

2000

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### Recommended Citation

Reomeo, George C. and Kyj, Larissa S. (2000) "Anson O. Kittredge: Early accounting pioneer," *Accounting Historians Journal*: Vol. 27 : Iss. 2 , Article 5.

Available at: [https://egrove.olemiss.edu/aah\\_journal/vol27/iss2/5](https://egrove.olemiss.edu/aah_journal/vol27/iss2/5)

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## ANSON O. KITTREDGE: EARLY ACCOUNTING PIONEER

*Abstract:* Leafing through early accounting journals from the last two decades of the 19th century, accounting historians and enthusiasts piece together the history of accountancy in the U.S., yet pay little attention to the editors of these journals who at times almost single-handedly willed their existence, clearing the road for modern accounting journals. Anson O. Kittredge, who was probably the most outstanding and influential editor of the 19th century, was also an author, teacher, CPA examiner, innovator, practitioner, and organizer.

Accountancy should not forget Selden R. Hopkins its first editor or Anson O. Kittredge his greater successor [Webster, 1940, p. 11].

The last quarter of the 19th century in America marked the beginning of a period of substantial economic change, providing an environment conducive to the establishment of the new profession of public accountancy. The development of the vast railroad system accelerated the nation's transition from an agricultural to an industrial economy and resulted in rapidly growing urban centers. The industrialization brought about a complex, new business world with its separation of the owners from the managers of capital, resulting in the rise of a professional managerial class. The unsatiated demand for capital brought much British investment and, in tandem, British-trained accountants to the U.S. The economic changes of the period necessitated the transition of the accounting profession from bookkeepers to professional accountants.

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**Acknowledgments:** The suggestions of Richard K. Fleischman, Richard Vangermeersch, and the rest of the reviewing team are gratefully acknowledged and appreciated, as well as the editing provided by Gina Simmons.

There were many U.S. accounting pioneers who helped the accounting profession develop during this transition period.<sup>1</sup> Anson O. Kittredge, editor, author, teacher, CPA examiner, and practitioner, was one of the main players who contributed to the development and advancement of the accounting profession in the last quarter of the 19th century. Kittredge, who served as the editor of some of the first accounting and bookkeeping journals in the U.S., also published numerous articles on accounting theory and practice. He was one of the first accountants to describe the importance of accounting for inventory quantities and prices in manufacturing firms and is credited with the development of the first card-ledger system. (He may have been the first "systems" person in accounting.) Kittredge was instrumental in the organization of the New York Institute of Accountants and Bookkeepers [Romeo and Kyj, 1998, p. 35] and played a major role in organizing the American Institute of Bank Clerks [*Dayton Daily Journal*, 1903]. Throughout his work as an editor, he emphasized the "American accounting system," recognizing the differences between the American and British ways of performing accounting that were necessary in the rapidly growing U.S. economy. He was one of the lead accountants in the promotion of the "science of accounts."

The goal of this paper is to establish the contributions of Kittredge to the accounting profession and to the early accounting and business journals he edited. After a brief introduction to his early background, Kittredge's written contributions to accounting theory, practice, and education as an editor, author, and practitioner will be addressed. Second, Kittredge's contribution to cost accounting, specifically his analysis on the classification and application of factory overhead, will be presented.

An analysis of Kittredge's contribution to accountancy was derived by examining the book he wrote with J. F. Brown, *The Self-Proving Accounting System* (1897), and the accounting journals he edited: *The Office* (July 1886 to May 1891), *Business* (June 1891 to October 1896), and *Accountics* (April 1897 to September 1900), as well as a journal for which he may have been a silent editor, *Commerce, Accounts and Finance* (January 1901 to May 1903).<sup>2</sup> Norman Webster's archives at the AICPA library were also

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<sup>1</sup>A short list of other noted accountants in the 19th century includes Charles E. Sprague [Mann, 1931], Charles W. Haskins [Jordan, 1923], Selden Hopkins [Webster, 1940], and S.S. Packard [Manao, 1996].

<sup>2</sup>This opinion was expressed by Webster [1954, p. 109].

examined.<sup>5</sup> After a brief introduction, this paper will concentrate on Kittredge's role in accounting.

### EARLY BACKGROUND

Kittredge was born on February 19, 1848 in Dayton, Ohio. Until the age of 13, he attended public grade school, after which he received most of his instruction from tutoring sessions by local clergymen. After training at Miami Commercial College (Ohio), he was employed at 18 as a bookkeeper in the Greer & King Foundry General Store [*Dayton Daily Journal*, 1903]. This proved a valuable experience for the future writer who was to publish a series of articles on foundry bookkeeping systems. While working at Greer & King, he developed what is regarded as the first card-ledger system. His adult life can be divided into three distinct areas, in all of which he achieved considerable success: the sheet-metal industry, the accounting profession, and the banking industry.

Kittredge left the stove foundry to start a sheet-metal business, which was ultimately incorporated as the Kittredge, Cornice, and Ornament Works. There he patented many sheet-metal machines. Between 1874-1878, Kittredge published his first journal, *The Sheet Metal Builder*, which he later sold to publisher David Williams. In 1878, he left Ohio and settled in New York City, where he became editor of *The Metal Worker* and *Carpentry and Building*. During this period of his life, he wrote *The Metal Worker Pattern Book*, which became the standard among sheet-metal workers for many years [*Commerce, Accounts and Finance*, 1903, p. 10]. His experience as an editor for the metal-industry journals provided him with a strong background for establishing and editing journals in accounting. His first article on accounting, regarding foundry bookkeeping, was read before the National Association of Stove Manufacturers on July 22, 1880, and published in the October 26 and November 9 issues of *The Book-Keeper*.

