

Accounting Historians Journal

Volume 14
Issue 2 Fall 1987

Article 1

1987

Dark ages of cost accounting: The role of miscues in the literature

George J. Staubus

Follow this and additional works at: https://egrove.olemiss.edu/aah_journal

Part of the [Accounting Commons](#), and the [Taxation Commons](#)

Recommended Citation

Staubus, George J. (1987) "Dark ages of cost accounting: The role of miscues in the literature," *Accounting Historians Journal*: Vol. 14 : Iss. 2 , Article 1.

Available at: https://egrove.olemiss.edu/aah_journal/vol14/iss2/1

This Article is brought to you for free and open access by the Archival Digital Accounting Collection at eGrove. It has been accepted for inclusion in Accounting Historians Journal by an authorized editor of eGrove. For more information, please contact egrove@olemiss.edu.

George J. Staubus
UNIVERSITY OF CALIFORNIA, BERKELEY

THE DARK AGES OF COST ACCOUNTING: THE ROLE OF MISCUES IN THE LITERATURE

Abstract: The conceptual and theoretical development of cost accounting has been at a standstill for several decades, despite its poor state and drastic changes in its environment. The concept of cost itself and related concepts are both unclear and unrelated to relevant concepts in other areas of economics, and several critical issues remain unresolved.

Part of the blame for this state is laid at the door of those writers and interpreters of several key pieces of literature, or sets of writings on specific topics. The works involved in the "miscues" are J. M. Clark's emphasis on different costs for different purposes in his *Studies in the Economics of Overhead Costs*; Paton and Littleton's difficulties in clarifying the cost concept; the American Institute of Accountants' definition of depreciation accounting as systematic and rational allocation; the direct/variable costing literature; and the rejection of allocation. An effort is made to show how each of those miscues harmed the cause of cost accounting.

Part I: Issues

"We may start with the general proposition that the terminology of costs is in a state of much confusion . . ." [Clark, 1923, p. 175]. The persistence of that state to this date must be an outcome beyond Clark's worst fears, but that outcome appears to be of no concern to the accounting profession. Until the mid-1980s, it was rare to see or hear expressions of dissatisfaction by accountants regarding the early twentieth century style of product cost accounting that is prevalent, from all indications, in American enterprises and textbooks. Now we see a few signs of life [Hakala, 1985; Hunt *et al.*, 1985; Johnson and Kaplan, 1987; Kaplan, 1986; NAA, 1985; Seed, 1984; and others]. Nevertheless, a report that product cost accounting is emerging from the dark ages of its conceptual and theoretical development would be premature.

In this paper, I show why I consider the conceptual and theoretical development of cost accounting to have been in the dark ages for several decades, then go on to explore the thesis that the writing and interpretation of several especially

influential pieces of literature deserve part of the blame for those dark ages.

The Dark Ages

What have management accounting practitioners been doing for the past sixty years? If there has been much innovation between 1925 and 1980, other than the introduction of discounted cash flow procedures . . . the innovating practitioners have managed to keep it mostly secret [Johnson and Kaplan, 1987, p.176].

A perusal of the literature suggests that its golden age might have extended beyond 1925, perhaps to 1940, as there were a number of interesting contributions to the literature in that 15 year period [Baxter, 1938; Church, 1930; Edwards, 1937; Harris, 1936], but they were largely ignored by practitioners and textbook writers. It seems safe to say that the generally taught model of product cost accounting has not changed perceptibly for several decades; whether it is four, five or six decades does not matter. A senior practitioner who learned product costing from a 1940 text might arrive at the same unit cost number in a given situation as a beginner who learned cost accounting in 1987, subject to the range of choice discussed in both eras. The significant differences between 1940 texts and 1987 texts are in the areas of control and ad hoc cost analysis tied to decision models, together with whichever management science, economics, and behavioral science topics the particular authors chose to present in an experimental spirit. As of mid-1987, however, product costing is still in the dark ages.

Evidence that cost accounting is in a period of stagnation can be gathered by reviewing a series of issues on which no obvious progress has been made since 1940. The long history of four perpetually recycled issues, to use Sterling's [1974, p. 4] expression, and two more fundamental but less debated issues shows that the theoretical development of cost accounting came to a standstill in 1930s, despite much unfinished work, and has not been resumed to this date.

Recycled Issues

The Historical Cost/Current Cost Issue.

