EVOLUTIONARY DOUBLE ENTRY ACCOUNTING: BEFORE AND AFTER LUCA PIACIOLO'S *SUMMA*

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Abstract

Both as researchers and as ordinary people, we often go too easily over the history of human knowledge. Science constrains us to carefully analyze the past, an act that guides our steps in the present and future. We often rush to decree ideas and opinions present in our universe since several centuries ago as discoveries of the modern world. The truth is that Luca Paciolo is one of the most commented authors in the history of mankind, some assessing the number of scientists and not only who debated and criticized in writing his famous work at over 1700.

Luca Paciolo was born in 1445 in Borgo San Sepolcro (nowadays Sansepolcro) in the Arezzo region of the Florentine Republic, becoming a well-known mathematician who worked and taught, including at the court of Duke Ludovico Sforza in Milan. His most famous work is "Summa de l'arithmetica, geometria, proportioni e proportionalita" published in 1494, a work of mathematics and geometry that presents, in Chapter XI, for the first time for that era, the double entry accounting method. This was a turning point in the history of accounting, marking its undisputed rise to the modern form in which we know it these days.

This paper aims to show the essential role that Luca Paciolo played in the development of this science, to place into a context the evolution of accounting and of the double entry but also to clarify the historical status that Paciolo had: inventor or popularizer of the double entry.

Keywords: *accounting, history, Luca Paciolo, evolution, double entry*

JEL classification: M40, M41

1.INTRODUCTION

The study of the evolution over time of any field of science is important only insofar as the research carried out generates relevant, valid and permanent conclusions. Research of the past is probably the greatest source of documentation and information about the direction of a science. Accounting, as an economic science, has emerged as a manifestation of a practical need for production and trade and its evolution must be followed in direct connection with the development of the economy.

Along with the progress of production factors and trade relations between individuals, enterprises or states, accounting has acquired a number of specific features and its role in society has become increasingly important. The appearance of accounting overlaps with the beginnings of economic activities in the first human settlements and documents revealed by historians and archaeologists prove that bookkeeping is as old as the first activities of production and exchange.

2. ACCOUNTING IN ANCIENT TIMES

The emergence and development of exchange between individuals and tribes, the social division of labour, the private ownership of production factors, the invention of writing and minting were the most important factors for the coming into being of the first accounting records. When the population used to produce only what was strictly necessary for the individual and the family, even the most rudimentary accounting records did not make sense.

The first really important social division of labour - the detachment of tribes from animal breeders – had led to a significant increase in agricultural production, creating a surplus of production that represented the subject of the first regular trade in history. Until that time, any exchange of goods was sporadic, occasional or accidental.

The second great division of labour - the separation of craftsmen - resulted in the intensification of trade but also in the diversification of goods that represented the subject of trade. Due to these economic conditions, the need to keep a register with accounting notes occurred. With the multiplication of products and the remainder of a surplus destined for trade, an even greater development of accounting took place. However, it is worth noting that during this period, the exchange encountered great difficulties, because in the absence of a currency, the owner of a good had to find a person interested in his goods and who would be willing to give in exchange a good that the former needed. The solution to the problem came with the appearance of merchants / traders. For a long time, the exchange was in kind, only that it was mediated by the merchant. Subsequently, due to the real difficulty of establishing the equivalent between two commodities subject to exchange, the function of

measuring the value was assigned to the currency, as a generally accepted and universally used instrument of exchange. It is true that the use of the currency continued in parallel with the exchange in kind, the two coexisting for a long period of time.

Of course, it was not only accounting that benefited from the intensification of economic exchanges at the level of individuals. Figures and letters are probably the most important gain that has been directly influenced by economic development and the effect has made its presence felt in accounting too. In the era before the appearance of figures, accounting records were kept in the most different forms, using fingers, coloured pebbles, beads or notches in stone or wood. The specific signs by which the values were represented differ according to peoples and period. The ancient Greeks used lowercase letters of the alphabet, marking units (1-9) with the letters a - i, tens with the letters j - q and hundreds with the letters r - w. The separation of the basic units from tens and of the latter from hundreds was done by means of commas (Demestrescu, 1972).

The history of the peoples of the world, from ancient times to the present, confirms that economic differences between the members of society have been the main cause of the emergence of social classes. The emergence of private property, the continuous increase of the phenomenon of labour division and the amplification and diversification of trade documents represented the basis for the development of accounting records as a primary form of accounting, as we know it nowadays.

The earliest evidence of the existence and practice of accounting records was provided by the Babylonian civilization, organized around the first known city in history, Ur. A whole series of official and unofficial documents, the most important of which is the Hammurabi Code, include information on the organization of legal and economic life, including the management of accounting. The Egyptians took over the practice of accounting records since the time of Ptolemy, the first in a series of 15 Greek kings who ruled Egypt after its conquest by Alexander the Great. Thus, there was a continuity in the use of accounting, many of the accounting techniques and procedures being taken from the Babylonians.