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<sup>5</sup>Webster published numerous historical articles on accountancy, *The Ten Year Book of the New York State Society of Certified Public Accountants*, and the seminal work, *The American Association of Public Accountants 1886-1906*. He served for many years as chairman of the Committee on History for the American Institute of Accountants (predecessor of the AICPA) and as a member of the NYSSCPA's Committee on History. His archives on accounting history were given to the American Institute of Accountants Foundation. Webster was known as the "Father of Accounting History" [Committee on History, 1957].

From the early 1880s until the time of his death, Kittredge directed most of his energies to the accounting and finance professions, starting as a founding member of the Institute of Accountants (IA) in 1882. At the time of his death on March 23, 1903, Kittredge was president of the Account, Audit and Assurance Company of New York City and secretary of the American Institute of Bank Clerks [*Commerce, Accounts and Finance*, 1903, p. 9].

### EDITORIAL WORK AND PUBLICATIONS

During the later part of the 19th century, a sizeable portion of business education was provided by periodicals. The early accounting journals edited by Kittredge paved the way for accounting journalism in the 20th century. Webster [1940, p. 11], the noted accounting historian, evaluated Selden R. Hopkins and Anson O. Kittredge, the two pioneering accounting editors of the 19th century, and found Kittredge the greater of the two [Webster, 1940, p. 11]. Kittredge's contribution as an editor and author started early in his life with editorial work in several trade journals, among them *The Iron Age*, *The Metal Worker*, *Sheet Metal Builder*, and *Carpentry and Business*.

As mentioned previously, Kittredge's first article in an accounting journal appeared in *The Book-Keeper*, a periodical to which he continued to contribute over its life. He began his own publication, *The Office*, in June 1886. Five years later, *The Office* was purchased by David Williams, and its name was changed to *Business*. In 1893, Kittredge incorporated the Kittredge Company Publishers, which reacquired *Business* from Williams. However, the Kittredge Company was underfunded, and Kittredge was forced to sell the journal back to its former owner [*The Bookkeeper*, 1896, p. 7]. Due to personal conflicts, Kittredge resigned as editor of *Business* and a short time later became the editor of *Accountics*.<sup>4</sup>

*The Office's* treatment of accounting was based on the "science of accounts as a branch of mathematics," which was the philosophy of the IA of which Kittredge was a founding member. Although *The Office* emphasized no affiliation, it had a special section for the IA. In latter issues, however, this section was expand-

<sup>4</sup> Kittredge explained that he withdrew from *Business* because he disagreed with the philosophy of the Institute of Accountants which may have contributed to its decline. <https://perma.cc/6T8M-9J44>

ed to include other accounting organizations as they became established.<sup>5</sup>

*Business* was a continuation of *The Office* under a new name. The rationale for using the name *Business* was that, what transpires in the office is more than accounting or bookkeeping and can best be summed up in the word "business" [Kittredge, 1891]. Therefore, Kittredge's editorials in *Business* from June 1891 to October 1896 included numerous topics: praise of hard work, objections to the metric system, the usefulness of the Bureau of Business Information and Services to businessmen, the need for trade journals, criticism of American roads, immigration, the importance of bank examiners, the causes of the financial recession of 1893, women in business, shortcomings of the public school systems, the banking system in the U.S., politics and the business climate, the need for a national accounting convention and a national organization, the effect of war upon business prosperity, the need for business education, and the need for a single gold standard.

*Accountics* was a monthly magazine published from 1897 to 1900, devoted to the science of accounting.<sup>6</sup> It was also the first official journal of an accounting organization in this country (the IA). Its initial issue in April 1897 stated as one of its objectives to "impress upon the business public the fact that accounting is the vital element of business, and that for this reason it is entitled to a degree of recognition and to a breadth of use that has never yet been accorded to it" [Kittredge, 1897a, p. 16]. Being the official publication of the IA, *Accountics* was devoted almost exclusively to accounting and was used as a vehicle of communication and

to the severing of relations between Kittredge and Williams was the publication by Williams of the second edition of the *Metal Worker Pattern Book*. Kittredge was the author of the first edition. When Williams issued the second edition, he listed the author as George W. Kittredge, a cousin of Anson, who had initially made some of the mathematical drawings. Kittredge and his family were very upset by this as recollected in his daughter's letter to Webster [Kittredge, 1941].

The Institute of Accountants and Bookkeepers, founded in New York City in 1882, was one of the earliest recorded efforts to establish the accounting profession in the U. S. The name was officially changed in 1886 to the IA. See Miranti [1990] and Romeo and Kyj [1998] for more information on the IA.

"Charles Sprague, the major proponent of the science of accounts, defined "accountics" as "the science which treats of accounts and the art of keeping, verifying them" [Kittredge, 1897a, p. 19].

instruction for accountants.<sup>7</sup> *Accountics* set out to bring to the forefront much that is distinctly American in accounting practice [Kittredge, 1897a, p. 18]. Starting in 1897, Kittredge also edited *Lawyer and Creditman* [Webster, 1940, p. 11].

Throughout his editorials and articles, Kittredge emphasized the phrase "American accounting." American accounting was a system that had developed as a result of the swiftly growing conditions of American business. Consequently, significant differences existed between American and British accounting practices. American railroads used different locomotives and different administration practices than the British [Kittredge, 1898a]. British accounting practices had to meet the requirements of the Company Acts, whereas accounting practices in America could be specifically adapted to American conditions and requirements. Kittredge also understood the need for independent audits, which were required in Great Britain, and presented editorials and articles on the value of an independent audit. As early as 1888, he reprinted in *The Office* [Kittredge, 1888, p. 35] a lecture on the importance of auditing and auditing procedures presented by F. W. Pixley before the Chartered Accountants' Students' Society of London. Kittredge's journals included articles on specific issues in accounting, among them a series on cost accounting in different industries, conversion of partnership books, changing from single to double entry, and the history of accountancy. During the last few years of writing in *Commerce, Accounts and Finance*, he emphasized the proper classification of accounts, preparation of the balance sheet, and profit and loss statements for various types of businesses [Kittredge, 1901a, 1901b, pp. 1, 8, 1901d]. In the same journal, Kittredge discussed the differences between a bookkeeper and an accountant [Kittredge, 1901c].

