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lessons from the future

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Behavioral theory of the firm: hopes for the past; lessons from the future

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Abstract

This paper is a discussion of “behavioral theory of the firm”. It focuses on understanding aspects of the pre-history, the context, the reception and the evolution of some of the main ideas found in “behavioral theory of the firm” and in the key works associated with it (in particular the books “*Organizations*” and “*A Behavioral Theory of the Firm*”). I discuss the reception of these works, using both reviews and bibliometric illustrations. Unlike many modern contributors to organizational literature, Cyert and March (and Simon) made a point of doing interdisciplinary work engaging directly *with* “the disciplines” (engaging the audiences and disciplines of economics, sociology, political science and psychology), not just focusing on making contributions between them. That legacy – communicating and contributing to the disciplines not just *between* them – is often overlooked in other celebrations of behavioral theory ideas that often discuss specific developments within the field of organization studies itself.

1..

Keywords: behavioral theory of the firm, organization studies, interdisciplinary behavioral social science, Cyert and March

INTRODUCTION: BEHAVIORAL THEORY OF THE FIRM AT FIFTY

This paper discusses some of the historical context, reception and current uses of “behavioral theory of the firm” as well as some of its key ideas. James March’s insight, “most new ideas are bad ones”, may not at first sight seem encouraging for anyone doing research or writing a paper on the history of ideas (after all, we would not need to study all those historical ideas if they all were that bad). However, when March is supplemented by Whitehead’s insight, “everything of importance has been said before by someone who did not discover the importance of it”, one can see that there are plenty of reasons why we should try to understand the mistakes, errors and successes of the history of ideas. In addition, March (1998) makes the key point that a field, a set of ideas, can have long term hopes for or perspectives for the future only if it also has long term perspectives for the past¹.

It is in this spirit that I try, in this brief paper, to focus on understanding part of the pre-history, context, reception and evolution of some of the main ideas in the “behavioral theory of the firm” project. The project’s main intellectual product was, Cyert and March’s book *A Behavioral Theory of the Firm*, turned fifty in 2013. The project, however, was broader than this publication alone and also included at least one other key book (March & Simon, 1958) and several associated articles. Thus, our celebration of the book’s fiftieth birthday is also a celebration of five decades of a an *intellectual movement*; a movement that has had significant influence on the fields of organization studies and strategic management, as well as making some substantial intellectual footprints in the original disciplines which the project sought to engage with (in particular organizational and evolutionary economics).

The second section takes a brief look at some of the topic’s main ideas and the contextual factors that influenced (and fertilized) the intellectual grounds where the behavioral seeds were first planted: in particular at Carnegie, in the works of Richard Cyert, James March and Herbert Simon. While it is impossible to cover everything in one brief section, I hope to give a sense of the broader movement that behavioral theory was part of (not to discredit the influence of key ideas and individuals, but to emphasize their embeddedness in broader social and institutional contexts). Section 3 discusses the reception and some of the reviews of *A Behavioral Theory of the Firm* (and to a lesser extent, *Organizations*) in the underlying disciplinary communities that the authors had carefully built on in their work. Unlike many modern contributions to organizations, Cyert and March (and Simon) made a point of engaging directly *with* the disciplines (of economics, sociology, political science and psychology), not just focusing on contributions between them². That legacy is often overlooked in other celebrations of behavioral theory that often discuss specific ideas within the subfield of organizations itself, such as computational modeling, organizational learning or the developments areas such as evolutionary economics (e.g. Augier & Prietula, 2007; Argote & Greve, 2007; Dosi & Marengo, 2007).

1. I have not attempted to count but it would be interesting to study the references for articles celebrating classic works such as behavioral theory: do they cite and celebrate the original behavioral ideas or their own? What is the age distribution of their references and does it represent the long term perspective on the past that March (1998) calls for? It is, of course, a fine balance to try and celebrate the past and the present contributions equally.

2. This raises an important point much beyond the scope of this paper: what has the field of organizations lost in becoming so successful that it has its own professional associations, journals, and communities? And what might be the long-run disadvantages of the strategy of being self-contained? Several of the footprints that one can see today in the disciplines might have been lost or not happened had Cyert and March not made efforts to speak with the disciplines directly (in addition to the scholars of organizations).

While “reviewing the reviews” may be an unusual way of wishing a book a “happy birthday”, I hope to illustrate some of the intellectual footprints of the book and project as well as some of the wider possibilities for, in the future, attempting to re-engage with the disciplines built on by the authors that we are celebrating.

