Accounting Historians Journal

Volume 17
Issue 2 *December 1990*

Article 9

1990

Reviews [1990, Vol. 17, no. 2]

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The Accounting Historians Journal
Vol. 17, No. 2
December 1990

REVIEWS

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REVIEWS OF BOOKS AND OTHER PUBLICATIONS

Philip D. Bougen, *Accounting and Industrial Relations: Some Historical Evidence on Their Interaction* (New York: Garland Publishing, Inc., 1988, 342 pp., $40)

Reviewed by
Roxanne T. Johnson
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Philip Bougen has successfully described the complex interaction between an accounting system and the organizational components dependent on the information resulting from such a system. Bougen evaluates in exhaustive detail the interaction between an accounting system and the management and labor constituencies within the Hans Renold Company of Manchester, England, as reflected in a profit sharing plan. In the process, Bougen has constructed a complex picture of the interaction between company management, employee populations and the accounting numbers that were used to tie the two constituent groups together.

In the course of his research, Bougen wanted to consider:

(i) some of the factors which led to the *emergence* of accounting in the structure and practices of industrial relations in one particular company over a substantial period of time.
(ii) the roles accounting numbers and systems were called upon to play in the conduct of industrial reactions.
(iii) the *consequences* of the interweaving of accounting and industrial relations [p. 1].

Bougen's study explores these three themes by analyzing the complex environmental and institutional circumstances within which the Hans Renold Company attempted to introduce the profit sharing plan. Thus, he evaluates events internal to the firm within the context of the economic and societal conditions affecting the country as a whole. In the process, he accomplishes his goals and objectives quite effectively.

In Chapter Two, Bougen traces the general history of the company, and introduced the primary participants in the profit sharing scheme. The founder of the firm, Hans Renold, believed firmly in the advantages of accounting information, and had introduced cost accounting techniques early in the firm's existence. He and his son, C. G., managing director from 1919, also espoused scientific management techniques. Bougen describes the elder Renold's management style as a combination of "autocracy, paternalism and a search for organizational efficiency" [p. 13], techniques adopted by his son as well. These factors were extremely important in the relationship between management and labor that evolved while the profit sharing plan was in operation. The plan was introduced in 1920 as a response to a complex set of management concerns with respect to the employee population. Bougen traces the development, growth and denouement of the plan over the following ten-year period.

Chapters Three through Six track in detail the evolution of the plan using as a primary source the minutes of the Profit Sharing Committee composed of employee and management representatives. Of particular interest in these chapters is the interaction between management and labor during discussions in the Committee concerning the accounting numbers presented as part of the profit sharing scheme. Foremost in these discussions was the continued effort on the part of management to "educate" the employees using accounting information. Not only did management want to garner labor support for their decisions using accounting information, but the accounting information was also used to encourage employees to increase efficiency and productive output. This effort to imply a "cooperative venture between Labor and Capital" [p. 101] was not successful. It rapidly became evident that the profit sharing scheme maintained the status quo between management and labor. The scheme was devised, introduced and maintained by firm management. Although masquerading as a cooperative effort, labor was still excluded from company decision making despite opportunities to comment on and question the accounting information presented to justify the profit sharing or, as was more frequently the case, the lack thereof. Over time, the numbers lost credibility with the employee representatives as the perception of management prerogative regarding company performance, profit sharing distributions and the accounting information presented as justification grew. Management concerns were also growing "in that an exercise which was designed to promote mutual trust and agreement in the conduct of industrial relations, could have the very opposite effect" [p. 185].

Chapter Seven details the efforts to alter the scheme and make it more acceptable to all concerned. In an effort to circumvent labor's increasing interest in company decision making, less accounting information was made available to the Profit Sharing Committee and fewer and fewer committee meetings were called. Even though the accounting information was withheld, however, employee representatives still questioned managerial prerogatives and actions. The questioning may have disturbed management, but it did not interfere with the maintenance of the managerial prerogative. This is evident in the decision to merge with a competitor, a decision which excluded the employee population although of significant importance to the profit sharing scheme. At the end of this period, the scheme was terminated. This sketch of the events, concerns and changing attitudes of participants in this scheme cannot possibly impart the rich texture of this research. The interaction between company management and employees generated by the extensive use of accounting information in a situation of extreme interest to both parties cannot be minimized. Bougen has written an extremely well researched, documented and interpreted volume which transcends the mere chronicling of events. In the process, he has most effectively explored the three themes he identified at the outset.