*Science of Accounts:* Throughout his 14 years as editor, Kittredge's journals included numerous educational articles on the science of accounts. McMillan [1998, pp. 25-28] acknowledged Kittredge to be one of the leading forces advocating the science of accounts in the U.S. and documented evidence on Kittredge's view of accounting as a real science in his 1896 arti-

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<sup>7</sup>The section entitled "Office Juniors" had a specific purpose—to educate young bookkeepers. Topics included questions from CPA examinations, receipts, fraud, trial balances, ledgers, goodwill, the metric system, rules of debit and credit.  
<https://www.alexandria.edu/jah/vol27/iss2/1897-january-1898/> 6

cles. A few years later in an article written in the February 1900 issue of *Accountics*, Kittredge [1900a, p. 35] differentiated bookkeeping and accounting in terms of art and science:

Again, as a conclusion following upon a careful survey of the field, I am led to believe that, as a rule, we have far too much bookkeeping and altogether too little accounting in our offices. Bookkeeping is the art, the method, the embodiment of the plan, the practice. In contradistinction, accounting is the science, the analysis, the classification, the scheme or plan in the abstract.

The proponents of this new school of thought, mostly elite members of the IA, believed accounting to be a real science. This school of thought contributed to a greater understanding of accounting and was incorporated into the new accounting programs that developed in the U.S. in the early 20th century, starting with the New York University School of Commerce, Accounts, and Finance in 1900. Miranti [1990, p. 73] discussed how British professional values did not displace the “science of accounts” as a normative model for professionals in the U. S. until after the deaths of Charles Haskins and Anson Kittredge in 1903.

*Books and Articles:* Kittredge may have been one of the first to emphasize accounting systems. His book, *The Self-Proving Accounting System*, coauthored with J.F. Brown, introduced the idea of using balance sheet ledgers to record transactions. This system was an early type of perpetual accounting system, which allowed balance sheets to be readily available to management at all times. Previous to this publication, a balance sheet would have to be prepared from scratch, a process which was difficult to complete effectively and efficiently. Use of the ledger to prepare financial statements allowed businesses to continue with normal, everyday operations instead of closing down the business to determine the assets, liabilities, and profits during a given period of time [Kittredge and Brown, 1897]. No book or system in the U.S. had advocated this method previously. It combined bookkeeping and business administration with mechanical features invented by the authors. The entries were posted directly to the ledger, which consisted of wide and narrow pages so that an ongoing balance sheet was created through the postings. The system  
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used a chart of accounts with major headings included on the balance sheet, as well as cost accounts.

The pamphlet *Branch House Auditing* [Kittredge, 1897b], an expansion of an article with the same title that appeared in *Accountics*, examined the reporting system employed at the Pope Manufacturing Company to control its departments by using weekly and monthly reports of transactions from branch offices to the home office. It reinforced the importance that Kittredge placed on in-house auditing and independent auditing. He also wrote *A System of Cost Records for Foundry Work* [Kittredge, circa 1886] which demonstrated the type of accounting systems employed in manufacturing firms. During his days as the editor of *Accountics*, Kittredge [1898d] put together a booklet of formulas entitled *Accounting Specifications and Formulas*, which was free to the readership of the journal.

At the time of his death in 1903, Kittredge appears to have been involved in writing a series of five books advertised in the journal *Commerce, Accounts and Finance: Tools of Business, Elements of Bookkeeping, Balance Sheet Accounting, Auditing, and Business Organization and Administration*. The books were supposed to have been produced under the direction of the Publication Committee of *Commerce, Accounts and Finance*. The committee included nine individuals, among them Kittredge, although he was not listed as chair. In Kittredge's obituary in the April issue, the following explanation was given:

Owing to the sudden death of Mr. A. O. Kittredge, who had in personal charge the preparation of the manuscript for the five books...the publishers are obliged to announce that the production of the books will now be indefinitely postponed [*Commerce, Accounts and Finance*, 1903, p. 10].

These books were never published, a fact which leads one to conclude that Kittredge was to have been the primary author.

Many of Kittredge's articles indicated an insight into accounting many years ahead of his time. For example, in an 1892 article on newspaper accounting, Kittredge [1892] suggested using a liability account for subscriptions received but not yet earned:

That subscription received should be credited to an account belonging to liabilities, so far as classifications in the books of the establishment are concerned, and that month by month there should

be taken from this account an amount corresponding to the fraction which has been sent of the papers which have been paid for.

However, Kittredge realized the difficulty of implementing a plan for each individual subscriber as outlined above and suggested allocating the amounts to revenue and liabilities on the basis of a more pragmatic aggregate total:

Instead of dividing the individual subscriptions as they come to hand into 12 equal parts, crediting each separate part to the account of the monthly number to which it belongs, we may by a kind of calculation reach an amount in a single sum to be taken from the amount of subscriptions collected or charged....

A list of Kittredge's articles in business periodicals, accounting articles in nonbusiness periodicals, and books is included in Appendix A.

#### CONTRIBUTIONS TO COST AND SYSTEMS ACCOUNTING

Historians have not acknowledged Kittredge's contribution to cost accounting.<sup>8</sup> His experience in the sheet-metal business gave him valuable insight into cost accounting. Based on this experience and his observations as a practicing accountant and editor, Kittredge developed his position over a period of time from 1880 to 1903. His evolution in cost classification can be seen in his writings over the years.

