An Evolutionary Program for Business History?

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Dan Raff offers a proposal for reform of the practice of business history. Since I am not a business historian, and also because my view of the field is strongly influenced by interactions with Dan, I will largely abstain from commenting on the interesting questions about the relationship of his proposal to recent practice in the field. How sharp is the turn it calls for and how constructive? If there are now few exemplars of the style Raff advocates, is that primarily a reflection of scholarly intent, or is it mostly a reflection of the magnitude of the practical challenges confronted by scholars trying to pursue such a program? Alternatively, perhaps the exemplars are actually fairly abundant . . . . I will risk saying that if this is the case, the fact had not come to my attention.

Recently, I have been involved in a controversy on a piece of intellectual terrain that might appear to lie far from business history. To that other audience, I argued that business history provides important illumination for some of the questions in controversy, relating particularly to the origins of organizational capabilities.[1] I offered selected references in support of that position—citing, as it happens, Usselman and Raff.

The present context offers another opportunity to point to the possible gains from trade along an under-utilized trade route. This time I am not promoting the importation of answers from business history. Rather, the focus here is on the identification of the most interesting questions, and the best approaches to answering them—it is, if you will, about market guidance for the exporters of the future. The phrase "most interesting" must reflect some premises, of course. Broadly speaking, the viewpoint is that of an audience for whom the "history" aspect of business history is valued as furthering understanding of the "business" or "economic organization" part. Further clarification of the perspective is offered below.

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1. Sidney Winter, "Capabilities: Their Origins and Ancestry," *Journal of Management Studies* 49, no. 8 (2012): 1402–6.

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My natural role here is to assess Raff's paper in this Symposium from the viewpoint of modern evolutionary economics. Raff characterizes his ". . . essay's subject as a question of evolutionary economic history" and generously acknowledges the influence of the Nelson and Winter (1982) book on his view of business firms. Unsurprisingly, I find myself in broad agreement with the arguments that he derives from such premises. The first section below highlights this general agreement and expands on some specific points. In the second section, I discuss some issues relating to the role, character, and causal significance of decision processes in firms—which Raff sees as central to the drama that business historians seek to understand. My discussion is partly an amplification of the essay's treatment, partly a call for an adjustment of its emphasis, and partly an expression of discomfort at some of its specific language. If the parsing among these possibilities is ambiguous, it may be a reflection of some residual puzzlement about Raff's stance.

Premises and Purposes

In his essay, Raff provides helpful sketches of the links between his argument and some issues of much broader scientific or philosophical significance—e.g., the meanings of "cause" and "explain." I take it that these pointers are offered by way of signaling awareness of the issues and supporting the reader's understanding of the premises of the essay. It is clear enough from the sketches and the cited references that a thorough probing of the issues and premises would be a large-scale undertaking. As part of such an undertaking, I personally would like to see a bridge built between the discussion of the Duhem-Quine thesis and the Keith Thomas quote that evokes *verstehen* and the compelling metaphor of the local guide. Raff intimates, intriguingly, that such a construction is possible, but in the end, we benefit not from such a bridge but from a better sense of where Raff's intuition is taking him.

Following this example, I offer a brief sketch of the sources of my own interest in business history, and hence in the proposal.[2] In my home discipline of economics, even the definition of the discipline is controversial. I favor the old definition due to Alfred Marshall:

2. This sketch complements Raff's own characterizations of my work with Nelson, attending more to the background of premises and motivations that we share with a large number of colleagues who pursue the evolutionary vision in economics. Implicitly, it presents fundamental contrasts to mainstream thinking in the discipline.

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Economics is "a study of mankind in the ordinary business of life."[3] Rival definitions, better aligned with recent practice in the discipline, tend to reference economizing behavior or economic decision making—conceptual schemes that I regard as tools of the discipline rather than its focal concern.