THE SOCIAL, INSTITUTIONAL AND INTELLECTUAL CONTEXT FOR BEHAVIORAL THEORY OF THE FIRM

The history of the field of organizations is one that has undergone many changes over the last decades, some more dramatic than others. With its roots before the war mostly scattered across different studies, the field was thrown into life by the post World War II growth of business schools in the US and emerged as a step-child of the behavioral social sciences. Later, it influenced (and was shaped by) the emergence of professional journals and societies and by sub-disciplines and other movements. It has also been influenced by developments in the underlying social and behavioral sciences (economics, sociology, psychology and political science), by the protest and “hippie” years of the 1960s and 1970s, by changes to the institutional contexts of various fields (especially business schools, Augier & March, 2011) and by the tendencies toward fragmentation within the field of organization studies in the later decades (Pfeffer, 1993; Augier, March & Sullivan, 2005).

As March has himself argued (2004), scholarship is usually a collective activity and there were indeed many forces present fifty years ago that helped provide fertile grounds for the seeds of behavioral theory. Some of those forces were societal in nature, in particular the post war combination of *urgency* (the necessity of developing empirically realistic social science) and *optimism* (the belief that this was possible) (Augier, March and Marshall, 2014). Others were influenced by societal forces but were more institutional and organizational. This in particular relates to the importance of places such as Carnegie Mellon University, the Ford Foundation, the RAND Corporation, the Center for Advanced Studies for Behavioral Science and others) (Berelson and Steiner, 1967; Augier & March, 2011 chapter 5). Other factors influencing the conception and birth of the projects that led to behavioral theory include the dynamic configuration of ideas, institutions and individuals present at the time, mostly, but not exclusively, at Carnegie. In addition (and reflecting, perhaps, larger trends in the scholarly communities at the time), the existence of like-minded scholars in other places led to a set of interesting and thoughtful reviews of the book when it was first published.

The 1950s and 1960s were important years for the general history of ideas and during them, Carnegie Mellon University proved to be a stimulating and productive place where several developments were fostered (including rational expectations theory, artificial intelligence, early transaction cost and evolutionary ideas, and others). As an institution that accommodated and appreciated the interdisciplinary curiosity and interests of young scholars, Carnegie had a lasting influence on the trio of March, Simon and Cyert. March later noted: “if I look at everything I have done subsequently, I can see the seeds of all of it a Carnegie”³. Contextual and larger institutional developments that were influential on the conception of the behavioral theory include: early

3. Interview with March. Also see Simon (1991), especially chapter 6.

developments at the Carnegie institute, the development of the behavioral science movement, the Ford Foundation's support of intellectual contributions to that movement, the RAND Corporation, post war developments in science and technology and the emergence of research based business education in the US following in particular the Gordon-Howell report. These influences were, of course, intertwined and mixed with additional factors that related to individuals and ideas (for more detailed discussions see Augier & March, 2011; Augier, 2004; Simon, 1991; Berelson, 1967; Augier, March & Marshall, 2014). What can be seen from this is that although history is neither pre-determined nor random, the particular constellations of ideas, individuals, institutions and societal forces that lead to particular developments in the history of ideas can be difficult to untangle. Yet, a few examples may be useful illustrations of the kind of dynamics often at work. This is not because it will ever be possible to "replicate" all the factors that first lead to particular developments, but because a better understanding of how such mechanisms have helped to produce ideas and developments in the history of our field may help us recognize these same mechanisms in the future.

Example: RAND-Behavioral Social Science-Ford Foundation-Carnegie (and beyond)

A report done at the Ford Foundation in the mid 50s advocated that the Ford Foundation should be organized into the following five program areas: the establishment of peace; the strengthening of democracy; the improvement of education; the strengthening of the economy, and the better understanding of man. This last program area, "the better understanding of man", became known as behavioral science. Its formation as a legitimate area of study, as well as the subsequent institutional and intellectual backing it received, formally connected Carnegie to the Ford Foundation (and also shared some intellectual DNA with RAND). Carnegie became one of the most important recipients of the Ford Foundation's support of the behavioral sciences over the next years. The Foundation supported several doctoral theses and papers relating to emerging book projects as well⁴.