Initially, Kittredge, like most of the accountants of his time, did not clearly classify costs, but he did understand the necessity of including all costs in accounts. In the November 9, 1880 issue

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<sup>8</sup>Garner [1954], Wells [1978], and Sowell [1973] all mentioned the British team of Garcke and Fells who described practices of allocating overhead costs in 1887. Garner and Wells claimed that these practices were not followed consistently by English and American writers. However, they did not reference any 19th century American periodicals as part of their bibliographies. They were probably not aware of contributions of American accountants other than those Americans who wrote about cost accounting in books or made presentations to the American Society of Mechanical Engineers. This is the reason why Garner found that developments in manufacturing accounting were mostly proposed by engineers. Thus, he was not aware of the contributions to manufacturing accounting by Kittredge, who was trained as a bookkeeper.

of *The Book-keeper* in an article on foundry bookkeeping, Kittredge [1880, p. 130] wrote, "Everything that concerns the cost of the manufactured goods belongs in these columns [journal columns in the books of stove manufacturing]." He continued that "for the sake of analysis it may be desirable to keep an account with pig iron, coal, labor advertising, interest, discount, taxes, insurance, office expenses, etc." Kittredge kept these accounts separate and distinct for more complete classifications:

They are all represented on the journal, however, by these sets of columns. The footings of the cost items are posted to a general account of the same name in the general ledger in the same manner as the footings of the 'accounting receivable' column already described. The total cost to date of the manufactured product is always represented by the balance in this account, while an analysis of the cost may be obtained by an examination of the nominal accounts comprehended by it under whatever names they may be kept.

Kittredge initially lumped together all the indirect costs, including selling and administrative, to determine the cost of the goods produced.

A few years later in 1886, Kittredge published a series of articles in *The Office* by Henry Metcalfe delivered before the American Society of Mechanical Engineers and the IA concerning the recording and allocation of materials and labor in a manufacturing company. Metcalfe [1886, p. 64] recommended the allocation of indirect costs as explained in the following paragraph:

All the expenses which the head of a department cannot assign to a special job, and the material that he cannot account by inventory, remain of necessity charged to his department, and so constitute a general expense account representing with his share of power, rent, insurance, depreciation, taxes, etc., the cost of the facilities for the performance of work in his department since the last inventory, say a year ago. The total expense account for a department divided by the number of days' labor done in that department during the same period, gives the cost of facilities per day's labor therein; this quotient is called the cost factor

of that department. The yearly cost factor, corrected by experience and applied to jobs done in the ensuing year, gives their most probable share of the facilities they enjoy, and added to the net cost of the labor and material they consume, gives their most probable actual cost, balancing again in advance the account for operating expenses.

Metcalf emphasized the concept of indirect expenses as divided into variable and fixed in his book, *The Cost of Manufactures* [1885], but he did not mention sales expenses and other general expenses of the firm. Garner [1954, p. 123] explained that, since Metcalfe usually wrote about accounting for government workshops, there was no need for expenses connected with sales. Metcalfe [1886, p. 30] himself stated that he was unfamiliar with the commercial side of business.

Kittredge learned from and expanded on Metcalfe's work. Writing at approximately the same time, he advocated the inclusion of only indirect manufacturing costs in the general expense account included in the costs of goods sold. Kittredge described a system of cost accounting used by Hopson & Chapin Manufacturing of New London, Connecticut [Kittredge, 1886b]. He detailed the accumulation and recording of costs as materials pass from station to station on tickets, with job cards for labor, and stressed the need to take into account rent (return on capital), cost of power, superintendence, fixed charges, pattern work, and an allowance for lubricating oil and sand on a daily consumption basis to determine product cost. Fixed expenses were considered arbitrary in character, prorated based on the number of days and applied on a daily basis. Kittredge advocated this to be more useful for comparison of costs on a daily, monthly, or yearly basis. Advertising or office expenses were not mentioned as part of the cost of the product.

In the 1897 book, *The Self-Proving Accounting System*, Kittredge's understanding of cost classification had evolved to the point that he specified the distinction between cost of goods sold and the expenses of doing business. Both the cost of goods sold account and the expenses of doing business would then be closed to the loss and gain account [Kittredge and Brown, 1897, pp. 44-45]:

Very little thought will be required to show that the expenses of doing business are entirely dis-

tinct from the cost of goods, and a little additional reflection will show that whatever affects the cost of merchandise in itself should be debited to the Buying Account [inventory account].

In chapter two of the book, "Classification of Accounts," he defined the "manufacturing account" as one that was to be debited with all costs incurred in the production of goods. The function of the manufacturing account was to keep track of the costs of goods produced and to turn them over at cost to the "buying account" upon completion. When items were sold, the buying account would be credited and the "selling account" debited with "goods sold at cost prices" (cost of goods sold).

The fifth chapter, entitled "Manufacturing," contains the underlying principles of the manufacturing account and how the records should be managed.<sup>9</sup> Kittredge stressed that accounts should be set up to show costs and not to look for profits that result from sales. The account should show the costs of manufacturing and be useful for a comparison of production costs with the price of purchasing the same good from the outside. He presented a manufacturing account, the equivalent of today's work-in-process, to accumulate costs until the product was finished. Upon completion the costs were moved out to the buying account (finished goods) from which goods were sold. The balance in the manufacturing account should represent the "goods in process of construction" and not yet charged off [Kittredge and Brown, 1897, p. 76].

In explaining the manufacturing account, Kittredge advocated four subdivision accounts - materials, labor, general expense with "superintendence, rent, power and other general expenses which have to be spread over the product in determining the cost," and depreciation. He presented the use of a percentage plan of a predetermined rate to allocate general factory expenses (overhead). Kittredge considered the foundation on which the percentage was based (cost driver) to be of considerable importance and advocated the use of one that did not vary in price from year to year. Therefore, he advocated the use of labor costs as they were more constant than material costs [Kittredge and Brown, 1897, pp. 78-79; Kittredge, 1899, pp. 63-65]:

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<sup>9</sup>In several places that specifically related to cost accounting, Kittredge referred to "leaving to another volume a complete exposition." Another volume on cost accounting was never published, perhaps due to Kittredge's unexpected and

It is the generally accepted opinion of accountants everywhere that labor being the least variable of all the elements of entering into the cost of product, is the best foundation on which to spread general expenses [Kittredge, 1899, p. 63].

