記) according to the way of the four element setting. Oftentimes a choilgi(草日記) was drawn up before this regular journal entry, which served similar functions to the modern diary. Ilgi shows the four separate elements consisting of the giver, taker, giving material, taken material for both debit and credit accounts. Thus it shows clearly all the subjects and objects of mutual transaction.

The contents of ilgi is posted to the jangchec(長冊) as it is. So there is no need to make any subsidiary book for the specification of every account. FEBM originally had used two separate ledgers for debit items(外上長冊) and credit items(他給長冊), but later it often used one integrated ledger. It also posted the explanation of transaction, a method found in the Venice bookkeeping style by Pachioli as well. The modern method of posting only mutual account titles and money amount is an advanced form modified to shorten the writing efforts. But in return it leaves out the transaction content information. So it requires making many kinds of subsidiary books in the form of additional journals or ledgers.

## 2. The Journal and Journalizing Principle

<Table 1> shows a portion of the original journal written in the FEBM form, and <Table 2> shows it in the English form.

<Table 1> Original Journal Form of FEBM

|      |              |         |
|------|--------------|---------|
| 正月一日 | 活洞入          | 資本金二萬圓上 |
| 公用秩去 | 空冊十部價        | 金一圓五十錢下 |
| 方仁準入 | 借入金二千圓上      |         |
| 權禮得入 | 壁紙十五箱代       | 金七百五圓   |
| 紙物秩去 | 壁紙十五箱代       | 金七百五圓   |
| 權禮得去 | 壁紙價中即錢給      | 金四百圓下   |
| 於音秩入 | 二月一日給次       | 金三百五圓   |
| 權禮得去 | 紙價零條二月一日給次於音 | 金三百五圓   |

<Table 2> Journal of FEBM in English

| Date   | V A/C title | Db | Cr   | Explanation                | Debit  | Credit    | cash: in out |
|--------|-------------|----|------|----------------------------|--------|-----------|--------------|
| Jan. 1 | ' Owner     |    | come | capital                    |        | 20,000.00 | up           |
|        | ' Expense J | go |      | 10 notebooks               | 1.50   |           | down         |
|        | ' I. Bang   |    | come | borrowing                  |        | 2,000.00  | up           |
| 2      | P' Y. Kwon  |    | come | wall paper 15box @47.00    |        | 705.00    | ┌            |
|        | ' Paper J   | go |      | wall paper 15box @47.00    | 705.00 |           |              |
|        | P' Y. Kwon  | go |      | cash pay of wall paper     | 400.00 |           | down         |
|        | ' Draft J   |    | come | 2/1 due                    |        | 305.00    | ┌            |
|        | P' Y. Kwon  | go |      | paper balance 2/1due draft | 305.00 |           |              |

The transactions of January 1 show three kinds of cash transactions including capital

investment on the first day of operation. The transactions of Jan. 2 are mixed transactions including payment with cash and notes payable to purchase wall paper from the merchant Y. Kwon. The transactions are journalized in three separate categories merchandise purchasing, cash paying, notes payable issuing.

The reason behind this is that FEBM did not use 'multiple entries' terminology which means existence of more than two accounts on the contrary side. Interestingly, although for different reasons, this is similar to the Venice method which didn't divide the money amount column by debit and credit. Cash transaction in FEBM is separated throughly and written in only one line.

Most of the accounts are personal accounts. Non personal accounts are personalized by using the character Jil(秩), which means 'manager of the job'. The books of those days are written in Chinese characters on blank pages without using a table. So journalizing is done by using the characters 'come'(入) and 'go'(去), which stand for credit and debit.

After the journalizing terminology enter the transaction object and money amount. If the transaction is done with cash, the inflow of cash is noted as 'up'(上) and the outflow 'down'(下) at the end of the page, thus ending the single line entry. If the transaction is done without any cash, a U shaped mark unites the debit and credit amounts on the vertical lines.

The P shaped mark in front of the entry indicates that the debit and credit relationship is terminated. So this entry does not need to be posted to the ledger. And the ' mark indicates that the entry has already been posted to the ledger. The another ' mark, although not shown above, is entered in front of the transaction amount to indicate certification when the journal and the ledger are contrasted together.

### 3. The Ledger and Posting Principle

<Table 3> and <Table 4> below show the original and English form of the ledger.