The earliest literary recognition of this issue is unknown to me. A hint of its age was given by R. S. Edwards in 1937 [p.82]: "Another problem concerns the price to adopt in charging out

raw materials; one school claims that materials should be issued at original cost, while the other side champions 'replacement cost'. The list of authorities that have supported some form of current measurement of inputs to production processes is long and distinguished, while the set of textbooks recommending (as a first choice) an alternative to historical cost is, as far as I know, empty. Is the case for the value of historical cost data that strong? I think the weight of informed opinion today is against it.

The Average Cost/Variable Cost Issue.

The origins of this controversy are mired in history. One could speculate that the first accountant to suggest that marginal cost be used as a measure of product cost was the first accountant to understand the marginalist economics espoused by Leon Walras [1874] and Alfred Marshall [1890] in the nineteenth century. Solomons [1952, p.34], however, has pointed out Dionysius Lardner's [1850, pp.216-253] clear distinction between variable and fixed costs and his railway overhead accounting scheme based on that distinction. Jonathan Harris (1936) is generally credited with introducing variable costing in the United States. In England, Ronald Edwards [1937, pp.88-89] considered "...it the cost accountant's main job to inform the management regarding the minimum at which additional work can be taken," which "...will vary according to the extent to which capacity is being used ..." thus recognizing the variability of marginal cost with output. Furthermore, "...for each department the accountant should prepare, and continuously revise, schedules showing the additional cost of additional output." By 1962, Gillespie was able to list 56 articles on variable, direct, or marginal costing. The case for abandoning average cost has been before the profession for a long time, but the major text writers stick with it as their primary method — without proving their case, in my opinion.

The Allocation Issue.

The evidence accumulated by Solomons [1952] shows that the allocation of overhead in product costing was developed and generally accepted in the nineteenth century, but it had hardly been fully worked out before it began to be challenged as arbitrary.

What ... is the use of splitting up a manager's salary between departments? If a department be shut

up, can a portion of the manager be dispensed with? If such divisions have any value it is a relative one only, as between one year and another. They have no absolute value for they do not answer to facts which confirm past action, or give rise to new — the only facts worth having in business [Hamilton, 1910, quoted in Solomons, 1952, p.33].

Subsequently, other writers on cost accounting expressed grave concern regarding the merits of overhead allocation, especially fixed overhead. These include Edwards [1937, p.78], Baxter [1938, p.269], Paton and Littleton [1940, p.120], Baxter and Oxenfelt [1961, p.300], Thomas [1969, p.77], and others. However, several thoughtful writers suggested that the overhead allocation process, while not being justified as measuring expiation of historical costs, may accomplish something much more valuable: "Allocated oncosts may correspond to 'opportunity costs'" [Baxter, 1938, p.272]. Similar views were expressed by Solomons [1948, p.290], Devine [1950, p.389], Baxter and Oxenfelt [1961, pp.302-303], Vatter [1970, p.550], and Zimmerman [1979, p.519], none of whom cited their predecessors. In view of the widespread opposition to allocation among academics and its widespread use in business [Fremgen and Liao, 1981], it seems safe to assert that the allocation issue is unresolved.

The Cost of Capital.

The idea of including some version of return to attract capital among the costs of production has been broached repeatedly since Norton [1889, p.79] insisted on its inclusion in the cost of manufacture. The debate reached a crescendo in 1913 when the January to June volume of the *Journal of Accountancy* included ten articles on the subject, some pro and others con. Perhaps the most determined advocate of inclusion of interest in the cost accounts was Scovell, whose 1924 book has been quoted widely. R. N. Anthony's [1975] *Accounting for the Cost of Interest* may be the most recent major attempt to sway readers towards the inclusion treatment. At this stage in the evolution of product costing, the inclusion of cost of capital is a major unresolved issue.

Neglected Fundamentals

Why have the above four issues not been resolved? Part of the answer may lie in neglect of certain more fundamental issues.

How Many Elements of Cost?

Textbook descriptions of product costing almost invariably include three cost elements: direct materials, direct labor, and overhead, although some descriptions of standard cost systems break overhead into variable and fixed components. How three-element product costing became so common is not clear. The “earliest important English textbook on cost accounting” [Parker, 1969, p.146], Garcke and Fells’ seven-edition *Factory Accounts* [1887-1922], did not establish that pattern. “Under present-day economic conditions . . . regard has to be paid to all elements which enter into or have to be considered with regard to the costs of a commodity. Such costs range themselves under eight generic factors” [Garcke and Fells, 1922, p.8]. Several of those factors were dominated by costs which would now be omitted from manufacturing cost, including interest on circulating capital. Church [1930, pp. 62-65] replaced one overhead pool with six different services to be associated with products. In modern practice, certain companies merge direct labor and overhead [Hunt *et al.*, 1985; Hakala, 1985]. In other cases, the three common elements are supplemented by separate recognition of a service performed by an outside contractor. Writers might take issue with the descriptive validity of the three-cost-elements view of cost classification, especially when certain subdivisions of “overhead” are large enough and direct enough to be charged to products separately, and fringe costs of labor are easily loaded onto “direct” labor instead of being run through a general overhead pool [NAA, *Statement on Management Accounting No. 4C*, 1985]. The three-cost elements view of product costing is a vestige of the dark ages; it should be replaced by the *n*-resources view before the twentieth century ends.

