

EVOLUTION OF ACCOUNTING SINCE LUCA PACIOLO

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ABSTRACT

In 1494 Luca Paciolo, an Italian monk, undertook to summarize contemporary mathematical knowledge. His treatise included "De Computis et Scripturis," thirty-six chapters on bookkeeping as practiced in Venice. These chapters became the foundation of the double-entry accounting that spread throughout Europe and later into the United States. Paciolo provided a practical model for recording and summarizing business transactions. Business continuity under the corporate form stimulated accounting theory. Evolving accounting theory, tax regulations, and court decisions modified the original accounting model, but Paciolo's double-entry structure still influences business throughout the modern world.

INTRODUCTION

In 1494 Luca Paciolo published *Summa de Arithmetica, Geometria, Proportioni et Proportionalita*, a treatise now recognized as the first on accounting. Embedded within his exposition of mathematical knowledge of the period was a précis of a method of bookkeeping Venetian traders practiced to guarantee complete posting of business transactions. Paciolo reported no other advantages, but the treatise proved to be a foundation for future writings on double-entry bookkeeping.¹

Although double-entry comprises theory, form, and technology, Paciolo stressed practicality and the fundamental duality of each transaction. Traders using his standardized method of recording transactions had immediate information on their assets and liabilities. Without theorizing, Paciolo revealed an understanding of concepts basic to bookkeeping. He recognized, for example, the relationship between nominal and capital accounts inherent in proprietorship.² But he made no provision for uncollectible accounts or financial statements. He failed to recognize depreciation or periodic closing, and assigned only minor importance to fixed assets.

Despite refinements in theory, auditing technique, cost analysis, and budgeting, conventions like subtraction by opposition placement and taking a trial balance as a test of equilibrium remain basic to double-entry bookkeeping. Although the sequence of entries from the journal to the ledger is fundamentally

unchanged, the ledger itself is now simplified and the journal entry abbreviated by the use of position. The variety of accounts kept today is greater. Separate financial statements have replaced the balance account, and the closing process is now periodical.³

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Trade voyages became increasingly important during the sixteenth century, and each voyage was a separate venture. As trade increased, dividing up the proceeds after each voyage became more complex. In 1613 the East India Company made an initial move toward business continuity and capital permanence by issuing capital stock with a four-year termination date.⁴

Several features of accounting in Paciolo's time contrast sharply with current practices:

1. Before the sixteenth century, there were no external reporting requirements, nor any uniform reporting standards. The main purpose of accounting was to provide information to traders.

2. Personal and business affairs were, for the most part, intermingled.

3. There was no concept of an accounting period. Since most business activity was of short duration with profit calculated when the voyage or venture was finished, there was no need for accruals or deferrals.

4. There was no stable, uniform monetary unit of exchange.⁵

Fixed-capital accounting was introduced in the nineteenth century to accommodate expanding industrialization. This concept led to the development of the limited liability partnership, which differentiates between the liability of active and silent partners. The limited liability partnership evolved into the limited liability corporation.

Limiting the liability of corporate stockholders created a legal need to preserve capital and protect creditors. A series of court decisions required that dividends be paid from current and accumulated income. The corporate accountants' most important task was to determine the profit available for these dividends, and the main purpose of accounting was to yield a balance sheet with capital and profit clearly identified.⁶

The emphasis on paying dividends while maintaining continuous operations popularized accrual accounting, periodic reporting, bad debt write-offs, and depreciation allowances. With the increasing importance of corporate transactions, investors demanded consistent financial reporting. Determining profit or loss at the end of each business venture gave way to annual accounting

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reports. The rapid expansion of double-entry techniques and the use of accounting to satisfy increasingly diverse needs led to further theoretical research.⁷