In contact with Egyptian civilization after the conquests of Macedon, the ancient Greeks in turn took over the accounting technique and with the help of the Greek trapezits who worked in Rome as silversmiths, transmitted to the Romans this unique way to keep track of economic and commercial phenomena and transactions. We notice how this practice has spread from one civilization to another over time, each bringing its own contribution to the development and improvement of the field (Funnell, 2008).

A peculiarity found in all ancient civilizations is the appointment in the position of accountant only of certain people with specific training and who were appreciated in the community. The Egyptians, for example, had such great respect for the profession of accountant (scribe) that even members of the royal family dedicated their lives to practicing this profession and those who were part of the "guild" of scribes had access to the most important positions in the state (Miller et. al, 1991).

Common to all these civilizations is the assignment of the positions of accountant, manager or verifier to the persons who demonstrated the highest skills, the selection process being extremely rigorous. For the Romans, for example, when they took office, accountants took an oath on the *gens*, thereby assuming the punishments to which they could be subjected if they failed to keep the accounts correctly.

From our point of view, the main function of accounting in those times was to monitor revenues and expenditures from public budgets, any possible frauds being severely punished, without taking into account, in most cases, the social status of the accused. Therefore, we deduce the special care given by the ancients to the control and check of the use of public money. More convincing evidence of the methods and means of exercising control over wealth, as well as institutions involved in these actions, we find, especially in the Greeks and Romans, civilizations in which the first Courts of Accounts operated.

The great civilizations regulated to the smallest detail the commercial relations between the state and individuals. Even if initially, the most important trade relations were the tribute-like ones paid to the winners by the losers, over time, trade, both on land and at sea, experienced a development unprecedented until those times.

History records that the most advanced techniques and means of accounting were those practiced by the bankers of Athens, which were overtaken, along with the Hellenization of Egypt, by those of Alexandria.

We believe that the economic and social conditions in a state had a considerable influence in the development and customization of a certain type of accounting. That is why archaeologists have noted that in Hellenistic Egypt, although ruled by Greek kings, accounting took a much more complicated form as opposed to that practiced in Athens or even by the Romans, due to the coexistence of two types of economy, one based on money and another on exchanges in kind.

In the Roman culture, the regular and rigorous bookkeeping was an objective of first importance, both at the level of the fortress management as well as at the level of the individual. For the *pater familias*, acting as head of the family, the organization of the accounting of his own household was a pride, not just an obligation. Accounting records such as *Codex accepti et expensi* could serve as admissible evidence in court if kept regularly.

The Romans also developed a special type of accounting that addressed the agricultural sector of the economy, dominated by large landowners of noble origin, which generated high sums of money, so these had to

be carefully tracked and taxed. In *De re rustica* (On Agriculture), Lucius Iunius Moderatus, historically known as Columella, offers a comprehensive, systematic, and detailed description of Roman agricultural work. The book covers topics such as the choice of agricultural site, water reserve, agricultural buildings, workers, ploughing, fertilization and care of crops, cultivation, grafting and cutting of fruit trees, vines and olives, etc. Even if the agronomic information predominates, the paper also includes indications on rules and regulations for keeping agricultural accounts and accounting records.

The continuous improvement of accounting is also due to the bankers from Ancient Rome who performed the most complex operations and transactions for those times, which required a well-organized accounting. Tools such as letters of credit, insurance policies, cheques or bills of exchange were not unknown to ancient peoples, on the contrary, in some cultures they were widely used. We conclude from what it was said above that the transfer operations represented the source of the appearance of the later double entry accounting. Historical accounting documents confirm the intense economic life that took place at that time and in this respect we can mention: purchases and sales of goods, real estate or land, tax payments, the granting of loans, insurance of goods during transport and even the incorporation of companies. Despite the central role that accounting technology played on the economic scene of antiquity, it remained an instrument of the ruling classes throughout this period. (Dumitrescu, 1947)

Many other notes used in antiquity were of an accounting nature because, as the study of documents of the time shows, a significant part of these notes was based on the account, as it was used according to the laws and mathematical rules of the period (Calu, 2005). This is the first phase in the evolution of accounting in the form we know these days.

3. ACCOUNTING IN FEUDALISM AND THE APPEARANCE OF PACIOLO'S *SUMMA*

The period of feudalism in history differs from one state to another. In the Netherlands, it ends with the Bourgeois Revolution of 1566 - 1609, being the starting point of what will be known as the Golden Age of the Netherlands.