<Table 3> Original Ledger of FEBM

|      |   |      |              |         |
|------|---|------|--------------|---------|
| 活洞   | 入 | 正月一日 | 資本           | 金二萬圓    |
| 方仁準  | 入 | 正月一日 | 借入           | 金二千圓    |
| 於音秩  | 入 | 正月二日 | 權禮得記二月一日給次   | 金三百五圓   |
| 公用秩  | 去 | 正月一日 | 空冊十部價        | 金一圓五十錢  |
| 紙物秩  | 去 | 正月二日 | 壁紙十五箱        | 代 金七百五圓 |
| △權禮得 | 入 | 正月二日 | 見樣紙十五塊       | 代 金七百五圓 |
|      | 去 | 正月二日 | 見樣紙價中即錢給     | 金四百圓    |
|      | 又 |      | 紙價零條二月一日給次於音 | 金三百五圓   |
|      |   |      | 合 金七百五圓計     |         |

<Table 4> Ledger of FEBM in English

| A/C Title        | Db | Cr   | Date   | Explanation             | Check | Debit  | Credit    |
|------------------|----|------|--------|-------------------------|-------|--------|-----------|
| <u>Owner</u>     |    | come | Jan. 1 | capital                 | ‘     |        | 20,000.00 |
| <u>L. Bang</u>   |    | come | Jan. 1 | borrowing               | ‘     |        | 2,000.00  |
| <u>Draft J</u>   |    | come | Jan. 2 | 2/1 due                 | ‘     |        | 305.00    |
| <u>Expense J</u> | go |      | Jan. 1 | 10 notebooks            | ‘     | 1.50   |           |
| <u>Paper J</u>   | go |      | Jan. 2 | wall paper 15box @47.00 | ‘     | 705.00 |           |

|           |      |        |                              |   |               |      |
|-----------|------|--------|------------------------------|---|---------------|------|
| △ Y. Kwon | come | Jan. 2 | wall paper 15box @47.00      | ' | 705.00        | as   |
|           | go   | Jan. 2 | cash pay of wall paper       | ' | 400.00        |      |
|           |      |        | " paper balance 2/1due draft | ' | <u>305.00</u> |      |
|           |      |        | sum                          |   | 705.00        | same |

The above ledger contains many accounts, including the capital account of the owner, personal account of the creditor, notes payable account issued, operating expense of supplies, and commodity account purchased. The personal account in the box does not need to be posted to the ledger because the debit and credit relationship is terminated on the journal itself. But it is presented here to show the closed form of the account. Because tables were not used in those times, special characters such as as(以), sum(合), and same(計) are used to close the account. The tradeoff mark △ is used to show that this account is closed with the same amount of debit and credit.

The first three accounts are marked with journalizing terminology come(入) in front of the date, indicating that these are credit items. The last two accounts are marked with go(去), indicating debit item. Compared with the journal, the contents are the same down to the posted explanations. Thus all the transaction information is noted in detail according to account item in the ledger. The following <Table 5> and <Table 6> show closed accounts and accounts with the balance brought forward from the previous term.

<Table 5> Closed accounts and beginning accounts of FEBM Ledger

|      |   |       |                    |              |
|------|---|-------|--------------------|--------------|
| △活洞  | 入 | 正月 一日 | 資本 '金 二萬圓          | 內            |
|      | 去 | 一月 十日 | 還給 '金 五千四百圓        | 除            |
|      |   |       | 實餘給次               | 金 一萬四千六百圓 移轉 |
| △人蔘秩 | 去 | 一月 十日 | 白蔘一等品三十片 一百斤       | '金 二千一百圓     |
|      |   | 十一日   | 細尾蔘一等品五百斤          | '金 一千七百五十圓   |
|      |   |       | 合 金 三千八百五十圓        | 內            |
|      | 入 | 一月 十日 | 白蔘一等品三片 十斤         | '金 二百二十圓 除   |
|      |   |       | 餘捧次                | 金 三千六百三十圓    |
| 活洞   | 入 | 二月一日  | 上冊移來 資本 '金 一萬四千六百圓 |              |
|      |   |       | 又 實餘利益             | '金 一百九十八圓五十錢 |
| 人蔘秩  | 去 | 二月一日  | 白蔘一等品二十七片 九十斤      | '金 一千八百九十圓   |
|      |   |       | 又 細尾蔘 一等品五百斤       | '金 一千七百五十圓   |

