

Is Accounting an Academic Discipline?

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John Fellingham

Over 80 years ago Henry Rand Hatfield addressed this organization on the general question of “Is Accounting an Academic Discipline?” Hatfield’s address was entitled “An Historical Defense of Bookkeeping,” (*Journal of Accountancy*, April, 1924) and he offered a reasoned and, in my opinion, eloquent defense of accounting. Nonetheless, “defense” is the key work here, and there is no doubt that Hatfield believed accounting to be under attack. Consider his first sentence:

“I am sure that all of us who teach accounting in the university suffer from the implied contempt of our colleagues, who look upon accounting as an intruder, a Saul among the prophets, a pariah whose very presence detracts somewhat from the sanctity of the academic halls.”

After 80 years it does not seem premature to revisit the question. What has been our effect on “the sanctity of the academic halls”? What contributions have we made? How are we earning our keep? Have we increased or decreased the “implied contempt” effect? Do we belong? Should we be located at the University? Should we move to PWC University?

May I begin by posing three questions? Actually I think it is three different ways to frame the same question.

There are lots of accounting journals. Are the contents read or noticed by other citizens of the University? It seems hard to find evidence that that is so. Indeed, at yesterday’s plenary session Anthony Hopwood offered evidence that accounting journals are very internally focused and self-referential.

More casually, but perhaps more telling, is this question: what big intellectual ideas have we contributed to the University? Can we say human genome, or options pricing, or something of that magnitude? While we have figured some things out, we are not used to thinking in terms of our contribution, as a discipline, to the University. Nor do we have a practiced response when, or if, the question comes up.

Hatfield, by the way, says the answer to the previous question is double entry accounting – that it is a significant intellectual contribution. Well, we still study that and can make that contribution. More about that later.

Here's another way to ask the same question. This way of posing the question stresses the inseparability of research and teaching in an academic discipline. If they become seriously separated, it is another reason to question "academic sanctity." When we teach accounting courses, especially those attended by students from various other parts of the University, do we put our best ideas forward? Do we document our contributions to the University, or explain why the thinking in math or physics or other disciplines is better because we are around?

We can all make our own judgments here, but I am skeptical. The codification of accounting rules provides an alternative way to organize and frame the teaching of accounting. That is, we teach the rules, and contribution to the academy is de-emphasized. So the tendency is to think in terms of contributions to the students, the current generation of students – to prepare them for a job – and not to think in terms of contributions to the academy, and future generations of students.

So the emphasis in our teaching, and, to a large extent, in our research for that matter, is on the vocational. And vocational is different from academic, so location of accounting at the academy is problematic. And, we are back to Hatfield's concern: if it is job training, do we belong in the sacred halls of academe?

But accounting is an important job. And here's another potential argument for housing accounting training in the halls of the University. (An argument that I do not find persuasive.) It is too important a job to be relegated to vocational training programs housed in industry. Rather the training should be University housed so we can access the best thinking the University has to offer, and make it available to the students who are training to do accounting's important work.

But that argument gets a little tenuous.

Let's skip, for now, how often we go out of our way to access the University's best thinking (and the University is supposed to do the best thinking).

The real reason the argument gets tenuous is that it sets up accounting as a citizen of the University with a separate and different kind of citizenship. This class of citizen extracts benefits from University residence but does not feel responsible for making legitimate scholarly contributions. This reduces accounting's ability to speak as a respected source on University and scholarly matters.

Here a broader issue comes into view.

The University is a very special institution in society. Historically, it has made contributions to civilization which could not have occurred elsewhere. Currently, and maybe always, the University is under pressure. The stakes are high; nothing less than the continued health of the American University is at issue. And not acting as full citizens takes accounting out of play in this high stakes game.

Note carefully: the contributions required for full academic citizenship are contributions to the academy; not to the current generation of students nor notably, to ourselves. It is not uncommon to frame an academic career in terms of "career management." How to get published; how to get tenure; and so forth. This is a dangerous frame to use. Science, that is the contribution to the university, may be traded off against "career management." The objectives of career management and science may not be congruent. We have seen some high profile examples of this dynamic gone wrong: what happens when the science is shaded so the results advance a career.