The mutual intellectual attraction between the Ford Foundation and the Carnegie researchers was not surprising and was embedded in a host of overlapping intellectual and individual connections⁵. Researchers at Carnegie were doing exactly the kind of broad social science research that the Ford Foundation was searching for, while not abandoning their training in the more rigorous sciences which first motivated Simon, Cyert, March and their colleagues, including Lee Bach, founding dean with a vision for management education that matched what the Ford Foundation had in mind (Bach, 1958). Carnegie was a natural ally for the Ford Foundation and provided fertile grounds for the set of activities that resulted in both *Organizations* and *A Behavioral Theory of the Firm*. Both these projects (and others) were part of the larger movement, of which Carnegie was a key element, to re-build US business education on more solid academic grounds (Bach, 1958; Simon, 1967; Augier & March, 2011).

Carnegie was small at the time and the bases for the two books overlapped considerably as did the people involved. Institutional or organizational "smallness" is hard to maintain (especially when most people, rightly or wrongly,

4. The report was the co-called "Gaither Report". There was quite a bit of chance involved, which invites interesting counterfactuals or 'what-ifs'. For example, the former Chairman at RAND, Rowen Gaither, was the man behind the behavioral science vision at Ford; he learned about the Ford Foundation after he (as Chairman of the RAND board) first tried to apply to the Sloan Foundation for a loan for the RAND reorganization. Had RAND gotten the loan from Sloan, Henry Ford (who subsequently recruited Gaither to RAND) might have not met him; a sign of the social connectedness of the intellectual movements at the time.

5. For example, Herbert Simon spent summers at RAND, and was involved in many Ford Foundation committees, as was Lee Bach, who also was a key advisor to the Ford Foundation's effort to establish a more academically oriented business education (Augier, 2001; Augier & March, 2011, chapter 6).

often associate institutional success with “growth”), but it was a key factor for at least some of the intellectual innovativeness in some central postwar locations (Goldhamer, 1972; Augier, March & Marshall, 2014). At Carnegie for instance, very few people at first had similar disciplinary backgrounds, interests or training. Consequently, most collaborations were, almost by nature, crossing disciplinary boundaries (for example, Cyert, an economist, worked with March, a political scientist). Early work at Carnegie also had an emphasis on doing problem-driven or “empirically driven” analysis. This was not through case analysis nor purely empirical descriptions, but through analyses and concepts that were developed and motivated by real world dynamics (in firms and organizations, as well as often observations in those organizations) that mainstream disciplinary perspectives could not address. Although published five years apart, the specific projects that led to the main foundational books *Organizations* and *A Behavioral Theory of the Firm* progressed in parallel. *Organizations* was intended from the start to be a book, whereas *A Behavioral Theory of the Firm* evolved around a set of papers in the mid to late 1950s. Once a few papers had emerged, Cyert and March saw the contours of a book emerging and decided to write a front chapter laying out foundational concepts⁶. The particular set-up for *A Behavioral Theory of the Firm* was also slightly different from that of *Organizations*. While both grew out of the Ford Foundation’s concern for behavioral theory, *Organizations* was largely written by two people, Simon and March (with the assistance of Harold Guetzkow), whereas *A Behavioral Theory of the Firm* was a truly collaborative effort, led by Cyert and March but assisted by graduate students such as William Starbuck, Edward Feigenbaum, Julian Feldman and Oliver Williamson.

Perhaps this difference in set up was at least partly a function of the growth of GSIA. By the time *A Behavioral Theory of the Firm* got started, there were more students around to work on the projects. In terms of content and focus, *A Behavioral Theory of the Firm* was also more distinctly oriented towards economics. The authors wanted to present a theory of the firm that was not so much an alternative to the neoclassical theory of the firm as it was an attempt to develop a theory that could be used to study decision making in firms rather than simply investigating comparative statistics, as was being done in mainstream price theory. Despite the stronger influence of economics on *A Behavioral Theory of the Firm*, the books had many similarities. They were written in a setting in which the interaction between March, Simon and Cyert was very strong. Their ideas therefore merged a lot. In retrospect, one can see the two books as having different objectives, rather than different ideas. March and Simon’s work was an attempt to create an inventory; to organize everything known about organization theory. Meanwhile, Cyert and March were far more interested in finding something relevant to say about the theory of the firm and to engage economists in opening up the ‘black box’ of the firm in price theory. The latter focused on issues such as “problemistic search” and the relevance of learning to the theory of the firm. A more substantial difference, perhaps, is that, although there is at least one chapter on conflict of interest in *Organizations*, it is much more central to *A Behavioral Theory of the Firm*⁷.

