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ACCOUNTING HISTORY AND THE EMPEROR'S NEW CLOTHES: A RESPONSE TO "KNOWING MORE AS KNOWING LESS? . . . "

Abstract: Hoskin and Macve (H&M) continue to accredit certain events in the early 1840s as enabling the creation of norm-based accounting and its use to control labor and improve productivity at the Springfield Armory (SA). Although critics have refuted H&M's interpretation of these events and reproached their use of inflated language, H&M maintain their unique perspective with undiminished fervor. This rejoinder further questions the validity of H&M's perspective of U.S. accounting history. It identifies the many conventional business historians who refute it and emphasizes that no other evidence has been presented to indicate that norm-based accounting was ever employed in the U.S. before the early 1900s. It also describes how H&M have tried to bolster their position by citing several contemporary and more critical scholars who in fact refute it. More substantively, the paper emphasizes that the core debate between H&M and their critics is not simply over the timing of particular events at SA. Rather, it centers on the nature of historical evidence and the distinction between history and historicism.

INTRODUCTION

Hoskin and Macve (H&M) continue to argue that certain events at the Springfield Armory (SA) have been largely unrecognized for marking the first use of accounting to control labor and improve productivity in the U.S. Their core belief, unchanged from earlier papers [H&M, 1988, 1996], is that the confluence of performance norms and managerial discipline first occurred in 1841 at SA and transformed accounting's role from mercantilism to "managerialism." In their latest paper, H&M seek to rebut critics of this uniquely Foucaldian perspective of U.S. accounting history.

In previous papers, I have argued that H&M distorted the historical record [Tyson, 1993] and refuted their contentions that 1) norm-based accounting effectuated SA's subsequent productivity increases [Tyson, 1990], and that 2) accounting information was *not* used for decision-making purposes before the early 1840s [Tyson, 1992, 1998]. Although H&M, in a previous draft, acknowledged that "the historical evidence does indeed illustrate a growing array of sophisticated cost and management accounting practices being developed in the early 19th century," they still misrepresent the historical record and insist that events at SA were transforming.[1]

In the present rejoinder, I discuss the more substantive issue underlying the debate between the Foucaldian and economic rationalist perspectives of accounting history—the nature and role of historical evidence. The main point of this rebuttal is that no evidence can sustain H&M's theory that accounting was used to discipline labor in the U.S. in the early 1840s. In actuality, norm-based accounting was first employed in the early 1900s when standard costing and other scientific management principles became socially acceptable. Owner/managers controlled labor and other costs of production at SA and other 19th century establishments by increasing mechanization, utilizing economies of scale, and/or reducing piecework wage rates. Even if owner/managers had wanted to identify star performers and use their methods and productivity as the benchmark for other laborers to emulate, the economic, social, and political climate of the mid-19th century work place precluded the use of accounting for labor control purposes. Skilled labor shortages, the use of internal contracting, and cost-benefit criteria are among the most important factors that explain the absence of norm-based accounting.[2]

The balance of this rejoinder is organized as follows. The next section describes the key role evidence plays in developing and sustaining theory and identifies the scholars who refute H&M's position on the timing of norm-based accounting. The paper then provides a brief overview of the U.S. industrial work

[1]H&M continue to inflate language regarding both Daniel Tyler's time-study procedure and their critics' remarks. For example, they substitute the word "ought" for the word "could," which Tyler used in the description of his own work [Tyler, 1883]. Clearly, the word "ought" has a normative component whereas none existed in the original record. H&M (p. 115) also bend language when they write that Boyns and Edwards [1996] "themselves accept the conclusions of our work on the link between West Point and Springfield." Boyns and Edwards [1996, p. 42] actually wrote that they accepted the "analysis of the links," but that "we are not convinced that it is sufficient, in terms of their [H&M's] disciplinary thesis . . . "

[2]See Boyns and Edwards [1996] and Tyson [1990] for a fuller discussion of these factors in the U.K. and U.S., respectively.

place of the 19th century and explains why human accountability in the form of norm-based accounting was not employed. The concluding section addresses the distinction between history and historicism and explains why H&M's perspective of U.S. accounting history is so untenable.

THE NATURE OF HISTORICAL EVIDENCE

> Evidence is a concept central to the empirical sciences. Whether to believe, or even take seriously, a scientific hypothesis or theory depends on the quantity and character of the evidence in its favour [Achinstein, 1983, p. 1].