During the first 300 years of the profession, bookkeepers focused on rules to determine proper journal entries. Their search for general rules led to account personification, which took the following forms: (1) treatment of accounts as living persons, (2) treatment of accounts as representing the owner, and (3) treatment of accounts as separate individuals who are responsible to the owner. Although these approaches failed to explain the real effects of transactions, they shifted theoreticians' attention from the journal toward reasoning about the nature of capital and are the basis of the proprietary and entity doctrines that still serve as the integrating theoretical framework for accounting in the twenty-first century.⁸

In 1800 James Fulton published a text setting forth the basic elements of proprietary theory. F. W. Cronhelm completed proprietary theory in his 1818 book. Cronhelm emphasized that capital is equivalent to the sum of its parts, and he treated revenue and expense accounting as branches of owner's equity. Thomas Jones refined proprietary theory in 1841 by suggesting that the balance sheet and the income statement be given equal status. In 1907 Charles E. Sprague presented the basic accounting equation: $\text{Assets} = \text{Liabilities} + \text{Capital}$. Sprague assumed that the proprietor is the center of accounting interest and that accounting records are used to measure his net worth.⁹

The fundamentals of entity theory were described in various mid-nineteenth century texts. The theory's premise is that the firm is distinct from its owners; hence the firm, not the proprietor, should be the main focus of accounting. In his 1940 monograph *An Introduction to Corporate Accounting Standards*, William A. Paton, a prominent American advocate of entity theory, and A. C. Littleton wrote that assets should be valued not at cost but as the total benefits the corporation expects to receive from their use.¹⁰

By 1900 conservatism had become the dominant principle. Although that view supported historical purchase cost for asset valuation, there was no well-defined cost concept for accountants to apply in matching cost with revenue or to use in converting asset values into expenses.

OTHER SIGNIFICANT INFLUENCES ON ACCOUNTING THOUGHT

Economic and institutional changes that influenced the development of accounting theory were the industrial revolution, the development of railroads,

and the taxation of business.¹¹ The concept of fixed capital, crucial to business continuity, had a direct effect on the principle of asset depreciation. Before the industrial revolution, fixed assets were considered insignificant but, with the growth of industry, became an important cost of production and distribution. New methods of allocating cost to production improved both the matching of expense with revenue and the reporting of periodic income.

The rapid development of railroads in Europe and the United States in the nineteenth century spurred the development of accounting theory. The railroad industry's need for large capital investments and the long life of assets encouraged accountants to differentiate between capital investment and income. The first approach to calculating profit was a form of replacement accounting based on the assumption that investment capital would be permanently maintained in good working condition. Fixed assets, along with additions and improvements, were capitalized but not depreciated, and any replacements or repairs were expensed. Obsolescence, depreciation, and accruals were ignored. The result was inconsistent reporting, inaccurate calculations of earnings, and a distorted view of management efficiency. In the United States, the 1818 Regulation of Railways Act forced railroads to separate capital from income and simulated the development of modern asset valuation and the various depreciation methods. Concomitantly emerging tax regulation contributed to accounting theory by forcing firms to adopt uniform current accounting practices and apply procedures more consistently.¹²

ACCOUNTING IN THE UNITED STATES IN THE TWENTIETH CENTURY

The English system of accounting was adopted in America in the 1880s. According to early American and English law, cash receipts in excess of cash disbursements was taxable income, a definition that supported the concept of income realization. Court decisions during this period required that dividends be paid only from current profits and retained earnings, a mandate that led to more precise asset valuation, income determination, and periodic reporting. By ruling that common stock dividends were not taxable as realized income, the court established a precedent for income realization based on the principle that an exchange transaction is necessary before there can be taxable income. The gain must be definite, measurable, and irrevocable.¹³

The collapse of the stock market in 1929 forced the profession to adopt uniform accounting principles. Accounting Research Bulletins issued regularly by the newly established Committee on Accounting Procedure (CAP)

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recommended improved reporting practices and helped the profession refine its concept of allocations and accruals vis à vis income. The change in focus led to a decline in the importance of the balance sheet and an increased emphasis on revenue recognition, a uniform method for calculating income and reporting it in the income statement, full disclosure, and consistency in financial reports.