Among the many features of "the ordinary business of life" that are worthy of study is the fact of impressive differences in how that picture looks at different points of time, particularly in the comparison of the situations in the advanced countries of today with what they looked like a few decades or centuries ago. Documenting and explaining this fact is a major concern of economic history and also of the economics sub-field called "growth and development." The question is, "What accounts for these sharp contrasts between the pictures at different points of time?"

One important part of the answer, clearly, is that human beings and their organizations are, in diverse ways, a lot more capable than they used to be. They can do more things, and do some familiar ones on a much larger scale. This observation evokes the follow-on question, "How did *that* happen?" An orientation, if not an answer, to this question is provided by the statement "Capabilities evolve." Such an orientation to the explanatory tasks of the economics discipline was first proposed by Thorstein Veblen, who asserted that

> For the purpose of economic science, the process of cumulative change that is to be accounted for is the sequence of change in the methods of doing things – the method of dealing with the material means of life.[4]

Here, the "methods of doing things" include not only technologies and production methods but also methods of organizing and coordinating activity at all scales—including the market, hierarchical and relational coordinating mechanisms to which Raff refers. Thus, the evolutionary economics program of understanding economic change naturally draws strength from, and is actually intertwined with, inquiry in a number of adjacent fields, particularly technological history and business history. These relationships have been exploited usefully in the past and will doubtless be so in the future. Indeed, to characterize these relationships as "interdisciplinary" is to comment indirectly on the practices of academic boundary-drawing, not on any visible features in the natural terrain of the subject.

3. Alfred Marshall, *Principles of Economics*, 8th ed., New York: Macmillan, 1.

4. Thorstein Veblen, "Why is Economics Not an Evolutionary Science?" *Quarterly Journal of Economics* 12, no. 3 (1898): 373–97.

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Looking Forward to the Present

The foregoing remarks provide a rough guide to my perspective on Raff's essay, a perspective that is perhaps not shared by most of his readers. The central question is whether the course correction proposed for business history is likely to prove constructive in the shared domains of intellectual concern with the processes of economic change.

Generally speaking, I find the answer to be in the affirmative. The call for greater attention to the "start of the race" is particularly welcome, on two principal grounds. First, it proposes a check on the multiple distortions that afflict interpretations offered near the (presumptive) end of the race. These distortions carry multiple labels and have diverse sources. Thus, while "Whig history" may not be the history discipline's exact counterpart for "Intelligent design," the two explanatory frameworks have in common a notable indifference to what was actually happening at the start of the race and are similarly threatened by inquiry into that. As Raff observes, the bias associated with standing in the present arises in part from the objective difficulty of acquiring enough information about the past. There are, however, cognitive mechanisms in play as well. These have been explored in psychological research, which Daniel Kahneman has recently reviewed with some specific attention to the predictability of business success.[5]

The issues of data availability and cognitive biases are related and can usefully be juxtaposed under the heading WYSIATI—an acronym standing for "What You See Is All There Is."[6] As a cognitive bias, WYSIATI refers to a tendency to over-interpret available evidence, particularly evidence on outcomes. The tendency derives from the fact that cognitive effort is required to conjure up scenarios that are alternatives to what is observed, and the related difficulty of endowing these hypotheticals with enough credibility to give them the psychological weight of genuine possibility relative to the perceived actual. By contrast, when the relevant data do not exist or are very difficult to access, the problem is not a want of imagination or cognitive diligence. An energetic historian, fully alert to the interpretive hazards explained by Raff and Kahneman, may find that the sources simply provide no clues on factual questions that might be crucial. When that historian knows full well that the observed is not "all there is" but it does seem to be "all the archives reveal," what then? Then, it is either try to interpret what the archives do reveal or fold the hand—and the former course can suffer WYSIATI effects in

5. Daniel Kahnemann, *Thinking, Fast and Slow*, New York: Farrar, Straus and Giroux, 2011, esp. ch. 19.

6. Ibid; 85–88.

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spite of best efforts to avoid them. It seems clear that the two sides of WYSIATI could interact in complex and perhaps obscure ways, posing significant hazards for historical interpretation. The forward-looking approach cannot banish these hazards, but at least it encourages those "best efforts" in a way that the alternative does not.