Issues in Defining Cost and Costing.

“Most branches of Science and Art possess a terminology in which words employed as ‘terms of art’ have distinct and definite meanings, but the progress of Accountancy has been retarded by its chief terms and phrases having multiple and ambiguous meanings” [Garcke and Fells, 1922, p.4]. Horngren and Foster [1987, pp.20-21] for example, write of “. . . costs as resources sacrificed or foregone to achieve a specific objective” and “. . . as being measured . . . as monetary units . . . that must be paid for goods and services.” Other prominent sources are equally indirect and inconclusive.

Surely our terminology is critical to the theoretical development of our subject. Vagueness in the definition of cost might well lead to our inability to resolve other issues in cost accounting. Consider the questions raised by the above, and other, definitions: (1) Do costs exist, as suggested by “unexpired costs,” or do they happen? Are they stocks or flows? Recorded by a debit or a credit in the balance sheet. Resources sacrificed or sacrifices of resources? (2) Are costs limited to a subset of economic sacrifices — past, present and future cash disbursements, for example — or are all economic sacrifices costs? (3) In product costing, is the object of costing a thing or an activity? The product or the process? (4) Is the unit cost of a stocked resource employed for an object of costing determined when that resource is acquired by the firm (as implied by Horngren and Foster’s second statement or when it is used (as suggested by the first)? (5) Is objectivity a highly desirable quality of cost information, as Paton and Littleton [1940, pp.18-21, 123, 126] insisted, or is cost “ephemeral” and “not objectively discoverable” [Thirlby, 1973, pp.139-140]. The importance of these issues in my way of thinking about cost accounting can be suggested by predicting that their resolution can lead directly to the resolution of several of the issues presented in previous paragraphs.

Conclusion, Part I.

The comatose state of cost accounting’s conceptual/theoretical development is especially remarkable when one compares the stagnation in that field with the progress that has been made since World War I in microeconomics, finance, and general accounting theory. Cost accounting seems to be out of touch. Also remarkable is the lack of impact that major changes in the environment of cost accounting have had on its development. In 1940, fringe labor costs were immaterial, indirect costs were low relative to direct labor, costs of using plant assets were relatively low, few nonmanufacturing enterprises accumulated unit cost data, the theory of finance and the cost-of-capital concept were not well developed, and data processing costs were relatively high. But cost accounting concepts and theory have not changed. Attribution of partial blame for cost accounting’s dark ages to the authors and/or interpreters of certain influential publications is discussed in the next section.

Part II: Explanations

Why have the six issues mentioned above not been resolved? In the cases of the first four, it surely is not for lack of thought or attention on the part of accountants. In the cases of the other two, it can hardly be for lack of importance. Of course, one could insist that they have been resolved, but just not in convincing manners, in the cases of the first four. Or perhaps my analyses are flawed, in the last two cases. In any event, my position is that the evidence presented above supports the view that product cost accounting has a lot of unfinished business meriting serious attention.

Five cases of important written works having regressive influence on the development of cost accounting are discussed here. I shall not attempt to blame either the authors or their followers; the point is simply that the works of several generally thoughtful contributors have had adverse consequences. These works are, in chronological order, J. M. Clark's [1923, Chapter IX] emphasis on different costs for different purposes; Paton and Littleton's [1940] peculiar concept of cost; the American Institute of Accountants' definition of depreciation accounting as systematic and rational allocation in *Accounting Research Bulletin No. 20* [1943, p.167]; cost accountants' ongoing flirtation with indiscriminate application of direct costing; and the revolt against allocation.

John Maurice Clark

"Different costs for different purposes" was part of the title of Clark's [1923] Chapter IX: "Different Costs for Different Purposes: An Illustrative Problem." Since the publication of his *Studies in the Economics of Overhead Costs*, Clark's expression has been accorded recognition as a principle [Deakin and Maher, 1987, p.7] and often is accepted by accountants as an explanation of why the cost numbers produced by conventional accounting practices are not appropriate for many uses. A different explanation should be considered.