In England, historians disagree on an exact date, but most believe that the abolition of feudalism took place along with the *Tenures Abolition Act* of 1660. The Marxist view of the abolition of English feudalism mentions the so-called "Bourgeois Revolution" of 1640-1660, in which the final stage of English feudalism was destroyed by the bourgeoisie and replaced by a state that reflected the widespread of agrarian (and later industrial) capitalism. Most historians reject such a thesis because thorough research in all geographical areas of England, in local registries and family archives, has revealed that the changes regarding the ownership over buildings and therefore the composition of the ruling class have not been so significant during this period (Hill, 1991).

The decades after the Glorious Revolution of 1688 had a much more important role in this direction, marked especially by the establishment of a constitutional monarchy.

In Austria-Hungary but also in Italy, feudalism ended with the revolutions of 1848, and in France the feudal system fell after the French Revolution of 1789. In Russia, feudalism lasted until the abolition of serfdom due to the reforms of 1861. In China, feudalism functioned in one form or another until the beginning of the 20th century.

In Romania, the Revolution of 1848 meant, as in many European states, the end of the feudal system and the agrarian reform of Alexandru Ioan Cuza in 1864 definitively broke the connection with the old feudal order.

In Europe, feudalism developed from the 6th to 9th centuries, depending on the state and region. This period, which is mistaken for the Middle Ages, did not mark a development or widespread use of accounting techniques and methods. In the period after the 9th century, the relations of vassality - suzerainty evolved, the feudal lords began to ask for rent in labour, in kind and money and the predominant form of production was represented by crafts. During this time, cities, trade, production and means of transport developed and the labour division in agriculture and crafts increased and businesses and banks were booming. This was the point from which the evolution of accounting was resumed in order to meet the new requirements of economic life.

The intensification of domestic and foreign trade determines the emergence of companies, first in the Italian states and later in the Netherlands, England, the German states, France, etc. (Taton, 1970). The era of great explorations results in the discovery of new continents with multiple riches to be exploited and new sea routes that simplify the old trade by land. New technological innovations and trade links result in increasingly complex economic relationships. The need to improve existing accounting methods and means was soon realized, as the ancient processes of the Egyptians, Greeks and Romans no longer corresponded to the economic reality that defined the current political, social and military structure of the world.

Pioneers in the field, the Italians initially practiced the memorial form of accounting, which following successive improvements, turned into single entry accounting (Demetrescu, 1972). Superior to the previous forms, single entry accounting is initially introduced in the companies from the powerful Italian commercial cities and soon spread to all Western European countries.

Single entry accounting worked for a long time in parallel with double entry accounting, although the latter had become known to the general public and was used in most Western companies. The existence of the double entry accounting is not due to an invention, but to the constant concern of Italian accountants to improve existing methods. By observing the superior results of this type of accounting and documenting its practice in Italian cities, especially in Venice, Luca Paciolo systematizes and explains this technique in the *Summa de arithmetica, geometria, proportioni e proportionalita* published in 1494. The book, as a whole, is dedicated to the problems of arithmetic and geometry, but for economics, the chapter called *Tractatus de computis et scripturis* dedicated exclusively to accounting is representative, Luca Paciolo's remarkable contribution, moreover, consists in introducing in a didactic manner, in a scientific work, the method known for more than a hundred years as the "double entry".

The publishing of Luca Paciolo's work must be seen in the historical context of those times. During the 11^{th}-15^{th} centuries, Italy is the place where the production factors have developed the most. Thus, commerce, trade and crafts develop more than in the case of other states, which drives the evolution of cities as centers of political and economic power. Under these auspices of the Italian Renaissance, the work *Summa de arithmetica, geometria, proportioni e proportionalita* appears in 1494 in Venice.

Luca Paciolo was born in 1445, in the same city as the great Renaissance painter Piero della Francesca, in Borgo San Sepolcro (nowadays Sansepolcro) in the Arezzo region, part of the Florentine Republic. He studied in Venice with Domenico Bragallino but lived in the house of an important merchant from that time of the serenissime republic, Antonio Bompiasi, taking care of his son's education.

Structured in two parts, arithmetic and geometry, Luca Paciolo's greatest work is the keystone of accounting. By positioning the “Capital” account in the center of the calculation system, Paciolo formulates the first accounting equality between the “Cash” and “Capital” accounts, hance the balance relation “Wealth” = “Capital” is inferred (Horomnea, 2013). Luca Paciolo does not explicitly refer to the double entry, but states that any item initially established following the inventory, will be recorded in the debit and credit of two different accounts. The main accounting documents are described in detail by the author: The Memorial (memoriale), the Journal (giornale) and the General Ledger (quaderno or gran libro). Also, we notice the first introduction of the terms *balance sheet* and *profit and loss account*. As in the modern age of accounting, debt had to be on an equal footing with credit.