6. Professor March kindly gave me a copy of the publication agreement for *A Behavioral Theory of the Firm*, signed in 1958 with an intended deadline of 1960! The agreement was one simple page.

7. Although March and Simon’s work (1958) is predominantly a descriptive theory, it also makes occasional forays into the prescriptive domain, more so than Cyert and March’s book (1963). However, the idea of organizational slack is more important to Cyert and March (1963) than it is to March and Simon (1958), as is the idea of uncertainly avoidance. On the other hand, classical issues such as satisfaction, planning and motivation are importance topics for March and Simon (1958), but less so for Cyert and March (1963).

THE REVIEWS AND RECEPTION OF BEHAVIORAL THEORY

Reviews of the outcomes of the behavioral theory projects (especially March & Simon, 1958 and Cyert and March, 1963) appeared in a range of disciplinary journals (as well as organizational and management ones), a fact that demonstrates that March and colleagues did not just want to communicate *between* the disciplines, but also *with* them⁸. It also, of course, reflected a considerable openness on the part of the disciplines themselves, as manifested, for instance, in the impressive number of top journals that featured reviews of the books.

8. As March recently commentated when I asked him if the field had become so interdisciplinary that it had lost sight of the disciplinary roots: "one of the fundamental problems with interdisciplinary programs is that they tend to form mini-disciplines - people in the interdisciplinary research community tend to begin to identify themselves with this interdisciplinary research community and loose the connections to the disciplines. The attitude that we had at Carnegie was that interdisciplinarity was necessary but that if you had to do, say, economics and psychology, you had to be acceptable to both economists and to psychologists, publish in their journals and so on" (Interview with March).

Reviews of *Organizations* quickly appeared in journals such as the *American Journal of Sociology*; the *Public Administration Review*; *Operations Research*; *Western Political Quarterly*; *Management Science*; the *American Sociological Review*; the *Midwest Journal of Political Science*; the *American Political Science Review* and *Administrative Science Quarterly*. The book received recognition along three dimensions in particular: for its efforts to establish a foundation for the field, for developing empirically relevant theory and for its interdisciplinary scope. The ASQ reviewer, for example, noted this "much-needed work" in the field as a "notable effort at systematizing theory without being eclectic" (Form, 1959, p. 129) and suggested that this was a step towards a general theory of organizational behavior. Similarly, the *American Political Science Review* noted the possibilities of a more unified theory of organization and that March and Simon had made an important step in that direction. Others noted the relevance of the book and the field of organization to the disciplines (which fitted the original vision of the authors and the behavioral theory team: not only had they wanted to be interdisciplinary but to also speak to and engage *with* the disciplines on the topic of organizations, rather than merely engaging with the narrow field of organizations)⁹.

9. Philip Selznick, himself a noted theorist in management and organizations, mentioned in his review (published in the *American Sociological Review*) that this "interesting" and "sometimes exiting" book came in part from the Ford Foundation behavioral science initiative. He goes through what (he sees as) the main point of the book and ends by saying that the book, because of its pragmatist philosophy, can "have a healthy intellectual influence" beyond just the narrow study of organizations (Selznick, 1959, p. 913).

Like *Organizations*, *A Behavioral Theory of the Firm* was reviewed in the journals of several disciplines, including organization theory, sociology, operations research, political science, and economics. This is important not just because it indicates how the authors drew on insights and ideas from those disciplines, but also because it helped the field develop firm disciplinary roots and also lasting intellectual footprints (some more visible than others). Some of these roots became seeds of behavioral developments themselves within the disciplines (especially economics) and provided intellectual DNA for subsequent developments such as transaction cost theory, evolutionary economics and behavioral organization theory. These then became a large part of the foundation on which many modern developments in organization theory rest.

The reception of behavioral theory in reviews by economists and mainstream economics journals (as well as core journals in other disciplines) is particularly noteworthy. Finding a theory of the firm that was behavioral in spirit was far from a mainstream idea at the time. However, as mentioned above, the publication of *A Behavioral Theory of the Firm* happened around the time at which major scholars from several disciplines were searching for a general theory of organizations (e.g. Boulding, 1951; Flood, 1951). The publications of both *Organizations* and *A Behavioral Theory* were thus "well timed."¹⁰

10. For example, Kenneth Boulding (an economist) noted in his review in *American Sociological Review* that "[a]nyone interested in the general field of the dynamics of organizational behavior will have to read 'the book' for it reports some of the most lively and advanced research, and even thought, in this field to date" (p. 592).