The only slight drawback to this work occurs in the writing style of the author. In many cases, he has incorporated three or four different ideas into one sentence when three or four separate sentences would serve the reader more favorably. This is not a fatal flaw by any means and certainly does not diminish the value of the work. Further, additional editorial review would have identified the typographical and grammatical errors which again are not fatal flaws but unfortunately detract from the undeniable value of the research.

Robert H. Frank, *Passions Within Reason: The Strategic Role of the Emotions* (New York: W.W. Norton & Co., 1988, 304 pp., $19.95)

Reviewed by
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In this book, Robert H. Frank, who is a professor of economics at Cornell University, persuasively argues that passions (or emotions) play a strategically important role in human affairs. Paradoxically, our passions, by leading us to forgo tactical material advantages, may actually result in strategic material advantages. This notion is strange enough that I think it is best to discuss it within the context of an example drawn from behavioral laboratory studies cited in the book. The experiments were conducted using pairs of subjects who did not know one another and each subject participated in only one trial. Subject 1 was given a sum of money and was asked to propose a division between himself and subject 2. Subject 2 then had the option to accept or refuse the division. If the offer was refused, neither subject got any money at all. The "rational" strategy for subject 2 is to accept any division that leaves him with some cash since the alternative is zero. Knowing this, the "rational" strategy for subject 1 is to propose a division in which he gets nearly everything. In fact, in about a quarter of the trials, subject 1 proposed a 50-50 division and the average percentage demand by subject 1 was 67% — a far cry from the 99+% predicted by the theory of rational economic man. Moreover, in about 22% of the trials the divisions proposed by subject 1 were rejected by subject 2 — even though in all cases subject 2 would have been better off accepting the offer. And, quite clearly, there was a relationship between the "unfairness" of the proposed division and the tendency for the division to be rejected.

This single experiment, which is only one of many cited in the book, raises all sorts of interesting issues. First, the results are clearly at odds with what we would ordinarily think of as rational behavior. These were all one-shot games between subjects who did not know each other, so there were no strategic advantages, within the context of the experiment, for subject 1 to be magnanimous or for subject 2 to reject an offer — however small. And yet such behavior was regularly observed. Emotions are involved in this experiment and the fundamental point made by Frank is that such emotions are useful — not in every situation necessarily, but in enough situations that they confer advantages on those who have them.

Why did subject 1 so often propose a 50-50 split instead of a 99-1 split as "rational" theory would seem to predict? A rationalist might respond that subject 1 was afraid that subject 2 would reject a lop-sided division; but of course this could only happen if subject 2 were himself irrational. Indeed, the fear that subject 2 is irrational may motivate subject 1 to give subject 2 a greater share! However, another force is at work that also mitigates against the predicted 99-1 division. Namely, most of us feel bad if we take unfair advantage of others. Now what possible advantage can such guilt feelings have?

An indirect (and unintended) lesson of agency theory is that opportunistic behavior generates enormous deadweight losses. Markets fail, sub-optimal decisions are made, monitoring costs are incurred, etc. A sense of guilt can act to counter opportunistic behavior and thereby reduce deadweight losses due to agency costs. Moreover, if there are statistically reliable signs concerning who feels guilt and who does not (such as certain facial expressions), those who feel guilt will be sought after in ventures that require mutual trust. The capacity to feel shame and guilt therefore conveys important material advantages; in the economists' jargon, it enlarges an individual's opportunity set.

An important insight is that, by their very nature, emotions are involuntary and it is this aspect that solves a variety of problems in economics and relationships. If I could turn my feelings of guilt off and on at will, you would not trust me to feel shame if I were to cheat you. Hence you would be reluctant to enter into any venture with me that presents me with opportunities for exploiting you. Unfortunately, since emotions are involuntary, they may be activated at times that are inappropriate as well as when they are in our long-run interests; on balance, however, Frank argues that they are useful. Due to natural selection, the very existence of emotions provides *prima facia* evidence of their usefulness.