&lt;Table 6&gt; Closed Ledger of FEBM in English

| A/C Title           | Db          | Cr | Date   | Explanation               | Check | Debit    | Credit             |
|---------------------|-------------|----|--------|---------------------------|-------|----------|--------------------|
| <b>Owner</b>        | <b>come</b> |    | Jan. 1 | capital                   | ‘     |          | 20,000.00 in       |
|                     | <b>go</b>   |    | Jan.10 | withdrawal                | ‘     | 5,400.00 | minus              |
|                     |             |    |        | real balance credit       |       |          | 14,600.00 transfer |
| <b>Ginseng J go</b> |             |    | Jan.10 | white 100K @21.00         | ‘     | 2,100.00 |                    |
|                     |             |    | 11     | tail 500K @3.50           | ‘     | 1,750.00 |                    |
|                     |             |    |        | sum                       |       | 3,850.00 | in                 |
|                     | <b>come</b> |    | Jan.10 | white 10K @22.00          | ‘     |          | 220.00 minus       |
|                     |             |    |        | balance debit             |       | 3,630.00 |                    |
| <b>Owner</b>        | <b>come</b> |    | Feb. 1 | from prior ledger capital | ‘     |          | 14,600.00          |
|                     |             |    | "      | real balance income       | ‘     |          | 198.50             |
| <b>Ginseng J go</b> |             |    | Feb. 1 | white 90K @21.00          | ‘     | 1,890.00 |                    |
|                     |             |    | "      | tail 500K @3.50           | ‘     | 1,750.00 |                    |

Special characters such as in(内), minus(除), real(實), balance(餘), credit(給次), transfer(移轉), and debit(捧次) can be found in the closed accounts. Therefore the subtraction by adding method, which uses additional symbols(= =) of agreement below the debit and the credit sum amount, is not applicable here.

The capital account closes with the actual amount, including the capital transaction result during the period, carried over to the next term. The ginseng account closes with the book balance, which is the purchase sum minus the sales amount, calculated and entered. This includes sales profits of white ginseng, so the character real(實) is not marked and it is not carried over to the next term. The book balance is compared with the actual amount in the inventory, and the difference becomes the object of profit and loss calculation in the closing table.

The net income calculated in the closing table is carried over and included in next term's capital account. The actual inventory amount of each item is entered as the acquisition cost in next term's merchandise account. In the past when FEBM was used the real value was entered in the next term's ledger directly without transfer journalizing. So this method eliminated all the unnecessary formalities of the closing process and proceeded in a most convenient way.



#### 4. The Closing Statements and Closing Principle

The following <Table 7> and <Table 8> show the closing statements in its original form and in the English form together.

<Table 7> Closing Statements of FEBM

<Table 8> Closing Statements in English

<Table 7>

<Table 8>

|                         |                                       |       |                 |               |
|-------------------------|---------------------------------------|-------|-----------------|---------------|
| 給次秩                     | <b>Credit Account (Receiving Jil)</b> |       |                 |               |
| 活洞給次 金 一萬四千六百圓          | Owner                                 |       | 14,600.00       |               |
| 方仁準給次 金 二千圓             | I. Bang                               |       | 2,000.00        |               |
| 債給利子秩給次 金 一百三十五圓        | Interest-receive Jil                  |       | 135.00          |               |
| 1 ㄴ0 紙物秩給次 金 一百九十圓      | 190 Paper Jil                         |       | 190.00          |               |
| 合給次 金 一萬六千九百二十五圓 以      | sum                                   |       | 16,925.00       | as            |
| 捧次秩                     | <b>Debit Account (Sending Jil)</b>    |       |                 |               |
| 於音秩捧次 金 一千九百圓           | Draft Jil                             |       | 1,900.00        |               |
| 申義植捧次 金 五百圓             | E. Sin                                |       | 500.00          |               |
| 劉辛雄捧次 金 二百七圓七十錢         | S. Yu                                 |       | 207.70          |               |
| 公用秩捧次 金 一百六十四圓五十錢       | Expense Jil                           |       | 164.50          |               |
| 邊錢秩捧次 金 一百七十二圓          | Interest-pay Jil                      |       | 172.00          |               |
| 1 0 人蔘秩捧次 金 三千六百三十圓     | 1000 Ginseng Jil                      |       | 3,630.00        |               |
| 米穀秩捧次 金 一千二百圓           | Rice Jil                              |       | 1,200.00        |               |
| 1 ㄴ0 布木秩捧次 金 二千四百五十圓    | 15000 Drapery Jil                     |       | 2,450.00        |               |
| ㄴ0 酒類秩捧次 金 七百五十圓        | 5000 Liquor Jil                       |       | 750.00          |               |
| <b>時在金</b> 金 五千九百五十圓八十錢 | Present Cash                          |       | <u>5,950.80</u> |               |
| 合捧次 金 一萬六千九百二十五圓 計      | sum                                   |       | 16,925.00       | same          |
| 在物記                     | <b>Inventory Statement</b>            |       |                 |               |
| 人蔘秩 白蔘 九十斤 金 一千八百九十圓    | Ginseng Jil White                     | 90K   | 21.00           | 1,890.00      |
| 細尾蔘 五百斤 金 一千七百五十圓       | Tail                                  | 500K  | 3.50            | 1,750.00      |
| 米穀秩 白米 一百二十叭 金 一千二百圓    | Rice Jil White                        | 120P  | 10.00           | 1,200.00      |
| 布木秩 廣木 一百疋 金 八百五十圓      | Drapery Jil Cotton                    | 100Y  | 8.50            | 850.00        |
| 尺布 七千尺 金 一千七百五十圓        | Foot                                  | 7000F | .25             | 1,750.00      |
| 酒類秩 燒酒 一百斗 金 八百圓        | Liquor Jil Soju                       | 100G  | 8.00            | <u>800.00</u> |