In the *Journal of the American Statistical Association*, Martin Shubik (1965)

wrote that he saw the creation of a new theoretical space in *A Behavioral Theory* as a strength. He thus finds it “an excellent and stimulating book [which] is strongly recommended to those who are interested in important new developments which are blending economic theory, operations research, the behavioral sciences, and the applications of computer techniques into the beginnings of a much needed behavioral theory of the firm” (p. 378). He further states that the book “presents a highly promising start in the development of a new theory” (p. 379)¹¹.

Among other responses in the political science community was a review by Browning in the *American Political Science Review* (Browning, 1966) that recommended *A Behavioral Theory* for students of organizational decision making processes which he saw as including a large group of political scientists (Browning, p. 697). Browning found the basics and the concepts “intuitively appealing” and thought that the simulation methods the book describes would be used extensively in the near future to study political decision making processes (thus translating its use back to political science). Unsurprisingly, the book received the greatest amount of attention from economists. In the *Southern Economic Journal*, Colberg (1964) went through the basic concepts and contrasts to economists, while the reviewer in *Canadian Journal of Economics and Political Science* (Sawyer, 1964) noted the book’s contribution to the debate between neoclassical and revisionist theories of the firm and the authors’ view that these were in fact complementary approaches (as explained in Cyert and March, 1963, p. 15-16).

But perhaps the most interesting reviews, at least from the point of view of getting a picture of the reception of behavioral theory in the economics community, came in two journals that today are not particularly famous for their openmindedness towards non-neoclassical theory: the *American Economic Review* and *Econometrica*. This may have had something to do with the reviewers themselves: Sidney Winter, who became a pioneer of evolutionary economics (drawing in part on behavioral theory) and Richard Day (a founding editor of the *Journal of Economic Behavior and Organization* and an important contributor to adaptive economics).

Winter did in fact see the book as developing an alternative theory to neoclassical perspective. He writes: “This book delivers a major blow to that battered but hitherto unshaken intellectual construct, the theory of the profit-maximizing firm. Its importance derives from the fact that it presents a well-elaborated alternative theory” (p. 144). Winter emphasized the process perspective in behavioral theory as well as its use of computer simulations¹². He also noted the larger context, mentioning that the Carnegie group had for years conducted research that had been “distinctive for the boldness of its departure from the accepted models of economic thought on the subject” (p. 147). He further commented that the Cyert and March collaboration consolidated this research and brought it to the attention of economists:

“Those who have not heard the distant rumblings of the ‘behavioral revolution’ will be surprised at the momentum it has achieved. The final verdict cannot be predicted, but this book should at least convince most economists that the revolutionary bear watching” (p. 148).

Richard Day, too, found the book important, thought it provided a new look at institutions (in particular at decision making in institutions) and felt that

11. Shubik who had been at RAND and was a friend of Andrew Marshall (who had a keen sense of the importance of organizations and made use of March, Simon and Cyert in his own work on understanding nations, cf Augier, 2013; Augier & Guo, 2012; Augier & March, 2011) is an example of an economist with an interdisciplinary sense and interest.

12 .In a way anticipating some of the controversies between two of the intellectual “children” of *A Behavioral Theory*, evolutionary economics and transaction cost perspectives on the firm (see Dosi, 2004; Dosi & Marengo, 2007), Winter notes that Williamson’s chapter is different and focused on rational managerial behavior (p. 147).

13. James March in his later work (in particular with Johan Olsen and other collaborators) did turn towards those broader institutional questions.

organization theory would from that point on have to be understood in the context of decision making and a broader range of institutional questions¹³.

One can see in these reviews (as well as in Cyert and March's engaging with the disciplines) an (at least partial) openness towards behavioral ideas in the economics discipline. This openness, accompanied by the positive reviews, helped to nurture behavioral ideas in the disciplines in subsequent years. A further illustration that can be made about citations: in the years after the publication of *A Behavioral Theory*, it was cited in a good number of articles in economics (and sociology and political science) journals. Citations of the book in organization and management journals were much more frequent, owing at least in part to the fact that *A Behavioral Theory* and *Organizations* became part of the intellectual foundation for a professionalization of the field in the 1970s and 80s that lead to a proliferation of journals. Both books left lasting footprints in the disciplines and inspired the growth of several branches of behavioral theory. A large number of citations of the books may have been due to the development and professionalization of business school fields such as organization studies and strategy. However, a quick look at the content of the articles citing *A Behavioral Theory* (in those journals where the reviews were originally published) reveals a greater influence of the disciplines that March and his colleagues had themselves built on. The examples below reveal a few rough trends of which ideas may have had an influence on the disciplines.