As Achinstein indicated, and most other historians concur, evidence plays a central role in evaluating new theories and testing unproven hypotheses. Although empirical tests cannot be performed to evaluate theories about the past, interpretations that seek to countervail conventional paradigms, like economic rationalism, *must* utilize historical evidence to gain broader acceptance. Radical antipositivists might argue that evidence in the form of archival records is inherently unable to explain the past because of its subjectivity. H&M (p. 97, fn. 7) appear to ascribe to this view when they write that:

> We therefore find profoundly problematic any theory that takes as its objects of analysis the subject as rational, the organization as structure, and information as objective.

Clearly, archival evidence in the form of documents, letters, memoranda, etc. must be evaluated carefully since it could contain major factual errors or omissions, either by accident or by intent. Furthermore, important countervailing evidence might be unexamined, leading the researcher to form inappropriate conclusions. Particular evidence might also be so clearly biased or unreliable that the researcher must reject it out-of-hand. Historians acknowledge these caveats about evidence, but they do not reject its crucial role in developing and assessing theory. If all evidence were perceived as inherently biased and unreliable, then scholarly historical research would have no purpose or essence. Ginsburg [1991, p. 83] described how the rejection of evidence threatens history:

> Instead of dealing with evidence as an open window, contemporary skeptics regard it as a wall, which by definition precludes any access to reality. This extreme

> anti-positivistic attitude, which considers all referential assumptions as a theoretical naivete, turns out to be a sort of inverted positivism.

In the midst of the ten-year debate about particular events at SA, it was gratifying to see that H&M [1996] called for evidence that would support interpretations of U.S. accounting history that differ from their own. Tyson [1998] responded to the challenge by enumerating many specific points that refuted H&M's perspective. H&M now disregard many of these remarks as they maintain their perspective with vigor, although independent scholars have yet to provide a single example of "human accountability" at other 19th century locales. H&M (p. 100) still call for additional evidence but in a *significantly* different form. They now place their unique perspective on the same plateau as widely accepted, conventional paradigms:

> Our thesis remains as subject to falsification by evidence yet to come as any other. An accumulation of such evidence therefore remains essential in order to enable us to piece together more of the jigsaw of our theoretical understanding of how such developments occurred.

H&M's latest invitation begs the question as to the type of new evidence that could refute a theory of human accountability, managerialism, and norm-based accounting at SA. It is not as if SA operated in a vacuum and its activities were unknown to outsiders. Deyrup [1970] described how arms-making techniques and cost figures were routinely shared with private armorers in the early 1800s. Hindle and Lubar [1986] noted that SA inspectors held key positions at the Waltham Watch Company (WWC) and were hired for their ability to enforce work discipline. Surely, if norm-based accounting had produced the large productivity gains at SA that H&M claim, WWC and other large factories would have implemented norm-based accounting to achieve similar results.

It is also worth noting that the terminology "standard(s)," "norm(s)," or "accountability" never appeared in the SA or WWC archives or in *any* pre-1890 documents that have come to light. In actuality, these and comparable terms were first used in conjunction with the scientific management movement that began over 50 years after certain transforming events were "discovered" at SA. The absence of *any* confirming evidence surely refutes a theory that is based entirely on the interpretations one set of authors attribute to productivity data that can be explained by a variety of factors other than norm-based accounting.[3] Clearly, the burden of proof in the form of confirming evidence rests with those proposing a new paradigm rather than those rejecting it in favor of established views.

At present, evidence and expert opinion that refute H&M's theory, impact, and time dating of human accountability at SA are both compelling and overwhelming. Renowned business historians [Chandler, 1977; Hounshell, 1984; Nelson, 1991] consistently have dated the first appearance of norm-based accounting in the U.S. to the early 1900s. Others [Faler, 1974; Nelson, 1981; Prude, 1983; Rosenberg, 1969] have explained why labor shortages and the lack of an industrial work ethic precluded owner/managers from employing accounting norms to control labor costs. Regular attendance, conscientious performance, and general sobriety were still problematic in the mid-late 19th century at SA and other factories. Achieving these attributes was a necessary prerequisite to the use of accounting norms. Furthermore, historians who discussed SA activities in summary [Benet, 1878] and in detail [Deyrup, 1970; Smith, 1977] attributed no special significance to Daniel Tyler's 1832 rate-setting activities that H&M embellish.