These issues of bias aside, the start of the race commands attention because it is quite clear that important things happen there. Raff offers a rather spare set of hints as to what sorts of things he might specifically nominate for attention, though he certainly acknowledges the centrality of that selection issue. He complements his substantial engagement with the abstract epistemological virtues of the forward-looking perspective with what amounts to a short checklist for the time-travelers to consult on exiting the machine: "Establishing a good explanation of events taking place over time turns on following the evolution of intent, the development of knowledge, and the extent of what is possible."[7] The mission is to locate the interweaving trails of intent, knowledge, and feasibility that pass near the temporal landing site, and then follow them forward.

What is there to see? Raff mentions that the histories of Amazon and Google "can be seen as histories of exploring the uses to which certain basic infrastructures can be put" (458). Here he makes reference to a category, or rather a sub-category (infrastructures) of a very large category (the external knowledge/feasibility environment of the firm) in the explanation domain. The infrastructure in the cited examples is presumably, or at least mainly, the Internet, but "infrastructure" is a concept and a theoretical variable, and the time-explorers can look for infrastructure near the landing site. Railroads? Canals and navigable rivers? International airports? The concern is with how the evolving knowledge/feasibility environment embodied in historically new infrastructure interacted with the "intent" of business firms—in the large, the usual intention of making money, but more narrowly, the strategic intent associated with the pursuit of some business model, i.e., some formulaic concept of how to make money in a particular context. While insights about that interaction will dominate the reports (of "business history"), it is pretty clear that the expedition will be a failure if its inquiry is too narrowly focused and misses the headwaters of opportunity.

Within the larger category, there are also sub-categories for invention and for science. Like new infrastructure, new inventions and new scientific understanding make the knowledge/feasibility situation look different to profit-oriented actors (and others), and the significant historical consequences flow from that interaction. Business

7. Daniel Raff, "How to Do Things," *Enterprise & Society* 14, no. 3: : 435–66, quote from 459.

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history helps to fend off the error of believing that the inventions and/or scientific progress account *by themselves* for the massive historical changes in methods of doing things. No, it is largely the profit-seeking *response* to the opportunities that produces the major changes. Science, technology, coordinating mechanisms, organization forms, and business practices are all sections of an orchestra of which capitalism is the resident conductor.

Finally, among the various things the expedition can look for, there is the role of the customers. Feasibility, as Raff correctly indicates, has a lot to do with cash flow, especially as a new industry enters its major growth phase. Particularly under the heading "dominant design,"[8] management scholars have done quite a lot to explicate the groping process in which the evolving technological possibilities open to a new industry encounter the preferences of the people who ultimately pay the bills—the customers, who may be consumers, business firms, or governments (and it matters which). As new industries emerge, there is typically a lot of variety in the strategies firms pursue to bring the new technology to market. Entrepreneurs commit their firms to positions in several key dimensions, including vertical and horizontal dimensions of industry structure, physical location, and connections to existing relational networks. Capital for initial investments is drawn from a variety of sources, some of them quite informal—the "friends, family, and fools" celebrated in the entrepreneurship literature. Down the road, current revenue flows become critical, both directly and because of the information conveyed to the formal institutions of the capital markets. The dynamics of market selection operate on the complex array of initial conditions, often producing an abrupt shakeout and very generally producing a long-run downward trend in the number of producers. The long-run survivors appear drastically transformed from their beginnings, with their capabilities greatly advanced, but still displaying the legacy of the those early positioning commitments.[9] Along the way, the selection

8. James M. Utterback and William J. Abernathy, "A Dynamic Model of Process and Product Innovation," *Omega* 3, no. 6 (1975): 639–56.