To return to career management for students, there are significant forces emanating from the accounting profession. Perhaps understandably the profession (implicitly or explicitly) exerts pressure so that an accounting education is appropriate training for

immediate entry into the accounting profession – the emphasis is vocational, not academic.

There is a bit of a puzzle for me here. It seems that the argument could be made (though I seldom hear it) that a dynamic academic discipline of accounting would well serve the accounting profession. The profession would have access to innovative thinking and creative ideas, not all of which (or even the majority) would be immediately relevant to professional problems, but that is the natural and historical way of University contributions.

The curriculum would be less vocational and entry level oriented. But this would be traded off against scholarly innovation. There would perhaps be less emphasis on the teaching of rules and regulations, and more emphasis on scholarly independent thinking. More emphasis on understanding general equilibrium effects, for example, or understanding how optimal choices are made; more drawing on the academic store of knowledge. As we are thinking in terms of how to avoid another Enron situation, this would seem to be a healthy trade to make. One possible equilibrium consequence might be the attraction of bright, creative students looking for intellectual stimulation from their college experience. And an additional byproduct would be the attraction to intellectually curious PhD students, thereby helping to alleviate the presumed shortage of PhD students in accounting.

This intellectual rigor issue has even shown up in T-shirt art. Recently, on campus, I saw a T-shirt with the following sentiment, in notation: take the limit of Engineering as GPA approaches zero; the resulting quantity equals Business.

$$\lim_{\text{GPA} \rightarrow 0} \text{Engineering} = \text{Business}$$

Even the T-shirts are speaking to us.

Before leaving this topic, it should be noted that there are other manifestations of vocational forces working against accounting achieving, or preserving, full academic citizenship. For example -

The teaching of accounting is being done, more and more, by people (clinical faculty) who do not have academic training and academic values;

Enrollment in traditional accounting PhD programs is declining, and simultaneously there appears to be developing a new class of PhD programs: the executive PhD program not grounded in academic fundamentals;

There is increased reliance on student evaluations, school rankings, and other non-academic measures to decide what is taught and by whom;

There is more emphasis on short-term revenue measures for the evaluation of academic programs.

In all of these trends where is the assessment of the ideas and the scholarship? Where is the attempt to identify contributions to the community of scholars?

In any event the forces inhibiting accounting's progress as an academic discipline seem to be in place, and there is not much evidence that we are pushing back, at least not with the energy demonstrated by Hatfield 80 years ago.

So what is the prognosis? If we decide to aspire to academic credibility, can we achieve or preserve it?

Do we have scholarly ideas to offer to the rest of the University? Actually, it may be that we do. And for one of them, return to Hatfield who is eloquent in his admiration of the double entry accounting system. He quotes the quotes we have all heard from Goethe, Cayley, Hamilton, and others extolling its beauty and elegance.

As they say in physics: "Just because the math is elegant doesn't necessarily mean the physics is correct; but it usually does."

So elegance is prized for itself and because it tends to give us hints about a deeper reality. And we've got as elegant a system as there is – one which has survived for over five centuries. Notwithstanding enormous and unrecognizable changes in commerce and

technology, the double entry system written down by Pacioli remains recognizable and thriving.

Judging from the majority of the textbooks, we tend not to emphasize the elegance in the introductory accounting courses, or elsewhere in the curriculum. Linear algebra, for example, was developed in concert with the study of double entry accounting. (Hatfield recounts some of the history of this joint development.) We could, if we wanted, use the double entry system to illustrate (and access) important theorems in mathematics like the theorem of the separating hyperplane, duality and projection theorems, and what is called the fundamental theorem of linear algebra.

(Here's an accounting example of the theorem of the separating hyperplane. Consider a set of financial statements with all balances given, and a set of journal entries with no particular amounts attached. Is it possible to find non-negative amounts for the journal entries so that the given financial statements are generated? Either it is, or there exists a hyperplane separating the financial statements from the attainable set. And, for large problems, it is usually easier to find the hyperplane than a set of journal entries.)

That we have an elegant, intellectual system to offer is nice, but kind of old news. Hatfield argued that accounting developed as an academic discipline. Is it still so? Have there been any scholarly developments in the last 80 years which could affect and justify the academic discipline of accounting? Once again, as it turns out, I think there's a chance the answer is yes.