To the general expense account, or "dead account" as Kittredge referred to it at times, he debited rent, power, insurance, watchmen's salaries, superintendence, time clerk, and all other items of expense "that cannot be properly apportioned among the orders." These were then allocated on a percent basis [Kittredge and Brown, 1897, pp. 79-80]:

The percentage of dead expenses determined by the figures above presented during the past year was 20 per cent - that is, the dead expenses cost one-fifth as much as the amount of the pay-roll. We therefore add arbitrarily to the items of cost shown by order No. 99, an amount equal to one-fifth, or 20 per cent, of the amount of labor which is shown to have gone into the order, or \$20.

The under or overapplication was to be debited or credited to a loss and gain account (p. 81). A separate depreciation account for plant and machinery was kept from which depreciation was allocated in the same manner as general expenses.

Kittredge also realized the problems that existed with the old merchandise account, which was apparently used for two sets of values in manufacturing firms. He addressed this issue in his 1897 book with Brown and in several of his articles that followed. In an October 1898 article in *Accountics*, entitled "The Merchandise Accounts," Kittredge [1898b] pointed out the problem with the old merchandise account:<sup>10</sup>

Its balance is an amount which represents goods on hand, minus the profit made on what has been sold; or an amount consisting of the sum of the goods on hand, plus the loss that has been made on what has been sold. ...What bookkeeper, with such a hodge-podge of an account before him, is able to tell from the amount appearing as the balance in the merchandise Account in the monthly

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<sup>10</sup>The article was a reprint of an address before the Business Educators' Section of the National Educational Association, Washington, July 1898.  
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trial balance what it really represents?  
...As our books are usually opened and conducted,  
there is no account with stock and stores, but all is  
dumped into merchandise Account, ...

In a presentation to the Cincinnati Manufacturers' Club in December 1898, concerning the evolution of cost accounting as well as its underlying principles [Kittredge, 1899, p. 4], he again mentioned the problem of integrating cost accounts with financial accounts:

So great is this difficulty that in many cases business men appear to entertain the idea that cost accounts are something separate and distinct from the regular accounts of the business, that cost accounts are something which cannot be made a part of the regular accounting system, but instead are a separate and distinct effort, something necessary to be done by reason of the information afforded, but something in which those who have charge of the general accounts of the enterprise have no particular concern.

I am disposed to take a different view of the case. I am disposed to believe that the general system of the accounts of any business should include everything that had to be recorded concerning that business, whether it occurs in the factory, in the salesroom, in a branch house, or in the main office.

As a solution, Kittredge proposed the integration of cost accounts with financial accounts and the separation of all the accounts of any business into two grand divisions—the balance sheet and the profit and loss statement [Kittredge and Brown, 1897, pp. 25-27; Kittredge, 1898b, 1899].

The second major point made in *Accountics* is the importance of net income. In a time period when the balance sheet was the most important statement, Kittredge [1899, p. 5] also emphasized the importance of net income:

When the revenue is considerably less than the expenses there is trouble ahead ...As long as the profits of the business are greater than the expenses very few care particularly about the rela-

tive standing of assets and liabilities.

In his book and in several articles, Kittredge displayed a complete chart of accounts, which, except for a few differences in terminology (e.g., he used the term “active” instead of “current”), could have easily been used by a 20th century manufacturing concern. He is one of the accountants who brought accounting into the 20th century as noted by the following passage in the same article:

The day has long since gone by when any dark corner was good enough for the bookkeeper; when any cheap book that could be picked up at the corner stationer's was good enough for the accounts; when the ledgers of one business were exactly like the ledgers of every other business, and when bookkeeping was bookkeeping, irrespective of the line of industry [Kittredge, 1899, pp. 64-65].

Reporting on Kittredge's address on “Accounting for Cotton Mills” before the New York Chapter of the Institute, the trade magazine *Furniture Trade Review* [Kittredge, 1900c] wrote:

We reproduce the address in substance because the system of accounting described therein is applicable not only to cotton manufacturing but to the making of carpets, upholstery goods, and in fact, all manufacturing business. The general system of accounting referred to in the address is one that has recently been put into operation by two very prominent cotton mill corporations in the northern part of the country and by another in the South. This system has been adapted to the requirements of various other industries, and is in use in many of the largest establishments throughout the nation, from bicycle factories to engine works, and from publishing concerns to department stores.

No wonder Frank E. Webner, the author of many cost books, including *Factory Costs* (1911), noted the influence of Kittredge on his work in a letter to Webster, dated August 28, 1940. He wrote, “Anson was quite my patron saint and the real inspiration of my book *Factory Costs*.”



Farquahar MacRae [1941], who was a friend of Kittredge, one of the last surviving members of the IA, and a past president of the organization, mentioned that:

He [Kittredge] was the first accountant that at that time insisted that keeping track of quantities and prices of inventories was as important as keeping the cash account; and when he went into business as a public practitioner, it was to specialize in cost accounting.

Apparently, Kittredge not only understood that cost accumulation and allocation were extremely important in running a profitable business, but he was one of the leaders in cost accounting during the late 19th and early 20th centuries.

#### EDUCATION

Business education was one of Kittredge's favorite topics. Initially, he was an advocate for an apprenticeship similar to the English system [Kittredge, 1887a]. During the years 1895 and 1896, he was critical of business schools in his editorials, suggesting that they provided nothing more than drills in penmanship, shorthand, and bookkeeping and that they did not adequately prepare students for the real world:

Young men can train for all the business trades at the present time, but nowhere, apparently, is business in the sense of direction and management of operations and profit-making taught. Actual experience, expensive though it is, is the only plan of instruction [Kittredge, 1896].