9. My own work has included participation in modeling efforts directed to some of these issues. The computer industry study initially presented in Franco Malerba, Richard Nelson, Luigi Orsenigo, and Sidney Winter, "History-Friendly Models of Industry Evolution: The Computer Industry," *Industrial and Corporate Change* 8, no. 1 (1999): 1–36, will appear in revised form as a chapter in Franco Malerba, Richard Nelson, Luigi Orsenigo, and Sidney G. Winter, *Innovation and the Evolution of Industries: History Friendly Models*, Cambridge, UK: Cambridge University Press, forthcoming. The "History Friendly" work is particularly relevant here because it includes exploration of the *counter-factual history of a real phenomenon—which is much less problematic in a simulation model than for the real thing. On entrepreneurial choices about vertical scope and financing, see Michael G. Jacobides and Sidney G. Winter, "Entrepreneurship and Firm Boundaries: The Theory of *A* Firm," *Journal of Management Studies* 44 (2007): 1213–41.

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process has largely resolved the ontological uncertainty that was pervasive at the start, concerning what the new product *is*.

Forks in the Road and Occasions for Choice

"When you come to a fork, take it!" Yogi Berra[10]

A recurrent theme in Raff's essay is a call for a greater focus on "choice" as opposed to "outcomes." In part, this seems to be a corollary of his recommended forward-looking stance, which challenges the idea that "outcomes" observed in the present offer special insight into the *processes* of historical change. The diminished status of the "Chandlerian firm" in the late twentieth century serves as his cautionary tale in this regard. The emphasis on "choices," on the other hand, evokes the possibility that there might be a number of key points along the historical path that deserve the historian's special attention in a world where routines shape events much of the time. While the case for such an attention allocation derives partly from the contribution to explaining why we are where we are, it appeals primarily as a way to achieve a better understanding of the general processes that shape economic and business history in a variety of specific settings.

If the general idea is for historians to hypothesize and investigate "key points" or "forks in the road," the "choice" label for this part of the overall approach might suggest an interpretation that is confining and potentially distorting. This concern is enhanced by statements suggesting that Raff conceives of choice largely in standard decision-theoretic terms. True, he explicitly disavows the typical economists' version, saying for example that he leaves "plenty of scope for exploring the mechanics of inertia, drift, and constraint (and their underlying sources in organizational routines and cognition, institutional structure, the entrenchment of interests, and failures of leadership and mobilization) as well as those of affirmative actions." Still, the flavor persists. It is evoked early on by the phrases "moments of decision-making" and "serious consideration of the alternatives." Later, Raff expresses enthusiasm for the link to the economist's perspective that "puts choice and above all actors and their actions at the center of the analysis."[11]

To be clear, the issue that I raise here is by no means a challenge to the role of intentionality, or "agency," in the shaping of events. It is important to acknowledge that role and to do such with such emphasis as a particular context may warrant. This is particularly

10. As Berra subsequently explained in a book of this title, the instruction was adequate in context because his home was on a circle and either turn would get you there.

11. Raff, "How to Do Things," 450.

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important for anyone who (like Raff or myself) finds "evolutionary" a convenient label for a favored approach, for there is an impression about that ideas of evolution and intentionality don't mix. Much confusion continues to flow from this source. The impression is readily understood as deriving from the situation in biology, where considerable emphasis is given to the absence of intentionality from the evolutionary process. To read this idea into evolutionary economics, old or new, is to display a talent for highly selective reading.