Perhaps most damaging to H&M's perspective are the views of contemporary and critical accounting scholars, even though H&M strongly intimate that these scholars support them. For example, H&M (p. 112) cite Miller [1992] to bolster their remarks that, "a leading characteristic of modernity, *certainly by the end of the 19th century*, is the creation of 'calculable persons in calculable spaces.'" However, Miller [1992, p. 65] wrote that, "Managerial or cost accounting as addressed here is a *twentieth century phenomenon* that has had a relatively distinct trajectory in comparison to financial reporting." Miller [1992, p. 70] also stated that,

> An early and decisive moment in the invention of the calculating self is the reformulation of cost accountancy in the factory *between 1900 and 1930* . . . The notion of standard costs, entailing the calculation of predetermined 'normal' costs against which actual costs can be compared, was at the heart of this transformation. (emphasis added)

[3]See Tyson [1990] for a detailed discussion of rationales that explain post-1841 labor productivity improvements at SA.

H&M also reference Miller and O'Leary (M&O) [1987] to support their view that human accountability first appeared at SA in the 19th century.[4] A careful examination of M&O [1987] failed to uncover any statement indicating that "calculable persons" were "created" in the 19th century. In point of fact, M&O [1987, pp. 239-240] unequivocally dated the first appearance of norm-based accounting to the 20th century:[5]

> Accounting is, we argue, an important aspect of this development of a range of calculative programmes and techniques which come to regulate the lives of individuals at work in the *early twentieth century*…It is our contention that one can understand the emergence of standard costing and budgeting in the *early years of the twentieth century* by situating it within this more general shift in the form of social life which occurs around the turn of the century. (emphasis added)

M&O cited several noted accounting authors (Dickinson, Garcke and Fells, Harrison) who had discussed why standard costs were needed to improve efficiency. They cited these authors to support the conventional view that human accountability was an innovation that first appeared in the U.S. during the early 20th century [M&O, 1987, p. 242]:

> For our concerns in this paper there is one crucial dimension to this *innovation*. The principle of standard costs made it possible to attach to every individual within the firm norms and standards of behaviour. (emphasis added)

H&M might respond that M&O were not apprised of their "discovery" at SA before submitting their seminal 1987 article for publication. However, Miller [1992] and Miller and Napier

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[4]Specifically, H&M (p. 108) write that, "our distinctive emphasis has been on the constitutive role of accounting practices and discourse in the *widespread 19th century development* of the new kind of human performance measurement which created 'calculable persons' within mass populations." (emphasis added)

[5]Aitken [1985, p. 12] provided the conventional view, which M&O [1987] clearly supported, of the conjoining of norm-based accounting with scientific management in his description of Frederick Taylor's work: "The introduction of the Taylor system of management at Watertown Arsenal was not merely a technical innovation. It was also a highly complex social change, upsetting established roles and familiar patterns of behavior, establishing new systems of authority and control, and creating new sources of insecurity, anxiety, and resentment."

[1993] were surely aware of H&M's perspective by the time these later articles were published, and they could have disassociated norm-based accounting from scientific management. As the following statement indicates, their thinking had not changed from the 1987 paper [Miller and Napier, 1993, p. 644]:

> Rather, what is important is the alliance formed between standard costing and Taylorism in seeking to make notions of efficiency operable within the enterprise so that the actions of the individual could be given a financial visibility and be related to expected standards and norms.

In summary, H&M's perspective has been refuted by prominent business historians who tie norm-based costing to scientific management in the early 1900s, and by those who fail to impute the same meaning to the 1832 and 1841 events at SA. Independent scholars have yet to provide other examples illustrating the use of norm-based accounting in the 19th century at SA, other federal armories, or private establishments. In essence, the lack of confirming evidence, the absence of other examples, and the lack of support from other scholars *completely* isolates H&M's unique perspective of U.S. accounting history. The next section provides an overview of industrial work in the U.S. during the 19th century and indicates why norm-based accounting was not a 19th century phenomenon.

INDUSTRIAL WORK IN THE 19TH CENTURY

Owner/managers who employed nonfamily employees and operated in competitive markets have always attempted to control the costs of production. Throughout the 19th century, they used piecework wages and inside subcontracting to control labor costs. Piece rates were set either for complete jobs or specific tasks that both attracted appropriately skilled workers and generated suitable profits for the contracting agent or employer. Laurie [1989, p. 64] noted that first-generation U.S. manufacturers often used the putting-out system whereby work was done in a laborer's household rather than a factory. Absent protective legal statutes or the ability to resist the wage cuts en masse that strong unions would have afforded, piece-rate reductions often forced household laborers to work 12 to 14-hour days to earn a decent living wage. As consumer markets increased and transportation networks improved and expanded, it became more cost effective to conduct work in large, integrated facilities rather than in craft shops or in domiciles.