A review of Clark's work shows that he did not recognize the concept: *object of costing*. Consequently, he did not see that his different decision problems called for information on different objects of costs, or cost objectives. EXHIBIT I shows his nine decision problems and the associated objects of costing for which cost data are needed. I conclude that instead of "different costs for different purposes," Clark should have stressed proper identification of the object of costing in each case. The

EXHIBIT I. OBJECTS OF COSTING IN CLARK'S NINE CASES¹

Decision Problem	Object(s) of Costing
1. The plant is not yet built: to build or not	Entire project from beginning to end of its life
2. Size of plant to build	Several objects of costing each involving a different size of plant
3. Whether to change methods of production	(a) Producing for a period by the existing method and (b) producing for a period by the alternative method
4. Maximum dividend that may be paid	All activities undertaken from incorporation to date
5. How cheaply will it pay to sell additional goods?	Starting with a given level of output, an incremental unit of production
6. How low can prices be cut in order to hold its business?	Starting with a given level or output, a decremental unit of production
7. Should the plant be shut down temporarily in a depression?	(a) Producing for a period at a given volume and (b) holding the plant idle for a period
8. Should a side line be produced during the slack seasons?	(a) Producing the side line and the main product at given volumes for a year and (b) producing only the main product for a year
9. Plant abandonment	(a) Making use of the plant for an incremental period and (b) closing and selling the plant

¹Based on an example in Clark [1923], Chapter IX.

essence of cost — an economic sacrifice — remains constant; only its scope — the object of costing, what we want to know the cost of doing — changes across the nine cases.¹

This misunderstanding by Clark and his accountant followers appears to have diverted attention away from the need for a generally applicable definition of cost; irrelevance of cost numbers was excused on the ground that a different meaning

¹See Wells [1978, p.23] for a different interpretation of Clark's point.

of cost was needed for the purpose at hand. That may explain why cost accountants have tolerated poor definitions of cost and have neglected the object-of-costing concept for so many decades. In other words, Clark failed to find the common element in his nine applications involving cost, so accepted and perpetuated the notion that the meaning of cost varied with the circumstances — obviously an unsuitable conceptual base for a theory. Such an error was excusable in 1923. Cost theory was not highly developed in the economics literature at that time; for example, Jacob Viner did not introduce cost curves until 1932. But the failure of generations of scholars and practitioners to correct that error can only be explained by a lack of interest in the fundamentals of cost accounting.

Paton and Littleton

An Introduction to Corporate Accounting Standards [Paton and Littleton, 1940] may deserve a share of the blame for the failure of cost accountants to develop a clear concept of cost. That work did more to perpetuate accountants' misconceptions about costs than any other single publication. At the heart of the matter was their failure to identify costs as either stocks or flows, but not both. If a generation of accounting authors are not clear as to whether one of their most fundamental concepts is a stock or a flow, it should not be surprising if confusion persists.

Broadly defined, cost is the amount of bargained-price of goods or services received or of securities issued in transactions between independent parties

The common tendency to draw a distinction between cost and expense is not a happy one, since expenses are also costs in a very important sense, just as *assets are costs*. "Costs are the fundamental data of accounting, and the term should therefore be used in its broadest sense. The word "cost" is substantially the equivalent of "price-aggregate" (unit price times quantity) or "bargained price." Consequently, it is possible to apply the term "cost" equally well to an asset acquired, a service received, and a liability incurred. Under this usage assets, or costs incurred, would clearly mean charges awaiting future revenue, whereas expenses, or cost applied, would mean charges against present revenue, each with suitable subclasses as occasion required [Patton and Littleton, pp. 24-26]. (Emphasis added.)

The above quotations, together with other statements, suggest that:

1. The authors did not think of costs peculiarly as either stocks or flows, but as both.
2. Costs are related to liabilities in the same way as to assets: “[C]ost is the amount of bargained-price of goods or services received or of securities issued [I]t is possible to apply the term ‘cost’ equally well to an asset acquired, a service received, and a liability incurred. . . . [T]he standard of recorded costs applies to both sides of the balance sheet” [pp. 24-26, 37].
3. Costs flow in and out. “Recording the inflow of cost is in large measure a matter of close observation and efficient clerical process; recording the outflow of costs as embodied in revenue is essentially a matter of judgment and interpretation” [p. 69].
4. Costs can be either unexpired or expired [pp. 33, 125]. This unfortunate legacy continues to the 1980s: “Assets may be referred to as *unexpired* (or *deferred*) *costs* and expenses as *expired costs* or ‘gone assets’ ” [Davidson, *et al.*, 1985, p. 46]. Here we see the confusion between assets being costs and assets being measured by, and recorded at, the costs of acquiring them.