Luca Paciolo published the first book on accounting and double entry shortly after Gutenberg invented printing in 1494. Almost four decades ago, in 1458, an Italian politician from Ragusa, Benedetto Cotrugli, finished writing the manuscript of the wortk *Della mercatura. and the perfect merchant*. The double entry accounting book consists of 200 chapters and includes both rules for organizing the economy and trade, elements of business ethics and rules for bookkeeping. Cotrugli addresses concepts specific to the modern economy such as credit or cash purchases, the use of bills of exchange or the practice of pledge. With regard to double entry bookkeeping, he states that the role of the journal (giornale) is to record the equity of the trader, which is subsequently transcribed in the General Ledger, together with the other accounts relating to persons and property. The result (namely the resulting profit or loss) will be entered in the “Capital” account. Benedeto Cotrugli places great emphasis on practice when it comes to accounting, considering that it cannot be learned from the literature.

The misfortune caused the work to be published only after the disappearance of the author, in 1573 and 1602. That is why Professor Emil Horomnea calls him "the unlucky author", emphasizing that the success of a work depended, to a large extent on the chance of being published (Horomnea, 2008).

The development in Italy of the system that would dominate the accounting world until now has an explanation as simple as possible, which we see constantly repeated in science in general and in accounting in particular: where there is economic development, scientific progress appears. Thus, the evolution of accounting has been closely linked to the development of trade, the banking sector, industry and other sectors of the economy. This also resulted in the specialization of accounting in branches such as industrial accounting, bank accounting, commercial accounting, etc. (Bromwich and Bhimani, 1989).

Luca Paciolo's work marks the end of the first part of the evolution of accounting in the feudal era, giving rise to a new stage in which accounting acquires an accentuated capitalist form. In this new era, double entry accounting was spreading to many Western European countries such as France, England, Germany, the Netherlands or Austria.

Although the balance of world trade has changed over time in favour of other Western European countries, Italian accounting has remained in the spotlight on the peninsula and in the European space, being continuously developed, especially in the public administration of Venice, Savoy, Palermo or Sardinia.

In the 16^{th} century, the number of authors in the field of accounting multiplied and among them we can also mention Girolamo Cardano, an Italian scholar who advanced the materialist theory of enterprise, later developed by authors such as Courcelle-Seneuil, Hohlmann and Manfred Berliner. The set of materialist theories analyses the account by means of a calculation tool that has material content and follows the totality of the value movements of the assets and liabilities elements. The main peculiarity is that "they do not use constructed

fictions to reflect reality as in the case of personalist theories" (Bromwich and Bhimani, 1989, p. 58) This theory was oriented towards the interests of the entrepreneur, as the latter was seen as a creditor of the entity and the resulting profit appeared as a debt to it.

Simon Grisogono establishes in 1609 the form of the accounting item, between the corresponding accounts having the element “at”, a way of presentation used for a long period of time. Ludovic Flori is the first to propose, in 1610, the use of composite items. Also, in the Italian space, more precisely in Florence, Bastiano Venturi, the head of the accounting school of the republic, successfully promotes the idea of tracking the responsibility of employees of companies using accounting data.

Also, the balance sheet appears for the first time in official documents in Italian cities. The archives of the Bank of Saint George in Genoa include the registration of a form of balance sheet from 1408 and in the General Ledger of the city of Genoa the name "billantium" was used to designate the Balance Sheet account (Capron, 1994).

It should be noted that Luca Paciolo did not use the concept of "balance sheet", but Domenico Manzoni wrote in 1554 about the drawing up of the closing inventory and the account called "Balance Sheet" and Cotrugli mentions in his work about the use of "main balance sheet" (Voina, 1932).

The scientific evolution of accounting has also been strongly influenced by authors from outside Italy, who have not only translated and interpreted the work of Italians, especially Pacioli, but had described and developed a whole series of accounting issues. Moreover, by translating this work into as many languages as possible, their ideas spread throughout the continent. Some of these works proved to be particularly valuable and useful, from a theoretical point of view but especially in practice, due to the fact that they were in line with the needs of traders and accountants.

A very important contribution was made by the Dutchman Claes Pietersz de Deventer as he was the first to address the issue of the valuation price of goods at the time of inventory. The Belgian author Simon Stevin proposes the introduction of the obligation of companies to draw up and present an annual balance sheet of their activity, which materialized in France, in 1673, by the ordinance issued by Colbert. He also demonstrates the possibility of using double entry accounting in public administration, by drafting a document that he sends to most Western European states.

In England, on the other hand, there was no significant progress in the field of accounting in the $16^{th} – 17^{th}$ centuries, as the English authors limited themselves to translations and interpretations of the works that already existed.