According to Kittredge, commercial college instructors themselves did not have the practical experience to instruct their students properly. If college professors were "placed in offices to discharge the routine duties of any of the various branches of business they pretend to teach, they would acquit themselves with scarcely more credit than their greenest graduates" [Kittredge, 1895]. In the same article, Kittredge reported that teachers were not usually selected from the accounting profession at large but from students at the time of graduation. Therefore, since they had no practical experience, they only taught their pupils textbook material, not practical, "real world" accounting.

Commercial colleges could overcome these problems by hir-

ing “practical, everyday” accountants to teach classes. Until this happened, Kittredge felt that the accounting profession would never achieve the level of success it deserved [Kittredge, 1895]. Later, he stated that, “the business world owes much to the commercial colleges—far more than it usually acknowledges” [Kittredge, 1898c, p. 175].

In the same article, in order to emphasize the importance of a practical education, he discussed some differences in bookkeeping “as she is wrote and bookkeeping as she is taught (p. 175).” Apparently, there was confusion in some texts related to the use of the trial balance and its substitution for the balance sheet. Kittredge’s [1890c, p. 176] position was as follows:

The only use to which a trial balance should be put is to determine the equilibrium of debits and credits in the accounts which are tested by it. The trial balance was never intended to be a business statement. Its use as an indicator of the progress of a business has grown out of the fact that no other statement has been available.

Kittredge [1898c, p. 176] also stated that the profit and loss statement had not been covered adequately or correctly in courses of instruction as indicated by the following statement:

A profit and loss statement necessarily precedes the preparation of a balance sheet. It also is something that has not been explained in treatises and courses of instruction, (so far, at least, as I have been able to ascertain by very careful inquiry.) In the way a practicing accounting would consider appropriate and necessary.

These ideas on a practical education appear to have been incorporated in the establishment of the first successful accounting program in the U.S.,<sup>11</sup> the New York University School of Commerce, Accounts and Finance in 1900, an institution in which Kittredge became the first professor of accounting theory and

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<sup>11</sup>A professional school for accountants, the New York School of Accounts, was chartered in New York State in the fall of 1892 under the auspices of the American Association of Public Accountants. The purpose of the college was to provide “practical instruction in the knowledge, and science of modern accountancy and finance.” The school lasted only one year, from September 1893 to July 1894

practice.<sup>12</sup> In addition, he also lectured occasionally at the Columbia School of Business, Cornell, the Stevens Institute of Technology, and the Massachusetts Institute of Technology [Kittredge, 1940].

Ironically, Kittredge did not necessarily practice what he preached, for in letters to Norman Webster in 1940 and 1947, both Leslie J. Tompkins and Orrin R. Judd recollected that Kittredge was criticized about teaching too much theory and too little practice. He apparently was not particularly popular in the classroom or among the students, giving the impression of knowing more about the subject than he was willing to communicate.

### PROFESSIONAL

Kittredge was one of 23 charter members of the IA. He was also one of 14 who were members of the Executive Council elected to manage its affairs during its first year. Besides spending various terms as a member of the Executive Council, Kittredge remained active in the Institute for many years, as evidenced by the following array of technical papers he presented at meetings:

1884-1886 <sup>13</sup>	The System of Cost Accounts Now In Use by the Hopson and Chapin Manufacturing Co. of New London, CT.
Oct. 1890	The Story of an English Syndicate
Dec. 1891	How Shall We Educate for Business?
Apr. 1895	Humanizing Influences of Business
Dec. 1896	Bookkeeping for the Installment Business
Apr. 1897	The Ledger—Its Forms and Adaptions
Jul. 1898	Organization
Nov. 1899	A Scientific Analysis of Business Accounts
Mar. 1900	Accounting for Cotton Mills.

He was one of the first members elected as a fellow of the IA, along with Edward T. Cockey, Charles Dutton, Joseph Hardcastle, H.S. Ogden, S.S. Packard, Charles Taller, and Charles E. Sprague on

<sup>12</sup>Kittredge, along with the following faculty members, was in charge of the accounting courses: Charles W. Haskins, Dean; Charles E. Sprague, Professor, Theory of Accounts; Ferdinand W. Lafrentz, Professor of Auditing; Henry R. M. Cook, Professor of Practical Accounting; Leon Brummer, Professor of Practical Accounting [Lockwood, 1938, p. 142].

<sup>13</sup>These presentations cannot be found in any library in the U.S.; thus, the

March 15, 1887.<sup>14</sup> As early as 1886, he had been an advocate for a national organization of accountants [Kittredge, 1886a, pp. 57-58].

Kittredge became Certified Public Accountant No. 121 by waiver in New York in 1899. He became a member of the New York State Society of CPAs in March 1898, as well as a member of its Board of Directors for the years 1900 to 1903. In his obituaries in both *Commerce, Accounts and Finance* and the *Dayton Daily Journal*, Kittredge was given credit for contributing to the passage of the first CPA law in 1896. "It was largely owing to Mr. Kittredge's efforts that the law was passed making the Regents' Degree of C.P.A. in New York State, now so greatly sought after by accountants" [*Commerce, Accounts and Finance*, 1903, p. 16]. The *Dayton Daily Journal* [1903] stated that, "he was also prominent in the movement which resulted in the New York law providing for certified public accountants..."<sup>15</sup>

As a member of the IA and the NYSSCPAs, Kittredge was on the Examining Board for the New York State CPA examination for the year July 1899 to June 1900, and he served on a committee which promoted the organization of the School of Commerce, Accounts and Finance of New York University. Kittredge taught there in 1900 and 1901, and he was listed in its catalogues for the academic years 1901-1902 and 1902-1903. Throughout his career as an editor, he also practiced as an accountant. At the time of his death, he was the president of the public accounting firm, Account, Audit & Assurance Company.<sup>16</sup>

In early 1900, Kittredge was requested by the American

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<sup>14</sup>During 1887, the IA had committed itself to a scheme of degrees. The membership was divided into three classes: "Associates," described as the junior order; "Members," described as the rank and file; and "Fellows," described as those who were chosen for their outstanding achievements and their eminent abilities. This was the highest class in the IA [Kittredge, 1887b].