It is hard to imagine how a more confusing discussion of cost could have been created intentionally. Such confusion about the nature of cost might not have been a serious problem if cost had not played such a central role in the Paton and Littleton theory. “The primary purpose of accounting . . . is the measurement of periodic income by means of a systematic process of matching costs and revenues. . . . [p. 123]. [T]he function of accounting is . . . the reporting of costs actually incurred by a single enterprise whether or not it is typical of the industry” [p. 35]. If no chain is stronger than its weakest link, one cannot help but wonder about the contribution made by a cost-based theory that was, in a sense, costless.

The specific consequences of the Paton and Littleton confusion are not easily identified. It is tempting to speculate regarding how accounting thought might have developed if Paton and Littleton had clearly identified cost as an *outflow* of something. That might have been associated with treatment of expenses and losses as subsets of costs and recognition of

revenue as an inflow (rather than the noncommittal “product of the enterprise” [p. 46]). It could have led to a rigorous distinction between stocks and flows, and even raised questions like “stocks of what” which, in turn, could have opened the door to a serious investigation of asset and liability measurement. The possibilities are staggering. In the more specific context of the present work, recognition of costs as *outflows of wealth* could have raised questions regarding their measurement and the objectives for which costs were incurred, i.e., objects of costing. But that is speculative, of course.

Paton and Littleton do not deserve all of the blame for 47 years of confusion regarding cost. Blind repetition of their confusing statements has done most of the damage. Once the decision-usefulness objective was introduced [Staubus, 1954] and popularized among academics (AAA, 1965), they should have been able to focus on a concept of cost that fitted the decision context. The most general model of the economic decision process is comparison of costs and benefits of proposed actions. For that purpose, it is clear that benefits are inflows of wealth, recorded in accountants’ balance sheets by debits to assets and/or liabilities, and that costs are outflows, recorded by credits. I challenge anyone to demonstrate the general usefulness of a concept of cost that conflicts with that conception. The state of accountants’ concepts in 1987 should be an embarrassment to those still repeating the Paton and Littleton phrases long after Professor Paton’s renunciation of his depression-induced lapse [Paton, 1971, pp. x-xi].

American Institute of Accountants Definition of Depreciation Accounting

The 1943 AIA Committee on Terminology’s notorious definition of depreciation accounting — the Committee declined to define depreciation except as a derivative of depreciation accounting — has remained a part of generally accepted accounting principles to this day. No one seems to be able to say anything good about it, but no authoritative body has been willing to change it.

Depreciation accounting is a system of accounting which aims to distribute the cost or other basic value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of valuation. *Depreciation for the year* is the portion of the total charge

under such a system that is allocated to the year. Although the allocation may properly take into account occurrences during the year, it is not intended to be a measurement of the effect of all such occurrences [AIA, *ARB*, No. 20, 1943, p. 167].

These definitions imply that depreciation expense may be arbitrary and is not a measurable economic phenomenon. They suggest that the only tests of satisfactory accounting for a long-lived asset — and perhaps for others — are that it be systematic and rational in the sense that customary depreciation accounting is, and that it allocate the total cost less salvage value over the estimated useful life. Why earnings and owners' equity numbers *dependent upon such arbitrary numbers representing no economic phenomena* should be of interest to users of financial statements is a puzzle. But then, the AIA never said that financial statements should be useful. It should not be surprising that accountants have little enthusiasm for such a modest goal. It contrasts dramatically with the objectives of financial reporting and the definitions of elements of financial statements in the FASB's [1978, 1980] conceptual framework.

The specific harm done to cost accounting by the AIA definition was approval of product cost inclusions quantified in an arbitrary manner in lieu of serious efforts to measure costs of services and commodities put into productive activities. It struck a blow for a *de minimis* view of cost accounting. In my opinion, the AIA contributed a defective building block to the structure of product costing — one that impairs the latter's effectiveness to this day.

The Direct Costing Literature

The American literature on this subject usually is dated from Jonathan Harris' 1936 article in the *N.A.C.A. Bulletin*. Harris stated that the "direct cost plan" [p. 508] was commenced January 1, 1934 in a manufacturing company. His description of the "direct production expenses" which were charged to inventory along with direct materials and direct labor made it clear that he viewed direct associability and variability as essentially synonymous. Most of those costs that had previously been treated as overhead but were to be included in inventory under the new direct cost plan — "direct production expenses" — had only been treated as overhead for convenience; they were individually immaterial in amount. A few other costs were indirect with respect to products in a

multi-product department, but were direct with respect to the department and period. But today we are accustomed to the idea that direct associability (even of immaterial costs) and variability are not the same. Harris did not address that issue. Thus, the case started off with confusion on that score.