In fifteenth-century Germany a whole series of accounting works were published, the peculiarity of which was that they were limited to the research of factorial accounting and approached only sporadically the possibility of introducing new elements of double entry accounting. Such attempts were found in the works of Henricus Grammateus (1518) or Ellenbogen (1536). Of greater importance were the writings of Wolffgang Schweicker Sr., who made a series of German translations of Domenico Manzoni's books, bringing the ideas of Italian accounting to the attention of the German public. A decisive role at that time was played by Goessens, who established the classic form of the account, setting the position of each element in the structure of the account, namely: account name, debit, credit, transaction date, explanation, page number and value. For the first time for German accounting, the same Goessens uses the accounts "Capital/equity", "Closing balance sheet" and "Profit and loss".

Double entry accounting is introduced in France by the work of the Antwerp-born Flemish author Jean Ympyn, called *Nieuwe Instruction ende bewijs der loogelijf'ker Consten des Rekenboekse ende Rekeninghe houdene nae die italiaenische* and published in 1543 (Bunget, 2004). The Dutch provinces, under the rule of Habsburg Spain, used French intensively in trade and business, due to their historical affiliation with the Dukes of Burgundy, the latter being of French origin until the transfer of the title to Charles V. Thus, the above work is translated quickly, by the author himself, in French and becomes available to the French public. Ympyn is probably the most influential figure in accounting in the 16^{th} century, making serious contributions to the accounting techniques and methods initially introduced by Paciolo. The Flemish set up his own accounting system also based on the Memorial, Journal and General Ledger, but with a modified form, better organized and future-oriented. He also comes up with the idea of keeping special registers dedicated to certain specific transactions: recording family household expenses, letter records, the record of expenses for the purchase of goods, cash register (a kind of electronic cash register) or invoice records. The main innovation brought by Jean Ympyn is the rethinking of the form and of the way of functioning of the accounting journal, his works guiding the user step by step in the use of double entry accounting. The general ledger contains a number of 157 accounts in alphabetical order, with the exception of the capital and cash accounts which are already open at the beginning of the register. Ympyn is keen on using analytical accounts, promoting the opening of an analytical account for each type of asset subject to accounting registration.

In our opinion, Jean Ympyn's work had an immediate effect on French accounting, which had not made any major contributions so far. Thus, in 1563, Pierre Savonne brought to the forefront of the accounting debate the possibility of drawing up the balance sheet on the basis of data provided by the accounts in the General

Ledger, an idea expressed in the book *Instruction et maniere de tenir livres de raison et de comptes par partie doubles*. The success of the book was so great that it was republished four more times, each edition bringing additional contributions compared to the previous one. Following the author's additions successively, we notice the obvious initial similarity with the principles enunciated by Paciolo in the *Summa* but also the subsequent distancing from some of them, Savonne considering, for example, that the Journal must be separated into several such registers, in accordance with the social division of labour, going so far as to support the need to keep a secret journal. He also contributes to the development of clearing techniques between accounts and promotes the determination of the accounting result strictly based on the "Profit and Loss" account, and not off-balance as it was done until then.

The development of accounting in France is directly related to a series of legal instruments introduced in the 17th century during the reign of Louis XIV, by Jean Baptiste Colbert, the successor of Cardinal Mazarin to the government lead. He left his mark on the foreign policy and finances of the French state, his reforms being called "colbertism", an economic current very similar to mercantilism, which put at the center of his philosophy interventionism, the accumulation of gold and a positive trade balance. Following some consultations with Jacques Savary, the author of *Le parfait négociant*, in 1673 he issued an ordinance obliging both private companies and state institutions to keep accounting records and to draw up both an inventory and a balance sheet annually. Savary analyzes in the above-cited work, among many other topics, the effects of introducing the obligation to keep records on public and private entities.

In other major countries on the continent, such as Austria, Sweden, Norway, Russia and Spain, accounting began to be widely used in the feudal era, both in the public sector and in the private sector. They have progressively replaced memorial and factorial accounting with single-entry and double-entry accounting. The spread of the latter accelerated with the emergence of the first capitalist elements in the economy of these states. We can say in confidence, however, that the accounting literature of these countries has not made a major contribution to the development of accounting, as it was limited to translations and some interpretations of works produced in Italian cities, France, Germany and the Netherlands.

The feudal era marked the sustained progress of accounting, from its rudimentary forms to the spread of the double entry accounting, an evolution that would continue rapidly in capitalism, encouraged by economic growth and the permanent development of trade and production.

4. ACCOUNTING IN CAPITALISM

De Granges considers that the purpose of accounting is to "pursue the movement of capital, results and settlement of the enterprise with the entrepreneur" (Demetrescu, 1972, p. 119). His conception of the entrepreneur separates him for good from the enterprise, considering him a creditor of the company and the resulting profit is seen as a due interest for the invested capital. The theory has gained popularity and authors such as J. Bellay or Deschamps support it, however, under the name of the moral theory of trade. Berrachin calls it personal theory. Starting from these ideas, the business theory is developed, which has been promoted by many authors, especially by the French, German and Italian ones. De Granges is the first author to truly revolutionize Paciolo's old accounting system, bringing together two of the three registers of the Italian, the Journal and the General Ledger, in a single accounting document that presents the unitary patrimonial and financial situation of an enterprise (Horomnea, 2013).