Returning to the experiment, why is it in subject 2's interests to reject a division that would leave him with something — however small. Clearly, it is not rational for subject 2 to reject even a token payment — and yet he does. The theory of rational economic man simply does not correctly predict behavior in this situation. Frank argues that subject 2 refuses the offer out of anger over an "unfair" division. Of what possible use is such an emotion of anger? Strategically, an individual can gain in the long run if he can convince others (via a reputation or involuntary signals) that he will act irrationally and refuse advantageous, but "unfair", offers. The adversary of such an irrational opponent is forced into making a "fair" offer. Once again, this emotion has to be involuntary to be credible. In the context of the experiment, the emotion triggers a response that is clearly not in the interests of the individual. However, if the individual had the ability to turn off the emotion in situations in which it would be to his immediate material advantage to do so, the emotion would not have a deterrent effect. The emotion must have the power to override the "rational" response in order to be strategically useful.

A last example from the book brings this point home. In a world populated by rational men as modeled by economists, Mutually Assured Destruction would not be a credible nuclear defense. The victim of a first strike has nothing to gain by retaliating. Indeed, retaliation would likely result in the total destruction of all life. Hence, no rational being would retaliate. Knowing this, a rational being would strike first. Thankfully, our leaders are irrational and can be trusted to become angry and push the button in retaliation. The emotion of anger makes the threat credible and thus prevents the first strike.

In this review, I have just scratched the surface; there are many fascinating insights in the book backed up by impressive empirical evidence. *Passions Within Reason* should be required reading for all social scientists — particularly those of us who have been influenced by the rational economic man paradigm.

Axel Grandell, *Historiska studier i folkliv, handelsteknik och redovisning* (Abo, Finland: Abo Academy Press, 1989, 149 pp., $16).

Reviewed by
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The Tally Stick Epoch in the History of Man

This collection of articles by Axel Grandell, Scandinavia's grand old man of accounting history, is interesting. They teach us how illiterates managed their bookkeeping from the earliest (5th century) time of the Vikings. When traders from Birka, the trading capital of the Svea vikings, went up the Russian rivers on their tours they bought furs on their way up on credit. Having sold their goods, they paid against IOUs on their way back. (Trust and goodwill were obviously built over the years.) To issue the IOU, a split tally stick was used. Two sticks with a flat surface fitting together were notched across both sticks indicating how many furs had been received. Debtor kept one and creditor the other. The proof of the claim was that the notches fitted together. Fascinating! The word for tally stick in Russian, the Baltic languages, and Finnish is "birka", the name of the place most of these traders came from.

Another use of the split tally stick was as promissory notes by the English Crown when it borrowed money from private persons. Richard, Bishop of London and Chancellor of the Exchequer, left precise instructions for the form of tally sticks dated 1186. The depth and length of the notches indicated the currency and amount. This use of the tally stick lasted for over 600 years. When the last outstanding stick was cashed-in in 1834, it was decided to use them in heating the Houses of Parliament. Grandell tells us that the potential of the tally stick was underestimated — the chimneys of Parliament were overheated and the buildings burnt to the ground.

There were other users of the tally stick: Marco Polo mentions that the merchants of Venice used it, other users include the Hansean merchants, tax collectors in the 16th century and onwards, traders with the Lapps of the North and, of course, industrial users, from the inception of ironworks in the 13th up to the end of the 19th century. The Hammersmith Order of December 27, 1703, reads, "those who can neither read nor write shall keep two tallies, cut in daler and ore, one at his place of work and the other among his possessions and money."

The book contains 13 articles — two of them are written in English, the others have short English summaries — on different aspects of the history of the tally stick: notch writing, from the 4th-century Ogham writing, through the runic writing of the Viking time (and the secret writing of that time in code) to the symbols for the figures used in recording days of work and charcoal deliveries to iron works. There are also accounts of how wolf hunting was organized and tallied in Finland.