Economics: From Behavioral Theory of the Firm to Theories of Behavioral Firms

In economics, there seems to have been a movement away from discussions of behavioral theories of the firm and towards theories of behavioral firms; or theories that accommodate behavioral ideas about firms and organizations¹⁴. By that, I mean that some ideas have become so accepted within the discipline that they have become not only (more or less) "mainstream" but are also almost taken for granted as part of the profession¹⁵. In one sense, this means that the field has absorbed certain behavioral ideas (although not all of them) and now takes these behavioral elements for granted: articles on adaptation, expectations, uncertainty and limited rationality are frequently published in economics journals (although modern authors often mean something more neoclassical than the original Carnegie trio may have done)¹⁶.

In the intellectual sphere (as in the organizational one), the adaptation of ideas is imperfect. For example, a seminal article by Fritz Machlup in the *American Economic Review* used behavioral theory in its discussion of marginalist, behavioral and managerial theories of the firm (Machlup, 1967). Like Cyert and March, Machlup found the behavioral perspective not to be in competition with neoclassical economics but to operate on a different level of anonymity or generality. In addition to discussions of the field of theories of the firm and the role of the behavioral theory in that context, economists have (at least since Nelson and Winter's article in the *Economic Journal* (1974)) built on behavioral theory in discussing several conflicts: between neoclassical, evolutionary and behavioral approaches to topics such as economic growth; between institutional and evolutionary views on the behavior of public and private companies (Roberts, 1975) and between profit maximization and other

14. This point was made by Professor Robert Gibbons at his presentation during the 2013 NBER workshop on Behavioral Theory of the Firm.

15. Sessions at AEA certainly include various panels relating to organizations on topics such as problems of incentives and contracts. Concepts such as limited rationality have become embedded in economics in both its original and its Sargent/Aumann formulations. Broader themes such as behavioral decision making and identity are common too. Of course, accepting words does not always mean accepting core ideas and there are examples of concepts straying quite far from their original formulations

16. For example, behavioral theory was used in articles on bargaining models with multiple objectives (Contini and Zions, 1968); discussions of behavioral duopoly models with incomplete knowledge (Day & Kennedy, 1970); the role of uncertainty in firms in general equilibrium theory (Dreeze, 1985); firm decision making processes and Oligopoly Theory (Joskow, 1975); limited rationality in business decision making (Simon, 1979;); adaptation in complex environments (Cohen and Axelrod, 1984 and organizational learning (Blume, Duffy and Franco, 2009)

theories (Wong, 1975)¹⁷.

Another indication (albeit a more superficial one than a content-analysis reading of the articles citing the book) of the books' intellectual footprints can be seen in the titles of the articles which cite the book. The "word cloud" below shows the make up of the titles of articles citing *A Behavioral Theory* in the journals *Econometrica*; the *Engineering Economist*; the *Economic Journal* and the *American Economic Review*. The larger the font, the more often a word/concept is used, resulting in a visual representation of word or concept frequency.

17. Other examples of subsequent uses include Clarkson and Simon (1960) who build on Cyert and March's duopoly and simulation model and Shubik (1960) who also appeals to the simulation work of March and others. Williamson (one of the original team members of "behavioral theory of the firm" research) has also used "behavioral theory of the firm" to build his transaction cost theory and in discussions of transaction costs, property rights and X-efficiency (Williamson, 1963; 1976; De Alessi, 1983). Leibenstein also appealed to "behavioral theory of the firm" and the idea of organizational slack in his argument for allocative efficiency against "X-efficiency" (Leibenstein, 1966)

Figure 1. Word cloud made of words from titles in articles citing Cyert & March (1963) in *Econometrica*; the *Engineering Economist*; the *Economic Journal* and the *American Economic Review*¹⁸.