The twentieth century contained remarkable progress and insights in the science of information: economics and engineering and computation, of course. But more fundamentally in biology and physics. In biology the mapping of the gene turned out to be an information exercise. As for physics, the physicist John Wheeler coined the phrase "it from bit;" that is to say, reality ("it") arising from the concept of information ("bit").

Is accounting an information science? The potential seems to be there. Information is a word that often occurs when describing accounting activities. We do not, however, stress rigorous analysis of information in the accounting curriculum. It is difficult to find, for example, accounting textbooks, introductory or otherwise, with solid scholarly coverage of information issues.

If we wish to act like an information science, there is a plethora of relevant topics for teaching in accounting courses. (And to research, once again stressing the inseparability of teaching and research in an academic discipline.) Here's an example. ISBN for books and universal product code for lots of things are ubiquitous inventory numbers. They are examples of linear error detecting codes. From the work of Claude Shannon and others, coding theory and information theory are closely connected, so information is in view. Who uses inventory numbers more than accountants? I don't know, but I think we are on the short list. So why not study linear error detecting codes in accounting courses? Actually, we already do, as the double entry system itself is a big linear single error detecting code. Why not make connections with others?

Furthermore, studying codes relies on a few theorems from number theory – Fermat's theorem and Euler's generalization thereof. The same theorems form the foundation for modern encryption techniques – secret codes used for keeping information away from the bad guys and free of unauthorized manipulation. Who is more concerned with data integrity than accountants? Once again, we are on the short list.

I do not mean to say that we should study coding or number theory or physics or anything in particular in accounting classes. The claim is that if we decide to take information science seriously in our curriculum, there is a plethora of topics to choose from. It just does not seem fair to make the claim without offering an example or two; coding is but one example. And taking information seriously, in concert with the elegant system we already have property rights to, would generate substantive conversations with economists, mathematicians, and many others in the academy.



(To review) the theme of the talk is that, due to our aspirations or the forces acting upon us, or some combination of both, we haven't been so great at making contributions to the scholarship of the University of the kind that a healthy academic discipline has historically made. Nonetheless, the nature of the material we study contains substantial scholarly content. So if we aspired to push back, we could make contributions a true academic discipline would be proud of.

May I conclude with an illustration from the physics of information which might illuminate our situation?

Nature is quite clever about processing information, especially information generated by a large number of subatomic objects (or "qubits" as they are in general referred to). In particular, Nature exploits the interaction (positive synergy) among the qubits. And the way Nature does this is to measure the outcome resulting from the activities of the group, being careful not to measure activities of individual qubits. (Very) roughly speaking, when an individual qubit is measured, the powerful interaction effects are lost.

What has this to do with academic accounting?

As true academics we rely on interactions with colleagues if we are to make scholarly contributions. But we've gotten used to measuring individual accomplishments: things like number of "A-hits" in journals, class evaluations by students, and so forth. Career management concerns are ever present. As an organization we run workshops on how to get published, how to get tenure, and how to manage one's career. The word "vocational" comes back into play, treating an academic career as an individual exercise.

But the University, the real University, is not a collection of individuals orchestrating their own careers.

In the real University papers are written, not to get the paper published and the author promoted, but to share ideas with the community of scholars and to advance scholarship.

Curriculum innovations occur, not to get high student ratings and the innovator promoted, but for the same reason – to make the real University better.

Citizens of the real University have faith in the special institution that the University is – that good ideas will survive and flourish even if they are not published in “top tier” journals.

But besides faith in the University, its citizens also possess a joy in discovery and sharing ideas. And they also possess the conviction that generating good ideas makes the University better and that is enough – even if the generator does not get promoted.

Back to the physics illustration –

Nature, when dealing with a large number of interacting qubits, asks only the question: “What got done by the group?” And Nature finds this a marvelously efficient way to process information and generate energy.

I fear we as academics are asking too much the question: “Who individually gets credit?” And this focus is obscuring our ability to make contributions as a group, an academic body that relies on co-operation in the generation of big scholarly ideas and serious innovative thinking. If we asked more the question “what has the group accomplished?” as Nature does, we might better exploit the powerful interactions inherent in the real University, and take pride in making the kind of scholarly contributions consistent with a true academic discipline.