During the pre-Civil War period at SA and other factories, owner/managers were compelled to automate production in the face of continual shortages of skilled labor [Licht, 1995].[6] Once automation was more fully achieved, owner/managers could reduce piece rates for factory laborers without experiencing shortages since less-skilled workers were more abundant and could do the work that previously required skilled craftsmen. If owner/managers wanted to improve productivity, either to increase profits or in response to competitors, they did so by stretching out the workday or speeding up the pace of work. Hindle and Lubar [1986, p. 198] described how machine pacing and market effects combined to control labor costs:

> The great cost of the machines meant the mills had to be kept running, even when the market for the product was weak. That often meant cuts in the workers' pay. And most important, the machines' steady motion insisted on a machine-like pace for the workers. The managers set the speed of the machines, and the machines set the pace of work.

Mechanization, specialization, subdivision of labor, and full integration increasingly characterized large-scale manufacturing facilities over the course of the 19th century. Factories that produced boots, shoes, clothing, and other consumer goods expanded dramatically, aided in part by technological advances and the use of steam power. Mass production techniques and interchangeable parts were two key features in the arms-making, timekeeping device, sewing machine, and similar industries. Whereas owners of small businesses had been able to perform most managerial functions themselves, owners in large factories now had to employ managers and supporting staff to oversee increasingly complex and costly operations that included marketing, production, administrative, and purchasing activities. Despite their ability to control costs through piece-rate cuts, owner/managers also needed a regular factory work force that was both predictable and disciplined in order to keep machines running and to generate the output needed to

[6]According to Hindle and Lubar [1986, p. 157], both large and small U.S. businesses favored mechanization. "Mechanization was encouraged by the economic resources of the United States. Waterpower and later steam power were cheap and available, and so American business turned to waterwheel and steam engine to drive machinery. Labor was scarce and thus expensive, and so machinery was substituted where possible."

cover the high fixed costs of capital. Thus, as Hindle and Lubar [1986] suggested, H&M correctly link the large productivity gains at both SA and WWC to greater managerial discipline that West Point training facilitated at both establishments.[7] But, in the absence of any supporting evidence, H&M go *much* too far when they conjoin norm-based accounting to managerial discipline either at SA, WWC, or any other 19th century factory.

Fleischman and Tyson [1996] examined the archives of WWC, a U.S. company that was organized in the early 1850s and was described by Clawson [1980, p. 78] as, "the first company anywhere in the world to produce watches through extensive use of machinery and interchangeability." By 1885, WWC employed 2,400 workers and operated in a highly competitive market that faced continually falling market prices for watches over time. Fleischman and Tyson examined WWC's records and did find detailed records of individual and total labor costs, but they found no evidence to suggest that norm-based accounting was ever employed. Share ownership and inside subcontracting were the mechanisms used to provide factory discipline, create incentives, and reduce labor costs. During the economic depression of the 1870s and subsequent deflationary period, WWC's subcontracting system was eliminated and former subcontractors were paid far smaller day wages. Thus, in good times and bad, and in an environment that appeared ideal, there was no evidence to indicate that accounting norms were ever contemplated, developed, or used. As H&M now note, Fleischman and Tyson [1996] found large productivity gains that were brought about, in part, by improved factory discipline. However, while West Point training enabled WWC superintendents to be more effective disciplinarians, which in conjunction with technological advances and economic forces led to significant productivity improvements, there is simply *no* evidence to support a perspective of norm-based accounting that H&M promote so fervently.

[7]For example, Hindle and Lubar [1986, p. 232] accredited West Point training to tighter discipline at SA, noting that "the system of inspectors was part of a new, more tightly controlled system of labor at the armories . . . the managers of the armories introduced new work rules and new management techniques along with new machines. Time and materials were carefully accounted for; each workman was held responsible for his work."