This reviewer, admittedly, has not paid much attention to the history of accounting before literacy, but Grandell opens one's eyes. The tally stick is an ingenious invention. The split stick allows two parties to record a transaction together and both can bring objective evidence with them. The Emperor of China (200 B.C.) used a split tiger, he keeping one part and the general Yangling the other, to be able to prove that the messenger carried genuine imperial orders to the army. Reading about it stimulates your fantasy. Just think how the tally stick solved a data security problem, and how it functioned in the building of business networks in less organized times than ours. (This collection is a complement to Grandell's earlier book from 1982 *The Tally Stick. A neglected bearer of cultural tradition*, in Swedish, published by Abo Akademi).

Thomas M. Porter, *The Rise of Statistical Thinking, 1820-1900.* (Princeton, N.J.: Princeton University Press, 1986, 333 pp., $12.50).

Reviewed by
James J. Tucker, III
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This book is the product of dissertation research efforts initiated by Thomas M. Porter in 1979. One is initially impressed with the depth and breadth of the research which is truly exceptional. There are over 700 footnote citations many of which are from French and German literature. Porter has skillfully synthesized a number of major themes including the role of the natural and social sciences in the evolution of statistics, and the impact of statistics on society as a whole as evidenced by the influence of statistics on the formulation of policy in both the public and private sectors. These major themes are also examined and analyzed in relation to the philosophy of science.

The book is divided into four "Parts" with each Part containing two or three chapters for a total of nine chapters. Although the title of the book indicates that the period examined is 1820 to 1900, the first chapter begins with a substantive discussion of the development of "Statistics as a Social Science" beginning in the 1660s. Similarly, the last chapter and the conclusion contain a number of references to twentieth-century literature.

Porter has successfully increased the book's comprehensibility by very limited use of mathematical formulas and notation; however it is not an "easy read." It would be beneficial to the reader to have a general familiarity with the various European and American intellectual movements circa 1750-1900 regarding the political economy and the role of science in societal development.

Porter presents the evolution of statistics from the "... systematic study of social numbers ..." during the 1660s, known as "political arithmetic", to the concept of "statistical law" first proposed about 1830, to the laying of the foundations of mathematical statistics which occurred between 1890 and 1930. He describes in detail the debates that invariably ensue when paradigmatic change is proposed, and the interdisciplinary consequences of change. A major topic examined by Porter which should have broad appeal is the evolution of the probability distribution that is referred to by Galton as the "supreme law of unreason." Porter carefully traces the origins and related debates of this "law", which is now referred to as the Gaussian or normal distribution. He concludes that the normal distribution " . . . is practically coextensive with the history of statistical mathematics during the nineteenth century, and its reinterpretation as a law of genuine variation, rather than of mere error, was the central achievement of nineteenth-century statistical thought."

Since this reviewer is more inclined to associate mathematical statistics with applied empirical research, one facet of this book which was particularly interesting is the significant impact that the development of mathematical statistics had on social philosophers of this era. For instance, one philosophical question which arose was, if probabilistic models can be developed to predict crime rates, suicide rates, etc., does man, in fact, have a free will, individually or collectively?

Since both statistics and accounting attempt to measure and depict attributes of some underlying phenomenon, accounting researchers would benefit by studying Porter's painstaking approach and methods in attempting to reveal the intellectual evolution of an academic discipline and the resulting societal impact. This book would especially benefit those accounting researchers who study the effects of accounting and information systems on organizations and society. Persons who have a strong interest in the development of mathematical statistics will find Porter's work to be fascinating. Lastly, the reviewer highly recommends this book to those who have a high regard for the interdisciplinary approach to the philosophy of science as manifested by Thomas S. Kuhn in his classic, *The Structure of Scientific Revolutions* [1970].

REFERENCE

Kuhn, T. S., *The Structure of Scientific Revolutions*, 2nd edition. Chicago: University of Chicago Press, 1970.

Rasoul H. Tondkar and Edward N. Coffman, Editors, *Working Paper Series Volume 4 (Working Papers 61-80)* (The Academy of Accounting Historians, 1989, 352 pp., $15).