Of more importance are the arguments that Harris gave for his plan — the criteria on which he judged it to be superior to full absorption costing. He enumerated four advantages [p. 503], but they are not (today) very impressive as stated. Translated into modern criteria, they can be reduced to simplicity and cost of accounting. Few would argue. But the point that seemed to carry the most weight was management's intuitive belief that profit varies with sales volume and not with production volume. That must have been so obvious in 1934-1936 as to require no support; production was seldom a constraint in that period. Existence of the opposite circumstances just a few years later must have delayed the acceptance of Harris' plan by other companies. Another factor delaying acceptance may have been the conflict between the two points of view in favor of the plan. Management's feeling that profits should vary with sales volume calls for *variable* costing — avoiding carrying forward fixed costs in inventory. The accountant's desire for simplicity leads towards *direct* costing of material items only. Harris did not discuss marginal cost or incremental cost.

Harris' actions and views in the 1930s are not being deplored here. He developed an innovation that suited the circumstances reasonably well. Output volumes typically were low, and data processing costs were high. In this case, the miscue — interpreting cueing as involving communication between a sender and a receiver — can be blamed on the receivers who advocated Harris' plan in quite different circumstances. Data processing costs are much lower now, and output volumes cover a wide range. In my opinion, "variable costing" is advocated now on the assumption that variable cost is less than average cost. It may be true that few cost accountants in the 1930s were aware of the concept of marginal cost, and fewer still of the now conventional geometric depiction of the marginal cost curve rising through the average cost curve at the latter's minimum. Those practicing cost accountants who had studied economics would not have been taught the relationship between marginal cost and average cost as it was not in the economics textbooks at the time. But what is the modern cost accountant's and cost-accounting textbook writer's excuse for accepting the linear view of cost behavior? As

far as I know, the curvilinear view of marginal cost, subject to various shapes, is generally accepted now. There is no justification for general acceptance of a costing method that is based on the assumption that marginal cost is materially below average cost. And if variable costing does not rest on that assumption, on what does it rest? On the whole, the direct costing literature is now a handicap to the development of cost accounting. If the cost accountant wants to put into inventory the increase in total costs caused by small changes in output from the current level, he or she surely can do it with more finesse than that displayed in the typical piece of direct costing literature. Harris did not attract the wide following that he deserved in 1936, and those following him half a century later are too far behind. A linear view of cost behavior and great emphasis on the cost of data processing are out of date.

Criticisms of Allocation

That allocation has long been controversial was documented in the first section above. Until 1969, the controversy was an evenly balanced one; some writers opposed allocation in general, some accepted the status quo, and others argued for elimination of only the more flagrantly arbitrary cases. Then Professor Thomas [1969] made an impressive case against allocation. In essence, he insisted that accounting for nonmonetary assets by splitting their costs among periods and products generally is done in technically arbitrary ways. The resulting asset and operating cost data cannot be proven to be superior to data based on alternative arbitrary allocations. Many believe that Thomas demolished the "systematic and rational allocation" approach to amortization of limited-life nonmonetary assets, at a minimum. To the extent that demolition was achieved, it is potentially a great service to the financial world.

Unfortunately, some of those impressed with Thomas' work have shied away from all kinds of accounting for "indirect costs" of production. Indeed, his work (including Thomas, 1974, and various journal articles) may have contributed to the decline in interest in the measurement of wealth and income. It also might have contributed to the indiscriminate acceptance of variable costing. But "... some kind of response is required ..." [Thomas, 1969, pp.83-84]. My own preference is for a constructive response rather than shrinking from the measurement challenge. Abandonment of arbitrary allocations of costs could have been followed by a turn towards accounting

for flows of *resources* into, within, and out of the enterprise. Overhead could disappear as an element of manufacturing cost if fringe costs of direct labor were loaded onto labor cost, if fringe costs of acquiring and holding materials were loaded onto those specific resources, if the family of costs associated with using equipment services, including related space costs, were pooled for semi-direct association with objects of costing, and if those remaining costs not associable with specific resources were immediately drained off to expense.² Such accounting would involve serious efforts to estimate the values of major resources using surrogate and simulated market prices, not arbitrary allocations. "Surrogates are an appropriate response to a lack of data, but *not* to a lack of theory" [Thomas, 1969, p. 12]. Allocation lacks theory. Accounting for the values of resources used in the enterprise is based on microeconomic theory, the theory of finance, and the decision-usefulness theory of accounting.