DISCUSSION, SUMMARY, AND CONCLUSIONS

H&M's unique theory of accounting history has been presented in a series of papers and has drawn equally passionate rejoinders. To some, the debate may appear to be academic antler clashing at its worst, with neither side willing to let the other have the last word on a matter of little interest or importance. Hopefully, readers will recognize that the issues under debate extend far beyond whether norm-based accounting first occurred at the SA in the early 1840s or at some later date. The real issue is the far more substantive one—the use of historical evidence and the distinction between history and historicism.[8]

Historians believe in the accumulation of knowledge, the importance of evidence, and the ability to uncover truths about the past. Historians also believe that primary source materials are best able to reveal past events as they transpired. They recognize that there may be more than one interpretation that can be inferred from the same evidential material and that evidence must be evaluated carefully. Notwithstanding these caveats, historians form and defend their conclusions on the basis of the evidence (i.e., documents, reports, letters, memoranda, etc.) they examine.

Historicists are far more concerned with developing and sustaining a particular social theory or philosophy of history.[9] They are generally less encumbered to ensure the accuracy of particular events they cite since, to many, historical knowledge is inherently subjective and no accurate account of the past can ever be forthcoming. While historians prioritize facts, historicists tend to discount them in the belief that the boundary between fact and fiction is unclear and inconsequential. In the case of historicists like H&M, their Foucaldian perspective intertwines power and knowledge, discipline and punishment, and accountability and consequences, all of which are embodied in norm-based accounting.

Although H&M and I continue to dispute particular events, referents, and semantics, the rhetoric of our debate can be collapsed into several core issues. In 1986, H&M proposed a unique interpretation of accounting's potential to marry power

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[8]See Walsh [1962] for a full discussion of history and historicism.

[9]Burke [1992, p. 3] attributed these perspectives to the different training that historians and sociologists receive: "Sociologists, for example, are trained to notice or formulate general rules and often screen out the exceptions. Historians learn to attend to concrete detail at the expense of general patterns."

and knowledge into a form of human accountability they call managerialism. In 1988, H&M described the confirmatory evidence they discovered and interpreted as conjoining at SA in 1841 to form accounting norms. They argued that norm-based accounting was an effective disciplinary device because of the dramatic productivity improvements that occurred subsequently. H&M have promoted their theory of managerialism ever since, but neither they nor others have provided a *single* example of norm-based accounting at other 19th century locales. Is it unfair to conclude that this new theory is creative accounting history at best, an intentional delusion at worst, or more likely the emanation of extremely clever imaginations?[10]

The historical record is clear – not one independent scholar has provided evidence that either 1) confirms that events transpired at SA as H&M suggest, 2) provides other examples of norm-based accounting in the 19th century, or 3) explains why events that transpired at SA were not duplicated for over 50 years. H&M call for evidence to refute their theory, but a theory lacking *any* supporting evidence is simply an untenable hypothesis. In essence, H&M have artfully constructed a new set of emperor's clothes, multicolored, beautifully woven, elaborately crafted and layered. In reality, they remain just an illusion, except to the emperor that is!

REFERENCES

Achinstein, P. (1983), *The Concept of Evidence* (New York: Oxford University Press).

Aitkin, H.G.J. (1985), *Scientific Management in Action* (Princeton, NJ: Princeton University Press).

Benet, S.V. (ed.) (1878), *A Collection of Annual Reports and Other Important Papers, Relating to the Ordnance Department*, Vol. 1 (Washington: Government Printing Office).

Boyns, T. and Edwards, J.R. (1996), "The Development of Accounting in Mid-Nineteenth Century Britain: A Non-Disciplinary View," *Accounting Auditing and Accountability Journal*, Vol. 9, No. 3: 40-60.

Burke, P. (1992), *History & Social Theory* (Ithaca, NY: Cornell University Press).

[10]Himmelfarb [1987, p. 100] captured my sentiments when she wrote that, "It is a challenging task that confronts the new history, and one can understand why the brightest and most ambitious are attracted to it. It is an exciting game to ferret out whatever facts one can, however and wherever one can, and to make of them whatever one can, by way of deduction, generalization, extrapolation, supposition, intuition, imagination. Only a crotchety old historian would throw a damper on the festivities by pointing out that the results, more often than not, are thoroughly speculative and problematic . . ."

Chandler, A.D., Jr. (1977), *The Visible Hand*: *The Managerial Revolution in American Business* (Cambridge: Harvard University Press).

Clawson, D. (1980), *Bureaucracy and the Labor Process: The Transformation of US Industry, 1860-1920* (New York: Monthly Review Press).

Deyrup, F.J. (1970), *Arms Making in the Connecticut Valley* (York, PA: George Shumway).