Reviewed by
Marilynn Collins
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Volume 4 of the *Working Paper Series*, contains papers on a variety of topics. Papers 61, 62, and 63 deal with cost accounting. *WP No. 63*, "The Wisdom of A. Hamilton Church," by Vangermeersch [pp. 35-55] provides excellent analysis of Church's contributions to cost accounting and identifies the relevance of Church's ideas for today's manufacturing firms.

Papers 68 and 72 are concerned with individuals. *WP No. 72*, "Luca Pacioli and Piero Della Francesca," by Stevelinck [pp. 170-184] is a well-written and well-translated inquiry into the lives of the two men that logically refutes the accusation of plagiarism against Pacioli.

Papers 76, 62, and 79 discuss regulation. *WP No. 76*, "The Capitalization of Fixed Assets in the Birth, Life, and Death of U.S. Steel, 1901-1986," by Vangermeersch [pp. 264-293] analyzes the impact of overvalued assets and the effects of government regulation and intervention, offering an excellent historical perspective to the topics by their discussion in the context of the social, economic, and political environment and the accounting standard-setting process. *WP No. 62*, Dusenbury's "The Effect of ICC Regulation on the Accounting Practices of Railroads Since 1887" [pp. 23-34], is a thorough, in-depth review that includes an excellent statement of the reason for this historical study [p. 23].

WP No. 69, "Women in Accounting," by Becker [pp. 134-150] reviews the century-long struggle of women to attain professional status as CPAs. By analyzing the struggle within the context of economic changes such as war, Becker provides a basis for additional research to analyze the nature of current sexual discrimination and to identify ways for its elimination.

WP No. 71, "The Development of Letters and Numbers as Tools for Accounting," by Costouros and Stull [pp. 160-169] mainly traces the evolution of alphabetic symbols and Arabic numerals, contending, but not proving, that alphabetic and numeric writing were invented primarily as tools of accounting [p. 161]. This paper may be of interest to Foucauldian researchers. (See Hoskin and Macve [1986].)

Working papers 70, 73, 74, 75, and 78 deal with accounting standards. *WP No. 70*, "The Development of the Recurring-Nonrecurring Earnings Presentation" by Stewart [pp. 151-159] concludes that empirical research is needed to determine which presentation better assesses cash flows and illustrates the usefulness of historical research for contemporary standard setting. *WP No. 74*, "The History of the Accounting Research Bulletins: 1939 to 1946," and *WP No. 75*, "The History of the Accounting Research Bulletins: 1947 to 1959," by Becker [198-263] are excellent resources for adding historical perspective and economic consequences to discussions of any of the subject matters of the bulletins that are covered in financial accounting courses. *WP No. 78*, "An Historical Development of Statement of Financial Accounting Standards Number 95: A New Era of Solvency Reporting?" by O'Bryan [pp. 312-326] is a thorough history of the funds statement useful for including the history and economic consequences of cash-flow reporting in financial accounting courses.

Working papers 65 and 67 survey the application of standards. *WP No. 65*, "A Comparative Analysis of the Financial Statements' Content in Annual Reports of American Telephone and Telegraph Company and General Electric Company From 1900-1940," by Carpenter and Tondkar [pp. 82-94] identifies causes for changes in financial reporting due to general developments in accounting, showing the response to official standards and illustrating the evolution of improvements in the quality of financial reporting. The paper demonstrates the difficulty of comparing time periods.

Papers 66 and 80 propose a theory of accounting history. *WP No. 66*, "A Paradigm for the Analysis of Accounting History" by Baladouni [pp. 95-109] should be evaluated in terms of its potential for achieving the objective of accounting history research: "possession of a viable perspective for the conceptualization and analysis of its object of consideration" [p. 95]. Baladouni's paradigm is useful for ascribing value to historical research that may be implicit but not clearly stated in the writings of accounting historians.

REFERENCE

Hoskin, K. and Macve, R., "Accounting and the Examination: A Genealogy of Disciplinary Power," *Accounting, Organizations and Society* (1986), pp. 105-36.