<sup>15</sup>However, this opinion is in conflict with George Wilkinson and Norman Webster, who both wrote extensively on the passage of the first CPA exam [Wilkinson, 1903, 1928a, 1928b; Webster, 1954]. Wilkinson did not mention Kittredge in his articles. In his 1928 article, he attributed the passage to Henry Harney, president of the IA, and members of the AAPA. Webster [1954], in writing on the first 20 years of the AAPA, attributed the passage of the New York CPA Law to Melvil Dewey, secretary of the New York State Regents; Richard F. Stevens, president of the AAPA; Richard M. Chapman and Francis Gottsberger, member and chair respectively of the American Association's Committee on Legislation and Affairs; and Charles E. Sprague, member of the IA. Apparently, neither author credited Kittredge with contributing significantly to the passage of the first CPA law in

Bankers' Association to prepare suggestions on the subject of a national bank-clerks' association.<sup>17</sup> His report was submitted to the Committee on Education of the American Bankers Association. It is interesting to note that the work of the British Bankers' Institute was described in the report, but this model was not used because of the differences between the U.S. and the U.K. One of Kittredge's objectives for the Institute of Bank Clerks (IBC) was to have lectures at all chapter meetings, as had been the case with the IA which he had helped establish 20 years earlier. It was obvious that Kittredge's experiences in accounting were very helpful in establishing the IBC.

### CONCLUSION

There were many individuals who helped shape the early accounting profession in the U.S. during its infancy in the late 19th century. Among his contemporaries, few can match Kittredge's contributions as an editor, author, teacher, innovator, practitioner, organizer, and CPA examiner. As one who recognized the importance of cost accounting in manufacturing firms and developed a card-ledger system, he may be one of our first accounting systems persons. It is important to consider the contributions of American accountants writing in periodicals in the U.S. during the late 19th century for a more complete historical understanding of the development of cost accounting.

For at least two years, June 1886 to July 1888, the periodicals Kittredge edited were the only accounting journals in the U.S. Yet, he took an interdisciplinary approach and included other business disciplines, such as marketing (especially advertising) and business law, in his journals to provide not only a technical but a general business education to his readership. His journals served as educational materials for both experienced accountants and aspiring young accountants. With articles written by highly

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<sup>16</sup>The company was an advocate of what Kittredge called the "Going Profit and Loss Statement and a Perpetual Balance Sheet System." It consisted of using a Boston or skeleton ledger, then used exclusively by banks, with charge and credit tickets used as vouchers for entries. The company published a book explaining this system [Kittredge, 1900b].

<sup>17</sup>Kittredge was active in the American Institute of Banking (originally called the American Institute of Bank Clerks), which was established in 1900 by the American Bankers' Association. This was the first effort to raise the standard of character and efficiency among bank clerks. Kittredge was secretary of this organization from its conception and published the official journal of the

respected and recognized accountants, as well as question and answer sections, these periodicals served as communication vehicles and information outlets for the profession. They also promoted the science of accounts advocated by the IA.

Kittredge was highly active in organizing the IA, the premier accounting organization of the 1880s and 1890s. As an editor, he promoted many other accounting organizations through his journals. He was instrumental in the development and success of the American Bankers' Association. Kittredge was influential in promoting the theory and practice of accounting as well as the accounting organizations that helped pave the way for the modern profession. In short, he was a 20th century accountant, even though most of his life was lived in the 19th century.

Webster was probably correct when he expressed the belief that, as time passes, newspapers and journals become better known than their editors. The work becomes greater than the individual who created it [Webster, 1940, p. 11]. Leafing through early accounting journals from the last two decades of the 19th century, accounting historians and enthusiasts are able to piece together the history of accountancy in the U.S. Yet, precious little attention is paid to the editors of these journals who, at times, almost single-handedly willed their very existence.

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## APPENDIX A

List of Articles and Books Written by Anson O. Kittredge<sup>18</sup>*The Book-Keeper*

<u>Date of Publication</u>	<u>Title</u>	<u>Brief Annotation</u>
Oct. 26, 1880	"Foundry Book-keeping"	Description of system where there is no copying or transcribing, and nominal accounts are grouped together
Nov. 9, 1880	"Foundry Book-keeping"	Illustration of journal forms to aid in the process of posting transactions

*The Office*

<u>Date of Publication</u>	<u>Title</u>	<u>Brief Annotation</u>
Nov. 1886	"System of Cost Records: FW"	accounting systems for a manufacturing Company; discussion is primarily on time tickets for workers
Dec. 1886	"System of Cost Records: FW"	accounting systems for a manufacturing Company; discussion is primarily accounting for material and labor cost
Aug. 1888	"How Shall Office Be Warmed"	ideas to improve working conditions in an office
Sept. 1888	"How Shall Office Be Warmed"	ideas to improve working conditions in an office
Oct. 1888	"How Shall Office Be Warmed"	ideas to improve working conditions in an office
Nov. 1888	"How Shall Office Be Warmed"	ideas to improve working conditions in an office
Nov. 1890	"Story of English Syndicate"	ideas, formation, and ramifications of the English Syndicate, an agency which acts as a promoter between parties conducting business

*Business*

<u>Date of Publication</u>	<u>Title</u>	<u>Brief Annotation</u>
Oct. 1891	"Bookkeeping Without Books"	system of bookkeeping using removable indexes instead of books
Oct. 1892	"Newspaper Accounting"*	introduction to a series of articles dealing with newspaper accounting
Nov. 1892	"Newspaper Accounting"*	accounting for advance subscription payments
Jan. 1893	"Newspaper Accounting"	accounting for newspaper subscription lists
Mar. 1893	"Newspaper Accounting"	viewing advertising contracts
Aug. 1893	"Business Management"	discussion on importance of executive ability and the advantages of a well-organized office

<sup>18</sup>Articles listed with an asterisk (\*) are included in American Institute of

Certified Public Accountants, 1921, p. 968.