The CAP concentrated on solving immediate practical problems and not on improving accounting theory. By 1959 it had become obvious that a problem-by-problem approach was inadequate. Driven by the dissatisfaction of investors, practitioners, and academics, the profession replaced the CAP in 1960 with an Accounting Principles Board (APB).¹⁴

The APB was commissioned to change the trend in accounting development from problem solving to building a theoretical framework for accounting. While the board resolved a number of conflicts in accounting theory, it soon reverted to the CAP's approach to problem solving instead of establishing a conceptual framework. The APB, under fire for failing to correct accounting abuses, was replaced in 1972 by the Financial Accounting Standards Board (FASB).¹⁵

CONCLUSION

The FASB has yet to develop either a conceptual framework for accounting or a complete body of accepted accounting principles. The board has not solved the problems of accounting and probably never will, but it has made some progress in an on-going effort to meet the needs of the profession. Recent accounting scandals, however, have cost the profession considerable status and some loss of autonomy to a new Accounting Oversight Board. The Oversight Board's long-term impact on accounting theory remains to be seen.¹⁶

Half-a-century after Gutenberg's movable type launched the communications revolution, Luca Paciolo formalized centuries of accumulated accounting techniques and laid the groundwork for the professionalization of accounting. Half-a-millennium after Paciolo, the communications revolution shows no signs of abating, and the accounting profession is going strong. Business practices change and require matching innovations in techniques for keeping track of enterprises so immense that only a sophisticated computer-driven accounting program can differentiate a profitable business from a failure. Paciolo would be as impressed with what accountants are doing today as modern accountants are with what he did 500 years ago.

NOTES

1. A. C. Littleton and V. K. Zimmerman, *Accounting Theory: Continuity and Change* (Englewood Cliffs, NJ: Prentice Hall, 1962), 1–14; and Michael Chatfield, comp., *Contemporary Studies in the Evolution of Accounting Thought* (Belmont, CA: Dickenson Publishing, 1968), 41.
2. *Ibid.*, 49–50.
3. *Ibid.*, 51 and 56.
4. Michael Chatfield, *A History of Accounting Thought* (Hinsdale, IL: Dryden Press, 1974), 80.
5. Edward Peragallo, *Origin and Evolution of Double Entry Bookkeeping: A Study of Italian Practice from the Fourteenth Century* (New York: American Institute Publishing, 1938), 54.
6. Chatfield, comp., *Contemporary Studies*, 168.
7. Chatfield, *History of Accounting Thought*, 8–85.
8. Chatfield, comp., *Contemporary Studies*, 291.
9. Chatfield, *History of Accounting Thought*, 221–27; James W. Fulton, *British-Indian Book-keeping* (London: N.p., 1800); F. W. Cronhelm, *Double Entry by Single: A New Method of Book-Keeping* (London: Longman, Hurst, Rees, Orme & Brown, 1818); Thomas Jones, *Principles and Practices of Bookkeeping* (New York: N.p., 1841); and Charles E. Sprague, *The Philosophy of Accounts* (New York: N.p., 1908).
10. W. A. Paton and A. C. Littleton, *An Introduction to Corporate Accounting Standards*, Monograph no. 3 (Chicago: American Accounting Association, 1940).
11. Chatfield, *History of Accounting Thought*, 221–28.
12. Eldon S. Hendriksen, *Accounting Theory*, 3d ed. (Homewood, IL: Richard D. Irwin, 1977), 40–43.
13. *Ibid.*, 54–55 and 56.
14. Chatfield, comp., *Contemporary Studies*, 284–86.
15. John L. Cary, *To Responsibility and Authority, 1937–1969*, vol. 2 of *The Rise of the Accounting Profession* (New York: American Institute of Certified Public Accountants, 1970), 90–144.
16. Arthur Levitt and Paula Dwyer, “Arthur Levitt’s Crusade,” *Business Week* (September 30, 2001): 74–80.