From our point of view, the continuous development of large private companies and the considerable increase in the volume of information to be recorded, processed and interpreted by accounting were the starting point of a revolution in the field by introducing new accounting means, orienting many authors to the issue of accounting and later to the use of new computing techniques, including of electronic computers.

Throughout the history of accounting, the forms imposed by literature and practice have varied so much that it is difficult to systematize all of them. However, taking into account the registers used and the states where they were used, we can delimit the following (Demetrescu, 1972, p. 124):

- The Italian form or the original form of accounting, which used the Cash Register, the Memorial and the General Ledger. It has been greatly improved over time, evolving into other forms.
- The German form of accounting is the place where concepts such as the collection accounts or the "Goods" account or the Centralizing Journal were established, which was kept weekly or monthly and the entries from it were later distributed on accounts in the General Ledger.
- The French form of accounting is essentially a form superior to the German one, in which it is possible to simplify the collection of journal entries and the use of specialized journals, the operations being then distributed in the General Ledger. The French also introduced new columns in the accounting records, such as: Cash Register, Purchases, Sales, etc.
- The American form (name disputed by some) which represents the form of Journal - The General Ledger introduced by de Granges. The name comes to support the novelty of the method, as it is known that many innovations at that time came from America.

- The logismographic form, which is based on the four-entry accounting and the use of the logismographic journal. It is characterized by a rigorous record keeping, strict accounting rules that have the role of obtaining a synthesis of the entire economic activity of the enterprise, by concentrating it in a single document - the economic balance. This form was a source of inspiration for other types of accounting such as the Philippine budgetography, Eserski's triple entry or Pisani's statmography.

The Swiss Hügli proposes another form of accounting, known as constant accounting, an accounting method in which the auxiliary registers are replaced by an administrative register and a cash register. He is a follower of the materialist trend with two series of accounts. Meisner proposes a substantial change in the form and structure of the memorial in 1803 and Quiney recommends classifying accounts into 2 groups: personal accounts and fictitious accounts, by introducing account records (Previts et. Al, 2010).

A particularly important step in the evolution of accounting internationally was the introduction of the first chart of accounts, in particular by means of the contribution of German authors. Schmalenbach was among the first to raise this issue, suggesting the grouping of the contents of the chart of accounts based on the decimal system.

From this moment and on this topic, the accounting literature is extremely rich, as there is a significant number of ideas and practices regarding the adoption of the most efficient chart of accounts, in accordance with the economic organization of that time.

From 1494 and until now, the accounting literature has been concerned, among many others, with achieving a logical classification of accounts and establishing the principles on which the system of double rentry accounting is based. The numerous diversity of theories creates difficulties in elaborating a grouping based on objective criteria, but most authors consider that this whole set can be divided into two categories: the personalist theory of accounts based on their legal content and the materialist theory of accounts that takes into account the economic phenomena that affect the assets of an entity.

Chronologically, the personalist theory is the first theory of accounts, initially mentioned in Pacioli's *Summa*, but over time it was separated into personalist theory with a series of accounts and personalist theory with two series of accounts. The former came to be known as the theory of personalist conformism and the latter as the theory of personalist duplicism.

From our point of view, the essence of the personalist theory lies in the conception according to which the economic transactions take place between the employer and the fictitious persons and the whole accounting construction is subordinated to these relations.

In contrast to the personalist doctrine is the materialist theory of accounts, which rejects the use of fictitious persons supposed to be related to the enterprise and emphasizes the true object of accounting, namely the connection with the wealth and capital of the entity. The account becomes the form of expression of the content of the object of accounting and describes the formation of wealth. Materialist theories focus on - wealth, classified as productive wealth (assets), non-productive wealth (debt) and net worth (equity).

Materialist theories can also be grouped into materialist theories with one, two or three series of accounts and other types of theories. Those with a single series of accounts form a single group (wealth accounts) and their operation is carried out in accordance with a set of common rules. It is also called single-account materialist theory. We have emphasized the latter as it is divided into the materialist theory of enterprise and the materialist theory of net enterprise.

The materialist theory of the enterprise presents the particularity of separating the company's wealth from that of the owner, the company becoming the debtor of the capital holders of the sums of money made available to it and the employer a creditor for this capital and profit.

Berliner, one of the most influential authors of capitalist accounting literature, considers that wealth (equity) and debt have the same accounting nature, because they present, in the event of liquidation of the company, the distribution of assets between own equity and borrowed equity.