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Nov. 1893	"Trade Papers From Editor's Point of View"	influence of the editor in trade journals and the growing importance of the technical side of the journals
Jun. 1895	"Columnar Journal"	advantages of the columnar principle and separate cash books
Jul. 1895	"Columnar Journal"*	illustration of the columnar principle
Nov. 1895	"Bookkeeping Adaptations"*	definition, objectives, and differences of different types of bookkeeping systems
Jul. 1896	"Business Office as Training School"	inadequacies of real-world training in business schools and how office experience is one of the best trainers
Jul. 1896	"Is Bookkeeping Progressive?"	analysis of accounting as a science
Jul. 1896	"Toledo and Her Chamber of Commerce"	discussion of Credit-men's Association and municipal reform efforts
Aug. 1896	"Business Environments"	discussion of the importance of maintaining a positive business environment

### Accountics

<u>Date of Publication</u>	<u>Title</u>	<u>Brief Annotation</u>
May 1897	"The Ledger"	origin and definition of the word ledger
Jun. 1897	"The Ledger"	reasons for much of the change in accounting methods
Aug. 1897	"The Ledger"	differences in ledgers in various industries
Oct. 1897	"Branch House Auditing"	auditing system employed at the Pope Manufacturing Company
Nov. 1897	"Branch House Auditing"	auditing system employed at the Pope Manufacturing Company
Dec. 1897	"Balance Sheet Ledger"	discussion of thickened leaves in the balance sheet ledger
Feb. 1898	"Improvements in the Boston Ledger"	description of a horizontal account ledger which allows for carrying balances forward
Oct. 1898	"Merchandise Account"	advantages of using more than one merchandise or trading accounts
Oct. 1898	"Uniform Bookkeeping"	advantages of introducing a system of uniform bookkeeping
Dec. 1898	"Modern Accounting"	Kittredge's beliefs towards business schools
Jan. 1899	"Evolution in Accounting and Cost Keeping"	perpetual balance sheets and income statements
Feb. 1899	"Evolution in Accounting and Cost Keeping"	depreciation accounts, trusts, partnerships, and capital
Mar. 1899	"Evolution in Accounting and Cost Keeping"	principle underlying cost accounting—general factory expenses
Apr. 1899	"Some of the Accounting Literature of the Netherlands"	review of Dutch and French accounting literature
Jul. 1899	"National Association of Credit Men"	Association news
Apr. 1899	"National Association of Credit Men"	Association news
Nov. 1899	"Credit Men's Affairs"	notes on various Credit Men's Associations
Dec. 1899	"Credit Men's Affairs"	notes on various Credit Men's Associations
Feb. 1900	"Application of Advanced Methods"	difference between an accounting system and a bookkeeping system
Feb. 1900	"What Credit Men are Doing"	Association news
Mar. 1900	"Application of Advanced Methods"	examination of the merchandise account and its closing
May 1900	"What Credit Men are Doing"	Association news
Jun. 1900	"What Credit Men are Doing"	Association news
Apr. 1900	"Application of Advanced Methods"	division of expense items into factory and commercial expenses

May 1900	"Application of Advanced Methods"	differences between accounting and bookkeeping objectives, and the interpretation of cost accounts
Jun. 1900	"Application of Advanced Methods"	accounting systems used in cotton mills

*Commerce, Accounts and Finance*

<u>Date of Publication</u>	<u>Title</u>	<u>Brief Annotation</u>
Jan. 19, 1901	"University Lectures—Theory of Mercantile Accounts"	definitions of a balance sheet, profit and loss statement
Jan. 26, 1901	"University Lectures—Theory of Mercantile Accounts"	classifications of accounts into the balance sheet
Apr. 27, 1901	"Cotton Mill Accounting"*	preparation of balance sheet and income statement, as well as proper classifications of accounts for a cotton mill
May 1901	"University Lectures—Theory of Mercantile Accounts"	problems with the coverage of financial statements
Jun. 1901	"Credits and Collections"	discussion of the Cleveland Convention of the National Association of Credit Men
Jul. 1901	"Business Organization and Administration"	classification of businessmen into those who manage and those who carry out orders
Oct. 1901	"Business Organization and Administration"	philosophical differences between bookkeeping and accounting
Dec. 1901	"The Balance Sheet"*	
Dec. 1901	"Street Railway Accounting"*	discussion on reserve accounts, cash discounts, and standard system for material and supplies
Mar. 1902	"Ledger Rulings"*	definition and types of ledgers
May 1902	"Business Organization and Administration"	discussion on important of a company's administration
Aug. 1902	"Reason Why"*	explanation for changes made to reorganize the accounting system of a company
Sept. 1902	"Utility of Reserve Accounts"*	use of a suspense account for pre-paid insurance and depreciation
Oct. 1902	"Items in Suspense and Reserves"	discussion of reserves on balance sheets
Jan. 1903	"The Investigation and Audit of Trust Companies"	origin and types of trust companies, and the importance of its balance sheets

## Articles in Other Periodicals

<u>Name of Journal</u>	<u>Date of Publication</u>	<u>Title</u>
<i>Accountant</i>	Nov. 21, 1896	"Accounting in the States"*
<i>Street Railroad Journal</i>	Feb. 1896	"Open Questions Before the Committee on a Standard System of Street Railway Account"*
<i>Street Railway Journal</i>	Dec. 1898	"Theory of Reserve and Suspense Accounts"*
<i>Street Railway Journal</i>	Feb. 1898	"Open Questions before the Committee on a Standard System of Street Railway Accounting"
<i>Metal Worker</i>	1885	"A System of Cost Records for Foundry Work"

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