Sociological Elements and Population Ecology

In the sociology journals where the book was initially reviewed, scholars wrote about behavioral themes as well as giving specific insights on rules (Edelman, 1992; Zhou, 1993); governance (Freeland, 1996; Williamson, 1981); organizational evolution (Miner, 1991); the organizational and structural embeddedness of organizational decision making (Romo & Schwartz, 1995); power (Lehman, 1969); goals (formation of goals as well as conflicts between them) and negotiations among coalitions (Perlstadt, 1972; Baron & Bielby, 1980) and authority (Eccles and White, 1988). The reviewers also use behavioral theory as an important ingredient in developing new (sub)fields. A prominent example is that of the population ecology perspective, which integrates key ideas in behavioral theory such as evolution and adaptation (Hannan and

18. This (and the subsequent) word clouds are generated using 'wordle', a program for the graphic representation of the frequency of words and concepts used. One inputs the words (in this case, the ones in the titles of the articles citing "behavioral theory of the firm") and the result is a word cloud where the size of the font is proportional to the frequency it is used.

19. Another example is that of the new institutionalists' perspective (DiMaggio and Powell, 1983) which uses the idea of ambiguous goals and uncertainty in environments to argue for organizations mimicking other organizations.

Freeman, 1977)¹⁹. Sociologists have also employed insights from behavioral theory in studies of industrial dynamics such as that of the sociological factors in the implications of anti biotech movements for pharmaceutical firms (Weber, Rao, and Thomas, 2009). A "word cloud" of the titles of articles citing *A Behavioral Theory of the Firm* in the journals *American Journal of Sociology* and the *American Sociological Review* captures (unsurprisingly) some of the key terms in those modern movements such as 'embeddedness', 'ecology' and 'institutionalism' (see below).

Figure 2. Word cloud



Political Science

Within the field of political science (at least as represented by those journals which originally featured reviews of *A Behavioral Theory*), the ideas have been used in discussions of the following topics: bureaucratic politics and decision making processes in policy and budgets (Natchez and Bupp, 1973); the nature of organizational goals, conflicts and the influence of environmental complexity on standard operating procedures; (Mohr, 1973); innovation and organizational slack (Mohr, 1969; Walker, 1969); interorganizational analyses of power, conflicts and settlements in public sector collective

bargaining (Perry and Levine, 1976); models of the US Defense Expenditure Policymaking processes (Ostrom, 1978); bounded rationality in budgetary research (Padgett, 1980); the application of aspiration level models to explain presidential priorities (Fischer and Kamlet, 1984); conflict and goal diversity and organizational search (Cohen, 1984); analysis of the risk propensities of SEC budgetary processes (Krause, 2003); behavioral models of turnout (Bendor, Diemeier and Ting, 2003).

Axelrod (1986) appealed to computer simulation models in discussing an evolutionary approach to norms March and Olsen (1984), in their pioneering of institutionalism in political science, built on insights from the book on topics such as conflicts of goals and aspirational levels. Olsen (2001) also appealed to the book in his discussion on the relationship between the “garbage can” model and new institutionalism in his study of politics (Olsen, 2001) as did Bendor, Moe and Shotts in their critique of the “garbage can” (Bendor, Moe and Shotts, 2001).

Figure 3. Word cloud



A word cloud made up from the titles of the articles that have cited *A Behavioral Theory* in the *American Political Science Review* shows a somewhat less “rich” picture than a content reading of the articles. However, it does capture the emphasis on models, garbage cans and the study of budgets.

Psychology and other fields

Finally, psychologists have built on *A Behavioral Theory of the Firm* to respond to issues such as person-organizational fit (Vancouver & Schmitt, 1991). In addition, ideas from the book have been used in the field of marketing in relation to: price setting behavior (Morgenroth, 1964); the nature of organizational searching in certain markets (Weiss and Heide, 1993); the modeling of competitive processes (Eliashberg and Shatterjee, 1985) and industrial buying processes (Webster, 1965; Wilson, 1971). Often the simulation approach pioneered by Cyert and March is also used (Michael, 1971). More recent work has also built on Cyert and March’s ideas on organizational memory and learning (Moorman and Miner, 1997) and their ideas on organizational inertia and innovation (Chandrashekar, Mehta, Chandrashekar & Grewal, 1999).

Of course the book has made other contributions to the disciplines. The examples mentioned were only taken from those journals in which the reviews originally appeared. But these examples still, I think, give a glimpse into the two way street that March and colleague worked on: they contributed to the disciplines and communicated with them and, in turn, the disciplines adopted some of their central ideas, although not always in ways the behavioral group themselves had.