Faler, P. (1974), "Cultural Aspects of the Industrial Revolution: Lynn, Massachusetts Shoemakers and Industrial Morality, 1820-1860," *Labor History*, Vol. 15, No. 3: 367-394.

Fleischman, R. and Tyson, T.N. (1996), "Inside Contracting at the Waltham Watch Company: Reassessing the Economic Rationalist and Labour Process Perspectives," *Accounting, Auditing, and Accountability Journal*, Vol. 9, No. 3: 61-78.

Ginsberg, C. (1991), "Checking the Evidence: The Judge and the Historian," *Critical Inquiry*, Vol. 18, No. 1: 79-92.

Himmelfarb, G. (1987), *The New History and the Old* (Cambridge, MA: Belknap Press of Harvard University Press).

Hindle, B. and Lubar, S. (1986), *Engines of Change: The American Industrial Revolution, 1790-1860* (Washington, DC: Smithsonian Institution Press).

Hoskin, K.W. and Macve, R.H. (1986), "Accounting and the Examination: A Genealogy of Disciplinary Power," *Accounting, Organizations and Society*, Vol. 13, No. 1: 37-73.

Hoskin, K.W. and Macve, R.H. (1988), "The Genesis of Accountability: The West Point Connections," *Accounting, Organizations and Society*, Vol. 11, No. 2: 105-136.

Hoskin, K.W. and Macve, R.H. (1996), "The Lawrence Manufacturing Co.: A Note on Early Cost Accounting in US Textile Mills," *Accounting, Business and Financial History*, Vol. 6, No. 3: 337-361.

Hounshell, D.A. (1984), *From the American System to Mass Production 1800-1932* (Baltimore: Johns Hopkins University Press).

Laurie, B. (1989), *Artisans into Workers: Labor in Nineteenth-Century America* (New York: Noonday Press).

Licht, W. (1995), *Industrializing America* (Baltimore: Johns Hopkins University Press).

Miller, P.B. (1992), "Accounting and Objectivity: The Invention of Calculable Selves and Calculable Spaces," *Annals of Scholarship*, Vol. 9, No. 1/2: 61-86.

Miller, P. and O'Leary, T. (1987), "Accounting and the Construction of the Governable Person," *Accounting, Organizations and Society*, Vol. 12, No. 3: 235-265.

Miller, P. and Napier, C. (1993), "Genealogies of Calculation," *Accounting, Organizations and Society*, Vol. 18, No. 7/8: 631-647.

Nelson, D. (1981), "The American System and the American Worker," in Mayr, O. and Post, R.C. (eds.), *Yankee Enterprise: The Rise of the American System of Manufacturers* (Washington, DC: Smithsonian Institution Press): 171-187.

Nelson, D. (1991), "Scientific Management and the Workplace, 1920-1935," in Jacoby, S.M. (ed.), *Masters to Managers* (New York: Columbia University Press): 74-89.

Prude, J. (1983), *The Coming of Industrial Order* (Cambridge: Cambridge University Press).

Rosenberg, N. (ed.) (1969), *The American System of Manufactures: The Report of the Committee on the Machinery of the United States 1855, and Special Reports of George Wallis and Joseph Whitworth 1854* (Edinburgh: Edinburgh University Press).

Smith, M.R. (1977), *Harpers Ferry Armory and the New Technology* (Ithaca, NY: Cornell University Press).

Tyler, D. (1883), *Daniel Tyler: A Memorial Volume Containing his Autobiography and War Record* (New Haven, CT: published by author).

Tyson, T. (1990), "Accounting for Labor in the Early 19th Century: The US Arms Making Experience," *Accounting Historians Journal*, Vol. 17, No. 1: 47-59.

Tyson, T. (1992), "The Nature and Environment of Cost Management Among Early 19th Century US Textile Manufacturers," *Accounting Historians Journal*, Vol. 19, No. 2: 1-24.

Tyson, T. (1993), "Keeping the Record Straight: Foucauldian Revisionism and Nineteenth Century US Cost Accounting History," *Accounting, Auditing and Accountability Journal*, Vol. 6, No. 2: 4-16.

Tyson, T. (1998), "Mercantilism, Management Accounting, or Managerialism? Cost Accounting in Early Nineteenth-Century US Textile Mills," *Accounting, Business & Financial History*, Vol. 8, No. 2: 211-229.

Walsh, W.B. (1962), *Perspectives and Patterns: Discourses on History* (Syracuse, NY: Syracuse University Press).