|                   |                      |               |
|-------------------|----------------------|---------------|
| 在物價合 金 八千二百四十圓    | sum                  | 8,240.00      |
| 決算帳               | <b>Closing Table</b> |               |
| 利益秩               | <b>Revenue Jil</b>   |               |
| 債給利子 金 一百三十五圓     | Interest-receive     | 135.00        |
| 紙物利文 金 一百九十圓      | Paper-earning        | 190.00        |
| 人蔘利文 金 一十圓        | Ginseng-earning      | 10.00         |
| 布木利文 金 一百五十圓      | Drapery-earning      | 150.00        |
| 酒類利文 金 五十圓        | Liquor-earning       | <u>50.00</u>  |
| 利益合 金 五百三十五圓 內    | sum                  | 535.00 in     |
| 消費秩               | <b>Expense Jil</b>   |               |
| 公用 金 一百六十四圓五十錢    | Operating cost       | 164.50        |
| 邊錢 金 一百七十二圓       | Interest-pay         | <u>172.00</u> |
| 消費合 金 三百三十六圓五十錢 除 | sum                  | 336.50 minus  |
| 實餘利益 金 一百九十八圓五十錢  | <b>Real Income</b>   | 198.50        |

The receiving jil(給次秩) part and the sending jil(捧次秩) part show the credit items and the debit items of the trial balance. However, cash transactions are completely separated and written only in the journal but not posted in the ledger. So the present cash is calculated and noted at the end of the journal as a debit item. Again, special characters are used here instead of the table format. With the use of the characters as(以) and same(計), the receiving jil part and the sending jil part especially show the trial balance equation of credit and debit total amount agreement clearly. The special characters on the left of the original copy are numerical symbols used by merchants.

In the inventory statement, a detailed real inventory value is recorded according to the product's account item. Here the real value and the book balance value of the sending jil is compared and the difference which means sales income is recorded as a special number in front of the merchandise account of the sending jil. In the case of Paper Jil(紙物秩), all the paper products were sold out so the book balance is recorded as the sales income in the receiving jil(給次秩) part.

In the closing account, the revenue items and the expense items is recorded, and the net profit is calculated as the real income(實餘利益). In those times, the value of fixed assets such as land and building were not changed, so there were no complicated closing adjustment processes such as depreciation. The property was mostly composed

of cash, merchandise, and claim. So the majority of the revenue and expense consisted of sales and interest relation.

As one can see from the above closing statements, the closing process is very concise and clear. First the trial balance of the credit and debit items is made and the sum amount agreement is verified. Then the inventory statement is made with the real value, and the product sales income is calculated by comparing with the book value from the above trial balance. Lastly the profit and loss statement is drawn up with the closing table(決算帳) to finish the process. Property categories such as merchandise, claim and debt are directly carried over to the next ledger without being journalized.