Concluding Comments

To blame the dark ages of cost accounting entirely on miscues in the literature surely would be unfair. The roles of various constituent groups should be analyzed by anyone seeking a full explanation for the dark ages. The management group might be found to lack motivation for promoting serious attempts to measure wealth and income. Information systems specialists could be blamed for passing up opportunities under pressure of managements and governmental agencies. Academics, who could have such a great influence of management accounting practices, have not been models of professional responsibility in their research and textbook-writing activities. Beyond those specific constituencies, progress in cost accounting has been held back by a lack of interest in the measurement of wealth and income for external financial reporting and by the strong influence of tax reporting requirements on all accounting. But those of us interested in progress in cost accounting theory should not use any of those regressive influences as excuses for not straightening out our concepts and theory. Recognition of the past limitations of our literature

²For more detail on nonallocative accounting for costs of using commodities services, see Staubus (1986, 1987).

can be a step in that direction. At bottom, we live in the dark ages of cost accounting because no one gives a damn!

Conclusion

Whether or not, and how much, the five features of accounting literature discussed above harmed the development of cost accounting is a matter of opinion. There is no way to prove or measure the effects. If those publications were harmful, can the harm be blamed on writers and readers? Communication is a two-way street. Both parties have responsibilities. If one feels that cost accounting has not been in the dark ages, this concern with miscues may not be shared. Those who share my view of cost accounting's suboptimal performance may agree that the development of concepts and theory should be resumed. "[C]oncept formation and theory formation in science go hand in hand . . ." [A. Kaplan, 1964, p. 52]. The best time to resume interest in the measurement of entity wealth and income might be when that interest is at its perigee.³

REFERENCES

- American Accounting Association, *A Statement of Basic Accounting Theory*, Evanston, Ill.: American Accounting Association, 1966.
- American Institute of Accountants, Committee on Terminology, Report of the Committee on Terminology, *Accounting Research Bulletin #20*, Special, (November 1943).
- Anthony, R. N., *Accounting for the Cost of Interest*, Lexington, MA: D.C. Heath & Co., 1975.
- Baxter, W. T., "A Note on the Allocation of Overcosts Between Departments," *The Accountant*, (November 5, 1938), 633-636. Reprinted in D. Solomons (ed.), *Studies in Costing*, London: Sweet & Maxwell, 1952, 267-276.
- Baxter, W. T. and A. R. Oxenfeldt, "Costing and Pricing: The Cost Accountant versus the Economist," in Solomons D. (ed), *Studies in Cost Analysis*, Homewood, IL: Richard D. Irwin, 1968, 293-312; a revision of a work with the same title originally published in *Business Horizons*, (Winter 1961), 77-90.
- Church, A. H., *Overhead Expense*, New York: McGraw-Hill Book Company, 1930.
- Clark, J. M., *Studies in the Economics of Overhead Costs*, Chicago: The University of Chicago Press, 1923.
- Davidson, S., L. J. Hanouille, C. P. Stickney and R. L. Weil, *Intermediate Accounting: Concepts, Methods, and Uses*, 4th ed., Hinsdale, Ill.: The Dryden Press, 1985.

³For proposals aimed at a renaissance to follow the dark ages of cost accounting, see Staubus (1987 or 1971). That is much too large a subject to be incorporated in a primarily historical paper.