What I *am* questioning in Raff's essay is not the emphasis on intentionality, but the extent to which his account of it lies in a shadow cast by standard decision analysis. That analytical framework provides one representation of intentionality, one that has proven particularly useful in formal theory. In some respects, however, the framework is very cramped; it excludes significant aspects of intentionality that are, I should think, particularly important in business history.[12]

One key mechanism of this exclusion is the propensity—or formal requirement—to take the decision alternatives as given and, incidental to that, constant. In reality, there are numerous mechanisms determining the alternatives presented to an actor and operating in time *before* the actual presentation of those alternatives and the putative "moment" of choice by the actor. Some of these involve the actor's active intelligence—manifested, e.g., in creativity, in deliberate efforts to "think outside the box," or in the dogged application of a certain class of problem-solving skills to some highly resistant problem. All of these are aspects of the actor's intentionality, and none fits at all naturally in the "given alternatives" frame. Alternatives can also self-present to the actor, sometimes emerging from the historical context to demand attention, breaching the cognitive walls surrounding business as usual. Then there are the situations in the range between those of high activity and high passivity, where the actor is neither creating nor fending off particular possibilities, but is in some general way seeking, alert, or receptive to what the environment may suggest. Imitative behavior falls in this range, as does the intriguing phenomenon of serendipity—the actor is involved in a deliberate quest, and it yields something useful, though not the original object of the quest.[13]

12. For more extensive discussion of this point, see Michael G. Jacobides and Sidney G. Winter, "Capabilities: Structure Agency and Evolution," *Organization Science* 23 (2012): 1365–81, sec. 4.1. As is slyly remarked there, "The problem with formal rationality is that it ignores some very powerful incentives that operate in firms and sectors" (1373).

13. There are interesting, citable examples under each of the three headings mentioned here, but space constraints preclude a substantial annotation. One of several candidates under the second heading is Polaroid's encounter with digital imaging technology; see Mary Tripsas and Giovanni Gavetti, "Capabilities, Cognition, and Inertia: Evidence from Digital Imaging," *Strategic Management Journal* 21, no. 10 (2000): 1147–61.

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The implications for the evolutionary program in business history have been suggested in the above discussion of new infrastructure. The evolutionary program in economics is not just about realism in the treatment of business operations (routines and so forth); it is also about the broader aspects of the social processes that generate economic opportunity and steer its exploitation. In fact, many evolutionary scholars would point to those broader aspects as its primary concern, treating the firm-level program on routines and capabilities as valuable precisely because it is instrumental for the pursuit of understanding in the broader context.[14] Since Raff frames his proposal as being both "evolutionary" and as seeking to rejuvenate an "internally oriented style of business history,"[15] he has seemingly espoused a considerable tension between his proposal and the modern evolutionary economics program as it exists. Perhaps I am mistaken in reading Raff in this way. Perhaps his intent is not so much to underscore the causal role of choice as to underscore the importance of analyzing that role in realistic, context-sensitive terms. As I said, I may be amplifying, or adjusting balance, or quibbling about language and it is not clear to me which is mainly the case.

Regardless, a question remains. Does this program for business history (with its aspirations to causal explanation) reach the question of where the alternatives come from? I, of course, recommend that it should, implying greater attention to the parts of the evolutionary economics program that address the innovative activities of firms, both radical and incremental, and also the influence of the social context from which innovation arises. I do recognize that there has to be a division of scholarly labor. Perhaps this extension of the Raff proposal assigns too large a task to business historians, who can find more than enough valuable work to do within its original scope. If that is the case, the scholars in the various fields concerned with economic change may need to innovate in the domain of their own coordinating mechanisms.

Wherever its precise boundaries are located, the field of business history will continue to offer some of the most promising potentials for deepening our understanding of the processes of economic change. Fully realizing this promise will require further attention to the questions addressed in this Symposium.

14. That instrumental relation is very much part of what Nelson and I had in mind. See our discussion of the third of our three questions directed to the "contemporary orthodoxy" of production sets: "How does the knowledge possessed by one firm relate to that of others and to the knowledge environment generally?" (Richard R. Nelson and Sidney G. Winter, *An Evolutionary Theory of Economic Change*, Cambridge, MA: Harvard University Press, 1982, 64–65.).

15. Raff, "How to Do Things," 436.

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