Stephen P. Walker, *The Society of Accountants in Edinburgh 1854-1914* (New York: Garland Publishing, Inc., 1988, 416 pp., $48).

Reviewed by
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Stephen Walker has undertaken an extensive study of the Society of Accountants in Edinburgh (SAE), the earliest prominent Scottish society to promote and maintain the standing of chartered accountancy as a profession, during its inaugural sixty years. Walker compiled a data base of 1146 SAE members and prospective members who failed to qualify, 1854-1914. Having scoured a variety of primary sources, the author has tabulated and presented this biographical information in numerous interesting ways. The inclusion of ninety-four tables and fifteen illustrations, mostly graphical, bears testimony to the extent of his analysis. The author achieves an excellent mesh of narrative with these statistical compilations while focusing on a number of dominant issues from early SAE history. Major themes include the changing nature of accounting practice over time (from a preponderance of bankruptcy work to company auditing); factors involved in recruiting accountants into the profession (class, residential, educational); the evolution of an examination system to quality new professionals; and the impact of social class origins on recruitment, apprenticeship, and certification.

The organization of this mass of statistical data is an outstanding feature of this book. It reads much like the econometric history inaugurated almost twenty years ago with Fogel and Engerman's *Time on the Cross* [1974]. Most innovative was the demographic model that Walker constructed to test the hypothesis that the early membership of the SAE could generate sufficient progeny for a self-recruiting profession. However, Walker employed celibacy, age of marriage, and fertility data to demonstrate that only limited numbers of later SAE members followed in their fathers' footsteps. The author might have tried to do more with mortality, particularly survival rates of SAE children in an era when life expectancy was still precarious in younger age categories. Likewise, the author's utilization of mean ages of marriage and death was not the best statistic for smallish samples where several outliers could produce distortions.

Another statistical feature of the analysis was the attempt to link entry into the profession with the occupational background of the families of prospective members. This social standing was demonstrated to be a leading career-choice determinant. The author also divides family origins into nine "social status groups," which became the basis for SSG-specific fertility rates, indenture exemptions, examination failures, and other comparisons.

The statistical tables so prominent in this work are most imaginative with regard to subject matter and well-designed in their presentation. However, several compilations seemed a bit far afield. For example, the spatial distance between SAE members with no apparent accounting origins and CAs over a continuum of house addresses [p. 103] has some antiquarian interest, but added little to the recruitment analysis. The same might be said of tables linking non-qualification to place of residency during indenture [pp. 184-185] and numerous comparisons reflecting a preoccupation with similar developments in the legal profession. The author might have been more consistent in revealing the sources for his statistical tables.

Walker, throughout the book, makes judgments about the significance or non-significance of explanatory variables, i.e., apprenticeship firm size and examination pass rates, paternal social status and qualification, and residential/spatial factors in SAE recruitment. While the data are perhaps too qualitative to permit regression analysis, the author might have discussed the potentialities, or lack thereof, for more mathematical determinations of significance.

While this history does provide extensive coverage of this vital professional organization, more background material would have embellished the important historical context of the SAE. What unique circumstances existed in Edinburgh in the mid-nineteenth century to explain these developments? What contributions did the SAE make to the evolution of other professional accounting societies in Scotland and England? What was the quality of life for Edinburgh's accounting community before and after the formation of the SAE?

The only omission of consequence regarding SAE events was a shortage of information about its social and political activities. It may have been that the organization did little at its meetings, but it seemed the SAE minutes were underutilized. The appendix contained many interesting documents gleaned from this source. The reprinting of an actual examination, as distinct from the several lists of topics contained, would have been interesting.

On balance, Walker's effort is excellent and valuable for what it does achieve. The book is highly readable, mechanically clean, and attractively published. The interface between narrative text and well-designed statistical tables is worthy of remention. The Society of Accountants in Edinburgh has now been deeply and imaginatively researched. This book makes a major contribution to our understanding of the early history of the accounting profession in Scotland.

REFERENCE

Fogel, R.W. and Engerman, S.L., *Time on the Cross: The Economics of American Negro Slavery*, Boston: Little, Brown, 1974.