SOME IMPLICATIONS FOR THE AGENDA(S) OF THE FIELD: CENTRIFUGAL AND CENTRIPETAL FORCES IN ORGANIZATION STUDIES

“Science is a collection of ignorances. We want to know everything and count the lack of time, skill, and money that stand in our way as regrettable limitations. Nevertheless, we are specialists; and the illusions we have about our competencies are mostly specific to small corners of the library. We have a vague sense of the appropriate balance between specialized and more general knowledge, and wary of those who would goad us into extra-disciplinary embarrassment as of those who would confine us too much. We accept our ignorance while trying to reduce it” (March, 1979, p. 356).

As discussed above, *A Behavioral Theory of the Firm* was one of the most important works in the field of organization studies, helping lay foundations for the field while simultaneously being influenced by it. As the field has evolved, it has been influenced by a number of inside and outside forces, successes and failures, causing it to become successful in a professional and institutional sense (having PhD programs, journals and departments in its name), but sometimes at the expense of intellectual coherence. It should be noted, however, that the field started out with hardly any coherent language and structure and from there, almost from scratch, produced several foundational contributions

that influenced not only the development of the field of organization studies but other scholarly disciplines such as economics and sociology too. It thus may well, some day, once again find a structure, a core set of ideas and perspectives to build on. Nothing (usually) comes from nothing, but the field did overcome beginning difficulties and the barriers associated with being “in between”, rather than squarely within, scholarly disciplines. After March and Simon (1958) and Cyert and March (1963), the field started to grow roots and branches, built (initially at least) around a trunk of core ideas of organizational learning, routines, adaptation, search, satisficing and limited rationality. The early scholars developed their ideas on organizations but remained in close dialogue with the scholarly disciplines. Because of this, they did not lose the ‘discipline of the disciplines’ or become fragmented, but remained able to do interdisciplinary work.

What the field faces now is rather different from when it first started out. Unlike the 1950s and the early 1960s, we now have a base of knowledge and a body of scholarship to build on, so one might expect that the field would have more to offer neighboring disciplines, too. But with important exceptions (such as Gibbons, 2012; Dosi and Marengo, 2007), we now see less fruitful interaction, affiliation or identification with the disciplines upon which the field was built. For optimists, the present state of the field could represent an opportunity to make innovations and infuse the field with new ideas, educational models and structures, learning from the traditional disciplines as well as from empirical studies. Empirically based examinations of concepts and major ideas could also perhaps help initiate a healthy self examination of the field. This would drive attempts to try to understand the mechanisms that the field would observe in itself and, indeed must do, in its quest to be(come) a “real” discipline.

For pessimists, on the other hand, these are times of a great disintegration of the field. The great potential of the field of organization studies to yield new insights into the relationships, nature and dynamics of individuals and the organizations they inhabit (and to help other disciplines understand those) is quite frequently blunted by diversion of attention and internal forces. The careful development of concepts such as limited rationality, aspiration levels, satisficing and search sometimes seems to have been replaced by the multiplication of ambiguous terms (often defined by referencing other ambiguous terms) which almost seem to serve to conceal the banalities that they cover. Instead of trying to propose and understand relationships between organizational phenomena, behaviors and dynamics, organization scholars sometimes tend to speculate on the relationships between one theory or concept and another. Concepts become esteemed for their own sake (instead of for the insights into behavior that they provide) and take the place of real organizations and empirically relevant organizational issues as objects of observation.

The “behavioral theory of the firm” (and March’s subsequent work on it) has the power to help balance and integrate the two sides of unification and disintegration which, in turn, may help us replenish the power of the field that March and others helped create five decades ago. March has long argued that oppositional forces can themselves form a unity or balancing whole, with each side of the process lending meaning (and necessity) to the other and with the whole system being dependent on the existence of some amount of opposite.

20. Granted, the world in which Cyert, March and Simon operated was perhaps easier and one did not have to pay attention to issues such as journal rankings and citation rates. However, it would certainly not be in March's spirit to pursue things because of their consequences.

The “behavioral theory of the firm” project offers us plenty of ideas to build on. Perhaps the celebration of the five decades of the history of the movement and its ideas would be a good occasion for organization scholars to think how to celebrate the movement in the spirit of the contributors themselves (citing the tradition one builds on rather than one's own accomplishments)²⁰. After all, long perspectives on the past, as March argued (1998), are necessary for long visions for the future.

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