The materialist theory of the net enterprise suggests viewing the entity from the point of view of its management, but also from the position of its personification. It considers the employer as a third party that has the right of claim and liabilities in relation to the company's administrator. Hügli criticizes the theory, stating that its application makes it impossible to determine the size of the wealth, enabling only the determination of its composition. Reisch and Kreibig do not consider this theory to be a single-account one, because, they specify, it operates with two series of accounts: one for positive wealth, which is transcribed in the balance sheet and another corresponding to the results, which is recorded in the “Profit and loss” account.

Materialist theories with two series of accounts were promoted by Johann Fr. Schär, Albert Calmes, Augspurg, Hügli, Kurtzbauer etc. The foundation of the theory is based on the simultaneous existence of two series of accounts permanently in divergent relationships.

Augspurg develops the theory by stating that the double entry accounting is based on two groups of accounts: one group for net assets and another for its constituent parts. The final balances of these two categories of accounts are on an equal footing.

Hügli identifies, starting from Augspurg's theory, two types of calculations: one for establishing wealth and another for determining capital/equity. He goes on to show that all people's accounts are, in reality, securities accounts. Hügli subordinates his entire accounting construction to the relationship A - P = C, considering that the total assets of an enterprise are divided into active patrimonial instruments, identified by the author in the form of assets and receivables, and passive patrimonial instruments, namely debts. The key difference between the two categories is net wealth (own equity).

The mathematical deepening of the theory appears later, being the work of Schär, a continuator of Hügli's school of thought. Starting from the relation C = A - P or + A - P = C, he establishes that the positive wealth is transferred to the debit of the wealth accounts and the capital is highlighted in the credit of the capital accounts. In this way, the increase of wealth is outlined in the debit and its decrease in the credit. As a consequence, the capital increase appears in the credit of the capital account and its reduction is highlighted in its debit.

The notion of "negative wealth" used by Schär to describe the company's debts is criticized by Walter le Coutre, who states that for economic actors, the term "negative wealth" does not make sense. Schär rightly observes that the simultaneous recording of transactions, in the debit and credit of two accounts, forms the purely external side of double entry accounting (Horomnea, 2008). He also deplores the dependence of the correct drafting of the balance sheet on an off-accounting operation, namely the inventory.

Nicklisch proposes a theory with a double series of accounts, where capital is on an equal footing with wealth. Wealth is seen as the sum of the concrete economic means at the disposal of the enterprise, while capital is defined as the totality of abstract means. The concrete means are in fact the assets of the enterprise, in a permanent movement, in antithesis with the abstract wealth which is stable, namely it remains unchanged.

The materialist theory with three series of accounts was developed by authors such as George Obst, Fr. Leitner or Walter le Coutre. It evolved from the theory with two series of accounts, where A = P + C, where we notice that to the left of the balance sheet there are the asset accounts, while the liability and capital accounts are to the right of the balance sheet.

Also, Lehmann's theory, whose coverage area is limited to industrial accounting, grouping the accounts according to the needs of industrial companies, in: accounts of wealth, income and expenditure, capital and productive costs is also part of the category of materialist theories. Reininghaus also draws up a materialist theory of accounts and Sganzini develops another, known as the "realistic theory." The latter describes accounting from a threefold perspective: it rigorously controls capital inflows and outflows, calculates the net income achieved and determines net worth. In support of his theory, the author divides accounts into two categories: control accounts and calculation accounts.

In Leautey and Guibault's view, accounts should be grouped into four distinct categories, in accordance with the natural order in which economic transactions take place: capital accounts, personal accounts, securities accounts and economic outturn account.

In our opinion, even if many of the materialist theories were abandoned along the way or proved their lack of feasibility, they played a major role in determining the content and functioning of the accounts. They have also inaugurated a whole series of researches on the functioning of capitalist-era enterprises, and much of the current knowledge of accounting is contained in these theories.

It is not only the classification of accounts that has been at the heart of the concerns of researchers in the accounting field. The accounting literature, especially the French one, focused on the way in which the cost price (Calmes, Batardon, Convert, Leautey, etc.) is set. Most of them believed that the whole set of production costs, to which the general costs are added, are part of the cost price. German literature also approached the subject in extenso, even promoting a whole series of new terms such as: marginal cost, fixed cost, proportional cost, periodic consumption, benefits, etc. The whole debate around the subject matter has brought to the fore notions and concepts from the area of cost price research area, such as: pre-calculation, post-calculation, evaluation, price comparability, types of cost price (production cost, purchase cost, technical cost, economic cost, etc.).

Guilbault goes further and makes a very interesting analysis of the influence of the variation of supply prices of raw materials on the net result of the industrial enterprise (Bunget, 2004). Cost calculation methods have been rigorously analyzed in the French and German accounting space, and some of the techniques that appeared over 100 years ago are still used there days, especially in companies in the industrial sector.