- Deakin, E. B. and M. W. Maher, *Cost Accounting*, 2nd ed., Homewood, Ill.: Irwin, 1987.
- Devine, C. T., "Cost Accounting and Pricing Policies," *The Accounting Review* (October 1950), 384-389.
- Edwards, R. S., "The Rationale of Cost Accounting," in A. Plant (ed.), *Some Modern Business Problems*, London: Longmans Green & Co. Ltd., 1937. Reprinted in D. Solomons (ed.), *Studies in Costing*, London: Sweet & Maxwell, 1952, pp. 87-104; and in J. M. Buchanan and G. F. Thirlby (eds.), *L. S. E. Essays on Cost*, London: London School of Economics and Political Science, 1973, 71-94 (page references are to the latter publication).
- Financial Accounting Standards Board, *Statement of Financial Accounting Concepts No. 1*, "Objectives of Financial Reporting by Business Enterprises," Stamford, CN: FASB, 1978.
- _____, *Statement of Financial Accounting Concepts*, No. 3, "Elements of Financial Statements of Business Enterprises," Stamford, CN., FASB, 1980.
- Fremgen, J. and S. Liao, *The Allocation of Corporate Indirect Costs*, New York: National Association of Accountants, 1981.
- Garcke, E. and J. M. Fells, *Factory Accounts in Principle and Practice*, 7th ed., London: Crosby Lockwood and Son, 1922.
- Gillespie, C., *Standard and Direct Costing*, Englewood Cliffs, NJ: Prentice-Hall, 1962.
- Hakala, G., "Measuring Costs with Machine Hours," *Management Accounting* (October 1985), 58-62.
- Hamilton, W. R., "Some Economic Considerations Bearing on Costing," *The Accountant* (February 5, 1910), reprinted in Solomons (1952).
- Harris, J. N., "What Did We Earn Last Month?" *NACA Bulletin* (January 15, 1936), 501-527.
- Horngren, C. T. and G. Foster, *Cost Accounting: A Managerial Emphasis*, 6th ed., Englewood Cliffs, NJ: Prentice-Hall, 1987.
- Hunt, R., L. Garrett, and C. M. Merz, "Direct Labor Cost not Always Relevant at H-P," *Management Accounting* (February 1985), 58-62.
- Johnson, H. T. and R. S. Kaplan, *Relevance Lost: The Rise and Fall of Management Accounting*, Boston: Harvard Business School Press, 1987.
- Kaplan, A., *The Conduct of Inquiry*, San Francisco: Chandler Publishing Co., 1964.
- Kaplan, R. S., "Accounting Lag: The Obsolescence of Cost Accounting Systems," *California Management Review* (Winter 1986), 174-199.
- Lardner, D., *Railway Economics*, London: Taylor, Walton & Maberly, 1850.
- Marshall, A., *Principles of Economics*, London: MacMillan and Co., 1890.
- National Association of Accountants, *Statements on Management Accounting* No. 4C, "Definition and Measurement of Direct Labor Cost," October 1985.
- Norton, G. P., *Textile Manufacturers' Book-keeping*, London: Simplin, 1889.
- Parker, R. H., *Management Accounting: An Historical Perspective*, New York: A. M. Kelley, 1969.
- Paton, W. A., "Introduction," in W. E. Stone (ed.), *Foundations of Accounting Theory*, Gainesville: University of Florida Press, 1971.
- Paton, W. A. and A. C. Littleton, *An Introduction to Corporate Accounting Standards*, Chicago: American Accounting Association, 1940.
- Scovell, C., *Interest as a Cost*, New York: Ronald Press, 1924.
- Seed, A., "Cost Accounting in the Age of Robotics," *Management Accounting* (October 1984), pp. 39-43.

- Solomons, D., "Cost Accounting and the Use of Space and Equipment," *The Accountant* (March 27 and April 3, 1948); reprinted in Solomons (1952), 277-291.
- _____, "The Historical Development of Costing," in D. Solomons (ed.), *Studies in Costing*, London: Sweet & Maxwell, 1952, 1-52.
- Staubus, G. J., *An Accounting Concept of Revenue*, Dissertation, Chicago: University of Chicago, 1954; reprinted New York: Arno Press, 1980.
- _____, *Activity Costing and Input-Output Accounting*, Homewood, IL: Richard D. Irwin, Inc., 1971.
- _____, "The Market Simulation Theory of Accounting Measurement," *Accounting and Business Research* (Spring 1986), 117-132.
- _____, "From Product Cost Accounting to Activity Costing: Proposals for Changes in the Teaching of Cost Accounting," Working Papers of the Professional Accounting Program, University of California, Berkeley (1987).
- Sterling, R. R., *Toward a Science of Accounting*, Houston: Scholars Book Co., 1979.
- Thirlby, G. F., "The Subjective Theory of Value and Accounting 'Cost'," in J. M. Buchanan and G. F. Thirlby (eds.), *L. S. E. Essays on Cost*, London: London School of Economics and Political Science; Weidenfeld and Nicolson, 1973. First published in *Economica* (February 1946).
- Thomas, A. L., "The Allocation Problem in Financial Accounting Theory," *Studies in Accounting Research* #3, Evanston, Ill.: American Accounting Association, 1969.
- _____, "The Allocation Problem: Part Two," *Studies in Accounting Research* #9, Sarasota: American Accounting Association, 1974.
- Vatter, W. J., *The Fund Theory of Accounting and Its Implications for Financial Reports*, Chicago: University of Chicago Press, 1946.
- Viner, J., "Cost Curves and Supply Curves," *Zeitschrift für National-ökonomie* (1932), pp. 23-46.
- Walras, L., *Elements d'Economie Politique Pure*, Lausanne: L. Corbaz & Cie, 1874.
- Zimmerman, J. L., "The Costs and Benefits of Cost Allocations," *The Accounting Review* (July 1979), pp. 504-521.