Another topic of great importance that was the subject of numerous researches during the capitalist period was the question of balance sheet, but despite the multiple analyses and points of view, we find that a unitary conception has not been reached. The balance sheet represented the point of origin of the theories of accounts, especially the materialist one, considering the way in which capital and debts are viewed in the proposed versions, over time, of the balance sheet equity: A = P; A - P = C; A = P + C. This conception represented the foundation of other theories regarding the balance sheet, among which we can enumerate: economic, mathematical, of indivisibility, legal, of the personification of the balance sheet, etc. (Napier, 1995).

The issue of balance sheet unification is present in the work of G. Faure, M. Bellini, Delavelle, Ed. Folliet, Leautey etc. The balance sheet theories have dealt with the study of its content and role, as well as with

the ways of evaluating the balance sheet elements and have held a privileged place in the capitalist accounting literature. Among the most important, we quote: static theory, dynamic theory and organic theory.

The static theory considers that the role of the balance sheet is to reflect in an accounting manner the means available to the company, which put into use, contribute to the achievement of the company's objectives. It was supported by Walter le Coutre and Berliner. The balance sheet in the static vision is a momentary photograph of the structure and situation of the entity's means.

The dynamic theory was supported by Schmalenbach and according to it, the balance sheet must be oriented towards reflecting the situation of the company's results.

Organic theory is a combination of the two theories stated above, arguing that the purpose of the balance sheet is to present both a static and a dynamic view of the entity. It was promoted by Schmidt, Hauck, etc. and has the character of a dualistic theory.

All these theories differ from one another, through a whole series of particularities, the most important referring to the ways of evaluating the patrimonial elements, the registration of the capital movement and the establishment of the results.

The organization of public accounting in the capitalist society also generated thorough debates, because due to the considerable increase of the state's role in the economy, as well as the complexity of its functions, public accounting was of a maximum importance in the state patrimony, in monitoring the way in which revenues were collected and in checking the proper management of funds.

Under these conditions, the public accounting initially used has undergone major changes, being later replaced by other more advanced forms such as logismography, statmography or constant accounting, so that in the end, the double entry accounting came to be used in the monitoring of state finances. It is interesting to note that the introduction of double entry accounting in public accounting did not have substantial effects on the development of accounting theory and methods, but the double entry bookeeping resulted in the organization on logical and balanced foundations of state accounting.

5. CONCLUSIONS

The issue of historical research in the field of accounting often faces questions about the need to analyze the past, its role in the present and future evolution of accounting, and the possibility that research may influence the harmonization process.

The answer to such questions is that the understanding of any field depends on the research of its history because only the study of what it used to exist is able to provide us the models and patterns of social functioning that can help us try to recompose the continuous and uninterrupted process of metamorphosis of accounting.

We point out that true professionals in a field, in our case accounting, can only be trained in an environment that appreciates tradition and emphasizes the historical factor because the development of accounting theory and practice cannot take place without knowing the truth about the past. Also, historical research is the best unit of measurement for assessing the success or failure of a practice, method, theory, et

The usefulness of studying the history of accounting can help the process of accounting harmonization and normalization and it is an element which comes to support the teaching process, facilitating the understanding of current processes by explaining their historical origins.

These days, internationally, the study of the past in accounting is carried out within the *history of accounting* but also of the *comparative accounting*, noting that the latter is not limited to the analysis of the evolution of the field over time, but takes into account the differences and similarities between accounting systems used in the states of the world. From the study of the literature we notice an exaggerated concentration of the authors who wrote exclusively in English, a generalized ignorance of the first forms of accounting from antiquity and that too little emphasis is placed on the phenomenon of globalization of accounting before the 20th century.

In the case of our study, the historical analysis focused on the international aspect, considering that the research oriented towards a single accounting system cannot ignore the genealogical and transnational factors of accounting and its evolutionary character must be studied in connection with social, economic, cultural and political relations in a country, on the one hand, and between countries, on the other.

The first definition of the object of accounting was drawn up by Luca Paciolo in 1494 in the book *Summa de l'arithmetica, geometria, proportioni e proportionalita*, which includes a chapter (chapter XI) dedicated to accounting, in which the double entry method is presented. Paciolo defines the object of accounting as the sum of all things, regardless of their nature, that belong to a person and all transactions related to them, presented in the order in which they took place. Starting with Luca Paciolo, there have been countless attempts to define the object of accounting, which differ in relation to the place and time when they were formulated, which made it impossible to establish a consensus.

We believe that our study shows that Luca Paciolo is not the inventor of double entry accounting and his book is not the first written work to popularize this method, but it is the first that was published and given

these conditions, it enjoys the highest recognition worldwide. Its influence over the centuries has been proven by the arguments brought in this article and the development of modern accounting has started from this work.

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